General Practitioner, Dr B

A Report by the

Health and Disability Commissioner

(Case 03HDC16742)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mr A	Complainant / Consumer's husband
Mrs A (dec)	Consumer
Dr B	General Practitioner / Provider

Complaint

On 26 June 2002 the Commissioner received a complaint from Mr A about Dr B. The complaint was summarised as follows:

Dr B, general practitioner, did not provide services of an appropriate standard to the late Mrs A, prior to her death from pulmonary embolism on 29 March 2000. In particular:

- *Dr B did not diagnose Mrs A as suffering from deep vein thrombosis.*
- *Dr B did not reconsider whether Mrs A might be suffering from deep vein thrombosis, after routine tests were inconclusive.*
- *Dr B did not refer Mrs A for an ultrasound scan or specialist assessment despite Mrs A exhibiting potential symptoms of deep vein thrombosis/pulmonary embolism.*

An investigation was commenced on 11 November 2002. The investigation was discontinued on 15 April 2003 after Mr A's lawyer failed to respond to requests that he contact my Office. The investigation was re-opened on 22 October 2003, at Mr A's request.

Information reviewed

- Complaint letter from Mr A's lawyer
- Information provided by Mr A , including interview with HDC staff dated 9 December 2003
- Information provided by Dr B

Independent expert advice was obtained from Dr Helen Moriarty, general practitioner.

Information gathered during investigation

Overview
Mrs A consulted her general practitioner Dr B on 27 January, 12 February and 7 March 2000, complaining of periodic pain in her right leg and an episode of breathlessness. Dr B considered she might have a muscular injury or a viral illness. Mrs A died at a public hospital on 29 March 2000 from a pulmonary embolism and an associated acute subdural haematoma. Mr A queried whether Dr B should have considered a diagnosis of embolism and intervened to prevent Mrs A's death.

27 January 2000 visit
On 27 January 2000 Mrs A, aged 57 years, consulted her general practitioner Dr B suffering from intermittent pain in her right leg. Mr A advised that Mrs A had injured her leg approximately a month before she consulted Dr B, when shifting furniture at work. By late January, Mrs A's leg was "beginning to trouble her", particularly in the mornings after waking. Mr A is certain that his wife would have told Dr B about the injury at work.

Mr A advised me that, to his knowledge, the pain was focused around the area of her calf/knee, but was unable to confirm whether it had any other distinguishing characteristics. There was no visible indication of pain and Mrs A did not have a limp. There were no other symptoms of concern at that time, although she later experienced a period of breathlessness.

Dr B confirmed that, at this consultation, Mrs A recounted a history of pain in her right calf, which she described as a burning sensation. Mrs A also reported a similar pain recurring in her left heel and thigh over the previous two months. Dr B recorded in his medical notes that Mrs A gave no specific history of an accident causing the injury. He wrote:

> "Pain right calf feels like a burning sensation tender to touch 10/7 previously had similar pain left heel/left thigh over past 2 months no history of trauma [or] oedema pain at ankle tender, above/below knee posteriorly reflexes both kj/aj [knee joint/ankle joint] both legs normal control sensation normal? muscular sprain fbc [full blood count] ana [blood screening test for connective tissue disease]
>
> → volt [Voltaren] 75mg 30 1bd."

However, Dr B subsequently informed me that there may have been some discussion of the possible cause of an injury:

> "Although not documented in the notes I recall [Mrs A] commenting at the end of the consultation that she vaguely recalls slipping off a curb and pulling her right calf muscle, however she was not absolutely certain about that. Accordingly I considered that she might have a muscular sprain."

Dr B stated that on examination he observed pain in the right ankle, and tenderness on palpation above and below Mrs A's right knee. There was no oedema (excessive accumulation of fluid in the body tissues) and a neurological examination was normal. Dr B considered that Mrs A might have a muscular sprain or connective tissue disease, in view of

her multiple areas of tenderness. Dr B prescribed Voltaren and requested blood tests, which were returned as normal later that day. He stated:

> "There was nothing during that consultation that alerted me to the diagnosis of deep vein thrombosis. In particular [Mrs A] did not complain of ascending calf pain nor was there any evidence of an oedema."

Dr B commented that he did not believe that Mrs A's symptoms of bilateral leg pain were typical of deep vein thrombosis (DVT). In his opinion very few general practitioners would have considered a DVT diagnosis at that time.

12 February 2000 consultation

Mr A advised that Mrs A's pain persisted and she returned to Dr B on 12 February. Mr A recalled that the leg pain was continuous, although of an intermittent nature. Mr A's lawyer stated that, prior to her second appointment with Dr B, Mrs A also experienced symptoms of breathlessness, which came on suddenly. Mr A explained that the breathlessness was present for about ten days, during mild exercise, and then seemed to improve:

> "… [she] used to go and pick up the post from the Post Office there, which was probably, I don't know, quarter of a mile, and she said to me that she found she was having to sit down three or four times during that visit because of breathlessness. So the breathlessness came on with mild exercise."

Mr A commented that this was most unusual because his wife's hobby was tap dancing, which is quite strenuous, and his wife was "a super-fit person in all respects". He recalled that Mrs A told him Dr B thought she had a virus and, as a result, she discounted any serious concern.

Dr B confirmed that Mrs A's general medical background was of excellent health and her only medication was a hormone replacement tablet (Premia 2.5mg one tablet daily) and the occasional frusemide tablet for fluid retention. He recalled that Mrs A reported shortness of breath on 12 February 2000, which came on gradually while walking:

> "At that consultation [Mrs A's] presenting complaint was an episode of shortness of breath while walking, with that shortness of breath coming on over a half hour period. She also reported feeling slightly clammy and had a slight headache. A chest examination was normal. Accordingly from the symptoms that had been described, which were minor, I considered that Mrs A probably had a viral type infection."

Dr B's medical notes stated: "Sob [shortness of breath] came on over half an hour feels clammy slight headache … ? viral."

Dr B stated that the examination did not establish a definitive diagnosis and he requested a full blood count, which was returned as normal on 14 February. Dr B informed me that Mrs A did not report the continuation of her leg pain:

> "There was no discussion of leg pain during this consultation, and [Mrs A] certainly did not complain of continuing to suffer such a pain in either leg. I again advised [Mrs A] to return to see me, if the problem of breathlessness persisted."

Dr B commented that "I considered a pulmonary embolus as a possibility on 12 February because of the episode of breathlessness". However, he did not pursue it because he considered the symptoms were relatively minor, in particular the shortness of breath did not come on suddenly, and he did not link the leg pain previously reported to him on 27 January with the shortness of breath.

Dr B expressed the view that it is not possible to categorically conclude that Mrs A's shortness of breath was caused by pulmonary embolism. He stated:

> "It was not my understanding that shortness of breath was indicative of a pulmonary embolus, and again in the absence of other symptoms pointing to that diagnosis (in particular [Mrs A] did not complain of leg pain at that consultation), I did not consider it, my impression was that [Mrs A] had presented for a chest/lung examination and I do not consider this was unreasonable in the circumstances.
>
> I have generally understood pulmonary embolus to relate to an instant event with potentially life-threatening side effects. I am aware now however that there can be minor events caused by the breaking off of a small piece of the thrombus, and in hindsight that may have been what occurred in this case. However it was not something I considered at the time."

7 March 2000 consultation

Mr A was not aware that his wife also consulted Dr B on 7 March, but commented that she was suffering from persistent leg pain:

> "I knew she was suffering because she kept on complaining about the fact that the pain in her leg had continued. She got it in the morning after sort of lying dormant in bed over night."

Dr B stated that on 7 March Mrs A consulted him for repeat medications (Premia and frusemide) but made no mention of leg pain or shortness of breath. Dr B summarised the consultation in his notes as "worried about veins no pain review". Dr B submitted:

> "I do not accept it was unreasonable not to link the episode of shortness of breath and leg pain particularly at the time of the consultation on 7 March. These consultations were weeks apart and the same symptoms were not described on each occasion. Obviously I was misled by the absence of recurring symptoms but in the circumstances, where there were other reasonable diagnoses I again do not consider that it was unreasonable.
>
> If I had suspected deep vein thrombosis I would without question have ordered an ultrasound and on positive finding, immediately admitted Mrs A to [a public hospital].

