Surgical Registrar, Dr B /

Laparoscopic and General Surgeon, Dr C /

Surgical Registrar, Dr D/

A Public Hospital

A Report by the

Health and Disability Commissioner

(Case 01HDC02515)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Miss A	Consumer
Mr A	Complainant / Consumer's father
Dr B	Provider / Surgical Registrar
Dr C	Provider / Laparoscopic and General Surgeon
Dr D	Provider / Surgical Registrar
Dr E	Consultant Surgeon
Dr F	Provider / General Practitioner

Complaint

On 1 March 2001 the Commissioner received a complaint from Mr A about the services provided to his daughter, Miss A, by Dr B, Dr C and Dr D at a public hospital. The complaint is summarised as follows:

- *At 10pm on 6 February 2001 Miss A was transferred to the public hospital's Emergency Department. The surgical registrar did not examine her for two hours. Miss A was suffering severe abdominal pain and this delay was inappropriate.*
- *The surgical registrar took abdominal x-rays and incorrectly diagnosed gallstones and ordered an ultrasound for 2pm the following day.*
- *The following day the duty doctor on the ward did not appreciate the seriousness of Miss A's condition and treated her inappropriately. The doctor confirmed the previous diagnosis, which was later proven to be incorrect, and the need for an ultrasound.*

An investigation was commenced on 9 May 2001 and was extended to include individual staff on 6 November 2001.

Information reviewed

- Relevant medical records from an accident and medical clinic
- Relevant medical records from the public hospital
- Reports from independent general surgeon Dr Stephen Kyle
- Report from consultant surgeon Dr E

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Information gathered during investigation

Background
On 6 February 2001 Mr A took his daughter, Miss A, to an accident and medical clinic ("the Clinic") with severe abdominal pain. At the Clinic she was examined by Dr F.

Miss A was a 19-year-old woman who had suddenly developed constant severe epigastric and umbilical abdominal pain about 45 minutes before Dr F assessed her. She had a four-day history of constipation. Dr F examined her and recorded that her abdomen was soft with mild epigastric tenderness on deep palpation, she had normal but infrequent bowel sounds, a negative Murphy's sign and no guarding. He prescribed pethidine 50mg, Maxolon 10mg, Buscopan 20mg and a Fleet enema. The enema was successful but failed to reduce the amount of abdominal pain Miss A was experiencing.

Dr F thought that Miss A could have a bowel obstruction and ordered an abdominal x-ray. Miss A had difficulty standing when the film was being taken. The film was unremarkable. Miss A's pain had abated but was returning and Dr F prescribed a further 25mg pethidine. Miss A showed no improvement and Dr F recommended that she go to the public hospital. Dr F telephoned the hospital and spoke to Dr D about his plan to refer Miss A to the Emergency Department ("ED"). It appears that although Dr F recorded in his electronic records his impression that Miss A's pain may have been caused by an ischaemic bowel, he did not discuss this diagnosis with Dr D, and it was not recorded in Dr F's referral letter to the ED. Mr A took his daughter to the ED.

Emergency Department of the public hospital
Mr and Miss A arrived at the ED at approximately 8.45pm. Mr A recalled that his daughter was in severe pain and could not stand or even lie down straight on the bed. The triage nurse assessed Miss A as triage code 3 and recorded the following:

> "19-year-old girl with sudden onset of generalised epigastric pain – seen by GP – enema given – pt states with good relief – tearful. LMP – now … pt loudly moaning – father's at bedside – asking for pain relief – told by several nurses she must be seen by MO before pain medicine given – pt has continued to loudly moan & father repeatedly asking for MO – surg called x 3."

The doctor on duty was senior registrar (Advanced Trainee) Dr D. He was the only surgical registrar on call; normally there are two. Dr D knew from Dr F's telephone call that Miss A was coming to ED. Dr D did not see Miss A that evening before he went off duty at 10.00pm.

In response to my provisional opinion, Dr D explained why he did not see Miss A:

> "The notes indicate that I was contacted three times by nursing staff. What this means is that my beeper would have gone off three times. I do not believe that the nursing staff left a number on my pager, which they would normally do, if they were concerned about the patient.

> If I was able to respond to the call I would have. However on that evening I was tied up with other urgent acute cases. I do not recall the details after all this time, however I recall that I was really busy that day. I was the only surgical registrar on call, whereas normally there are two. At times it is not possible to respond to a call, for instance when dealing with an extremely acute patient, or when in theatre. In those circumstances, and if the nursing staff were concerned about the delay, they would usually arrange a review by another doctor, perhaps by the SHO, or by the consultant."

Dr C was the on-call surgical consultant. He completed a round of acute patients at 9.30pm but Dr D did not discuss Miss A with him and she was not brought to Dr C's attention by any other member of the ED team.

The medical staff on duty during the night were a house surgeon and registrar (Basic Surgical Trainee) Dr B. Dr B commenced duty at 10.00pm and, after receiving the hand-over report from Dr D, saw Miss A at 10.15pm. Dr B recorded that she was nauseated but not vomiting, her bowels had opened normally and she had no urinary symptoms, her temperature was 37°C, pulse 92, blood pressure 140/70, and her Murphy's sign was negative. She had had acute gastric pain from about 5.00pm and described her pain as constant with some fluctuation of intensity. Dr B noted that she had been treated for constipation at the Clinic, but the pain had not abated. On examination he found her abdomen was slightly distended in the epigastrium with tenderness in the right hypochondrium, but her abdomen was otherwise soft. He could feel no palpable mass or enlarged abdominal organs. Her white cell count was raised at 16.4, and her liver function tests were within normal limits. Dr B examined her abdominal x-ray and found it to be "unremarkable", with no evidence of intestinal obstruction or perforation. He ordered a chest film, and that too was normal. Dr B's impression was of acute cholecystitis and he discussed this with Mr and Miss A. Dr B recorded a gastric ulcer or pancreatitis as alternative impressions.

Dr B admitted Miss A to the ward, placed her on "nil by mouth", commenced intravenous fluids, ordered pethidine 50mg three-hourly for pain if necessary, and asked for an ultrasound scan to be organised the following day. He advised Mr and Miss A that ongoing treatment would depend on the ultrasound results, which would probably not be available until the following afternoon. Dr B was on duty until 10.30am (7 February) but he received no further calls about Miss A.

The house surgeon examined Miss A at 10.45pm before she was transferred to the ward. Miss A remained in pain, which she described as 8 out of 10 on the pain scale. She confirmed Dr B's orders of intravenous analgesia and ultrasound scan.

