General Practitioner, Dr B

A Report by the

Health and Disability Commissioner

(Case 03HDC04006)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mr A	Complainant / Consumer
Dr B	Provider / General Practitioner
Dr C	Emergency Medicine Specialist
Ms D	Registered Nurse

Complaint

On 17 March 2003 the Commissioner received a complaint from Mr A regarding the care he received from Dr B on 28 February 2003. The complaint was summarised as follows:

On 28 February 2003, Dr B did not provide Mr A with services of an appropriate standard. In particular, Dr B failed to respond appropriately to Mr A's symptoms of chest pain and did not:

- *investigate the possible causes of that pain*
- *rule out the possibility that the pain was cardiac in origin.*

An investigation was commenced on 24 April 2003.

Information reviewed

- Information obtained from Mr A and Dr B
- Mr A's records from the city hospital

Independent expert advice was obtained from Dr Tony Birch, a general practitioner in rural practice.

Information gathered during investigation

Background
A local medical centre (the Centre) is a private general practice staffed by three general practitioners, including Dr B. As a doctor from the Centre, Dr B was one of the doctors responsible for providing medical cover for the regional public hospital.

At the time of presentation, on 28 February 2003, Mr A, a 38-year-old dairy farmer, lived with his wife and six children on a farm some 6 kilometers out of the town. Prior to this date Mr A had attended the Centre on two occasions: in November 1997 for an injury to his

left index finger, and in November 1998 for acute right-sided chest pain, which proved to be a spontaneous pneumothorax.[1]

On 28 February 2003, at midday, Mr A experienced intermittent left-sided chest pain, which became progressively worse. At about 5pm he experienced "major chest pain", which he believed to be a heart attack. He later described the pain as if "a bull [had] kicked him". His wife telephoned the Centre and drove him there to see the duty doctor, Dr B.

Initial consultation
Mr A advised me that when he saw Dr B on 28 February 2003 he told him about his collapsed right lung (pneumothorax) in 1998 and that on this occasion he thought he had suffered a heart attack:

> "I told him I believed that I had a heart attack. I told him that I have had a major intense pain in my chest and the pain had seeped up my left arm, it was coming from my heart. I also informed him my pain tolerance is very high!"

Mr A stated that after looking through his file, Dr B was focusing only on his lung problems. "I told him the pain was totally different this time and that my breathing was fine." By the time he was seen by Dr B, his pain had "eased a little". In his response to my provisional opinion Dr B advised me that the pain was not a major issue at the time, so "easing a little did not come into it".

Dr B recalled that Mr A came to the surgery at about 5.30pm with a history of pain in his left shoulder and axilla (armpit). He questioned Mr A about the nature of his pain and was informed by him that the pain had come on about midday but that he had been able to continue with his farm work during the afternoon. However, because of an increase in the pain, he had to stop milking. Dr B recalled that Mr A told him that the pain came on during physical exertion ("lifting or doing similar activities") but that he was all right when walking. Dr B also stated that Mr A informed him that the pain had become worse while travelling in the car to the Clinic, but that by the time Dr B had seen him, the pain had "almost resolved".

Dr B advised me that when taking Mr A's history he asked him whether there was a family history of heart disease. He said that Mr A "denied that there was any family history of heart disease or any personal or family history of high cholesterol". He examined Mr A's heart and lungs as well as his neck and shoulder region, and noted:

> "… [P]ercussion [of lungs] was resonant and was the same on both sides. The character of the pain that he described appeared to be consistent with that of another pneumothorax and accordingly I took an x-ray of his chest. That x-ray showed no abnormality."

Dr B made a provisional diagnosis of pneumothorax on the basis of Mr A's medical history and the site and character of his pain. He considered the possibility of the pain being cardiac

[1] Accumulation of air in the pleural cavity (space between the lining of the lung and that of the chest wall) resulting in collapse of the lung on the affected side

in origin but "thought otherwise because of the fact that [Mr A] was able to continue working, was able to walk around and was worse when lifting. The pain seemed to be related to body position rather than activity." Dr B recalled that the pain was reported to be in the front part of the shoulder, seemed "knife like" in character and was "not typically crushing". By the time he completed the examination of Mr A, the pain was "quite manageable".

Dr B consulted Dr C, an emergency medicine specialist at a city hospital, and informed him of Mr A's past medical history, the nature and position of his pain, and the results of the chest X-ray. Dr C "did not raise the possibility of it [the pain] being cardiac in origin" and told him to give Mr A analgesia and review him the following day "or sooner if necessary".