> As stated, the symptoms were not described together but sometime apart and I did not consider a scan was warranted."

Collapse on 25 March 2000
On 25 March 2000 Mrs A collapsed at home after suffering a pulmonary embolism. She also sustained an injury to her head on falling. Mrs A was admitted to a public hospital then transferred later that day to intensive care at a city public hospital. She underwent surgery (on 26 March 2000) to drain an acute subdural haematoma. Mrs A remained deeply unconscious during her time in intensive care. Her prognosis remained poor and she subsequently died at the city public hospital on 29 March 2000. The autopsy report dated 5 April 2000 by the pathologist stated:

> "I believe that at the time of the initial collapse due to the pulmonary thrombo-embolus the patient struck her head, causing a subdural haemorrhage. The medication required for treatment of the embolus exacerbated the subdural haemorrhage, causing brain compression and requiring evacuation of this haemorrhage. In my opinion death resulted from pulmonary thrombo-embolism complicated by acute subdural haemorrhage."

Report to Coroner
An independent general practitioner was requested by the Coroner to provide a report on the treatment Dr B provided to Mrs A. (The Coroner subsequently adjourned the inquest process pending the results of my investigation.) The general practitioner stated:

> "At the initial consultation the GP noted the pain had been present for 10 days and found tenderness behind the knee area, without other significant findings, after a satisfactory examination. At the next consultation on February 12, 2000, over two weeks later, she [Mrs A] complained of the episode of breathlessness and clamminess, but [Dr B] did not mention whether the leg pain was still present. … However, one would expect, at that point, that a clinical picture may have been emerging and when routine blood tests and connective tissue serology were normal, further tests to explain the symptoms would have been in order."

The general practitioner concluded that, given Mrs A's symptoms, including her oestrogen medication and "the passing thought that pulmonary embolus could be a possible cause of the breathlessness", Dr B should have investigated Mrs A's symptoms further to exclude embolism.

Complaint
Mr A was concerned that Dr B saw Mrs A on three occasions prior to her death, but a diagnosis of embolism was overlooked. The lawyer, on behalf of Mr A, submitted:

> "Although the clinical diagnosis of embolism is unreliable, the common predisposition found in patients with pulmonary embolus include, trauma, and oestrogen therapy, both conditions were present in [Mrs A's] circumstances. Added to the finding of the physical examination yielding an increased respiratory rate and the pain in the calf and heel, there

were definite grounds upon which Dr B should have sought further tests to completely discount the existence of a deep vein thrombosis."

The lawyer stated that in circumstances where blood test results have eliminated the possibility of connective tissue disease, Dr B failed to investigate his suspicion of pulmonary embolism despite the fact the condition is fatal. She submitted that it was probable that Mrs A was suffering from deep vein thrombosis at the time she saw Dr B and it was therefore unreasonable that he did not order any tests to eliminate this possibility.

Independent advice to Commissioner

The following expert advice was obtained from Dr Helen Moriarty, an independent general practitioner:

"***Expert Advisor Report:***

Preamble:

I have received instructions from the Commissioner and Guidelines for Independent Advisors. I have read and followed these guidelines in preparation of this report.

I am a New Zealand Registered Medical Practitioner with the following qualifications obtained at the University of Otago: MB, ChB, MGP, DPH, P/G cert. Hlth Sci.

I am a Fellow of the Royal New Zealand College of General Practitioners, and also Fellow of the Chapter of Addiction Medicine of the Royal Australasian College of Physicians. I have built my medical career over 27 years, working at the primary care-hospital interface.

I am currently a Senior Lecturer in General Practice at the Wellington School of Medicine and Health Sciences, and I also work at the Specialist Rehabilitation Service of Hutt Valley District Health Board.

Instructions from the Commissioner were to prepare an expert medical advisor's report. The purpose of this report is to advise the Commissioner whether or not services provided to the late [Mrs A] by [Dr B] were of an appropriate standard.

I received the following background information:

On 25 March 2000 [Mrs A] collapsed at home after suffering a pulmonary embolism. She was admitted by ambulance to a regional hospital. [Mrs A] was transferred later that day to [a city hospital]. She received surgery on 26 March 2000 to drain an associated acute subdural haematoma. [Mrs A's] prognosis remained poor and she subsequently died at [a city hospital] on 29 March 2000.

[Mrs A] had consulted her general practitioner, [Dr B], on 27 January, 12 February and 7 March 2000.

[Mr A] advised that [Mrs A] had 'knocked' her leg in the December/January period when she was shifting furniture at work. On 27 January 2000 [Mrs A] consulted [Dr B], for intermittent pain in her leg, which had developed since the injury at work.

[Dr B] stated that [Mrs A] gave no specific history of trauma, although she recalled straining her calf muscle. [Dr B] stated that his examination showed bilateral leg pain caused by possible connective tissue disease or muscular strain. He observed nothing during this consultation to alert him to the presence of deep vein thrombosis. In particular, there was no complaint of ascending pain or evidence of oedema. He requested blood tests to investigate connective tissue disease and the results were negative. [Dr B] prescribed Voltaren.

[Dr B] next saw [Mrs A] on 12 February 2000. He stated [Mrs A] complained of clamminess and shortness of breath which came on while walking. [Mr A] stated that the breathlessness was only present during a two week period and came on suddenly during mild exercise.

[Dr B] stated there was no discussion of leg pain during this consultation, or mention of continuing leg pain. [Dr B] considered [Mrs A] probably had a viral illness. [Dr B] commented that he considered embolism as a possibility at this stage because of [Mrs A's] breathlessness, but did not pursue it because he did not link it with the previous leg pain, and the breathlessness was not sudden. He did not give an embolism diagnosis serious consideration. A full blood count was ordered, which was normal.

[Dr B] stated that [Mrs A] again consulted him on 7 March 2000. This visit was for repeats of medications (Premia and Frusemide) and he stated that there was no mention of leg pain or shortness of breath. [Mr A] stated that [Mrs A's] leg pain was present during the three consultations with [Dr B].

[Mr A] considers that [Dr B] should have investigated the possibility of deep vein thrombosis. In particular this should have been done because of [Mrs A's] age (57 years), oestrogen therapy, ascending pain in calf, sudden shortness of breath and negative blood tests.

I understand that the following matters are under investigation:

[Dr B], general practitioner, did not provide services of an appropriate standard to the late [Mrs A], prior to her death from pulmonary embolism on 29 March 2000. In particular:

- *[Dr B] did not diagnose [Mrs A] as suffering from deep vein thrombosis.*
- *[Dr B] did not reconsider that [Mrs A] may be suffering from deep vein thrombosis, after routine tests were inconclusive.*

- *[Dr B] did not refer [Mrs A] for an ultrasound scan or specialist assessment despite [Mrs A] exhibiting potential symptoms of deep vein thrombosis/pulmonary embolism.*

I have sighted the following documentation:

- Letters from Mr A's lawyers to the Commissioner dated 25 June 2002 and 5 August 2002, together with enclosures; marked 'A'. (Pages 1-24).
- Investigation letter to [Dr B] (11 November 2002); marked 'B'. (Pages 25-27).
- Letters from [Dr B] to the Commissioner dated 9 June 2003 and 7 November 2003 together with attachments; marked 'C'. (Pages 28-35).
- Transcript of interview with [Mr A]; marked 'D'. (Pages 36-56).
- Medical records from [a city hospital] for [Mrs A], marked 'E'. (Pages 57-89).

The Commissioner has requested advice as to whether, in my professional opinion, the services provided by [Dr B] complied with professional and other relevant standards.