Miss A received Maxolon 10mg and pethidine 50mg before leaving the ED. The notes record: "2320 [11.20pm] med. Given as charted – pt more comfortable – stable for transfer."

The ward

At about 11.50pm Miss A was transferred to the ward. At 12.05am the house surgeon was notified of Miss A's blood test results, which showed a low potassium level, elevated

glucose level and elevated white cell count. The house surgeon ordered potassium replacement, further blood tests and a urine specimen for laboratory examination. Miss A's observations were within normal limits.

Miss A was given Buscopan 20mg intravenously at 12.30am. At 1.50am her pain returned and the on-call house surgeon was notified. The doctor did not examine Miss A, but ordered pethidine 25mg by telephone (which was given at 1.50am). Miss A received 1gm of paracetamol rectally at 5.00am and 9.30am and pethidine 50mg intravenously at 4.00am, 7.30am and 11.50am.

Dr D came back on duty at 7.30am. In his hand-over report Dr B told Dr D that his impression was that Miss A had possible cholecystitis or a duodenal ulcer. At around 7.30am Dr D discussed acute admissions of concern with Dr C. Dr D did not raise Miss A's case with Dr C. Dr D knew, from a conversation the previous night, that Dr C would be doing a ward round at midday and could review Miss A then.

It is normal practice for the surgical team to conduct a ward round at 8.00am each morning. Dr C would normally lead this round but he had an unscheduled surgical list that day at a surgical centre. Dr D, as senior registrar, therefore led the ward round. At 8.50am Dr D saw Miss A. Mr A was present. Dr D noted that Miss A remained in pain and that she had received three doses of pethidine overnight. She was well hydrated and her observations were stable. Dr D noted that the location of her pain, which initially had been in the upper and central abdomen, was now lower and on the right side of her abdomen. This is a classic presentation of acute appendicitis. Miss A was nauseated but there were no signs of peritonitis. Her white cell count had improved from 16 on admission on 6 February to 11.9 on the morning of 7 February (normal range: 4-11). The same blood tests revealed a haemoglobin of 131 on admission dropping to 103 (normal range: 115-165).

Dr D told Mr and Miss A that a diagnosis was still not clear but it was possible, in light of her clinical symptoms, that she had either early stage acute appendicitis or an ovarian cyst. He reaffirmed the need for an ultrasound. He told them that he would review Miss A again in a few hours, and that if her symptoms persisted she would need laparoscopic surgery to identify the cause of her symptoms. Even though he tried to obtain the ultrasound urgently he could not get an appointment until 2.00pm.

In response to my provisional opinion, Dr D explained that since Miss A had stable clinical signs, and he knew that Dr C would be doing a ward round at midday, he believed it was appropriate to wait to discuss Miss A with him at that time. The diagnosis was likely to become clearer by then. Given her stable clinical signs, the blood test results and the duration of symptoms (16 hours without any signs of peritonitis), he considered that a few hours' delay would not affect the outcome.

Surgery

At 12.20pm Dr C did a ward round. Miss A's pain was worse and she had a guarded tender abdomen in the right groin area. Dr C's differential diagnosis was acute generalised peritonitis from either a perforated appendix or tortuous ovarian cyst. He ordered antibiotics, cancelled the ultrasound and arranged her immediate transfer to theatre.

Miss A was taken to theatre at 1.30pm. She was found to have gangrene of the small bowel, which had herniated through a "congenital mesenteric rent causing a volvulus". She needed to have 1.8m of her small bowel resected. Dr C advised me that this was a rare condition in a person of her age and an initial diagnosis in the absence of other signs was very difficult. In his opinion the fact that she required repeated doses of analgesia should have prompted the registrar to discuss the case with him, which was not done.

Subsequent recovery
Miss A's recovery was complicated by pneumonia but she suffered no further abdominal symptoms. She was discharged from the public hospital on 14 February 2001. Early on the morning of 2 March she required further admission with abdominal pain, but this settled overnight and she was discharged the following day. She attended the surgical outpatients clinic on 16 March 2001 and contacted Dr C, who arranged a follow-up appointment for 21 September 2001.

Audit
The hospital's Department of General Surgery discussed Miss A's case at its Audit (Morbidity and Mortality) meeting in March 2001. The Audit meeting is attended by all consultants, registrars and surgical house surgeons, and serves as an important clinical teaching forum for basic and advanced surgical trainees. It was agreed that junior medical staff should have discussed this case with the on-call consultant on the evening of admission when the diagnosis was uncertain.

Independent advice to Commissioner

The following expert advice was obtained from an independent general surgeon, Dr Stephen Kyle:

"Relevant Information reviewed:

1. Letter from [Mr A] (Father of [Miss A]) to Health and Disability Commissioner dated 29.02.01
2. Letter from [Dr B] (Surgical Registrar – Basic Surgical Trainee) dated 20.12.01 to Health and Disability Commissioner
3. Letter from [Dr D] – Surgical Registrar (Surgical Trainee) dated 28.11.01 to Health and Disability Commissioner
4. Letter from [Dr C] – Laparoscopic and General Surgeon dated 30.07.01 to Health and Disability Commissioner
5. Letter from [the] Chief Executive Officer [of the] District Health Board dated 18.09.01 to Health and Disability Commissioner
6. Letter from [the] Unit Manager, General Surgery [at respective hospital] to [the] Clinical Director, Surgical Services [at the hospital] dated 20.08.01
7. Referral letter from [Dr F to respective hospital's] A&E dated 6.02.01.

8. X-rays and report from [a] radiology group on [Miss A] dated 7.02.02 to [the Clinic]
9. Discharge summary dated 14.02.01 by [the house surgeon] on [Miss A]
10. Discharge summary by [a] Surgical Registrar, dated 28.02.01
11. [The hospital's] inpatient records including operation note dated 7.02.01

Executive Summary:

[Miss A] was admitted to [the hospital's] A&E after referral from [the Clinic] on 6 February 2001 in severe abdominal pain. She was assessed by Surgical Registrars [Dr D] and [Dr B]. They did not appreciate the seriousness of her condition and they did not inform the on-call Consultant [Dr C] of her admission. When seen by [Dr C] during a Post Acute ward round at midday on 7 February 2001, she was found to have generalised peritonitis. He acted appropriately performing urgent surgery and a significant amount of small bowel was resected.