Before Mr A left the surgery, Dr B offered him two Panadol tablets for pain. Because Mr A indicated that the Panadol would be ineffective, Dr B gave him two codeine tablets instead. Mr A took the two tablets before leaving the surgery.

Second consultation
Later the same day, at about 11pm, Mr A's pain became "extremely intense again", so much so that he asked his wife to dial 111 for an ambulance. His wife telephoned the Centre and spoke to Dr B, who advised her to give her husband two Panadol tablets and reassess his pain in half an hour. Mr A refused to take the Panadol tablets. Mrs A then telephoned back Dr B and informed him that she was driving her husband to the Centre.

On Mr A's arrival, Dr B examined him and noted that the pain was similar to the first presentation but had markedly increased in intensity to the point that it was "distressing" Mr A. There was still a marked positional component to Mr A's pain – he was more comfortable when sitting forward and in an upright position than when lying back. His vital signs were unremarkable.

Dr B believed that the positional nature of Mr A's pain, his fluctuating pain and absence of pain when walking around, were consistent with signs and symptoms of pneumothorax. He also advised me:

> "At that time I was constantly reviewing in my own mind the likelihood of other causes of pain, one of the reasons my thinking unlikely to be cardiac, was the denial of a family history of heart problems."

A further chest X-ray showed no abnormality and, according to Dr B, there were no apparent cardiac or respiratory changes. Nevertheless, he decided to admit Mr A to the regional hospital for pain management and observations.

Shortly after midnight on 1 March 2003, Mr A was admitted to the regional hospital's Emergency Department with "left auxiliary pain". His notes state that there were "no associated signs and symptoms except increased anxiety". At 0.30am Dr B gave Mr A 10mg of morphine intravenously for pain and at 0.40am 10mg of Maxolon for nausea and vomiting. Mr A's pain score at that time was rated "10/10". Although at 1.25am his pain

score had decreased to 7/10, by 1.35am he required further morphine which was given to him by Ms D, the registered nurse on duty.

Ms D recorded that at 1.45am Mr A's chest pain was "more on left side radiating to left arm" and that he described it as like being "kicked by a horse".

Dr B advised me that at 1.45am he requested an ECG "to cover other diagnoses or minimise co-existent problems" and, because he had had a busy night and was expecting further work overnight with the scheduled Police drink-driving blitz in town, he went home to wait for the printout of the ECG to be faxed to him. Within minutes of arriving home, he received the fax from Ms D. The ECG was indicative of a heart attack.[2] In his response to my provisional opinion Dr B stated that he left the hospital at about 1.45am and, as his home was about four minutes away, he was back before 2am.

Mr A provided a different version of events. He advised me that at around midnight Dr B went home. After he left the hospital Mr A's wife asked Ms D whether "there was anything else that could be done" and whether "there was any way to check his heart". Ms D suggested an ECG, which was duly done. Mr A also stated that by the time Dr B returned to the hospital Ms D had taken the ECG and faxed the printout to the city hospital.

Ms D, on the other hand, advised me that the ECG was taken at her initiative. She said she had concerns about Mr A's persisting pain and an intuitive feeling that "something was wrong". She informed Dr B that she would do an ECG. Although he told her to go ahead if she wished, he was indifferent to it being done. The doctor left the hospital shortly afterwards. Ms D took the ECG and immediately noted abnormalities suggesting that Mr A had suffered a heart attack. She telephoned the doctor at home and told him of the abnormalities and asked him to return to the hospital. In the meantime, at the doctor's request, she faxed the ECG printout to him. Ms D said that Dr B returned to the hospital "straight away" and confirmed her impression that Mr A had had a heart attack. She had not faxed the ECG printout to anyone else.

In his response to my provisional opinion Dr B stated:

> "I was far from being indifferent to an ECG being done, it was in a way a relief to open up another avenue of investigation. My journey home was, in no way, closing my involvement in management: it was by way of an interlude in a day that had started at 8.30am Friday and was still continuing, being on duty for the next 60 hours."

Immediately on his return to the hospital, Dr B telephoned the city hospital and discussed the case with a cardiology registrar on call. A decision was made to transfer Mr A to the city hospital for further management. In the meantime Dr B commenced treatment of Mr A for a heart attack – sublingual GTN[3] spray for angina, aspirin and subcutaneous injection of

[2] ST segment elevation in chest leads V2-V6 (anterolateral myocardial infarction)
[3] Glyceryl trinitrate, a vasodilator

Fragmin[4] to minimise the risk of clotting, and oxygen via a mask. As Mr A continued to experience severe pain, he was given further morphine at 2.10am and 2.45am.