In particular:

- *Given [Mrs A's] presenting symptoms on 27 January 2000, was [Dr B's] initial diagnosis of muscular strain/connective tissue disease appropriate? What difference should any awareness of traumatic muscle injury have made to this initial diagnosis?*
- *Was [Dr B] diagnosis of possible viral illness on 12 February 2000 appropriate? What difference should any awareness of the continuation of [Mrs A's] leg pain have made to [Dr Bs] diagnosis?*
- *Given [Mrs A's] previous presentation on 27 January 2000, should [Dr B] have investigated an embolism diagnosis on 12 February 2000, or at the consultation of 7 March 2000?*
- *Was [Mrs A] exhibiting clinical signs of possible pulmonary embolism during the period of time she consulted [Dr B]? If so, please explain whether or not these symptoms manifested themselves in a typical manner?*
- *What are the relevant standards relating to this complaint and did [Dr B] comply with them? If [Dr B] deviated from the applicable standards, do you consider that deviation to have been minor, moderate, or major?*
- *Are there any other matters relating to professional standards which I believe to be relevant to this complaint?*

I have addressed these bullet points one by one below:

Bullet point 1.

Given [Mrs A's] presenting symptoms on 27 January 2000, was [Dr B's] initial diagnosis of muscular sprain/connective tissue disease appropriate?

What difference should any awareness of traumatic muscle injury have made to this initial diagnosis?

These are two questions to bullet point one. Each is a question in its own right. These will be answered individually.

1a. Given [Mrs A's] presenting symptoms on 27 January 2000, was [Dr B's] initial diagnosis of muscular sprain/connective tissue disease appropriate?

There are three considerations to be addressed in order to answer the question fully:

(i) were the presenting symptoms (and signs and known history) sufficient to make an initial diagnosis?
(ii) was muscular sprain/connective tissue an appropriate diagnosis?
(iiii) did [Dr B] make the diagnosis of muscle sprain/connective tissue disorder?

1a (i) were the presenting symptoms (and signs and known history) sufficient for [Dr B] to make an initial diagnosis?

Firstly, it is important to note that a medical practitioner would not normally consider just symptoms in order to arrive at a diagnosis. The history of the onset and progression of the symptoms, associated aspects of personal health and past history, as well as the signs on clinical examination and the results of any tests, where deemed appropriate, all contribute to the formulation of a diagnosis.

As [Dr B] has said in his letter, (document 'C' page 028) the symptoms as presented by [Mrs A] on January 27th 2000 were not typical for deep vein thrombosis.

The presenting symptoms were (document 'A' page 019):

'pain R calf' 'a burning sensation' and 'tender to touch' with a history of 'ten days' duration, and 'similar pain' in 'L heel' and 'L thigh' for the previous 'two months'.

[Dr B] has included a page photocopied from the Oxford Textbook of Medicine (document 'C' page 35) which confirms that the clinical diagnosis of venous thrombosis can be difficult. It states that 'in about 50% of cases of deep vein thrombosis there are no symptoms or signs pertaining to the lower limbs'. However this text extract is not helpful in this particular case. In this instance [Dr B] was faced with a patient who had both symptoms and signs pertaining to the lower limbs.

The following reference textbook in General Practice has been consulted about diagnosis of leg pain:

> *'General Practice' by John Murtagh published by McGraw-Hill Book Company, Australia, 2nd edition, 1999.*

This is a well known text, widely used throughout New Zealand and was written by a highly respected Australian academic. It describes standard General Practitioner clinical examination and investigation of most conditions seen in General Practice.

Part 3 'Problem solving in General Practice' has a section entitled 'Pain in the Leg'. Venous thrombosis is listed as a diagnostic consideration for a pain in the leg (page 624). Of the 6 clinical features of venous thrombosis provided, [Mrs A] exhibited the first of these: *'ache or tightness in calf'* but did not have the five other features.

[Dr B] has said that he had considered but dismissed venous thrombosis [in fact, [Dr B] stated he did not consider a diagnosis of embolism at the first consultation] as a diagnostic possibility on Jan 27th 2000 (document 'C' page 30) because the signs of 'ascending calf pain' and 'oedema' (leg swelling) were not present. From my reading of the records it seems possible that one typical sign of venous thrombosis may have been present in January.

In the clinical notes [Dr B] had written 'slr R pain at ankle tender above/below R knee posteriorly' (document 'A' 019). There is some ambiguity as to what bedside manoeuvre [Dr B] has described. However, it is possible that [Dr B] had documented a positive Homan's sign. Homan's sign is defined as

> *'discomfort behind the knee on forced dorsiflexion of the foot: a sign of thrombosis in the leg'*. This definition is taken from:
>
> *Dorland's Illustrated Medical Dictionary. Published by WB Saunders.*

(Dorsiflexion of the foot means bending the foot upwards at the ankle so that it points toward the knee. The test for Homan's sign is performed with the leg kept straight as it is raised slightly off the bed in order to bend the foot upward at the ankle and to simultaneously feel the muscles underneath.)

The implications of this are: If the clinical manoeuvre performed by [Dr B] was the test for Homan's sign then it would have been appropriate for a medical practitioner to recognise the clinical sign of muscle tenderness as an indicator of possible thrombosis of the leg and to proceed to investigate that diagnostic possibility.

It may be helpful here to consider the contribution that the known elements of clinical history could make here in the formulation of a diagnosis of venous thrombosis.

[Dr B] knew that [Mrs A] was taking an oestrogen preparation for the purpose of Hormone Replacement Therapy (HRT). What impact should this fact have had on diagnosis of leg pain for this patient?

When HRT was first prescribed for [Mrs A] (the notes indicate that she was prescribed an oestrogen cream in 1997 (document 'A' page 13), venous thrombosis and thromboembolism were not known to be risks of HRT. The following document will

confirm the prevailing medical dogma of the 1990s with regard to HRT and venous thrombosis:

> *Consensus Development Conference Report on Hormone Replacement by the National Advisory Committee on Core Health and Disability Support Services, Ministry of Health, published 1993.*

Venous thrombosis or thromboembolism was mentioned only once in the entire document. This was in the section on side effects of HRT, where it stated only that oestrogen could cause

> *'leg cramps (unrelated to thrombosis)'.*

The current state of medical understanding about venous thrombosis risk to women when taking HRT has markedly changed since then. It is now widely known, that:

> *'the oestrogen content of these products has major influence on the relative risk of thrombus...'.* This is a quote from a recent article published in the journal of the Royal New Zealand College of General Practitioners:
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> *'Controversy and questions in the management of deep venous thrombosis'. Paul Harper, New Zealand Family Physician Feb 2003 issue. Volume 30, no 1 pages 49-52.*

Evidence about the risk of thrombosis attributed to oestrogen therapy had started to appear in the medical literature from 1993-1996. A preliminary warning was not given to New Zealand doctors until July 1998, by Medsafe in:

> *Prescriber Update No.16:10-15 July 1998*. This publication is available on: www.medsafe.govt.nz.

The full extent of the HRT thrombosis risk was later clarified and new evidence-based prescribing guidelines were released in 2001:

> *'The appropriate prescribing of Hormone Replacement Therapy', New Zealand Guidelines Group, May 2001.* Available on Web site: www.nzgg.org.nz .

This document, which was widely disseminated, contains an entire section discussing the evidence for risk of venous thromboembolism (section 4.5.3).

It is reasonable to assume that in 2000 [Dr B], along with all other NZ doctors, was in possession of incomplete information about the risk of venous thrombosis and thromboembolism for patients on HRT, and may not have been alert to that risk.

The other important aspect of history was the possibility of a triggering injury. This is discussed further in 1b below.

1a (ii) was muscular sprain/connective tissue an appropriate diagnosis?

General Practitioners usually see patients early in a disease process, and often this is before the patients have developed the typical signs and symptoms as described in text books. It is therefore very common for diagnostic uncertainty to exist in General Practice. Accordingly, [Dr B] had queried a diagnosis of muscular sprain in his written notes. [Dr B] also wondered about connective tissue disease and ordered a set of blood tests including some to exclude this (document 'A' page 19). He has explained why connective tissue disease arose in his mind as a diagnostic possibility (document 'C' page 30). When the subsequent negative ANA screen result had effectively ruled this out as a diagnostic possibility, there was no further documentation to indicate if a muscle sprain was still under consideration or was deemed to be more or less likely than connective tissue disease, given the absence of history of trauma.

