General Practitioner, Dr B

Accident and Medical Clinic

A Report by the

Health and Disability Commissioner

(Case 04HDC11728)

Parties involved

Mrs A	Consumer (deceased)
Mr A	Complainant/Consumer's husband
Dr B	Provider/General Practitioner
Dr C	Medical Director at the Accident and Medical Clinic
Mr D	General Manager at the Accident and Medical Clinic

Complaint

The Commissioner received a complaint from Mr A about the service provided to his wife, Mrs A by Dr B, general practitioner. The following issue was identified for investigation:

- *Whether Dr B, general practitioner, appropriately assessed and treated Mrs A when she presented at the accident and medical clinic on 6 September.*

An investigation was commenced.

Information reviewed

- In the course of the investigation information was received from:
  - Mr A
  - Mr D
  - Dr B
  - Dr C.
- Independent expert advice was obtained from Dr Gerald Young, general practitioner, and Dr Simon Brokenshire, accident and medical practitioner.

Information gathered during investigation

Introduction
This is a report about a woman who presented to a general practitioner with epigastric pain. Although the general practitioner considered acute heart disease as a cause of the woman's pain, she ruled it out as a possibility without performing an ECG. Tragically the woman passed away three days later from a myocardial infarction. The report focuses on one main

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issue: what degree of caution must a general practitioner exercise when he or she sees a patient with symptoms indicating the possibility (even the remote possibility) of acute heart disease?

This issue is of importance given the prevalence of heart disease in New Zealand, and the rate at which it claims the lives of New Zealanders. It is also an important issue given the different qualitative experience and expression of pain by women.[1] What is clear from this report is that a clinical scenario of atypical cardiac pain is difficult for all general practitioners. It is very easy for practitioners to be led away from a cardiac cause to pursue other diagnoses. This report serves as a reminder to general practitioners of the need to be particularly vigilant in the assessment of atypical chest or epigastric pain and alert to the possibility of a cardiac cause, especially in a patient with a history of heart disease.

Background

Mrs A was a 77-year-old woman with a history of arthritis, high blood pressure, poor sleep, osteoporosis and gastric problems. In the early hours of the morning on 6 September, Mrs A was, as described by her husband Mr A, "in agony with pain in her chest and feeling as if she wanted to belch and be sick". Accordingly, at approximately 5.30am, Mr A took his wife to the accident and medical clinic (the clinic).

There are two nurses and one doctor on duty at the medical clinic at night. All patients are seen by a registered nurse at the time of presentation. The nurse makes a rapid assessment of the patient and, if it is clear that the patient does not need immediate assessment by the doctor, books the patient in. When Mrs A presented at the medical clinic a nurse took her relevant contact and community services card details, and the name of her general practitioner. The nurse asked Mrs A for payment and then took her through to a cubicle to perform the basic observations of temperature, pulse and blood pressure.

Symptoms and clinical examination

Mrs A was reviewed by Dr B. Dr B is a general practitioner, and is not vocationally trained in accident and medical practice. Dr B has worked in general practice since 2001, and worked as a medical registrar at a public hospital from 1995 to 2000, with responsibility for admitting all categories of medical patients, including cardiac and "atypical cardiac" patients.

Dr B recalled that Mrs A was sitting in the consultation room with Mr A when she was called in to see her. She described Mrs A as calm and pleasant, but in a little discomfort.

Dr B took a medical history from Mrs A. Dr B recorded in the medical record that Mrs A was experiencing abdominal pain (which Mrs A indicated by rubbing her abdomen from right to left), suffering from indigestion with lots of belching and burning, and experiencing nausea. Over the previous 12 hours, Mrs A had frequent but normal bowel motions. Dr B recorded that Mrs A felt hot (with a mild fever) and had a sore throat. It was

[1] See: Tiller, S, "Commissioner's comment: Missed diagnosis of myocardial infarction" *New Zealand Family Physician* (2005) 32(3): 199–200.

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also recorded that Mrs A was on an extensive list of medications, including Fosamax (which can cause oesophageal and upper gastrointestinal problems).

There is a conflict of evidence as to whether Mrs A reported to Dr B that she was experiencing chest pain.

Dr B stated that Mrs A presented with epigastric pain, and indicated her area of discomfort by pointing to her sternum. Dr B also recalled that she ran through a review of Mrs A's systems, which specifically included a review of Mrs A's cardiovascular and respiratory systems, and an abdominal examination. In addition to specifically recording in the notes that there were no chest or cardiac symptoms, Dr B recalled asking Mrs A if the pain she was experiencing was anything like her normal angina or heart attack pain. She recalled that Mrs A replied "no", and described her pain as like a worsening of her normal indigestion.

Dr B recorded in the medical notes: "no SOB [shortness of breath] nil chest/cardiac sympts … points to epigastrium and burning up chest."

On the other hand, Mr A recalled:

> "I sat beside my wife while [Dr B] asked her what the symptoms of her problems were. Her response was to put her fingers of her right hand at the centre of her chest about half way up her sternum and said up here from the oesophagus, I feel as if I want to belch and be sick."

Mr A also advised that he was aware of what his wife's problem was because he had suffered from similar pains in the late 1980s. Mr A subsequently underwent a triple bypass operation.

There is also a conflict of evidence as to whether Dr B took Mrs A's blood pressure. Dr B advised that she did take Mrs A's blood pressure, but did not record it in the medical record. She noted:

> "In [the clinic] the thermometer and BP [blood pressure] monitor are located beside where the patient sits during consultation. It is my invariable practice to take [a] BP (as does the nurse at [the clinic], on arrival). I have not recorded [the] BP in my notes as if my BP concurs with the nurse's and with the patient's recollection, I would not have recorded again."

Mr A stated that Dr B did not check his wife's pulse, temperature or blood pressure. He recalled that she asked his wife, "What is your blood pressure normally?" Mrs A replied that her blood pressure was usually a bit higher than normal.

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Diagnosis
After taking Mrs A's history and the clinical examination, Dr B formed the opinion that Mrs A's symptoms were attributable to a gastric condition. She prescribed Stemetil 5mg three times daily and Gaviscon four times daily. She advised Mrs A that she should return to the clinic or to her own doctor if her condition worsened or did not improve.

During the examination, Dr B considered but discounted the possibility that Mrs A was experiencing a heart attack. Dr B recalled that there was no indication that Mrs A was experiencing pain in her chest. Mrs A had no shortness of breath, no radiating pain, and indicated her area of discomfort by pointing to her sternum. Furthermore, Mrs A was not tachycardic, had not been vomiting, was not sweating or anxious, and had no cyanosis. Dr B advised that if she had any doubt at all about her diagnosis, she would have offered Mrs A a blood test or ECG. However, she considered that Mrs A's symptoms were "strongly atypical" of a cardiac diagnosis. Dr B advised:

> "I absolutely considered the possibility that her pain could have been cardiac, but questioning on initial examination pointed me toward a gastric condition. [The clinic] as 24-hour facilities capable of ECG and as at the time of consultation, I was sure of a non-cardiac nature of condition I did not offer her an ECG examination."

Dr B stated that Mr A is extremely hard of hearing and was not wearing his hearing-aids at the time of the consultation. Mr A was sitting leaning forward with his head turned slightly, which prompted her to enquire if he had difficulty hearing. She recalled that he confirmed that he had a hearing problem, and that she therefore made an effort to make sure he understood everything that was being said. After she examined Mrs A, Dr B explained to Mr A her impression that his wife had worsening of her gastro-oesophageal reflux problem partly due to her recently prescribed Fosamax, and gastroenteritis. Dr B considered that the gastroenteritis was the cause of Mrs A's recent fever. She then left the consulting room to call the nurse who administered the medication (an intramuscular injection of Stemetil) she prescribed for Mrs A to relieve her gastric symptoms.