Dr B advised me that in light of Mr A's symptoms and ECG, he made a decision that he should be transferred to the city hospital "in shortest possible time". An ambulance was called at 2.37am and a helicopter requested but, because of weather conditions, air retrieval was not possible. A transfer by road ambulance was therefore arranged. An ambulance arrived at the regional hospital at 4.08am, left six minutes later, and arrived at the city hospital at 5.57am. Mr A was accompanied in the ambulance by his wife.

Subsequent events
On arrival at the city hospital on 1 March 2003, Mr A was assessed and immediately transferred to the Catheter Laboratory for an urgent angioplasty. He underwent a successful primary PTCA[5] and stent to the occluded left anterior descending coronary artery (LAD), which confirmed Dr B's working diagnosis of anteroseptal myocardial infarction.[6] The angiogram showed no significant narrowing of his remaining coronary arteries.

Following the procedure Mr A was transferred to the hospital's Coronary Care Unit for ongoing management. His post-procedural course was relatively uncomplicated. He was discharged from hospital on 5 March 2003 with instructions to cease smoking, not drive for three weeks, and stay off work for six weeks. A follow-up appointment was made for him to see a consultant cardiologist at the outpatients' clinic in four weeks' time.

Independent advice to Commissioner

The following expert advice was obtained from Dr Tony Birch, an independent general practitioner in rural practice:

> "As detailed in the papers supplied to me, [Mr A] presented to [Dr B] at about 5:30pm on 28th February 2003 with a history of chest pain which had started about midday that day. [Mr A] in his letter to the Commissioner describes the pain as 'coming from my heart' and gives a clear history of cardiac pain. [Dr B], however, in his communications with the Commissioner and in his notes, gives quite a different history. Here the pain is described as being in the axilla and worsening on exertion or 'when lifting or similar'. In his letter to the Commissioner on 10th June 2003, [Dr B] says his 'impression was that the character [of the pain] was 'knife like' [and] not typically crushing'.
>
> This initial presentation is the main issue here. With the benefit of hindsight it is clear that, had the myocardial infarction been diagnosed here, the long term outcome for [Mr

[4] An anticoagulant, a low molecular weight heparin, used in treatment and prevention of thromboembolism
[5] Percutaneous transluminal coronary angioplasty
[6] Death of cardiac muscle tissue due to interrupted or inadequate blood supply, in front of septum (the wall dividing the two chambers of the heart)

A's] health would have been markedly improved. There are conflicts in the stories regarding the second visit at around midnight but I do not consider these as critical. Essentially it was that first consultation where the difference could have been made. The whole of my remarks will refer to this first consultation.

There are a number of factors which lead me to the conclusion that [Dr B's] care in this case falls below what might be expected for a doctor in his situation. (I should add that I practise in a very similar situation – in a rural area and within a small hospital.)

The emergency doctor at [the city hospital] quotes [Mr A's] description of the pain as being 'like a bull kicked me', and by a nurse independently as being 'like a horse kicked me'. This is in marked contrast to [Dr B's] description in his letter to the Commissioner on 10th June 2003. His written notes of 28th February make no mention of the character or specific position of the chest pain.

Much is made by [Dr B] of the past history of a pneumothorax. This was a right-sided event and is described clearly in the locum's written notes as 'like a knife' and as making him acutely short of breath. Shortness of breath seems never to have been mentioned by [Mr A] on his presentation on 28th February 2003.

It may still have been reasonable to consider a pneumothorax. However, there were no typical changes on examination and the chest X-ray was described as normal. It would seem to me that this has now excluded this diagnosis. What now is the cause for the pain? Speaking to another doctor on the telephone does not relieve one of the responsibility of discovering another cause for what were obviously severe symptoms in a stoical Kiwi farmer. (I make this assessment of [Mr A] based on the fact that he had not attended the doctor between 1998 and 2003. It seems he had not even attended for a review after his pneumothorax!)

I find it hard to understand why [Dr B] did not consider an acute myocardial infarction as the top item in his list of differential diagnoses once he had excluded a pneumothorax. There seems to be no impediment to obtaining an ECG in his situation, and I just cannot understand why this was not done. It seems to me that there was an almost wilful desire on [Dr B's] part not to diagnose a heart attack. Maybe it had been a busy day and he was tired; maybe he was on his own and could not access the ECG machine. Whatever the reason, I believe that [Dr B] would be unhappy himself about the standard of care he gave to [Mr A] in this instance.