1a (iii) did [Dr B] make the diagnosis of muscle sprain/connective tissue disorder?

When [Dr B] received the negative ANA result, he did not document any subsequent conclusion of a diagnostic nature. It would appear, from reading the available medical records, that Dr B did not reach any definitive diagnosis.

At the time of the consultation [Mrs A] was given a prescription for Voltaren, an anti-inflammatory medicine with pain relief properties. The dual therapeutic nature of that medicine is such that it is often given for a variety of non-specific painful and/or inflamed conditions. The provision of this non-specific prescription does not imply that any specific diagnosis had been reached.

1b. What difference should any awareness of traumatic muscle injury have made to this initial diagnosis?

Traumatic injury is a recognised cause of thrombosis of the legs. This and other causes and predisposing factors are discussed in:

> *Paul Harper, 'Controversy and questions in the management of deep venous thrombosis', New Zealand Family Physician Feb 2003 issue. Volume 30, no 1 pages 49-52.*

Trauma that causes a thrombosis would normally be significant trauma: sufficient to cause an injury such as a major ligament sprain or muscle tear or a fracture such that the treatment required prolonged immobilisation of the leg. Alternatively an injury such as a deep or badly infected skin laceration might damage the venous drainage of the leg and trigger a thrombosis.

In this particular case:

There was no prolonged immobilisation. After the injury, and despite the discomfort, [Mrs A] was able to continue to work and to walk for ten minutes, to [the local Post

Office] for instance (document 'D' page 43) and she also continued to tap dance (document 'D' page 44) until later when the pain got worse (document 'D' page 47).

There was no outward sign of leg damage. [Mrs A] did not limp on the injured leg (document 'D' page 40). 'There was no visible indication of pain' (document 'D' page 40, line 8), not even any visible bruising (document 'D' page 42 line 15).

In New Zealand, when a patient sees a GP about a trauma or an injury he or she will usually be asked to initiate an ACC claim. The lodgement of an ACC claim allows the patient access to cheaper initial and subsequent medical consultations since they are then ACC-subsidised, and also to ACC-funded X-ray or other investigations, and treatments such as physiotherapy or specialist opinion if deemed necessary at the time or at a later date.

There is nothing in the available documentation to suggest that an ACC claim was lodged at the January 2000 consultation. This suggests that either:

> the possibility of leg trauma was not discussed in the context of the presenting symptoms,
>
> or
>
> the injury event was discussed and was considered not to have been contributory to the clinical signs and symptoms as presented.

The medical notes made by [Dr B] at the time clearly stated 'no history of trauma'. This would indicate that the former is true. However, this element of the recorded history has been variously contradicted by [Dr B] in retrospect: with regard to a passing comment at the end of the consultation about 'slipping off a kerb' (in document 'C' page 30) and that '[Mrs A] wondered if she had hurt her calf muscles without realising' (in document 'C' page 33).

Therefore it does seem that the possibility of a contributory injury was raised and was discussed during the consultation, but that since no specific injury event could be identified that might be related to the presentation at the time, no ACC claim was made.

Even if the exact nature of the leg trauma had been known in late January 2000, the lack of outward manifestation of this injury and the minor degree of resulting limitation of functional ability (at least initially) would have been insufficient, alone, to alert the doctor to the diagnostic possibility of a venous thrombosis.

Bullet point 2.

Was [Dr B's] diagnosis of possible viral illness on 12 February 2000 appropriate? What difference should any awareness of the continuation of [Mrs A's] leg pain have made to [Dr B's] diagnosis?

There are two questions to bullet point two. Once again, as each is a question in its own right, these will be answered individually.

2a. Was [Dr B's] diagnosis of possible viral illness on 12 February 2000 appropriate?

[Dr B] has acknowledged (in retrospect) that when [Mrs A] was seen on 12 February with shortness of breath: 'this may or may not have been due to pulmonary embolus' (document 'C' page 28).

At the time of the consultation the symptoms were documented as: shortness of breath 'with walking', which 'came on over half an hour' with associated 'clammy' feeling and 'slight headache'.

It would appear that [Dr B] was not aware of the full extent of these symptoms. He has written: '… from the symptoms that had been described, which were minor …' (document 'C' page 31).

From the history obtained from [Mr A], several years after the death, this episode does not sound minor. [Mr A] stated that the shortness of breath had lasted for a period of ten days (document 'D' page 9, line 16) and exercise capacity was so limited that [Mrs A] had to sit down 3-4 times when walking a distance of about a quarter of a mile (document 'D' page 8, lines 16/17), on a journey that would usually take her only ten minutes to walk (document 'D' page 8 line 34) because she was quite fit (document 'D' page 34 line 9).

Regardless of what other information [Dr B] may or may not have had at the time, shortness of breath on exertion associated with clamminess should never be dismissed as minor. This combination of symptoms should always be taken seriously, even in the presence of normal examination findings, because it can be indicative of an impending heart attack (as well as other serious illnesses).

Investigation was appropriate at this point.

The mitigating factor in this instance was the fact that [Mrs A] was on HRT. The prevailing medical knowledge at that time was that taking HRT was thought to protect women against heart attacks as documented in:

> *Consensus Development Conference Report on Hormone Replacement by the National Advisory Committee on Core Health and Disability Support Services, Ministry of Health, published 1993.*

In addition, as mentioned earlier, the thrombosis risk was also newly discovered and was not widely known. For both conditions, paradigms have since been unequivocally overturned, and the advice was corrected in the new management guideline

> *'The appropriate prescribing of Hormone Replacement Therapy', New Zealand Guidelines Group, May 2001.*

However, Doctors at that time were not attuned to consider either the diagnosis of thrombosis or of ischaemic heart disease in women who were taking HRT, as was [Mrs A].

[Dr B] has stated that 'the normal findings on examination did not clarify what the actual diagnosis could have been' (document 'C' page 34). A viral illness was considered as a possibility. Tests for this were ordered in February. The test results did not show the expected changes in white cell count and lymphocyte proportions that are usually present in response to a viral chest infection.

Without signs of infection on the blood film, and with no clinical examination findings, a viral chest infection had become an unlikely explanation of the shortness of breath episode. This unexpected normal test result and the normal examination findings were both inconsistent with the stated symptoms of the patient. It would have been appropriate to review the patient's clinical condition at this point and to reconsider the diagnostic possibilities.

It is usual practice for medical centres to contact the patient when abnormal results are received. Most do not follow up when the results are normal, unless a normal result was an unexpected finding. In this instance, this was the case in February 2000. There is no documentation to indicate if the surgery made contact with [Mrs A] on receipt of the unexpected normal blood test results. [Dr B] has stated that there is a policy in his surgery to tell patients to return if concerned (document 'C' page 32). The available documentation relating to the January consultation and that for February, contains no indication that [Mrs A] made contact with the surgery to enquire about her test results or to let her GP know that she was still not feeling well. This instruction to [Mrs A], if given, may not have been sufficiently specific to ensure that she would know when she should be concerned.

[Mrs A] was not seen again until March 7th, three weeks later.

2b. What difference should any awareness of the continuation of [Mrs A's] leg pain have made to [Dr B's] diagnosis?

[Dr B] has indicated that he did not suspect deep venous thrombosis in February because he was not made aware of the persistence of leg pain described three weeks earlier: 'the same symptoms were not described on each occasion' (document 'C' on page 29).

He had the impression on February 12th that [Mrs A]: 'had presented for a lung/chest examination' (document 'C' page 28).

He has indicated that there was no prompt on that occasion from the patient to make him link together in his mind the two consultations, spaced three weeks apart: 'the symptoms were not described together' (document 'C' page 29).

[Dr B] also stated that if he had suspected deep venous thrombosis on February 12th 2000 he would have ordered an ultrasound, and he would have had her admitted to [a public hospital] if there had been a positive finding on the ultrasound (document 'C' page 29).