In my opinion, both [Dr B] and [Dr D] failed to meet an appropriate standard of care for [Miss A]. I have no concern that they failed to make the correct diagnosis. My criticism is entirely based on the fact that this patient was in severe pain requiring repeated doses of Pethidine and the on-call Consultant was not informed of the admission. I believe that this is a major departure [from] a reasonable standard of care incurring disapproval of peers. As a consequence, the public hospital failed to provide an adequate service for this woman. Apart from this departure, [Miss A's] care in the Emergency Department and [the ward] was reasonable.

Sequence of Events:

[Miss A] had sudden onset of severe abdominal pain around 1800hrs on 6.02.01. She was taken by her father to a private medical centre, [the Clinic], … arriving at around 1815hrs. She was seen by [Dr F] who documented that she had severe pain in her upper abdomen though had no signs of peritonitis. His differential diagnosis included constipation or ischaemic bowel. She was prescribed an enema and given two injections of Pethidine, the first being 50mg followed by another of 25mg with little reduction in the pain. An abdominal x-ray was taken with no evidence of bowel obstruction. [Miss A] was referred by [Dr F] to [the hospital's] A&E who phoned [Dr D] with the referral. She was taken by her father to [the hospital's] A&E arriving at around 2100hrs.

At [the hospital's] A&E her nursing assessment noted that she was loudly moaning with pain. Her observations were within the normal range.

The surgical Registrar ([Dr C]) was called three times though failed to see [Miss A] prior to him finishing his duties at 2200hrs. She was seen by [Dr B] at 2215hrs shortly after he commenced duties at 2200hrs. He noted that she was in significant pain though her vital signs were satisfactory apart from a mild tachycardia. He noted that she was tender in her upper abdomen though Murphy's sign, which should be positive in Cholecystitis, was negative. The chest x-ray did not reveal any free air suggesting there was no underlying perforated Viscus. Her white cell count was noted to be elevated at

16.4 consistent with an underlying inflammatory process. Serum Amylase, which should be elevated in acute pancreatitis, was normal.

[Dr B's] differential diagnosis was Cholecystitis, peptic ulcer or pancreatitis. He arranged for her to be admitted and given further Pethidine for pain relief and requested an ultrasound scan to be performed the following morning. She was referred to [the ward] at 2350hrs and [Dr B] further assessed [Miss A] before she left the A&E department at around 0015hrs. He found her in a much more comfortable state.

[Miss A] had no further medical assessment overnight. Because of further pain during the night, she was given 25mg of pethidine at 0150am and a further 50mg at 0400hrs.

[Dr B] did not inform [Dr C] of [Miss A's] admission. It is reported that [Dr C] performed a Ward round of acute admissions at 2130hrs on 6.02.01. [Miss A] was in A&E at this time.

[Dr B] informed [Dr D] of [Miss A's] admission at around the time of change over of Surgical Registrar at 0730 on 7.02.01. [Dr D] assessed her at around 8.50am and found her to have generalised abdominal pain though reports no signs of Peritonitis at that time. An ultrasound could not be arranged that morning. He awaited further assessment by [Dr C] at around midday.

[Dr C] performed a post-acute ward round at approximately midday. [Dr C] found [Miss A] to be unwell with generalised peritonitis and he appropriately arranged for urgent surgery. At operation, she was found to have an internal hernia resulting in strangulating small bowel obstruction requiring a small bowel resection of 1.8m of small bowel.

Considerations:

It is universal in all but our smallest public hospitals that Surgical Registrars, not Consultants, primarily assess patient admissions and arrange for appropriate investigations. Cases of clinical concern should be discussed with the Consultant on call. With that discussion, a notable transfer in responsibility occurs. Obviously Surgical Registrars vary markedly in their experience and skill and hence the threshold for communicating with the on-call Consultant will vary accordingly.

Strangulating small bowel obstruction as compared with other acute surgical admissions is relatively uncommon. However, this is a basic well described surgical condition with which Doctors on a surgical service should be alert to. The particular problem in diagnosis is the paucity of clinical signs in the early stages. Typically a young patient such as this, will appear unwell and in very severe pain. While ischaemia is reversible, there will not be signs of peritonitis. Vital signs initially are often normal. When bowel becomes irreversibly ischaemic over several hours signs of peritonitis will ensue. Abdominal x-rays can also be quite normal in the early stages. It is possible that an astute, experienced clinician may have considered this diagnosis, or at least, the need for

urgent surgery at a stage where the ischaemia is reversible. With prompt surgery no resection may be required.

A junior, inexperienced Registrar could easily miss this diagnosis. Significant doses of Pethidine can obtund and diminish the pain the patient is experiencing and hence falsely reassure the attending Doctor. Pethidine can be given judiciously to patients with undiagnosed abdominal pain to ease suffering and sometimes to facilitate assessment. However, the fact that this has been given, is to be taken into account during assessment. The requirement for further doses of Pethidine while the problem of acute undiagnosed abdominal pain persists, should lead to further medical evaluation.

The following measures may have led to a more favourable outcome with no bowel resection required, or at least less prolonged suffering and anxiety for [Miss A] and her family should they have occurred.

1. A more prompt referral from [the Clinic] to [the hospital]. Clearly [Miss A] was in severe abdominal pain when she attended this clinic. She was going to need hospital admission. Three hours from entry to [the Clinic] to entry to [the hospital's] Emergency Department is excessive especially when [Dr F] considered the diagnosis of ischaemic bowel.

2. [Miss A] would ideally have had a medical assessment shortly after arrival at [the hospital's] Emergency Department A&E. A patient presenting to a Public Hospital with acute abdominal pain should expect a Nursing followed by Medical assessment in a reasonable time frame. Sometimes, because of the pressure of other urgent work, this Medical Assessment may not be made directly by the Surgical Registrar on duty. She was obviously in significant pain. On her initial nursing assessment she was given a Triage code of 3. The maximal waiting time on this scale is not meant to exceed 30 minutes. Unfortunately Surgical Registrars can be occupied with other emergencies – notably in theatre – and may not be available for several hours. Other staff, i.e. A&E Staff, or even the on-call Consultant may need to be consulted. [Miss A] was noted to be 'loudly moaning' with pain by the nursing staff. She was seen by a Surgical Registrar approximately one hour after arriving in the Emergency Department which is not ideal, though probably reasonable for a busy department.

3. [Dr C] did a Ward Round at 2130hrs. [Miss A] was in A&E at this time. She was clearly going to require surgical admission. It was unfortunate that [Miss A] was not assessed by him at this time. Presumably he was not informed.