I will try now to answer your specific questions:

What standards apply in this case?

The major determinant of accurately diagnosing an acute myocardial infarction is taking a good history. This requires good listening skills and the notes should reflect this. Persistent pain for five hours would lead one inevitably to obtain an ECG tracing and, if this was inconclusive, a fast Troponin test such as the 'Trop T' test which can be

performed there and then. I would also expect recordings to be taken of the patient's pulse and blood pressure, as a bare minimum.

Did [Dr B's] care meet those standards and, if not, in what way was his care deficient?

It would appear that [Dr B] did not meet these standards. I can find no evidence of a clear history of this pain, its character, duration and associated symptoms. Even so, any experienced doctor will have seen a patient with a myocardial infarct presenting atypically. [Mr A's] age and supposed lack of a family history should not have deflected [Dr B] from pursuing the diagnosis of a clear cause for his symptoms.

I also note that no record was made of [Mr A's] pulse or blood pressure.

Should [Dr B] have further investigated [Mr A's] pain when he saw him at 5:00pm on 28 February?

[Dr B] did obtain a chest X-ray. However, when this seemed to have excluded a pneumothorax – the case notes say 'CXR – no pneumothorax seen' – he should have taken a further, more detailed history, obtained and ECG tracing and, if this was unhelpful, a fast Troponin test.

What, if any, investigations could have been performed at that time, which would have ruled out whether the pain was cardiac in origin and would it have been practicable for him to do so?

This is essentially answered above. At five hours post heart attack neither of these tests may have been positive. However, given the history – and I give weight to [Mr A's] evidence – a cardiac cause of his pain could still not have been ruled out.

Was it reasonable in the circumstances to have sent [Mr A] home with analgesia?

From my reading of all the evidence presented I can find no reason why [Mr A] was sent home with analgesia. At the very least he could have been kept in hospital in [the regional hospital] and monitored.

This is a case where the 'low likelihood / high risk' equation has to come into play. Chest pain is a common symptom in general practice and the majority of patients with this symptom do not have an acute myocardial infarction. However, the consequences to the patient of not having a correct diagnosis of this problem are dire. So one needs to have a high 'index of suspicion' – particularly in an isolated rural area where access to a coronary care unit takes some considerable time.

There is convincing evidence now that, by diagnosing a patient with a 'ST elevation myocardial infarction' (STEMI) and administering a fibrinolytic agent within six hours of the event, the long term damage to the heart can be reduced – in some cases to nil. This is not a new finding and is something that is almost routine in the situation in which I

work. [Mr A] did not have the benefit of such treatment and is likely to be left with residual heart damage.

After reading the evidence supplied by [Dr B] and by [Mr A], I still find it hard to understand what really happened here: why [Dr B] did not provide medical services of an appropriate standard in this case. This latter, however, is my opinion."

Response to Provisional Opinion

In response to my provisional opinion, Dr B commented as follows:

"…

INDEPENDENT ADVICE TO COMMISSIONER

Paragraph 3
There is no indication from the immediate post-catheter period or long term, that the delay led to any harm in the long term outcome of [Mr A's] health.

Paragraph 7
A chest X-ray described as normal does not exclude the diagnosis of pneumothorax, a fact that was agreed on by [Dr C], the emergency physician.

Paragraph 8
Whilst I am indeed disappointed with the care I provided [Mr A] on this occasion; I wish to state clearly that I totally refute the opinion of your adviser that 'there was almost wilful desire on (my) part not to diagnose a heart attack'. I am shocked by this assertion which I do not accept as being factually based. At no time did I, nor would I ever, make a wilful decision to determine not to make a particular diagnosis.

…

I wish also to reassure you that I have reviewed my practice as suggested. During 2003 and 2004 I have been involved with my peers in studying for the Diploma of Rural Hospital Medicine through Otago University. This has included a considerable amount of time in relation to typical and atypical heart pain. I have also carried out an audit of patients with coronary events over a 24 month period who have been transferred from [the regional hospital] to [the city hospital]. Whilst the intention has been to put forward to the DHB a case for providing for the hospital to provide a thrombolysis service administered by my partners and myself (which is nearing acceptance) it has also given me further insight into both my practice and the community's need for care in relation to coronary events."

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4
Right to Services of an Appropriate Standard

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

2) *Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards.*

Opinion: Breach – Dr B

The standard of care provided to Mr A by Dr B fell short of a standard to be reasonably expected of a general practitioner in these circumstances; in particular, at the first consultation on the afternoon of 28 February 2003.