Dr B recorded the examination as follows:

> "[U]nwell with abdo pains nausea and indigestion +++ opened bowels four times tonight not loose just normal sore throat and feels hot ++
> no SOB [shortness of breath] nil chest/cardiac sympts
> on vast list of meds including lately Fosamax [for osteoporosis]
> PMH arthritis high BP poor sleep osteoporosis GORD [gastric oesophageal reflux disorder]
> o/e [on examination] non tender abdomen including epigastrium no fullness but points to epigastrium and burning up chest
> imp [impression] worsening of GORD/acute gastro
> plan double Losec Gaviscon and Stemetil and see as app
> Stemetil im stat [anti-nausea drug injected intramuscularly immediately]
> RX:30 — Stemetil 5Mg tab — 1–2 tabs, up to Three Times Da[ily]
> Rx: 200 — Gaviscon Liquid — 10, Four Times Daily."

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Subsequent events
Mrs A's condition did not improve over the next 48 hours. At about 6am on 8 September she woke with central chest pain and Mr A telephoned for an ambulance. The ambulance officer recorded that Mrs A was woken by central chest pain, "similar episode 2 days ago, seen by GP ?gastric problem". Mr A advised that the ambulance officer put a portable cardiogram on Mrs A and told him that she "had major heart problems" and would need urgent hospitalisation.

Mrs A was transferred to the public hospital where she died. Mr A advised that Mrs A's death certificate records the cause of death as "myocardial infarction 2 days".

Follow-up actions
On 29 September, Mr A wrote to Mr D, General Manager of the clinic, concerned about the care his wife received from Dr B.

Mr D telephoned Mr A on 30 September. Mr A informed me that he was "very distraught" at that time and the conversation with Mr D was protracted. Mr D advised Mr A that he would take his concerns to the clinic executive meeting the next week.

On 9 October, Mr A received a letter from Mr D with an attached report from Dr C, Medical Director of the clinic. In his report, Dr C stated:

> "… As a result of my review I feel that [Dr B's] diagnosis and treatment plan was very reasonable given the nature of your wife's symptoms and the findings at examination. [Dr B] made an appropriate and thorough assessment. She asked the right questions both verbally and in her mind. She has specifically written in the consultation note that she considered the possibility of a heart attack — but she considered that it was much more likely that she was dealing with a bowel problem. I feel that that was a reasonable conclusion for any competent and alert doctor to have reached.
>
> Should [Dr B] have performed an electrocardiograph (ECG)? She really wishes that she had done so, and will certainly do so if presented with a patient with similar symptoms in the future. However, the question of how many investigations and procedures we should perform to help make the diagnosis is always difficult because we do not want to subject patients to the extra discomfort and expense of these procedures unless they are really necessary. To be perfectly honest I, and a lot of other very competent doctors, would probably not have done an ECG either on the evidence available to [Dr B] at that time."

Mr A did not agree with Dr C's comments and requested a meeting with Dr B and representatives from the clinic. The meeting, held on 1 December, failed to resolve Mr A's concerns.

Mr D sent a further letter to Mr A on 4 February the following year in which he stated:

> "… [Dr C] and [Dr B] also shared professional insight and knowledge about their review of all medical aspects of the consultation. The doctors were of, and still have

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> the belief that no error of clinical judgement occurred. Although as we all know, the eventual outcome was tragic, the doctors said that it was totally unexpected given the evidence of the findings at the time.
>
> [Dr B] expressed her very genuine and sincere sorrow at the outcome. [Dr B] said that because of this experience, she would now adopt a suspicion towards any future presentations of a similar nature. [Dr C] said that he would present the experience to the staff doctors as valuable learning and education so that it may minimise the chance of a repeat occurrence here."

On 1 June, with the assistance of an advocate, Mr A wrote a further letter to the clinic. Mr D responded on 20 July. He reiterated Dr B's recollection of events, and advised that Dr B had sold her practice and no longer practises as a general practitioner.

Dr B later advised that all patients that present to her in future with epigastric pain will have an ECG and blood tests regardless of the clinical condition or suspicion after assessment.

Independent advice to Commissioner

General practitioner advice
The following independent expert advice was obtained from Dr Gerald Young, general practitioner:

> "I have been asked to provide an opinion to the Commissioner on case number 04/11728/WS.
>
> I declare that I have read and agree to follow the 'Guidelines for Independent Advisors'.
>
> In preparing independent advice on this case to my knowledge I have no personal or professional conflicts of interest.
>
> My qualifications are B.H.B, MB,Ch.B.(Auckland) , FRNZCGP. My training included 3 years as a surgical registrar in the Auckland Surgical training programme. I have been in general practice for 16 years. Presently I work in a large medical centre that handles both general practice as well as acute accident and medical problems. I have a special interest in surgical problems in general practice.

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I have been asked to consider the issues as listed below:

1. Was [Dr B's] examination and assessment of [Mrs A's] conditions reasonable?
2. If not, what else should she have done?
3. What information/advice should [Dr B] have provided to [Mrs A]?
4. Are there any other aspects of the care provided by [Dr B] that warrant additional comment?

My opinions and advice to the Commissioner on this case have been based on the documents supplied:

- Letter of complaint, and supporting documentation, from [Mr A], marked with an 'A'. (Pages 1 to 30)
- Response to the Commissioner from [the clinic], marked with a 'B'. (Pages 31 to 66)
- Additional response from [the clinic] to the Commissioner, marked with a 'C' (Pages 67 & 68)
- Response to the Commissioner from [Dr B], marked with a 'D'. (Pages 69 to 71)

Additional documents used for reference:

1. 'Assessing Chest Pain' article in Medical Protection Society Casebook 4 November 2003.
2. Health & Disability Commissioner report case 03HDC01502.
3. 'General Practice' textbook by John Murtagh.

Background

At about 5.30am on Saturday 6 September [Mrs A], aged 77 years, presented at the after-hours medical centre, [the clinic], accompanied by her husband. [Mrs A] was complaining of abdominal and epigastric pain.

[Dr B] took a medical history from [Mrs A], which included abdominal pain, indigestion and nausea, and frequent but normal bowel motions over the previous twelve hours. [Mrs A] told [Dr B] that she felt hot and had a sore throat.

[Dr B] assisted [Mrs A] onto the examination couch and performed cardiovascular, respiratory and abdominal examinations. [Dr B] could not find any evidence of abnormality. She advised that it is her usual practice to take her patient's blood pressure, 'as does the nurse at [the clinic] on arrival. I have not recorded the BP in my notes as if my BP concurs with the nurse's and with the patient's recollection, I would not have recorded again'.

[Dr B] noted that [Mrs A] was 'on a vast list of meds including Fosamax', that in her past medical history she suffered from 'arthritis, high BP, poor sleep, osteoporosis,

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GORD'. [Dr B] considered that [Mrs A's] symptoms could be cardiac in origin, but did not offer an ECG as her examination of [Mrs A], 'pointed … towards a gastric condition'.

[Dr B] provided [Mrs A] with a prescription for Stemetil 5mg (three times daily) and Gaviscon to be taken four times daily.

[Mrs A's] condition did not improve over the next 48 hours. At about 6am on 8 September [Mrs A] woke with central chest pain. Her husband telephoned for an ambulance and she was transferred to [the public hospital where she later died].

Advice on the specific questions:

Was [Dr B's] examination and assessment of [Mrs A's] conditions reasonable?