4. [Dr B] should have informed [Dr C] of her admission. He diagnosed Cholecystitis in the absence of a positive Murphy's sign, and simply arranging an ultrasound scan for the following day was unreasonable. He considered Pancreatitis in his differential diagnosis, however the Serum Amylase was normal. His other differential diagnosis was that of a peptic ulcer. To produce this situation, the ulcer would have had to have perforated. This would be rare in an otherwise well woman of this age in contemporary surgical practice. There were no radiological signs consistent with this. Hence, overall, this lady was in significant pain and the diagnosis was entirely

unclear and by not informing [Dr C] an early opportunity for a consultant opinion was lost.

5. It would have been reasonable for the Surgical Registrar to inform the nursing staff on [the ward] that should [Miss A] require further pain relief following her admission that the Surgical Registrar be informed. [Miss A] was given further doses of Pethidine overnight whilst on the ward without further assessment, while her diagnosis remained uncertain. Before giving further doses of Pethidine she should have had further medical assessment.

6. [Dr D], shortly after his assessment on the morning of 7.02.01, when he found [Miss A] to have severe generalised undiagnosed abdominal pain, and that she had required repeated doses of Pethidine overnight, should have informed [Dr C], forthwith."

Responses to Provisional Opinion

Dr D and Dr B
Dr D and Dr B made detailed submissions in response to my provisional opinion. They raised concerns that my provisional opinion, in particular Dr Kyle's advice, was affected by "hindsight bias". It is inevitable that most matters I investigate fall to be judged with the benefit of hindsight; however, I have been particularly wary of this in the context of this difficult case. The avoidance of hindsight bias requires that the outcome in this case does not influence my assessment of whether the care provided to Miss A was of an appropriate standard, having regard to her presentation and the information reasonably available at the time.

Dr D and Dr B also provided a report prepared by Dr E, consultant surgeon, which comments in detail upon the report of my independent surgical advisor, Dr Kyle. In Dr E's opinion there is no basis for finding Dr D or Dr B in breach of the Code. He considers that the care they provided Miss A was within the scope of standard surgical practice.

My independent surgical advisor, Dr Kyle, was asked to review the additional information provided by Dr D, Dr B and Dr E. Dr Kyle remained of the view that Dr D and Dr B failed to meet a reasonable standard of care by not obtaining consultant advice in this case. However, he revised his advice that there had been a major departure from the appropriate standard of care to a minor departure.

The responses from Dr D and Dr B, the report by Dr E and the further advice from Dr Kyle have been carefully considered and are appended to this report. The key submissions are discussed within the body of my opinion.

The public hospital
The Chief Medical Officer responded to my provisional opinion on behalf of the hospital.

The hospital advised that it has reviewed its procedures as a result of my provisional opinion. Its existing procedures include the establishment of target 'seen by times' for each triage category in the Department of General Surgery. These 'seen by times' are in place and are monitored monthly. The hospital's ability to meet specified 'seen by times' is dependent on the workload at any specified time and is also a human resource and funding issue. Although the hospital tries hard to comply with these times it is not always able to achieve them.

The hospital also advised me that when junior doctors start work in the Department of General Surgery they go through an orientation process which includes teaching on the importance of attending ED patients promptly and reporting to a consultant. In addition, the Head of Department personally reinforces this message to junior registrars at the beginning of every run. The relevant procedures for orientation and training of junior medical staff have been reviewed.

The Department has now instituted a policy of post acute ward rounds in the mornings rather than at midday wherever possible. The hospital notes that this does not lessen the responsibility of junior staff to appropriately notify senior doctors during the night if the necessity arises.

The hospital accepts that in this case Drs B and D did not follow its policy, as Miss A's case was not discussed with the consultant either in the ED or the following morning. However, it does not consider that this breach is attributable to the hospital. The hospital had systems in place, and staff were oriented and trained at the commencement of their employment. This system has been in place for many years.

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4
Right to Services of an Appropriate Standard

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

Opinion: No breach – Dr D

Delay in medical assessment
Miss A was admitted to the Emergency Department of the hospital on the evening of 6 February 2001 after referral from Dr F of the Clinic. Miss A had severe abdominal pain, which had persisted since 5.00pm, with only limited relief from pethidine and Buscopan.

Dr D was on duty in the ED that evening (until 10pm). He was the only surgical registrar on call; normally there are two. Dr F notified Dr D that he was referring Miss A to the ED. Upon admission, Miss A was assessed by a triage nurse as triage code 3. It was obvious to nursing staff that Miss A was in significant pain and needed medical attention. The nursing notes record that she was moaning loudly and that Mr A requested pain relief for his daughter, and asked for the doctor to see her. The notes indicate that Dr D was contacted three times by nursing staff. Despite this, Dr D did not see Miss A before going off duty at 10.00pm.

Dr D said that his pager could have gone off three times without a number being left, and that he would have responded to the call if he had been able to. As far as he can recall, he did not respond to his pager because he was busy with other urgent acute cases, being the only surgical registrar on call that evening. I note that Dr E acknowledges that this is not ideal practice and Dr D should have arranged for another individual to assess Miss A.

Dr C was the on-call surgical consultant that evening. It appears that he did a round of acute patients in the ED at 9.30pm but did not see Miss A. Miss A was eventually seen by Dr B at 10.15pm, approximately 90 minutes after her admission.

Miss A should have had a medical assessment shortly after arrival at the hospital's Emergency Department. A patient presenting to a public hospital with acute abdominal pain should expect a nursing assessment followed by a medical assessment within a reasonable time frame. My advisor indicated that the waiting time for patients with a triage code 3 should not exceed 30 minutes. However, surgical registrars may be occupied with other emergencies and may not be available for several hours. Other staff, including the on-call consultant, may need to be consulted.

I accept that in a busy ED a doctor may not be available to assess a code 3 patient within 30 minutes because of the pressure of other urgent work; in certain circumstances, a reasonable waiting time for such a patient may exceed 30 minutes.

In my opinion Dr D could and should have arranged for another doctor to assess Miss A if he could not respond to the pager calls. I note that Dr C was doing a ward round of acute patients in the ED at the time Dr D was being paged.

However, in light of Dr D's evidence that the ED was short staffed and he was attending to other urgent acute cases, and his knowledge that another registrar would soon be available for review, I accept that Dr D acted reasonably in the circumstances and did not breach the Code.