An article for GPs was recently published about venous thrombosis management:

> *'Controversy and questions in the management of deep venous thrombosis' by Paul Harper, in New Zealand Family Physician Feb 2003 issue. Volume 30, issue no 1, pages 49-52.*

This indicates that the standard of GP care would be to scan the leg on initial suspicion of thrombus. It is not always necessary to actively treat every venous thrombosis in the legs. If not treated, the GP should monitor with repeated ultrasound scans watching for either an extension or involution of the clot. Referral to hospital is not necessary, since GPs are able to initiate anticoagulation treatment on ultrasound evidence of extension of the clot to the deeper veins of the leg.

Although it is the standard of care delivered, not the outcome that is to be considered, this question is inextricably related to outcome. The questions underlying the complaint (document 'A' page 22), and alluded to by the GP who advised the Coroner (document 'A' page 5) are that if earlier diagnosis was made by [Dr B], allowing earlier and less aggressive treatment, might this have prevented the catastrophic event? It seems pertinent to explain that earlier detection or less aggressive treatment of pulmonary embolism would not have eliminated the possibility of a sudden collapse due to massive embolism on treatment, as described in the following article:

> *Gitter MJ, Jaeger TM, Petterson TM, Gersh BJ, Silverstein MD. 'Bleeding and thromboembolism while receiving anticoagulation therapy; A Population based study in Rochester, Minnesota'. Mayo Clin Proc 1995; 70:725-733*

For [Mrs A] the cause of death was not the pulmonary embolism but a subdural haematoma (bleeding into the brain cavity) sustained when she struck her head when she collapsed (document 'E' page 60). Had she survived, [Mrs A] would have remained at risk of major bleeding for an extended period of time while on warfarin anticoagulant to fully dissolve the clot and prevent it re-accumulating. The most feared complication is major bleeding into the brain:

> *Beyth RJ, Quinn LM, Landefeld CS. 'Prospective Evaluation of an Index for Predicting the Risk of Major Bleeding in Outpatients Treated with warfarin'. Am J Med 1998; 105: 91-99.*

Therefore there is no guarantee that even if [Dr B] had had awareness of the ongoing leg pain, leading to detection of the leg thrombosis at an earlier stage, with or without GP or hospital management, with or without initial treatment of less or more aggressive nature, the patient still may have been at risk of the same catastrophic events.

Bullet point 3.

Given [Mrs A's] previous presentation on 27 January 2000, should [Dr B] have investigated an embolism diagnosis on 12 February, or at the consultation of March 2000?

There are again two parts to this bullet point, each will be answered individually.

3a. Given [Mrs A's] previous presentation on 27 January 2000, should [Dr B] have investigated an embolism diagnosis on 12 February?

This question also breaks down to two further issues:

(i) Should [Dr B] have investigated? And if so

(ii) Should those investigations have been for pulmonary embolism?

3a (i) Should [Dr B] have investigated?

This has already been addressed in part in the answer to bullet point 2.

At the consultation in February, the nature of the symptoms: the association of feeling clammy with shortness of breath on exertion in an otherwise fit and active person should have alerted [Dr B] to the presence of some serious underlying condition. Investigation was warranted at this stage to elucidate the shortness of breath and associated clamminess. This would usually include tests to exclude heart attack: an electrocardiogram (ECG) and chest X-ray and cardiac enzyme blood tests.

In addition, when normal findings were obtained from the investigations that were done in February, this did not support the tentative diagnosis of viral illness. It would have been appropriate to reconsider that diagnosis.

3a (ii) Should the investigations have been for pulmonary embolism?

As has already been pointed out:

Three weeks had elapsed between the two consultations in question and [Dr B] was not alerted to the fact that the initial leg problem was still ongoing,

The symptoms presented were not typical of pulmonary embolism and there were no diagnostic clinical signs.

There is no information to suggest that any trigger arose during the February consultation that might have prompted [Dr B] to link the two different complaints together.

It has also been mentioned already that, given this particular presentation in February 2000, a GP might have ordered an ECG and X-ray and cardiac enzyme blood tests

instead. There is a distinct possibility that on chest X-ray or ECG, the changes suggestive of a pulmonary embolism would not have been evident at that stage.

3b. Given [Mrs A's] previous presentation on 27 January 2000, should [Dr B] have investigated an embolism diagnosis at the consultation of March 2000?

The medical notes for the consultation in March 7th 2000 are very brief. The information available indicates that [Mrs A] was 'worried about veins' (document 'A' page 20). [Dr B] has not described the nature of the concern about veins – or even if the veins in question were leg veins.

The medical notes for the March consultation does however indicate 'no pain' (document 'A' page 20). The reference to absence of pain at this stage is interesting. [Mr A] has stated that his wife had been in a lot of pain from her leg: she was sore in the morning after lying still all night (document 'D' page 50 line 45), and she had become less active with her tap dancing (page 47 line 15). However, [Mr A] has also indicated that it may have eased in the week just before her death: 'There was never a cessation in the pain in her leg right up to a week or so before her death' (document 'D' page 52 line 12/13).

Referring to March 2000, [Mr A] had also indicated that the symptoms of breathlessness 'had dissipated itself by then' (document 'D' page 53).

Therefore there is corroborating evidence to suggest that those symptoms that had been present earlier may have improved by the time of the consultation on March 7th.

In the absence of further complaint of leg pain and with the episode of breathlessness settled, there would have been no cause to initiate investigations for thrombosis and embolism at the March consultation.

Bullet point 4.

Was [Mrs A] exhibiting clinical signs of possible pulmonary embolism during the period of time she consulted [Dr B]? If so please explain whether these symptoms manifested themselves in a typical manner?

These questions have been answered in part in the response to bullet point two.

Clinical diagnosis of pulmonary embolism is often difficult. A level of clinical suspicion as to this possibility is needed at all times in order to ensure that the diagnosis is first considered and then ruled out, since there is no typical set of clinical signs.

The symptoms of breathlessness and clammy episodes did warrant investigation at the time. However, given this type of clinical presentation most Drs would primarily be investigating with the aim to exclude cardiac causes.

As [Dr B] has said, with the wisdom of hindsight, that the 10 day episode of shortness of breath could have been due to pieces of thrombus 'breaking off' (document 'C' page 29).

Bullet point 5.

What are the relevant standards relating to this complaint and did [Dr B] comply with those? If [Dr B] deviated from the applicable standards, do you consider that deviation to have been minor, moderate, or major?

Again there are two questions, and there are two components to the first of these two questions.

5a. What are the relevant standards relating to this complaint and did [Dr B] comply with those?

This breaks down to two components, dealt with individually:

(i) What are the relevant standards relating to this complaint? and
(ii) Did [Dr B] comply with those?

5a (i) What are the relevant standards relating to this complaint?

Standards for GP care are outlined in:

> *'Aiming for Excellence' RNZCGP Standards for General Practice care, 2nd Edition, 2002.* The document is available on:
> www.rnzcgp.org.nz/PDF/aiming_for_excellence.pdf

In this document, the standards of GP practice are considered in three dimensions using indicators relating to: patients and their outcomes; the professionals and their professional development and practice quality; and continuous quality assurance.

Four standard indicators appear to be of importance to this case. Three others have been brought to attention incidentally.

The four standards most relevant in this case are (as numbered in RNZCGP document referenced above):

Indicator A2.2
Identify and provide appropriate response to urgent medical conditions

Indicator A2.4
Provide information to enable patients to make informed decisions about care.

Indicator D7.1
Records sufficient to meet legal requirements to describe and support the management of health care provided.

Indicator D8.2
Systems to manage patient test results and medical reports.

5a (ii) and did [Dr B] comply with those?

The first edition of the RNZCGP standards for General Practice care was still under development at the time of the complaint. The events below have therefore been judged retrospectively against standards that did not exist at the time.

Indicator A2.2
This standard indicator includes identification of urgent medical conditions. There were some mitigating factors at the consultation in February in failure to specifically diagnose this urgent medical condition as pulmonary embolism. These were: the unpredictable nature of any pulmonary embolism presentation, the non-specific symptoms of this particular patient, the changing paradigms for thrombosis risks on HRT, and the early medical dogma which held that leg pain was a benign side effect of oestrogen therapy, unrelated to thrombosis. However, the fact remains that this patient presented with breathlessness associated with clamminess. This combination should always be taken seriously, since it can portend a medical emergency.