[Dr B's] examination and assessment of [Mrs A's] condition was not of a reasonable standard.

The reasons for this opinion are based on the following findings: [Mrs A] presented to the after-hours Accident and Medical Clinic where [Dr B] was on duty, the patient was unknown to [Dr B] as she was a patient of another GP. [Mrs A] presented with atypical chest pain which makes the correct diagnosis much more difficult but because of the seriousness of missing the diagnosis of an acute myocardial infarct, the accepted clinical standard is that a very high level of suspicion has to be maintained and where there is any possibility that the symptoms may be of cardiac origin the diagnosis of a myocardial infarct needs to be excluded by all practical means available and if clinical doubt remains the patient should be referred on to hospital.

Although [Dr B] recorded in her consultation record that [Mrs A] had 'nil chest / cardiac symptoms' this was not entirely accurate as in the examination record [Dr B] documents '… but points to epigastrium and burning up chest' this was apparently reconfirmed by [Dr B] stating that [Mrs A] '... indicated her area of discomfort by pointing to her sternum' as documented in the letter to [the advocate] from [Mr D] at [the clinic]. That [Mrs A] complained of chest pain is also supported by [Mr A's] recollection of events in his letter to [the clinic].

[Dr B's] clinical examination findings do not clinically support her diagnosis of 'worsening of GORD / acute gastro' and certainly not to the degree to confidently eliminate the possible diagnosis of a cardiac cause for the chest pain. [Dr B] records in her findings that the abdomen including the epigastric area was 'non tender' and there is 'no fullness' of the abdomen. It would be reasonable to expect that a patient that was probably woken from sleep by '… pains, nausea and indigestion +++' bad enough to cause her to leave home at 5.30am to be seen at an Accident and Medical Clinic on a Saturday morning would have some abnormal abdominal findings on clinical exam, such as tenderness in the upper abdomen and / or epigastrium to palpation. The fact that she had no abnormal abdominal findings on examination increases the doubt that

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the symptoms can be entirely attributable to a gastrointestinal cause without eliminating a cardiac cause.

Her history of high blood pressure was another cardiac risk factor, although there is no documented record of the blood pressure at the time of the consultation.

There is no comment to eliminate the possibility that the symptoms of the sore throat may have been referred cardiac pain into the neck.

A 77 year old patient, unknown to the duty doctor, woken from sleep with pains, including chest discomfort / indigestion, nausea, sore throat and feeling hot (but probably afebrile as no temperature was recorded) who had no clinical findings to support a gastrointestinal cause for the symptoms needs to have at least an ECG to eliminate a possible cardiac cause, or referred to hospital for further evaluation.

The fact that an ECG was not done makes the standard of care offered to [Mrs A] inadequate.

The severity of breach falls into the mild to moderate category in my view, as the presentation was atypical chest pain, which made the diagnosis more difficult. However it is accepted that the clinical standard relating to possible cardiac causes of chest pain is set at a high level because misdiagnosis carries significant risks for the patient. Therefore a cardiac cause for all atypical chest pain must be practically excluded or referred on to be excluded.

1. If not, what else should she have done?

As stated above an ECG should have been performed to rule out a cardiac cause for the symptoms. If available cardiac enzymes CK or troponin-T should have been done as well, accepting that the cardiac enzymes may have been normal in the very early stages of a myocardial infarct and therefore not necessarily of much use in the initial management if they are normal.

2. What information/advice should [Dr B] have provided to [Mrs A]?

The critical issue was not satisfactorily excluding a possible cardiac cause for the symptoms, not any advice or information not provided.

However other information and advice that may have helped the situation would have [been] to explain the reasons for reaching the diagnosis of GORD / acute gastro, why [Dr B] was clinically happy the cause of the symptoms was not from the heart and in particular that [Mrs A] should not hesitate to return for review if there was no improvement within a specified time frame. This may have encouraged [Mrs A], or her husband, to seek a review earlier. It is possible that some or all of this information was conveyed to [Mrs A] but there is no documentation of this in the records.

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3. Are there any other aspects of the care provided by [Dr B] that warrant additional comment?

The clinical scenario of atypical chest pain is a very difficult one for all general practitioners whether it is in their own practice or in an accident & medical clinic. It is very easy to be led from a cardiac cause and to pursue other incorrect diagnoses by these atypical symptoms. This fact is borne out by the Medical Protection Society article in their November 2003 case reports, which quotes a study where 27 percent of misdiagnosed myocardial infarcts were incorrectly diagnosed with a gastrointestinal cause. [Dr B] was similarly led away from a cardiac cause for [Mrs A's] symptoms to a gastrointestinal cause even though her clinical examination findings did not support her own eventual diagnosis. Apparently [Dr B] did consider then dismissed a possible cardiac cause; unfortunately this was done without the backing of any further investigations in particular with an ECG.

This shows a possible lack of experience with atypical chest pain, which is understandable as it is not something that a general practitioner would see often in their practising careers, if at all. Well documented procedures and training particularly in accident and medical centres which are at times staffed by non-specialised emergency doctors (e.g. GPs on a duty roster) would help to prevent misdiagnosis of myocardial infarcts. This appears to be the situation in [Dr B's] case, who had her own general practice, as I understand. The protocol should include the requirement that an ECG be performed in all patients with atypical chest pains. There should also be a list and understanding of atypical chest pain symptoms. I believe that if there was such a policy in place at [the] after-hours clinic this would have helped [Dr B] in her decision making as she, and the nursing staff assisting her, would have known it was the clinic's procedural policy that an ECG was required before she could eliminate a cardiac cause for the symptoms experienced by [Mrs A].

I note that such a policy or procedures did not seem to be in place at [the clinic]. This is indicated in the letter to [Mr A] from the Medical Director of [the clinic], [Dr C]; [Dr C] found that [Dr B] had not breached clinic standards by not doing an ECG and he found that the standard of the treatment offered was appropriate and reasonable. [Dr C] goes on to state that he probably would not have done an ECG either. This indicates to me that [the clinic] does not have a procedures policy on atypical chest pain. It would have to be recommended that one be developed or adopted, if not done so already. Making the correct diagnosis of a myocardial infarct in a timely manner is very important, not only because missing the diagnosis is potentially fatal, but also patient prognosis is greatly improved if appropriate management is initiated as soon as possible."

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Accident and medical practitioner advice
The following independent expert advice was obtained from Dr Simon Brokenshire, accident and medical practitioner.

"… Statement of objectives:

I have been asked to provide follow-up comment to the Commissioner on a couple of aspects related to case 04/11728/WS, following the original advice given by another independent advisor.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

Declaration of possible conflict of interest:
In 1990–1995 I worked in [a town] as a General Practitioner and provided my after hours care from [the clinic]. Since that time I moved away from [the area]. I have met the current General Manager and Medical Director of [the clinic] on the odd occasion in a professional setting however know neither of them on a personal basis.

Qualifications: MB.ChB (Otago, 1984), Dip Obs (Akld,); Dip Com A&E (Akld, 1995) FRNZCGP; FAMPA

Experience: I graduated in 1984, went into General Practice in 1990 where I have worked in city, rural and provincial settings. With the increasing trend for General Practice after hours care to be conducted out of an A&M setting I chose to do further training in this area of medicine obtaining my diploma in community accident and medical practice, followed by my fellowship of AMPA.

Over the last 4 years I have devoted my time solely to accident and medical care, working as a Senior Medical Officer in a busy A&M centre which sees some 60,000 patients/ year.