Opinion: Breach – Dr D

Failure to obtain timely consultant advice
Dr D first saw Miss A in the ward, the morning after her admission, on 7 February, at about 8.50am. He found Miss A to have severe generalised undiagnosed abdominal pain, and that she had required repeated doses of pethidine overnight with limited effect. Dr D reaffirmed the plan for an ultrasound and arranged to review Miss A again in a few hours. He considered that if her symptoms persisted she would need laparoscopic surgery to identify the cause. Dr D thought Miss A could be reviewed by Dr C when he did a ward round at midday.

There is no dispute that it is usual practice in public hospitals for the surgical registrar to assess patients and order appropriate investigations; however, all cases of clinical concern should be discussed with the consultant. What is in dispute is whether Miss A's case was one of clinical concern, which should have been managed differently; in particular, whether Dr D should have discussed it with a consultant on the morning of 7 February.

Dr D and Dr E submit that the situation should not have been managed differently. In their view, Miss A was not exhibiting any clinical concerns, either objective or subjective, to warrant discussion with the consultant. It is submitted that regard should be had to the fact Miss A had a good response to pain relief, nursing staff were not concerned enough to call for a medical review, and low level acute abdominal pain in young women is a common presentation.

My independent surgical advisor, Dr Kyle, disagrees. Dr Kyle acknowledges that this was not an easy case but maintains that Dr D failed to meet a reasonable standard of care, although his departure was minor. His criticism is not that Dr D failed to reach the correct diagnosis but that he failed to discuss the case with a senior doctor in a timely manner. In his view, looking at the complete picture should have prompted a discussion with a consultant sooner rather than later. Miss A presented with abdominal pain of acute onset, she was moaning loudly and unable to lie comfortably in bed, she gained only temporary relief from pethidine, and this clinical picture continued for over 15 hours.

I accept that this was a difficult case. The critical issue is one of fine clinical judgement on which there are differing views. It is important that the adverse outcome does not influence the assessment of whether the care provided to Miss A was of an appropriate standard, having regard to her presentation and the information reasonably available at the time.

Taking account of all the available information, I am persuaded by the advice of my independent advisor, whose view is consistent with the opinion of Dr C, the on-call surgical consultant. In my opinion, Dr D should have sought consultant advice after his assessment of Miss A. If Dr C was not available, alternative arrangements should have been made. (I make no finding as to whether an earlier discussion with a consultant would have influenced Miss A's management or outcome.) In failing to obtain timely consultant advice, Dr D failed to provide services with reasonable care and skill and breached Right 4(1) of the Code.

Opinion: No breach – Dr B

Delay in diagnosis
Dr B was the surgical registrar on duty in the ED after Dr D. Dr B promptly examined Miss A at 10.15pm, 15 minutes after he came on duty. By then Miss A had had 75mg pethidine, 25mg of which was given just prior to leaving the Clinic. The treatment at the Clinic had no effect on her level of pain and she remained in pain when Dr B examined her. Dr B's differential diagnoses were cholecystitis, peptic ulcer or pancreatitis. He ordered another dose of pethidine. When he assessed Miss A again just after midnight she was a little better.

Dr B admitted Miss A to the ward, placed her on "nil by mouth", commenced intravenous fluids, ordered pethidine 50mg three-hourly for pain if necessary, and asked for an ultrasound scan to be organised the following day. He advised Mr and Miss A that her ongoing treatment would depend on the ultrasound results, which would probably not be available until the following afternoon.

It is clear that Dr B's initial impressions were incorrect. My surgical advisor queried Dr B's provisional diagnoses, in particular of cholecystitis and peptic ulcer. However, ischaemic bowel is an unusual and difficult diagnosis. Dr B's failure to make the correct diagnosis was not unreasonable, and did not amount to a breach of the Code.

Opinion: Breach – Dr B

Failure to obtain timely consultant advice
In response to my provisional opinion, Dr B advised that in his role of registrar, he does not hesitate to contact the consultant when he is uncertain as to appropriate management of a patient, or if he is concerned about a patient. However, in this instance he was comfortable that his provisional diagnoses were consistent with the clinical picture, including the nature of the pain, and the need for relief.

Dr E considered that Dr B was justified in his approach: "Young women with non specific abdominal pain are by far the most common presentation to acute surgical services. The life of a surgical consultant would be intolerable if it was an expectation that every case of non-specific abdominal pain was notified to them by junior medical staff. That simply does not occur."

My independent surgical advisor, Dr Kyle, agreed that non-specific abdominal pain in young women is indeed very common and does not require consultant notification. He contrasted this with Miss A's presentation: "The vast majority of these cases seem to be lower abdominal and pelvic pain often consequent on gynaecological conditions, many of which are self limiting. These patients do not tend to loudly moan with pain and repeatedly ask for pain relief on admission. They can generally lay down straight in bed."

There has been some dispute about the severity of Miss A's pain and the use of pethidine. It is submitted that pethidine is a mild narcotic analgesia and its administration does not necessarily mean Miss A was in severe pain. My surgical advisor has clearly set out the basis upon which he concluded Miss A was in severe pain. Dr F stated in his referral letter, '*Pain +++*'. Miss A was described as loudly moaning in ED and asking for pain relief. Mr A recalled that his daughter was in severe pain and could not stand or even lie down straight on the bed. Miss A described her pain as 8 out of 10.

I am satisfied that when Dr B assessed her on the evening of 6 February, Miss A was in severe pain, which exceeded the typical non-specific abdominal pain common in young women, and there was no clear diagnosis. Her condition should have prompted Dr B to discuss her case with the on-call consultant. As noted by Dr C, "the fact that she required repeated doses of analgesia should have prompted the registrar to discuss the case with the consultant". The hospital's surgical audit, and Dr Kyle, also considered that the on-call consultant should have been contacted at the time of admission. Dr B did not do this. In failing to obtain timely consultant advice, Dr B failed to provide services with reasonable care and skill and breached Right 4(1) of the Code.

Opinion: No breach – Dr C

Dr C was the surgical consultant at the time of Miss A's admission on the evening of 6 February 2001. He completed a ward round of acute patients at 9.30pm. Dr C was at the time unaware of Miss A's admission. The first time Dr C learned of Miss A was during his post-acute surgical session at 12.20pm on 7 February 2001. He assessed her and took her immediately to theatre. My surgical advisor said that Miss A's care in ED and the ward was reasonable.