Given the available documentation, it is a matter of speculation whether or not a Homan's sign, indicative of venous thrombosis, was overlooked in January 2000.

Indicator A2.4
This indicator requires that an explanation of the condition, options and results of tests is given to patients. From the documentation provided it is not clear just how much explanation was provided to [Mrs A] of her medical condition when she consulted [Dr B] in January, in particular what was explained of the diagnostic uncertainty surrounding her leg pains.

The available documentation does not indicate if options were put to [Mrs A] or if her preference was sought for how she wished to proceed with the diagnostic process, or the management of the uncertainty associated with her presenting complaints.

There is nothing in the available documentation to indicate that she was actively involved in making the decision to run some tests and treat symptomatically with Voltaren.

The available evidence does not indicate any discussion with [Mrs A] over the expected outcome of the tests taken in January and in February; or options for progressing the diagnostic process should the test results not establish a diagnosis for her presenting symptoms.

Indicator D7.1
This indicator lists check points for an acceptable standard of medical documentation. The level of documentation of the March 7th consultation was such that the entry in the

medical notes was lacking in important detail. It does not adequately describe the type of health problem that was presented at the time.

Documentation of the management plan was missing for all three consultations in question. The medical records do not contain information about what, if any, specific follow-up arrangements were intended on each occasion.

Indicator D8.2
This indicator requires that patients are provided with information about the practice procedure for notification of test results. It is not clear who, if anyone, advised this patient about her test results on each occasion when laboratory tests were performed.

The incidental finding relating to clinical practice standards is the admission by [Dr B] that his surgery does not have any written policy documentation (document 'C' page 32). The particular standards relevant to this case would be:

Indicator A1.2 Written policy on use of health information
Indicator A1.4 Complaints protocol
Indicator E 11.3 Significant event management policy.

5b. If [Dr B] deviated from the applicable standards, do you consider that deviation to have been minor, moderate, or major?

Failure to recognise the description of clamminess and shortness of breath on exertion as indicative of an impending acute medical crisis could be regarded as a major departure from expected standards. However, it is unknown just how persuasively [Mrs A] explained this symptom complex to [Dr B] in February 2000. If the symptoms had been described with the clarity that [Mr A] later described them, then it is possible that the doctor may have responded differently.

The level of documentation associated with the March consultation is a matter of moderate importance. The lack of documentation for March has made it impossible to ascertain exactly what condition was being managed at that time. The documentation elsewhere in the patient notes has been more informative.

The lack of written policies and procedures in the surgery is a departure of a more minor nature. In recent years the relevant College, RNZCGP, has provided leadership to GPs in improving this often-neglected aspect of small business management. It is reiterated here, that the RNZCGP standards for GP care are now well established and have been adopted by GPs, but were still in development at the time of the complaint.

Bullet point 6.

Are there any other matters relating to professional standards which you believe to be relevant to this complaint?

[Dr B] has accepted that there were gaps in his knowledge about pulmonary embolism (document 'C' page 29). That he had provided a page from an authoritative medical textbook, indicates that there has already been reflection on the circumstances of this case and an attempt to read to address the knowledge gap after the event.

[Dr B] has indicated that he is now involved with the RNZCGP MOPS (maintenance of professional standards) programme (document 'C' page 30). In addition to personal accreditation, practice accreditation is now available through RNZCGP and encouraged. This process ensures that policies and procedures within the practice itself are also up to standard. Now that this investigation has taken its course, it may be timely for [Dr B] to work with his peer group to establish local processes for significant event management, and continuous quality improvement.

[Dr B] has admitted that he has been concerned and upset by the complaint. It may be beneficial that [Dr B] share what has been learnt from the experience with other doctors in the local peer group and discuss the investigation of this incident in the peer group, at the same time reducing the chances of a repetition of an unfortunate event of this nature."

Response to provisional opinion

In response to my provisional opinion, [Dr B] explained that he received a different description of [Mrs A's] symptoms during their discussions than from that provided by [Mr A]. In particular, [Mrs A] stated that she only experienced one occasion of shortness of breathe, which developed over half an hour. [Dr B] stated:

"I was stunned to read [Mr A's] description of both [Mrs A's] breathlessness and her leg pain.

…

These descriptions of [Mrs A's] breathlessness could not be more different from what [Mrs A] described to me. That is, she described one episode of shortness of breath while she was walking, which came on over half an hour with a feeling of clamminess and a slight headache. From my discussion with [Mrs A], it was my impression that she was not too concerned about this one episode of shortness of breath. Rather she had attended for a check-up."

[Dr B] reiterated that the continuation of [Mrs A's] leg pain was not made known to him or discussed after the 27 January 2000 consultation and that he was not made aware of a traumatic injury.

[Dr B] stated that if he had been made aware of [Mrs A's] symptoms, as [Mr A] has described them, he would have definitely investigated for both a cardiac and a pulmonary

embolus cause. He submitted that the description of symptoms he was provided with was not sufficiently serious to alert him to a serious medical condition, although he regrets that he did not diagnose [Mrs A].

[Dr B] advised that he has reviewed his practice since these events. He also expressed his regret and sympathy to [A].

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4
Right to Services of an Appropriate Standard

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

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

Professional Standards

My advisor made reference to the following relevant professional standards set out in *Aiming for Excellence*, Royal New Zealand College of General Practitioners, an assessment tool for General Practice care, 2nd Edition, 2002:

"**Indicator A2.2**
The practice uses a system that assists the practice team to identify and provide appropriate response to urgent medical conditions

Indicator A2.4
The practice team ensures that patients are provided with information to enable them to make informed decisions about their care

Indicator D7.1
Records are sufficient to meet legal requirements to describe and support the management of health care provided

Indicator D8.2
There is a system to manage patient test results and medical reports."

These standards were not current at the time of the complaint and therefore are not directly applicable. The following professional standards *were* current and therefore are applicable to this complaint:

Aiming for Excellence in General Practice, Royal New Zealand College of General Practitioners Standards for General Practice care, 2000:

"**Indicator A2.2**
The practice uses a system that assists staff to identify and provide appropriate response to urgent medical conditions

Indicator A2.4
The practice staff ensure that patients have full information, given in appropriate form, to enable them to make informed decisions and give or withhold informed consent

Indicator D7.1
Records are sufficient to meet legal requirements to describe and support the management provided

Indicator D8.2
Medical reports, letters and results are checked, actioned and filed."

Opinion: Breach – Dr B

Diagnosis/investigation of deep vein thrombosis
Mr A complained that Dr B failed to diagnose or consider that Mrs A might be suffering from a deep venous thrombosis (DVT) during the course of three separate consultations in the months prior to her collapse on 25 March 2000. Under Rights 4(1) and 4(2) of the Code every patient has the right to have services provided with reasonable care and skill, and in accordance with legal, professional, ethical and other relevant standards. It is not disputed that Dr B did not diagnose Mrs A with DVT. The question to be determined is whether Dr B, over the course of three consultations between 27 January and 7 March 2000, should have recognised that Mrs A might be suffering from DVT and taken appropriate action.

Consultation of 27 January 2000
Mr A stated that on 27 January 2000 Mrs A consulted Dr B suffering from intermittent pain in her right leg, after injuring her leg approximately a month previously when shifting furniture at work. Dr B stated that he was not made aware of any specific history of trauma, although Mrs A recalled that she might have pulled a muscle after slipping off a curb. After examination, Dr B considered that Mrs A might have a muscular sprain or connective tissue disease. He prescribed Voltaren and requested blood tests, which were returned as normal. He stated:

> "There was nothing during that consultation that alerted me to the diagnosis of deep vein thrombosis. In particular [Mrs A] did not complain of ascending calf pain nor was there any evidence of an oedema."

Although Mr A is certain that his wife told Dr B about the injury at work, he was not a witness to what was said. In these circumstances, I prefer Dr B's evidence that he was not made aware of a specific injury, as recorded in his clinical notes. I also note my advisor's view that the lack of ACC related documented makes it less likely that a traumatic injury was discussed. In my view, although Dr B was made aware that Mrs A may have damaged a muscle he was not told of a specific traumatic injury.