Questions to be addressed:

1. **What guidelines/procedures for the treatment of atypical chest pain, if any, are appropriate to be available for non-vocationally registered medical staff who are providing services in an Accident and Medical Clinic?**

2. **What are the supervisory requirements, for those doctors who provide accident and medical services but are not vocationally trained, in accident and medical clinical practice?**

Are there any aspects of the care provided by [the clinic] that you consider warrant additional comment?

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Documents reviewed:

- Letter of complaint, and supporting documentation, from [Mr A], marked with an 'A'. (Pages 1 to 30)
- Response to the Commissioner from [the clinic], marked with a 'B'. (Pages 31 to 66)
- Additional response from [the clinic] to the Commissioner, marked with a 'C' (Pages 67 & 68)
- Response to the Commissioner from [Dr B], marked with a 'D'. (Pages 69 to 71)
- Copy of Dr Gerald Young's advice to the Commissioner, marked with an 'E'. (Pages 72 to 77)

Other documents reviewed/ information sort.

- Personal communication with the New Zealand Medical Council & AMPA executive.
- 24hours surgery triage training course document (2004); A. Higgins.
- Guidelines for Triage Education and Practice
  Considine, J., Le Vasseur. SA. & Charles, A. "Consistency of Triage in Victoria's Emergency Departments: Guidelines for Triage Education and Practice". Monash Institute of Health Services Research. Report to the Victorian Department of Human Services, 2001.
  http://www.med.monash.edu.au/healthservices/CNR/Education.

Summary of events:

This has been outlined previously in the body of documents including Dr Young's advice to the Commissioner. I therefore will not repeat this other than to say that Dr Young provided initial advice on the case and made some comment regarding systems/ procedures at the A&M clinic that the doctor was working out of. I have been asked to make further comment on these specific aspects that he raised.

SPECIFIC QUESTIONS AND ADVICE:

1/ What guidelines/ procedures for the treatment of atypical chest pain, if any, are appropriate to be available for non-vocationally registered medical staff who are providing services in an Accident and Medical Clinic?

1/ Effective triage process

A process where all patients are initially seen by a nurse where a brief history is taken, observations are recorded, and appropriate investigations are carried out as per the clinics protocols/ teachings. This is then followed by the allocation of the appropriate triage code and associated priorty/ time that the patient is to be seen within.

In the interim, appropriate observation and ongoing recordings would be carried out. *

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- * Difficult at night and some times during the day — the doctor may well take the patient 1st. However the guidelines/procedures would still be encouraged to be performed.

- * This would create an environment where full time nursing staff may well take the initiative when 1st triaging patients and carry out the agreed clinics policy re initial recordings, tests and interventions. This may set the scene for the doctors who work at such clinics on an irregular basis or for those not vocationally trained in accident and medical practice.

2/ Chest pain protocol
This should be a document outlining the clinic's suggested approach to chest pain taking into account the environment they practice in.

This would take account of the availability of urgent blood tests (and follow-up bloods), observation/ monitoring facilities, the relationship with the local hospital facilities including the possible availability and admission criteria to a chest pain unit, and would include local specialist input into such a protocol.

This document should include an approach to acute coronary syndromes including 'ST elevation myocardial infarction', 'non-ST elevation myocardial infarction', and 'atypical' chest pain presentations.

This document would serve 3 purposes.

1. Act as a reference document in an attempt to standardise the approach amongst a diverse group of practitioners.
2. Provide a teaching aid to full time staff particularly nursing staff to emphasize the practice to have a low threshold to perform an ECG in typical and atypical presentations, along with the commencement of nurse initiated interventions eg IV access, blood drawing, O_2 therapy, aspirin and GTN administration.
3. Would clarify the clinic's position for medico-legal purposes.

Specifically regarding atypical chest pain there would be emphasis on the recording of ongoing observations, a low threshold to perform an ECG and cardiac enzymes, and possible cardiac monitoring for a period of time.

Also adjunctive use of O_2. gtn, antacids +/- xylocaine viscous as a possible therapeutic trial may be of assistance.

* Note however, that even if all these manoeuvres are carried out, the results of such are negative in a number of patients whose acute problem is that of ischaemic heart disease.

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3/ Continuing education
A CME programme run by the A&M clinic or incorporated into the General Practice CME programme.

The issues of the management of acute coronary syndromes and the local approach to those difficult diagnostic dilemmas may be of some help.

For the clinic staff (includes receptionists, nurses and doctors) a triage training process may assist in giving all permission to guide other more temporary staff as to what the clinic's approach to atypical chest pain may be.

2/ What are the supervisory requirements, for those doctors who provide accident and medical services but are not vocationally trained, in accident and medical clinical practice?

The MCNZ policy is that GPs can work freely in Accident and Medical Clinics, as long as their CME addresses A&M practice. An excerpt from the MCNZ policy document follows:

> '**2. Accident and medical practitioners working in emergency departments or general practice**
>
> The Council has the following formal agreement with the Australasian College for Emergency Medicine and the Accident and Medical Practitioners Association:
>
> - If you are registered within the vocational scope of accident and medical practice and work in a hospital emergency department, you must establish a collegial relationship with a doctor registered within the vocational scope of emergency medicine.
>
> The Council has also determined that:
>
> - **If you are registered within the vocational scope of general practice you can work in an accident and medical practice without establishing a collegial relationship as long as your recertification programme covers the work that you do.**
>
> - If you are registered within the vocational scope of accident and medical practice and you work in general practice you must establish a collegial relationship with a doctor registered within the vocational scope of general practice to ensure your CPD covers the breadth of general practice work, especially the care of chronic conditions.'

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3/ Are there any aspects of care provided by [the clinic] that you consider warrant additional comment?

I feel these have been covered by Dr Young's review of the case."

Responses to provisional opinion

Dr B

In response to the provisional opinion, Dr B raised concerns about Dr Young's advice. In particular, she submitted:

> "Dr Young stated that [Mrs A] presented with atypical chest pain. This is absolutely wrong:
>
> [Mrs A] presented with epigastric pain (acute and chronic) of which atypical chest pain is a differential diagnosis. It appears that he assumes that her presentation was atypical chest pain on 6 September because of the myocardial infarction (MI) she suffered 36 hours later.
>
> In his next paragraph Dr Young stated that I said that '[Mrs A] … indicated her area of discomfort by pointing to her sternum.' That is not correct. Apparently it is taken from a letter from [Mr D] to [the advocate]. It is not supported by my examination notes, in which I recorded that she 'pointed to her epigastrium'. …
>
> Dr Young assumes that the patient 'was probably woken from sleep …' This is incorrect. The patient had been uncomfortable and unable to settle all night, with a worsening of indigestion and belching, nausea, upper abdominal pains, increased bowel motions and burning in the oesophagus, a fever and a sore throat. She was not woken from sleep by pain.
>
> I also disagree with Dr Young's statement that a diagnosis of GORD or gastrointestinal disturbance leading to diarrhoea must be supported by tenderness. Tenderness is a clinical sign associated with peritonitis and is a surgical sign requiring further investigations and admission to hospital. The sign is often associated with guarding or rebound tenderness. GORD is a medical condition usually with no physical signs only symptoms (unless progressing to a more serious pathology). …
>
> Dr Young assumes that the patient was afebrile as I had not written the temperature in my notes. However, [Mr A] himself confirms [Mrs A's] intermittent fevers. … The incorrect assumption that [Mrs A] did not have a fever is taken by Dr Young as evidence that she did not have an acute gastritis, thereby reinforcing Dr Young's opinion as to a cardiac cause of her presentation on 6 September. …"

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Dr B's lawyer also responded to the provisional opinion on behalf of Dr B. Dr B's lawyer submitted that the evidence strongly indicates that Mrs A had not, and was not, suffering a myocardial infarction when she was reviewed by Dr B on 6 September. He submitted that Dr B's diagnosis of a worsening of gastro-oesophageal reflux disorder/acute gastro-enteritis was correct, and Mrs A's gastro condition placed increased stress on her cardiovascular system precipitating the myocardial infarction that followed 36 hours later. He argued that accepting this scenario corroborates Dr B's account of Mrs A's symptoms, in particular, that Mrs A did not present with atypical chest pain — at the most it was pain radiating from its source in the abdomen. Dr B's lawyer submitted, "Once that flawed assumption is removed from Dr Young's assessment, it is submitted that his conclusion becomes untenable."