Dr C, as consultant, had a duty to supervise junior doctors with reasonable care and skill and in accordance with professional standards. It is not practicable for consultants to oversee every decision made by junior doctors, and tasks may be delegated where appropriate. A consultant may reasonably rely on a certain level of competence from junior doctors, and should be able to expect that they will follow instructions, if sufficiently clear, and call for assistance or consult when necessary.

In my opinion Dr C provided services that were reasonable in the circumstances and did not breach Right 4(1) of the Code.

Opinion: No breach – The Public Hospital

The hospital had a legal duty to provide Miss A with services at the level of care and skill reasonably expected of a hospital. The hospital needed to have adequate systems and procedures to ensure safe and effective care for patients.

My advisor noted that the waiting time for patients with a triage code 3 is not meant to exceed 30 minutes. However, surgical registrars may be occupied with other emergencies and may not be available for several hours. Other staff, or even the on-call consultant, may need to be consulted.

The ED was forewarned of Miss A's arrival by Dr F's telephone call. Miss A was assessed as triage code 3 upon her arrival. She arrived at approximately 8.45pm and was seen by Dr B about 90 minutes later. Miss A's father and nursing staff sought pain relief and medical assistance on several occasions while they waited, but to no avail.

The hospital advised me that it is not always possible for medical personnel to see patients in ED within the triage timeframes because of funding and human resource constraints. The ED was short-staffed that evening with only one surgical registrar on duty rather than the usual two. I accept that in a busy emergency department a doctor may not be available to assess a code 3 patient within 30 minutes because of the pressure of other urgent work; in certain circumstances, a reasonable waiting time for such a patient may exceed 30 minutes. In this case, while it was far from ideal, I am satisfied that Miss A was assessed within a reasonable time frame.

The hospital also advised me that it is current practice for the surgical registrar to discuss cases of clinical urgency or uncertain diagnosis with the surgical consultant on call. All junior doctors commencing employment in the Department of General Surgery are given orientation and training about the need to discuss cases of clinical concern with consultants. This system was in place in February 2001 and all new doctors are made aware of it.

As noted above, Miss A's case should have been discussed with the consultant surgeon, Dr C. It was inconsistent with the hospital's policy that both Dr D in ED, and Dr B in the ward the following morning, did not contact the consultant for advice.

However, I am satisfied that the hospital had adequate systems in place to ensure that its procedures for discussing cases with consultants were clearly understood and followed by staff. In my opinion the hospital took reasonable steps to meet its organisational duty to provide services with reasonable care and skill, and did not breach Right 4(1) of the Code.

It is encouraging to note the steps taken by the hospital to consider the issues raised by this case. The hospital has reviewed its procedures for orientation and training of junior staff and has established 'seen by times' for each triage category, and monitors compliance. The case was discussed at a monthly surgical morbidity and mortality meeting in March 2001 and again upon receipt of my provisional opinion.

I recommend that the hospital note my surgical advisor's comments about the use of pagers, and systems for obtaining medical review when the relevant medical staff are not available or able to respond to their pager. It seems that in this case, while Dr D was unavailable owing to other acute cases, Dr C was conducting a ward round and may have been available to review Miss A, if notified.

Actions

I recommend that Dr D take the following action:

- Provide a written apology to Miss A for breaching the Code of Health and Disability Services Consumers' Rights. This letter is to be sent to my Office and will be forwarded to Miss A.

I recommend that Dr B take the following action:

- Provide a written apology to Miss A for breaching the Code of Health and Disability Services Consumers' Rights. This letter is to be sent to my Office and will be forwarded to Miss A.

Further actions

- A copy of this report will be sent to the Medical Council of New Zealand.

- A copy of this opinion, with all identifying features removed, will be sent to the Royal Australasian College of Surgeons, the Australasian College for Emergency Medicine (New Zealand Faculty), and the Chief Medical Advisor of each District Health Board, and will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix

Response to Provisional Opinion by Dr D

In response to my provisional opinion Dr D made the following submission:

> "The notes indicate that I was contacted three times by nursing staff. What this means is that my beeper would have gone off three times. I do not believe that the nursing staff left a number on my pager, which they would normally do, if they were concerned about the patient.
>
> If I was able to respond to the call I would have. However on that evening I was tied up with other urgent acute cases. I do not recall the details after all this time, however I recall that I was really busy that day. I was the only surgical registrar on call, whereas normally there are two. At times it is not possible to respond to a call, for instance when dealing with an extremely acute patient, or when in theatre. In those circumstances, and if the nursing staff were concerned about the delay, they would usually arrange a review by another doctor, perhaps by the SHO, or by the consultant.
>
> I note Dr Kyle says that the maximum waiting time for Triage Code 3 is not meant to exceed 30 minutes. In my experience however that time was frequently exceeded at the public hospital one of the busiest hospitals in the country. Even when we had two registrars working we would have had difficulty at times reviewing a Triage Code 3 patient within that time frame. With one registrar absent, this became even more difficult.
>
> When I saw [Miss A] the next morning she had had pain for 16 hours, but still without a single sign of peritonitis or peritonism, having a soft abdomen, and completely normal vital signs. Usually the bowel can only withstand loss of blood supply for 6-8 hours before gangrene and then peritonitis ensue.
>
> What obscured the picture even further was that her white cell count had actually improved from 16 on admission on 6 February to 11.9 on the morning of 7/2 (normal range: 4-11). Moreover her pain had shifted from the upper to the right lower abdomen, which is more classical of acute appendicitis.
>
> I note that I am criticised for a failure to consult with [Dr C] at 8.50am. I was concerned about [Miss A's] pain pattern at that time. She received good relief with the Pethidine, but then the pain would recur. The diagnosis was not clear at that stage but I suspected an appendicitis or ovarian cyst as the more common possibilities. Accordingly, I decided that she needed a review in a few hours' time. Since [Miss A] had stable clinical signs, and since I knew that the consultant was doing a ward round at midday, I believed it was appropriate to discuss [Miss A] with the consultant surgeon at that time. The diagnosis was likely to become clearer by then.
>
> Given her stable clinical signs, the blood test results and the duration of symptoms (16 hours without any signs of peritonitis) a few hours delay would not affect the outcome.

I based this management plan on her clinical assessment, but I thought that if it was possible to obtain an ultrasound scan, while waiting for review, we might obtain more useful information to assist us with the clinical examination. Accordingly I organised an urgent ultrasound.