My advisor confirmed that traumatic injury is a recognised cause of thrombosis. However, Dr Moriarty considered that any awareness of a trauma injury by Dr B was not of crucial significance. She stated:

> "However, even if the exact nature of the leg trauma had been known in late January 2000, the lack of outward manifestation of this injury and the minor degree of resulting limitation of functional ability (at least initially) would have been insufficient, alone, to alert the doctor to the diagnostic possibility of a venous thrombosis."

My advisor agreed with Dr B that Mrs A's symptoms were not typical of thrombosis. She postulated that Mrs A's leg pain may have been a sign of thrombosis, particularly if Dr B had performed a clinical manoeuvre to test for a "Homan's sign". However, she commented that there were no other clinical features of thrombosis at this consultation. I accept my advisor's comments and conclude that while muscle tenderness in some circumstances is an indicator of thrombosis, there were insufficient clinical signs to alert Dr B to a diagnosis of thrombosis during this consultation.

Mrs A's blood test results were returned normal later that day, which ruled out connective tissue disease as a diagnostic possibility. My advisor noted that there was no further documentation by Dr B to indicate whether the alternative diagnosis of muscle sprain was now confirmed, given the absence of trauma, and that it was not clear whether Mrs A was informed of the results (see *Other comments*, below).

Second consultation – 12 February 2000

Mrs A next consulted Dr B on 12 February 2000 having experienced shortness of breath. There is a discrepancy as to whether Dr B was made aware of Mrs A's continuing leg pain at this consultation and the nature of her shortness of breath. Mr A stated that Mrs A consulted Dr B because of the continuation of her intermittent leg pain, which did not cease. He stated that Mrs A's shortness of breath occurred over a two week period. In contrast, Dr B stated that Mrs A did not report the continuation of leg pain and they discussed an episode of shortness of breath, with associated clamminess, as indicating a possible viral illness. Dr B stated that in his view, the symptoms Mrs A reported were minor and he did not make a connection with her previous leg pain.

Although Mr A's submission that his wife's intermittent leg pain continued is certainly plausible, he was not a witness to the consultation. I note that Mrs A's leg pain was intermittent rather than continuous and therefore it is difficult to be certain that she was specifically concerned about it when she consulted Dr B. Dr B made no further reference to leg pain in his medical records, nor did he recommend any further treatment. In these circumstances, I consider it unlikely that Dr B was made aware of the continuation of Mrs A's leg pain.

Mr A's lawyer submitted that the episodes of breathlessness "came on suddenly", which is more indicative of thrombosis. In contrast, Dr B submitted that Mrs A reported that her breathlessness came on gradually over a period of half an hour while walking, and was not described as "sudden". However, Mr A clarified that Mrs A's breathlessness occurred during walking and came on with mild exercise.

In his response to my provisional opinion Dr B emphasised that Mrs A only reported one episode of breathlessness and that he was not made aware that this had occurred over a two week period. Dr B's medical notes state "SOB with walking came on over half an hour" and are consistent with the reporting of one episode of breathlessness. As noted above, Mr A was not a witness to the consultation. In these circumstances, I prefer Dr B's evidence that he was only made aware of one episode of breathlessness.

My advisor considered that, notwithstanding Dr B's awareness of the continuation of Mrs A's leg pain, further investigation of Mrs A's symptoms was appropriate at that point:

> "Regardless of what other information [Dr B] may or may not have had at the time, shortness of breath on exertion associated with clamminess should never be dismissed as minor. This combination of symptoms should always be taken seriously, even in the presence of normal examination findings, because it can be indicative of an impending heart attack (as well as other serious illnesses).
>
> Investigation was appropriate at this point."

However, my advisor noted that the symptoms presented were not typical of pulmonary embolism. She stated:

> "Clinical diagnosis of pulmonary embolism is often difficult. A level of clinical suspicion as to this possibility is needed at all times in order to ensure that the diagnosis is first considered and then ruled out, since there is no typical set of clinical signs.
>
> The symptoms of breathlessness and clammy episodes did warrant investigation at the time. However, given this type of clinical presentation most doctors would primarily be investigating with the aim to exclude cardiac causes."

My advisor made reference to the professional standards outlined in the *Aiming for Excellence,* Royal New Zealand College for General Practitioners (the College) Standards for General Practice care, 2nd Edition, 2002 (the 2002 Standards). Indicator A2.2 states:

> "The practice uses a system that assists the practice team to identify and provide appropriate response to urgent medical conditions."

My advisor made the following comments in relation to indicator A2.2:

> "This standard indicator includes identification of urgent medical conditions. There were some mitigating factors at the consultation in February in failure to specifically diagnose this urgent medical condition as pulmonary embolism. These were: the unpredictable nature of any pulmonary embolism presentation, the non-specific symptoms of this particular patient, the changing paradigms for thrombosis risks on HRT, and the early medical dogma which held that leg pain was a benign side effect of oestrogen therapy, unrelated to thrombosis. However, the fact remains that this patient presented with breathlessness associated with clamminess. This combination should always be taken seriously, since it can portend a medical emergency.
>
> …
>
> Failure to recognise the description of clamminess and shortness of breath on exertion as indicative of an impending acute medical crisis could be regarded as a major departure from expected standards. However, it is unknown just how persuasively [Mrs A] explained this symptom complex to [Dr B] in February 2000. If the symptoms had been described with the clarity that [Mr A] later described them, then it is possible that the doctor may have responded differently."

As noted above, these standards were promulgated in 2002 and were therefore not current or directly applicable at the time of these events. The following professional standard *was* current and is applicable:

> *Aiming for Excellence in General Practice"*, Royal New Zealand College of General Practitioners Standards for General Practice Care, 2000.
>
> "**Indicator A2.2**
> The practice uses a system that assists staff to identify and provide appropriate response to urgent medical conditions."

This is a virtually identical standard. In these circumstances, I consider my advisor's comments in relation to professional standards to be directly relevant.

Follow-up

Mrs A's blood test results were returned normal on 14 February 2000, which was an unexpected result considering her suspected viral illness. My advisor considered that it would have been appropriate for Dr B to review his diagnosis at this point.

> "Without signs of infection on the blood film, and with no clinical examination findings, a viral chest infection had become an unlikely explanation of the shortness of breath episode. This unexpected normal test result and the normal examination findings were both inconsistent with the stated symptoms of the patient. It would have been

appropriate to review the patient's clinical condition at this point and to reconsider the diagnostic possibilities."

There is no evidence to suggest that Dr B took such action.

Final consultation – 7 March 2000

It is not disputed that any shortness of breath Mrs A experienced was no longer troubling her at the last consultation she had with Dr B. However, there is a conflict of evidence as to whether Dr B was informed that Mrs A continued to suffer from leg pain. Mr A stated that his wife continued to suffer from persistent leg pain, and he presumed that this was the reason that his wife returned to visit Dr B.

Dr B stated that on 7 March Mrs A consulted him for a repeat of medications previously prescribed and there was no mention of leg pain or shortness of breath. Dr B's medical records for this consultation are brief (see Other comments). The notes confirm that he prescribed Premia (for hormone replacement) and frusemide (for fluid retention) and do not refer to any physical complaints except for a reference to two veins on Mrs A's left leg, with "no pain". There was no further prescription of Voltaren or other medication designed to alleviate muscular pain at this time. In my view, Dr B's submission that Mrs A returned to see him for repeat prescriptions is persuasive and sufficiently corroborated by reference to the medical records. I therefore conclude that Dr B was unaware that Mrs A continued to suffer leg pain on 7 March 2000.

I accept my advisor's view that in the absence of further complaint of leg pain and with no further episodes of breathlessness, there would have been no cause to investigate for thrombosis at the final consultation.

Conclusion

As noted above, I accept my advisor's view that there were insufficient clinical signs to alert Dr B to the possibility of a diagnosis of embolism on 27 January and 7 March 2000. However, my advisor expressed concerns about Dr B's omission to investigate Mrs A's potentially serious symptoms, on 12 February 2000.