Dr B's lawyer advised:

> "If the Commissioner's provisional finding should stand, then doctors in the position of [Dr B] will have no option than to send their patients for further investigations, at the expense and considerable inconvenience of their patients. The decision would effectively remove their clinical discretion."

The Clinic
Dr C, on behalf of the clinic, also contested Dr Young's advice. Although he noted that the pain of myocardial ischaemia is very similar to the pain of GORD, Dr C submitted that there is no doubt that the pain Mrs A experienced at the time of presentation was more typical of GORD than a cardiac condition. Dr C submitted that Mrs A presented with abdominal pain, not atypical chest pain. He noted that radiation of pain to the chest does not make the presentation one of atypical chest pain. For Dr B to rule out acute heart disease as a cause of Mrs A's pain on the basis of an appropriate and detailed history, can be considered normal and appropriate practice for both general practitioners and accident and medical practitioners. Dr B's diagnosis was reasonable, and one that "most doctors would have made". In Dr C's opinion very few doctors would have performed an ECG in this situation.

Furthermore, Dr C submitted, it is not uncommon for people in Mrs A's age group to have a heart attack precipitated by another illness that places stress upon the cardiovascular system. It is possible that Mrs A had a gastro-intestinal problem when she saw Dr B on 6 September, followed by an MI two days later.

Dr C advised:

> "In his textbook 'General Practice', Prof John Murtagh stated that when assessing chest pain 'a meticulous history of the behaviour of the pain is the key to diagnosis'. Your advice appears to have been that you should ignore the detailed history taken by [Dr B], and instead conclude that [Mrs A] had cardiac chest pain on the basis of the fact that she pointed at her sternum during the consultation and that the pain she had when she had her MI two days later was similar to the pain of two days earlier …

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> The combination of epigastric pain and retrosternal chest pain is a common presentation to general practitioners. … On most occasions the GP will make a decision based on the history. Only occasionally will an ECG be performed to help with the diagnosis …
>
> That [Dr B] was competent to differentiate the pain of GORD from the pain of acute cardiac ischaemia was further enhanced by the knowledge that she had working as a medical registrar, and that she was attending Continuing Medical Education programmes, including an advanced Cardiac Life Support course run by Emcare, paid for by [the medical clinic]."

Dr C expressed his concern that Dr Young placed undue emphasis on the fact that Mrs A had an MI two days after she saw Dr B, and gave insufficient weight to the clinical history and Dr B's assessment.

Dr C also advised that the clinic recognises the importance of providing CME for GPs working in accident and medical clinics and has for many years run CME for all doctors working in the clinic, in cooperation with the a Postgraduate Medical Society. In addition, monthly CME is run for the clinic nurses. There is a triage training process in place and coronary syndromes are discussed. The month following this incident, a cardiologist spoke to the clinic's staff about chest pain diagnosis and management, emphasising the key role that a detailed clinical history plays in the assessment of chest pain. Furthermore, the clinic has documented procedures for the management and treatment of chest pain, which are prominently displayed. Dr C provided copies of the relevant protocols, procedures and programmes.

Additional expert advice

Dr Young

Dr Young was asked to review his original advice in light of the responses to the provisional opinion. The following further advice was received from Dr Young:

> "I have been asked to provide further advice and comment on this complaint.
>
> There is no new evidence or information presented in the responses of [Dr C] and [Dr B] that compels me to alter my original advice.
>
> The reason for maintaining my position on the advice given is that I still hold the view that a cardiac cause for the chest pain experienced by [Mrs A] was not clinically eliminated beyond reasonable doubt.
>
> It is an axiom of clinical medicine that chest pain should be considered cardiac until proven otherwise beyond reasonable clinical doubt. This is reiterated in the chapter on

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'Chest pain' in the textbook 'General Practice' by John Murtagh, which has been quoted by [Dr C] in his response. Murtagh states in his first 'check points and golden rules' list that 'Chest pain represents myocardial infarction until proved otherwise.' (copy of pages 298–301 of this chapter enclosed.). This is also clearly established in past medico-legal case findings (Health & Disability Commissioner (HDC) cases 03HDC01502, 03HDC04006 & 00HDC06477 and also in Medical [Practitioners Disciplinary Committee] rulings prior to the establishment of the HDC).

How is cardiac chest pain reasonably ruled in or out? It is generally accepted that positive findings in any two of i) history of chest pain, ii) positive ECG findings or iii) elevated cardiac enzymes confirms a cardiac cause. Therefore the reverse argument is that it would be reasonable to accept clinical exclusion if two or more of these three variables were negative. In this case only the one variable of the clinical history has been considered, ECG and blood tests were not done. Therefore my advice remains that the assessment of [Mrs A] was incomplete and a cardiac cause for the chest pain was not reasonably excluded.

I have been asked to comment on the following specific issues:

1. **[Mrs A's] presentation of chest pain halfway up her sternum was 'very typical of gastro-oespohageal reflux disease', compatible with [Dr B's] findings, and that describing [Mrs A's] presentation as atypical chest pain was based on the knowledge that she had a myocardial infarction two days after seeing [Dr B].**
   I agree that the statement [that] presentation of chest pain halfway up her sternum can be 'very typical of gastro-oespohageal reflux disease'. Unfortunately it is also well documented that another differential diagnosis for these symptoms can be cardiac, either myocardial infarction or angina. I note that [Dr C] agrees with this as well, in page 1 of his letter of reply to the provisional opinion he states 'there is no doubt that the pain of myocardial ischaemia is very similar to the pain of GORD'. I outlined in my original report that although there were abdominal and chest symptoms reported in the history, the clinical exam by [Dr B] found absolutely no abnormal abdominal findings, not even mild epigastric tenderness, to support the diagnosis of 'worsening gastro-oesophageal reflux with acute gastroenteritis'. It is not acceptable to clinically attribute the presenting symptoms entirely to an abdominal cause, without actively excluding a possible cardiac cause, faced with no abnormal abdominal findings on the clinical examination of the abdomen. This point is a critical one in the diagnostic pathway that was followed because [Dr B] based her clinical decision making on the belief that [Mrs A] had epigastric pain radiating into the chest. If this were the case then epigastric tenderness would have to be reasonably demonstrated. Otherwise the reason for the symptoms could have been chest pain radiating to the epigastrium. The sensory nerve supply to the mediastinum (midline chest area) shares common spinal cord segments with the central portion of the diaphragm, epigastric area as well as part of the shoulder and upper limb. This explains why pain in the central chest area can be referred to other seemingly distant areas and conversely radiate from the epigastric area to the central chest.

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I do not agree with [Dr B's] assertion that tenderness is a clinical sign of peritonitis; 'guarding' and 'rebound tenderness' are findings associated with possible peritonitis as opposed to tenderness found on simple palpation.