I note that when [Dr C] reviewed [Miss A] her clinical picture had developed. [Dr C] agreed with my differential diagnoses of ovarian cyst or appendicitis. We discussed and agreed that surgery was now appropriate, and the ultrasound unnecessary. I should add that in making the decision to discuss the case with the consultant at his regular ward round at lunchtime, I was not acting as a junior registrar. I was at the time a senior registrar, and have since qualified as a consultant in this country. I attach a copy of my curriculum vitae for your information."

Response to Provisional Opinion by Dr B

In response to my provisional opinion Dr B made the following submission:

"**Differential Diagnosis:**

You have found that although the failure to diagnose the cause of [Miss A's] ischaemic bowel was not unreasonable, my differential diagnoses were unreasonable in the absence of significant signs.

In response to this, I say firstly that there was no sign that [Miss A] had ischaemic bowel at the time that I saw her. Even with the benefit of hindsight, I do not believe that she necessarily had ischaemic bowel at that time. Her clinical condition developed significantly on the morning of 7 February 2001.

As to the reasonableness of the provisional diagnoses I recorded, I wish to emphasise that this was a 'bedside diagnosis' based on the findings of history, and clinical examination alone. The matters I record in my notes are not differential diagnoses but are, as recorded in my notes, impressions. I had a patient with abdominal pain. I did not have sufficient information to enable me to determine the cause. The provisional diagnoses were listed as possibilities (I have listed them as 'impressions') while more objective data was collected. The only objective information I had available were the abdominal films, which were generally reassuring, and tended to make unlikely a diagnosis of ischaemic bowel. In particular, the laboratory findings were not available when I first saw [Miss A] as Dr Kyle seems to assume that they were. As to the particular possible diagnoses, I have listed these. They are, in my experience, common differential diagnoses for abdominal pain.

Acute Cholecystitis:

The site and nature of pain in [Miss A's] presentation were, entirely consistent with a diagnosis of acute cholecystitis. I disagree with the expert's opinion that this diagnosis cannot be made if Murphy's sign was absent. In a significant number of patients with cholecystitis this sign is not elicited. While gall stones are uncommon in patients of this age, in western societies, they are more common in people of Mediterranean descent because of a high incidence of some sub-clinical haemolytic conditions.

On later reviewing blood results, a raised white cell count supported this diagnosis, but normal liver function tests were against it.

Peptic Ulcer:

Once again I disagree with the expert's view that only a perforated peptic ulcer can present with severe pain. Time and again we see large non perforated ulcers presenting with severe pain and vomiting. This is evidenced by the universal practice of performing upper gastro intestinal endoscopy as the next investigation if an ultrasound scan did not support the diagnosis of cholecystitis. [Miss A's] presentation was consistent with a non perforated peptic ulcer. Normal abdominal x-rays supported my diagnosis. However, when I reviewed the laboratory results I found her white cell count was raised, which made the diagnosis less likely.

Acute Pancreatitis:

The diagnosis of acute pancreatitis was quickly excluded when the serum amylase was found to be normal. Again, this information was not available to me when the initial provisional diagnoses were arrived at.

Discussion with Consultant on Call:

In my role of registrar, I do not hesitate to contact the consultant when I am uncertain as to appropriate management of a patient, or if I am concerned about a patient. However in this instance, I was comfortable that my provisional diagnoses were consistent with the clinical picture including the nature of the pain, and the need for relief.

Further, while [Miss A's] diagnosis was ultimately found to be very uncommon, her presentation was extremely common. This is one of the commonest presentations to any surgical team. She had abdominal pain requiring pain relief. Her initial laboratory and radiological findings were all normal except her raised white cell count. There was no indication that her life was at risk. In such circumstances, it is usual practice to keep the patient in a stable condition, until full services resume in the morning. I have taken over many patients in a similar clinical condition from other registrars going off night duty, where the consultant had not been informed.

The expert whose opinion you have sought seems to assume that the consultant would have taken the patient to operating theatre earlier, simply because the cause of the pain

was not known. He says further that an experienced and astute clinician would have considered this diagnosis, and goes on to say that he would have considered urgent surgery. I do not accept that view. [Miss A's] presentation had aspects which were inconsistent with ischaemic bowel. In this case, (and eliminating our hindsight knowledge of [Miss A's] actual condition) in current surgical practice, it would have been difficult to justify surgery on suspicion alone. There was an extreme paucity of clinical features. Surgical practice is to continue investigations to find the cause, and then to do an operation only if one is indicated by clear evidence of threat to life, or an organ.

Management:

You have criticised me for failing to tell nursing staff to contact me if [Miss A] required further pain relief during the night. However it is common practice for moderate analgesia to be administered to a patient whose clinical signs are otherwise stable, whilst investigations into the cause of the pain are ongoing, without for need for further medical review. In this regard, the nursing staff in the surgical wards in the public hospital do not hesitate to request a medical review by a registrar or a house surgeon if they believe that the patient's condition requires it, or is in any way deteriorating. They do not depend upon a written request to call a doctor. During my time in that unit, I have been called many times by nursing staff during night duty, and I have always responded at the earliest opportunity.

[Miss A's] pain was not especially severe. Pethidine is a mild analgesic, and was only administered to [Miss A] in moderate doses, with some effect. I do not accept that the administration of Pethidine through the night is evidence of extreme pain.

Experience:

I feel there may be a misunderstanding as to the level of my experience. Although I was working as a base surgical trainee, I had over 15 years in surgery, five of them [overseas]. I was also a consultant surgeon [overseas] for six years before coming to New Zealand. By the time that [Miss A] presented at [the public hospital], I had worked nearly two years as a surgical registrar in New Zealand and was familiar with both the standard of care expected, and the pathological profiles of surgical patients in this country. I attach my curriculum vitae."

Advice from Dr E

Dr D and Dr B obtained advice from consultant surgeon Dr E. Dr E's report is set out below:

"…

4.0 Analysis of the case

4.1 The condition that [Miss A] had is rare. To appreciate it one needs a basic understanding of intra-abdominal anatomy. The small bowel ie that part of the bowel that absorbs nutrition, is suspended from the posterior (back) abdominal wall by a mesentery. A mesentery is a curtain like structure, the free border of the curtain containing the bowel. Within the folds of the curtain like mesentery, run arteries, veins and lymphatics. For reasons that are unclear in a very small number of people, holes develop in this curtain like structure. In [Miss A's] case the hole was of sufficient dimension to allow the ingress of a loop of bowel from the free edge of the mesentery. This is a process that usually develops over a period of six to twelve hours. At the onset of the knuckle of bowel entering the hole the patient has vague and non-specific symptoms.