My advisor noted that accurate diagnosis of a myocardial infarction depends on taking a good patient history, which needs to be recorded in the patient's notes. Recording a patient's pulse and blood pressure is a "bare minimum" requirement; persistent chest pain of some five hours warrants an ECG tracing. In the event of the ECG result being inconclusive, a fast Troponin test[7] can be performed to rule out a cardiac cause for chest pain.

My advisor commented that in his consultation notes, Dr B made no mention of the specific location, character, duration and associated symptoms of Mr A's pain other than that it was "in left chest", "came on at midday" and was "worse when exerting himself". No record was made of Mr A's pulse or blood pressure.

It appears that Dr B placed undue emphasis on Mr A's history of spontaneous pneumothorax diagnosed by one of the doctors at the Centre in 1998. The pain Mr A experienced at that time was right-sided, "sharp like knife" chest pain associated with breathing exertion and shortness of breath. Shortness of breath did not feature in Mr A's presentation on 28 February 2003.

Although Dr B suspected a pneumothorax to be the cause of Mr A's chest pain, it was ruled out by the normal chest X-rays. Having excluded a pneumothorax, Dr B should have formed a differential diagnosis and considered other possible causes of Mr A's chest pain,

[7] A blood test used to measure cardiac enzyme levels to determine whether cardiac damage (myocardial infarction) had occurred.

including cardiac involvement. He should have investigated and tried to rule out the possibility of myocardial infarction. Mr A's relatively young age and supposed lack of family history of heart disease should not have deterred Dr B from investigating the possibility of the pain being cardiac in origin, and establishing the cause of the symptoms. According to my advisor, Dr B should have had a higher "index of suspicion". Specifically, Dr B "should have taken a further, more detailed history, obtained an ECG tracing and, if this was unhelpful, a fast Troponin test". Sending Mr A home with analgesia, without adequate attempts to establish the cause of his pain, was inappropriate.

Dr B did consult Dr C, as emergency medicine specialist at the city hospital, prior to sending Mr A home. However, as noted by my advisor:

> "Speaking to another doctor on the telephone does not relieve one of the responsibility of discovering another cause for what were obviously severe symptoms in a stoical Kiwi farmer."

Dr B's "index of suspicion" was not raised greatly during the second consultation later that evening. Although it was now 12 hours later, Mr A was still experiencing severe pain, and no pneumothorax was evident on a second chest X-ray. He was admitted to the regional hospital for pain management and observations. Even at this stage Dr B does not appear to have considered performing tests to rule out the possibility of the pain being cardiac in origin.

Dr B states that at 1.45am on 1 March 2003, he requested an ECG and asked Ms D to fax the printout to him at home. However, his version of events differs from that provided by Ms D and Mr A, who recall that Dr B did not initiate the ECG. Ms D informed me that out of concern that Mr A might have suffered a heart attack, she initiated the ECG, despite Dr B's apparent indifference to one being done. After noting the abnormal ECG, she telephoned Dr B at home and asked him to come and review Mr A. Dr B did so after reviewing the ECG printout she had faxed to him. On balance, I am satisfied that Ms D's and Mr A's independent recollection – that Dr B did not initiate the ECG – is accurate. I am satisfied that Ms D initiated the ECG and that Dr B's telephone call to the city hospital, and interim treatment of Mr A for a myocardial infarction at the regional hospital, followed the presentation of an abnormal ECG by Ms D.

In summary, having considered and ruled out pneumothorax as the source of Mr A's chest pain, Dr B should have considered and investigated alternative reasons for Mr A's pain. As noted by Dr Birch, there was "an almost willful desire on [Dr B's] part not to diagnose a heart attack". His omissions deprived Mr A of interventions that could have reduced the long-term damage to his heart. By failing to conduct further investigations, Dr B failed to provide medical services of an appropriate standard, and breached Right 4(1) of the Code. Dr B also kept minimal patient notes, in breach of professional standards and Right 4(2) of the Code.

Actions taken

In response to my provisional opinion, Dr B:

- Provided a written apology to Mr A for his breach of the Code
- Informed me that he has reviewed his practice in relation to management of patients presenting with chest pain, in light of this report.

Further actions

- A copy of this report will be sent to the Royal New Zealand College of General Practitioners and the Medical Council of New Zealand, with a recommendation that the Council consider whether a competence review in relation to Dr B is warranted.
- A copy of this report, with identifying features removed, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.