I accept the argument that a normal abdominal clinical exam does not rule out gastro-oesophageal reflux disease but it also does not necessarily rule in favour of this diagnosis. A normal abdominal examination in [Mrs A's] case should have made it more imperative to exclude a cardiac cause for the pain; the pain was moderately severe, had been going all night (reportedly for approximately 12 hours), the symptoms were not helped by whatever she had taken at home to try to relieve the pains herself as she had known GORD so it is reasonable to assume that she had taken something (although it is not documented if she had or whether this question was asked), the pains did not allow her to sleep properly, she was elderly aged 77 years and was on treatment for hypertension. It would also appear from one of [Dr B's] statements in her letter of reply that [Mrs A] had known ischaemic heart disease. [Dr B] stated that she specifically asked '… is this pain anything like your normal angina or heart attack pain, to which she replied, No.'

This combination of factors makes a very strong case for the need to exclude a cardiac cause for the chest pain in my opinion.

In reviewing this, and other cases for the HDC, I attempt to reconstruct the cases in a prospective manner to determine whether the clinical management was appropriate or not at the time. It is undeniable that I am party to more information than that available to [Dr B] at the time she attended [Mrs A]; however I have only used information available to [Dr B] at the time to formulate my opinions. Again I reiterate that [Dr B] did not collect enough information, namely an ECG recording and / or myocardial enzymes, to be able to positively exclude a cardiac cause for the symptoms that [Mrs A] presented with. Whether [Mrs A] was having a myocardial infarct, angina, a combination of cardiac and abdominal symptoms or indeed just having symptoms of severe gastro-oespohageal reflux remains unknown but there was a clinical obligation to reasonably exclude a cardiac cause, to do this in [Mrs A's] case at least an ECG was required, and more confidence may have been provided if cardiac enzymes were done.

2. **[Dr C's] statement that when considering whether patients presenting with symptoms of GORD should have an ECG, 'the crux of the diagnosis is the history', and that in cases such as [Mrs A's] it would not be usual practice to perform an ECG to assist with the diagnosis.**

The history is certainly important in any clinical diagnosis but in some circumstances it is not possible to make or exclude a diagnosis without the help of further investigations. Chest pain can be one of these situations. It is documented in the chapter 34 'Chest Pain' of the text book 'General Practice' by Murtagh quoted by [Dr C], that the symptoms of gastro-oesophageal reflux can be one of these situations. Murtagh states 'oesophageal problems may be clinically

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indistinguishable from angina'. In the same chapter it is also listed as the first 'golden rule' that 'chest pain represents myocardial infarction until proved otherwise'.

Sometimes to prove whether chest pain is cardiac or not requires investigations with ECG and blood tests for cardiac enzymes. Positive findings in two of the three factors, clinical symptoms, ECG and cardiac enzymes, would confirm a diagnosis of a cardiac cause for chest pain.

I note that [Dr C] has referred to a case study of 'dyspepsia' to support his view that an ECG was not required in [Mrs A's] case. However the case study is not comparable with [Mrs A's] case. Specifically the case study was of a much younger male, aged 48 yrs, presenting non-acutely, his symptoms of retro-sternal discomfort occurred about once or twice a week and is not severe. He had tried OTC indigestion products that sometimes improved the symptoms. He did not have significant pain or discomfort at the time of the consultation. The clinical exam is unremarkable with a normal abdominal exam.

This case study is vastly different to [Mrs A's] case; where [Mrs A] was a 77 year old lady, presenting acutely, the presenting pain was moderately-severe, had been going all night (reportedly for approximately 12 hours), she was on treatment for hypertension. We don't know if she took antacids for her symptoms before being seen at the A&M Clinic. The abdominal exam did not reveal any abnormal findings.

I agree that most doctors would not do an ECG in the case study presented but I believe that most doctors should do an ECG in [Mrs A's] case.

Significant chest symptoms with no abdominal clinical findings to confirm an abdominal cause with referred chest pain warrants the exclusion of a cardiac cause.

3. **[Mrs A's] symptoms on 6 September did not have a cardiac origin, and therefore, [Mr B's] examination and assessment at that time, was reasonable in the circumstances.**

The clinical standard that has to be met in this case is to have reasonably excluded a cardiac cause for the chest pain. That this is the standard of proof required is taught through our clinical training; clearly documented in the textbook 'General Practice' by J Murtagh, and also by past case findings (Health & Disability Commissioner (HDC) cases 03HDC01502, 03HDC04006 & 00HDC06477 and also in Medical [Practitioners Disciplinary Committee] rulings prior to the establishment of the HDC). I also note that [Dr C] also agrees with this in his letter of reply to the provisional report. [Dr C] in page 2 of his reply, when discussing making the differential diagnosis when 'epigastric and retrosternal chest pain' are presenting symptoms states '… they must consider whether these symptoms are due to acute

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heart disease'. We do differ on the standard of proof required to make or exclude this diagnosis.

As stated previously, to reasonably exclude that the chest pain was not from a cardiac cause requires supporting evidence from an ECG and possibly cardiac enzyme blood tests as well. These were not done so the clinical management fails the test of reasonable diagnostic exclusion of a possible cardiac cause.

I note that [Dr C], [Dr B] and [Dr B's] representative [Dr B's lawyer], have put forward arguments contending that the original diagnosis of gastro-oesophageal reflux was correct and therefore the clinical management was appropriate. I hope that I have made it absolutely clear that where the clinical standard was not met was not in the diagnosing of gastro-oesophageal reflux or not, but was in not reasonably excluding a cardiac cause for the chest pain.

[Dr B's lawyer] tries to establish retrospectively that the diagnosis was gastro-oesophageal reflux beyond reasonable doubt by using the cardiac enzyme levels obtained on admission to [the public hospital]. I note that both the cardiac enzymes, CK and troponin, are elevated. I am not able (nor adequately qualified) to say whether these levels definitely exclude the possibility of a myocardial infarct occurring at the time [Mrs A] was seen by [Dr B]. I can however be certain that irrespective of cardiac enzyme levels on admission it does not exclude the possibility that the chest pain may still have been from a cardiac cause. Angina would not have caused the cardiac enzymes to become elevated and a myocardial infarct would have. So the admission cardiac enzyme levels are irrelevant in trying to rule a cardiac cause for the symptoms in or out. The angina may have become more unstable after discharge without adequate treatment resulting in the myocardial infarct. Comment on issues in common with this case is clearly detailed in a previous HDC case report 00HDC06477 by Dr Geoffrey Hughes, consultant and clinical director in emergency medicine at Wellington Hospital.

Without the results of an ECG and possibly cardiac enzymes available from the initial assessment it is not possible, even with the benefit of hindsight, to conclusively determine that the chest pain experienced by [Mrs A] was not cardiac."

Dr Brokenshire

Dr Brokenshire was asked to review his original advice in light of the responses to the provisional opinion. The following further advice was received from Dr Brokenshire:

"Statement of objectives:

I have been asked to provide follow-up comment to the Commissioner following the release of the provisional report on the above case, and various responses to this report.

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Qualifications, clinical experience and potential conflict of interest.
This has been outlined in my initial report.