I have accepted Dr B's version of events in relation to the information he was provided by Mrs A. I have concluded that Dr B was unaware of a traumatic leg injury or the continuation of leg pain following the January consultation. It has been clarified that the shortness of breath Mrs A experienced came on gradually, rather then suddenly, during exercise. I accept that Mrs A only reported one episode of breathlessness to Dr B, although it appears she may have experienced intermittent episodes over a two week period.

My advisor made reference to a number of mitigating factors relevant to Dr B's failure to consider an embolism diagnosis, including the difficulty in knowing how persuasively Mrs A described her symptoms to Dr B and the general difficulty in diagnosing this condition. I agree that these are factors to be considered and note that Mrs A was a patient who presented with atypical symptoms.

Dr B claims that he considered a diagnosis of an embolism as a possibility on 12 February 2000 because of Mrs A's breathlessness, but did not take any steps to investigate the possibility further because he considered the symptoms were "relatively minor". In particular, he noted that the episode of shortness of breath did not come on suddenly and he did not link it with her previous leg symptoms. It certainly appears that Mrs A's account of the symptoms she experienced to Dr B was somewhat understated, due to the marked discrepancy between Mr A's recollections of his wife's symptoms and Dr B's consultation records. Notwithstanding this, I accept my advisor's view that investigation of Mrs A's symptoms was indicated at the 12 February consultation regardless of what, if any, further information Mrs A provided about her condition, other than those symptoms documented by Dr B. My advisor commented that Mrs A's symptoms were "indicative of an impending acute medical crisis."

In my opinion, Mrs A, as a normally healthy patient presenting with an episode of shortness of breath on exertion and clamminess was in the category of patients who require investigation of potentially serious conditions, such as a cardiac problem. When presented with these symptoms it would have been prudent for Dr B to review Mrs A's clinical records; in particular, her most recent prior consultation in which she reported leg pain. He could then have sought further information from Mrs A about her leg pain. At that stage, the earlier normal blood test results could (and, in my view, should) have prompted further enquiry. In any event, Mrs A's symptoms should, on their own, have been sufficient to alert Dr B to a potentially serious clinical situation.

My advisor considered that while investigations, such as an ECG or chest X-ray, may not have detected a pulmonary embolism at that stage, nevertheless, they were important clinical investigations which should have been performed. (My advisor also commented that at the time hormone replacement therapy was thought to protect against heart attacks and was not yet associated with an increased risk of thrombosis. However, I do not consider this to be sufficient to mitigate against Dr B's duty to further investigate Mrs A's symptoms at the February consultation.)

I also agree with my advisor's view that receipt of Mrs A's normal blood test results on 14 February 2000, effectively excluding the possibility of his diagnosis of viral illness, should have prompted Dr B to reconsider his tentative diagnosis.

In conclusion, while I do not consider Dr B could necessarily have diagnosed Mrs A as suffering from DVT on 12 February 2000 (given her atypical symptoms and the difficulties inherent in such a diagnosis), she exhibited symptoms that required further investigation. In my view, in failing to review Mrs A's history, clarify her past symptoms of leg pain, initiate further investigation of her presenting symptoms of breathlessness with associated clamminess and review his diagnosis and management plan, Dr B fell below the standard expected of a reasonable general practitioner. His failure is all the more serious given his suspicion of diagnosis of an embolism.

Accordingly, in relation to the February consultation, Dr B breached Rights 4(1) and 4(2) of the Code.

Other comments

Standard of medical records
My advisor expressed concern about the standard of Dr B's medical records. She made reference to **Indicator D7.1** of the 2002 Standards, which states:

> "Records are sufficient to meet legal requirements to describe and support the management of health care provided."

The applicable (virtually identical) standard is **Indicator D7.1** of the 2000 Standards, which states:

> "Records are sufficient to meet legal requirements to describe and support the management provided."

My advisor commented:

> "This indicator lists check points for an acceptable standard of medical documentation. The level of documentation of the March 7th consultation was such that the entry in the medical notes was lacking in important detail. It does not adequately describe the type of health problem that was presented at the time.
>
> Documentation of the management plan was missing for all three consultations in question. The medical records do not contain information about what, if any, specific follow-up arrangements were intended on each occasion. The level of documentation associated with the March consultation is a matter of moderate importance. The lack of documentation for March has made it impossible to ascertain exactly what condition was being managed at that time. The documentation elsewhere in the patient notes has been more informative."

I accept my expert advice. Dr B's medical records for 6 March were particularly cursory. It is important, even when providing repeat medications, to clearly document the clinical matters discussed. More significantly, the lack of documentation of a medical management plan for all three consultations, in particular the lack of follow-up arrangements, is reflective of Dr B's omission to take appropriate steps to investigate the source of Mrs A's condition and reconsider his diagnosis. There is nothing in the records to indicate whether Mrs A was informed that the results of her blood tests had not clarified her diagnosis. I recommend that Dr B to review his record-keeping and ensure that his medical management plans, review of test results and follow-up steps are documented.

Information disclosure
My advisor expressed concern about the information Mrs A was given by Dr B about her condition. **Indicator A2.4** of the 2002 Standards states:

> "The practice team ensures that patients are provided with information to enable them to make informed decisions about their care."

The applicable standard is **Indicator A2.4** of the 2000 Standards, which states:

> "The practice staff ensure that patients have full information, given in appropriate form, to enable them to make informed decisions and give or withhold informed consent."

My advisor commented:

> "This indicator requires that an explanation of the condition, options and results of tests is given to patients. From the documentation provided it is not clear just how much explanation was provided to [Mrs A] of her medical condition when she consulted [Dr B] in January, in particular what was explained of the diagnostic uncertainty surrounding her leg pains.
>
> The available documentation does not indicate if options were put to [Mrs A] or if her preference was sought for how she wished to proceed with the diagnostic process, or the management of the uncertainty associated with her presenting complaints."

I note that there is no documented discussion with Mrs A about the possible treatment options and diagnostic uncertainty in relation to her leg in January, although it is not disputed that Dr B considered either a muscle sprain or connective tissue disease to be possible, and that he may have communicated this to Mrs A. My advisor's comments highlight the importance of providing patients with appropriate information about their treatment options and diagnosis, particularly in circumstances where there are several diagnostic possibilities, and briefly recording the information given.

Notification of blood test results

My advisor made reference to **Indicator D8.2** of the 2002 Standards, which concerns practice systems for managing patient test results and requires that patients are provided with information about the practice procedure for notification of test results. The applicable standard is **Indicator D8.2** of the 2000 Standards, which states:

> "Medical reports, letters and results are checked, actioned and filed."

My advisor noted that it was not clear if Mrs A was informed of her test results. However, it is not known what understanding was reached between Dr B and Mrs A concerning her test results in the event that they were normal.

It is important for doctors and their patients to have a clear understanding about the process to be followed in relation to the notification of test results. Unless a contrary understanding has been reached (in which case it should be documented), patients are entitled to be notified even of normal test results (Right 6(1)(f) of the Code). I draw Dr B's attention to the Royal New Zealand College of General Practitioners discussion document "Managing Patient Test Results – Minimising Error" (2003) which outlines the responsibilities of general practitioners in relation to the management of patient test results.

Lack of written policies
My advisor noted that at the time of these events, Dr B did not have any written policy documentation for his practice:

> "The lack of written policies and procedures in the surgery is a departure of a more minor nature. In recent years the relevant College, RNZCGP, has provided leadership to GPs in improving this often-neglected aspect of small business management. It is reiterated here, that the RNZCGP standards for GP care are now well established and have been adopted by GPs, but were still in development at the time of the complaint."

I endorse my advisor's comments and emphasise the importance of having written practice policies and procedures that all staff are familiar with to ensure a consistent standard of practice.

Causal relationship
I note my advisor's comments that "there is no guarantee that even if Dr B had had awareness of the ongoing leg pain, leading to detection of the leg thrombosis at an earlier stage, with or without GP or hospital management, with or without initial treatment of less or more aggressive nature, this patient still may have been at risk of the same catastrophic events".

Actions taken

Dr B has apologised to Mr A for his breach of the Code and advised that he has reviewed his practice.

Follow-up actions

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