Questions to be addressed:
Are there any aspects of [the clinic's] response that would cause you to review your earlier advice? In particular, please comment on the following:

- **The appropriateness of [the clinic's] procedures for the management and treatment of chest pain.**

- **Whether the training programmes [the clinic] provides for its staff in relation to the management of difficult diagnostic dilemmas are adequate.**

Documents reviewed:
- Commissioner's provisional opinion, marked with an 'A'. (Pages 1 to 20)
- [The clinic's] Medical Director, [Dr C's] letter responding to the Commissioner's provisional opinion with attached supporting documents, marked with a 'B'. (Pages 21 to 43)
- [Dr B's lawyer's] letter to the Commissioner (on behalf of [Dr B]), responding to the provisional opinion with attached supporting documents, marked with a 'C'. (Pages 44 to 52)
- [Dr B's lawyer's] letter to the Commissioner (on behalf of [Dr B]), marked with a 'D'. (Pages 53 & 54)
- [Dr B's lawyer's] letter to the Commissioner (on behalf of [Dr B]), marked with an 'E'. (Page 55)
- Clinical records relating to [Mrs A's] admission to [the public hospital], marked with an 'F'. (Pages 56 to 106)

SPECIFIC QUESTIONS AND ADVICE:

Are there any aspects of [the clinic's] response that would cause you to review your earlier advice? In particular, please comment on the following:

- **The appropriateness of [the clinic's] procedures for the management and treatment of chest pain.**

- **Whether the training programmes [the clinic] provides for its staff in relation to the management of difficult diagnostic dilemmas are adequate.**

Following review of the provisional opinion/report by the Health and Disability Commissioner, and the responses to this, there is nothing that would cause me to review my advice as such. This is because my report was in response to specific questions related to guidelines and procedures for the treatment of atypical chest pain.

I made no comment as to whether the clinic had such guidelines in place.

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[The clinic's] response to this report was to outline the procedures that they have in place for the management of chest pain. I have been asked to review this response.

It appears that [Mrs A] was triaged and dealt with in a timely fashion. I think it is useful that the clinic is staffed by 2 registered nurses at night and that one of these acts at the initial point of contact, doubling as receptionist. This provides a skilled person to visually assess the patient and then institute further triage and assessment as required.

I have no other information as to whether the clinic has a formal triage process, but suspect so, as [Dr C] mentions that there is a triage training process in place.

If the clinic has been, or is going through ACC accreditation, then such a process is required. With such accreditation the clinics processes are externally audited.

As with any system there is always room for improvement, (some improvements I understand have already been instituted at [the clinic]).

There appears to have been some issues in the case in question over the recording of the triage assessment in the body of the computerised notes along with the initial observations/recordings being recorded in a permanent fashion and complementing the doctors' notes.

Triage should form the initial part of the consultation. As a general rule nurses are good at documenting baseline observations and these form an important part of an assessment as well as being helpful when auditing notes '*retrospectively*'.

My point about triage was also that such a system requires ongoing review and training of the medical and nursing staff involved. This provides a forum for education which may well encompass various diagnostic dilemmas and show how the initial assessment and initiation of various interventions, investigations or ongoing monitoring/ observation can assist the team as a whole to more effectively diagnose and treat people in the A&M environment. It can also provide some standardisation of approach in an environment staffed by a diverse group of health professionals.

It does however appear from [Dr C's] reply to the report that the CME provided for GPs working in A&M environments is very adequately covered. The specific issue of acute coronary syndromes featured in their CME programme. Nurses' CME appears also to be supported by the clinic. And there appears to be a process of triage training.

The question of a chest pain protocol has been addressed. It appears the clinic uses the New Zealand Resuscitation Council's algorithms which is becoming the standard that we work from.

The point is taken from [Dr C] regarding a document specifically dealing with 'atypical chest pain' and I suspect that in our protocols the chest pain one is seldom reviewed by

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working doctors as it is a general expectation that all medical practitioners should have a good working knowledge of such.

Its my impression that the systems outlined seem adequate to support general practitioners in the A&M environment, although further development may well improve them."

Code of Health and Disability Services Consumers' Rights

The following Right in the Code of Health and Disability Services Consumers' Rights (the Code) 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: Breach — Dr B

The issue in this case is whether Dr B adequately assessed Mrs A in light of her history and presenting condition. As submitted by Dr B's lawyer and Dr C on behalf of Dr B, and as accepted by Dr Young, any critique of Dr B's assessment and diagnosis of Mrs A, although inevitably made in retrospect, must not be tainted by hindsight bias. The focus must be on the circumstances faced by Dr B on 6 September, not the subsequent events. I have kept this crucial point in mind in the analysis that follows.

In my view, Dr B did not adequately assess Mrs A, and breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code). The reasons for my opinion are as follows.

Mrs A was a 77-year-old woman with a history of high blood pressure and gastric problems. In the early hours of 6 September Mrs A presented at the clinic, where she was reviewed by Dr B. It is agreed that Mrs A was experiencing indigestion, belching, and nausea, and that she felt hot and had a mild fever and sore throat. It is also agreed that Mrs A had experienced frequent but normal bowel motions over the preceding 12 hours. However, there is a conflict of evidence as to whether Mrs A presented to Dr B with chest pain. On the one hand, Mr A recalled that his wife was experiencing pain in her chest. On the other hand, Dr B's recollection is that Mrs A had epigastric pain, and the medical

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record notes the pain as abdominal. After taking Mrs A's history and conducting a clinical examination, Dr B specifically noted that Mrs A had "nil chest/cardiac symptoms".

While the location of Mrs A's discomfort is in debate, it is clear that she was experiencing pain that, if not direct chest pain, could have been referred pain. That pain required further investigation as to its cause, in particular, as to whether it was due to a cardiac condition. I do not accept that Mrs A's pain could simply be described as abdominal pain.

As noted by my general practice advisor, Dr Young, chest pain should be considered cardiac until proven otherwise beyond reasonable clinical doubt. Pain that can also be attributed as referred cardiac pain requires equal vigilance in its assessment and treatment. A very high level of suspicion has to be maintained for atypical chest pain. Where there is any possibility that a patient's symptoms may be of cardiac origin, the diagnosis of myocardial infarct needs to be excluded by all practical means available.

The question in this case, therefore, is whether Dr B adequately excluded the possibility of a cardiac cause for Mrs A's symptoms by all practical means available.

Dr B did consider a cardiac cause for Mrs A's symptoms. However, she excluded a cardiac cause because Mrs A did not have shortness of breath, had no radiating pain, was not tachycardiac, had not been vomiting, was not sweating or anxious, and had no cyanosis. Dr B did not perform an ECG or take cardiac enzymes CK or troponin-T to confirm her diagnosis.

Was it sufficient for Dr B to exclude a cardiac diagnosis on the basis of the clinical information available to her without taking an ECG or cardiac enzymes CK or troponin-T?

In my view, the answer must be "no". Dr B did not take all practical steps to exclude a cardiac cause for Mrs A's symptoms. Dr B needed to exclude a cardiac cause for Mrs A's epigastric pain. To safely exclude a cardiac cause, she needed to check that two or more of the following three variables were negative: a history of pain consistent with a possible cardiac origin; ECG findings; and elevated cardiac enzymes. If clinical doubt remains, the patient should be referred to hospital. Dr B considered Mrs A's clinical history, but did not conduct an ECG or take blood tests. While Mrs A's clinical history may have caused Dr B to consider other diagnoses beyond a cardiac one, she did not reasonably exclude a cardiac cause through an ECG and/or blood tests. Given Mrs A's presenting condition and history of high blood pressure, Dr B clearly should have done so. As noted by Dr Young:

> "Whether [Mrs A] was having a myocardial infarct, angina, a combination of cardiac and abdominal symptoms or indeed just having symptoms of severe gastro-oesophageal reflux remains unknown but there was a clinical obligation to reasonably exclude a cardiac cause, to do this in [Mrs A's] case at least an ECG was required, and more confidence may have been provided if cardiac enzymes were done."

Accordingly, it was not enough for Dr B to rule out a cardiac cause on the basis of Mrs A's clinical presentation and that she indicated her pain as epigastric. As noted by my advisor,

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although presentation of pain halfway up the sternum may be very typical of gastro-oespohageal reflux disease, it is also well documented that another differential diagnosis for these symptoms can be cardiac. Furthermore, faced with no abnormal abdominal findings on clinical examination, it was not acceptable for Dr B to clinically attribute the presenting symptoms entirely to an abdominal cause without actively and reasonably excluding a possible cardiac condition. A normal abdominal examination made it all the more important that Dr B exclude a cardiac cause for Mrs A's pain.

I accept that the clinical scenario of atypical chest pain is a very difficult one for all general practitioners. It is easy for general practitioners to be led away from a cardiac cause by atypical symptoms, and to pursue other diagnoses. However, the potential outcomes of an incorrect diagnosis are such that general practitioners need to remain particularly vigilant in the assessment of atypical chest or epigastric pain and alert to the possibibility of a cardiac cause, especially in a patient with a history of heart disease. I do not accept the submission of Dr B's lawyer that a high standard of vigilance to atypical chest or epigastric pain will effectively remove clinical discretion and leave doctors with no option but to send their patients for further investigations at the expense and "considerable inconvenience" of their patients. Speculation about expense and inconvenience is certainly not a persuasive reason for accepting a lesser standard of care.

Furthermore, the issue in this case is whether Dr B appropriately ruled out a cardiac cause for Mrs A's symptoms, not whether the diagnosis of GORD was, in itself, correct. Accordingly, the submissions in response to my provisional opinion that Dr B's diagnosis of GORD was correct, and that Mrs A's GORD precipitated her myocardial infarct, do not alter my view that Dr B's assessment on 6 September fell below an acceptable standard.

In conclusion, Dr B had an obligation to reasonably exclude a cardiac cause for Mrs A's pain. Although Mrs A's presentation was atypical, Dr B did not take adequate steps to exclude a cardiac cause. Her failure to perform an ECG and/or take blood tests to exclude cardiac cause meant the standard of care she provided was inadequate. It follows that Dr B did not provide Mrs A with services with reasonable care and skill, and breached Right 4(1) of the Code.

Opinion: No Breach — The Medical Clinic

Vicarious liability
The medical clinic is a co-operative company providing after-hours service for the patients of all the general practitioners in a town. GPs based in the area participate on a centralised roster and are engaged as independent locum contractors. As an independent contractor, Dr B was acting as an agent of the clinic at the time she assessed Mrs A. Dr B was not vocationally trained in accident and medical practice.

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Under section 72(3) of the Health and Disability Commissioner Act 1994, employing authorities are responsible for ensuring that their agents comply with the Code, and may be vicariously liable for an agent's failure to do so. Under section 72(5) it is a defence for an employing authority to provide that it took such steps as were reasonably practicable to prevent the breach of the Code.[2]

There are three relevant issues for consideration with regard to the clinic's potential liability. The first is the adequacy of its procedures and protocols for the management and treatment of chest pain. The second is the adequacy of the level of continuing medical education ("CME") in accident and medical care provided to its staff. The third issue is whether the clinic ensured that Dr B, who was not vocationally trained in accident and medical care, was competent to act as an independent locum contractor to an accident and medical clinic.

As previously discussed, the clinical scenario of atypical cardiac pain is very difficult for general practitioners. Dr Young advised that well documented procedures and training in accident and medical clinics relating to atypical chest symptoms, which includes the requirement that an ECG be performed in all patients with these symptoms, help to prevent misdiagnosis of myocardial infarcts.

My accident and medical practitioner expert, Dr Brokenshire, confirmed Dr Young's advice. He noted that accident and medical clinics should have in place documented policies and procedures for the management and treatment of atypical chest pain, to guide staff in their decision-making. Such policies and procedures include an effective triage process and a chest pain protocol for the management of acute coronary syndromes, including atypical chest pain. The chest pain protocol should outline the clinic's suggested approach to chest pain, taking into account the environment of the clinic (such as the availability of certain tests and procedures and the relationship with local hospital facilities). With regard to atypical chest pain, the document should include emphasis on the recording of ongoing observations, a low threshold to perform an ECG and cardiac enzymes, and possible cardiac monitoring for a period of time.

Dr Brokenshire recommended that it would be helpful for a Continuing Medical Education (CME) programme to be run by the clinic that incorporated the management of difficult coronary syndromes and the local approach to difficult diagnostic dilemmas. Dr C responded that Medical clinic has a CME programme for nurses and staff doctors, and works with a Postgraduate Medical Society in providing CME with an accident and medical emphasis to general practitioners. Dr Brokenshire accepted that the systems outlined by Dr C seem adequate to support general practitioners in the accident and medical environment. However, he noted that further development may well improve them. In particular, he noted that, although the clinic's night staffing (one doctor and two registered nurses) is useful as it provides a skilled person to visually assess the patient and

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[2] While the defence set out in section 72(5) refers to "employees", it is generally considered to be available in respect of agents (see *Totalisator Agency Board v Gruschow* [1998] NZAR 528).

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then institute further triage and assessment as necessary, there appear to have been some issues about the recording of the triage assessment in Mrs A's case. Dr Brokenshire noted that the triage record should form the initial part of the consultation and be recorded in a permanent fashion and complement the doctor's notes. He commented that any triage system requires ongoing review and training of the medical and nursing staff involved. This provides a forum for education and standardisation of approach in an environment staffed by a diverse group of health professionals.

As regards Dr B's competence to practise as a locum contractor at the clinic, Dr Brokenshire referred to the current Medical Council of New Zealand (the Council) policy document "Continuing Professional Development and Recertification". The document states that general practitioners can work freely in accident and medical clinics as long as their recertification programme covers the work that they do (in this case, accident and medical practice).

The Council document in place at the time of Mrs A's consultation, "Recertification, Guidance for vocationally registered doctors" (January 2001), stated that if a doctor was working in a related branch for which they did not hold vocational registration they could apply for exemption from general oversight on the grounds that their recertification programme adequately covered the breadth of the work. Although this document is more general than the later document, the same principle applies.

Dr B was a registered general practitioner. Dr C stated that Dr B was competent to work in accident and medical clinics as she had worked as a medical registrar and was attending relevant CME programmes, including an advanced Cardiac Life Support course. From the information provided, Dr B was clearly competent to act as an independent locum at the clinic.

I am satisfied that the clinic took such steps as were reasonably practicable to prevent Dr B's breach of the Code. Accordingly, the clinic is not vicariously liable for Dr B's error in this case.

Actions taken

I am satisfied that following these events Dr B has very carefully reflected on her decision making in this case. Dr B advised me that since Mrs A's death she started taking a "much more detailed history" and "will offer anyone with abdominal symptoms an ECG". Mr D also advised:

> "[Dr B] expressed her very genuine and sincere sorrow at the outcome. [Dr B] said that because of this experience, she would now adopt a suspicion towards any future presentations of a similar nature. [Dr C] said that he would present the experience to

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the staff doctors as valuable learning and education so that it may minimize the chance of a repeat occurrence here."

It is important that providers learn from adverse events and complaints, and continue to improve the quality of their care.

Recommendation

I recommend that Dr B:

- Apologise in writing to Mr A for her breach of the Code. The apology is to be sent to the Commissioner's Office and will be forwarded to Mr A.

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand and the Royal New Zealand College of General Practitioners.
- A further copy of this report, with identifying features removed, will be sent to the Accident and Medical Practitioners Association and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

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