4.2 This was exactly the case with [Miss A]. She had intermittent abdominal pain, no vomiting and her examination and investigations were largely normal when she presented to the clinic. As more of the bowel enters the aperture the symptoms become more pronounced. At a certain point in time no further bowel can enter the hole in the mesentery and the bowel becomes entrapped. Following this the venous blood can not escape from the bowel that is trapped on the wrong side of the hole and the bowel starts to swell. This swelling then develops to a point where the arterial inflow is obstructed and at that point the bowel dies and gangrene ensues. This process of venous congestion to gangrene in adults takes between four and six hours.

4.3 The condition is very rare. In a thirty-year surgical practice I have seen two cases so a general surgeon in my position as a whole time surgeon in a busy district general hospital might expect to see this up to five times in their surgical career. As mentioned, this particular patient's clinical presentation was in keeping with the pro-dromal stage of this condition and the findings disclosed by a careful history, physical examination and laboratory investigations were all relatively unremarkable. Her condition remained stable until some ten hours after admission.

5.0 Analysis of expert opinion's report.

5.1 The Commissioner seems to have based his report largely on the expert opinion given by Dr Stephen Kyle. Dr Kyle has listed the relevant information

on which he has based his report. In my view there are some errors expressed in or underlying this report. I comment on these below.

5.2 In paragraph 1, in his executive summary, Dr Kyle states that [Dr B] did not appreciate the seriousness of her condition and did not inform the on-call consultant [Dr C]. He thereby assumes that the final diagnosis of irreversible ischaemic bowel was extant at the time of her admission. This is a fundamental error in Dr Kyle's report, which shapes much of his opinion on the matter. As outlined above and based on the account of how the pathology of this condition develops I believe Dr Kyle's view is incorrect. Dr Kyle has confused this presentation with the more common type of strangulating small bowel obstruction that occurs following adhesions. They are entirely different propositions. Such adhesions develop following intra-abdominal surgery. [Miss A] had had no such previous surgery. His description in the second paragraph under considerations pertains entirely to a band adhesion type presentation rather than a presentation of a mesenteric defect as [Miss A] describes.

5.3 In the second paragraph of Dr Kyle's Executive Summary, he states that throughout her admission [Miss A] was in severe pain. His view that she was in severe pain seems to be based on the amount of Pethidine (a narcotic analgesic) she required. He states that she required 'repeated doses of Pethidine'. On my review of the medical records, she had four doses of Pethidine during her twelve-hour stay in the Emergency Department. Pethidine is one of the weakest narcotic analgesics available. I have consulted the Director of Acute Pain Management for [another] District Health Board, [and the doctor] agrees with my view that the administration of the amount of Pethidine administered to [Miss A] is not a proper basis for concluding that her pain was severe. Further, during her stay she was under the constant care and supervision of highly experienced triage and Emergency Room nurses who have, in such departments, extremely low thresholds to contact attending medical staff if they are concerned about the clinical state of a patient. This did not occur. None of the attending medical staff were notified by the nursing staff for the simple reason that the nursing staff were not concerned about [Miss A's] clinical condition. I therefore believe that Dr Kyle is in error in assuming severity of pain based on infrequent administrations of a low-level narcotic analgesic.

5.4 In his third paragraph under 'Considerations' Dr Kyle states that Pethidine can obtund and diminish the pain the patient is experiencing and falsely reassure the attending doctor. This is incorrect. It is well recognised that even stronger narcotics than Pethidine will not diminish the response of the patient to peritonitis. Many years ago the somewhat traditional view was held that until the patient had been seen by a person who would be able to make a decision about surgery that they should **not** have narcotics but this is no longer the case.

5.5 Dr Kyle records that the GP's ([Dr F's]) differential diagnosis included constipation or ischaemic bowel (p 7 of HDC draft report). I have seen no mention of a differential diagnosis of ischaemic bowel from the GP. His letter of referral to [the public hospital] makes no mention of that, and furthermore the clinical findings recorded by [Dr F] are inconsistent with that diagnosis (for example, normal bowel sounds). Additionally x-rays done both at the clinic where [Miss A] presented initially and at [the hospital], showed no evidence of a small bowel obstruction or in fact any abnormality. Dr Kyle concedes in his analysis of the sequence of events that her observations were all normal.

5.6 Dr Kyle states that a more prompt referral from the clinic may have altered the outcome for this patient. It would not have. Both the referring general practitioner and the attending doctors found no objective indication for surgery.

5.7 In the next paragraph (p 8 HDC draft report) Dr Kyle states that triage code 3 patients should be seen within 30 minutes. That is correct but he has omitted to mention the other criteria for triage 3, namely, that there is a defined need for the patient to be seen by a doctor, and that the condition is stable. This latter criterion is the prime characteristic of a triage code 3. It indicates a low level of clinical concern, and certainly no deterioration. I should also add that 30 minutes for the patient to be seen is an ideal standard but rarely attained in busy metropolitan hospitals. Dr Kyle acknowledges this in his report.

5.8 Dr Kyle assumes that when [Dr B] first saw [Miss A], the blood results were available to him. My understanding is that this is not correct.

5.9 The clinical environment in which both these doctors were working was in an Emergency Department which the Department of General Surgery uses as a receiving area for surgical admissions. It is not the case that these doctors were solely dedicated to the Emergency Department. They had commitments to the operating theatres, ward calls and other matters pertaining to a busy hospital general surgical department which might in some circumstances preclude them responding immediately or even promptly to a call. The clientele who present for acute surgical assessment include a large number of people in this age group, of this gender with these symptoms. Low level acute abdominal pain in young women would be in every surgical department the most common presentation that has to be managed.

6.0 Finding of Breach of Code by [Dr B]

6.1 Dr Kyle is critical of [Dr B] in providing a number of provisional diagnoses. He has interpreted these statements as strong possibilities of diagnosis where as in fact they are solely impressions of [Dr B]. From an analysis of the notes it is clear a diagnosis could not be secured. [Miss A] was, as previously alluded to in this report, one of many young women who present with undiagnosed abdominal pain which has not developed a level of specificity that will allow a

diagnosis. It is entirely reasonable and proper that registrars posit possible diagnoses in cases, such as this, where the diagnosis is unclear. I should note that these three diagnoses are very common ones for abdominal pain presenting in young women.

6.2 The provisional diagnoses entertained by [Dr B] were entirely reasonable given the clinical presentation of this particular patient. It is not the case as Dr Kyle seems to suggest that these diagnoses were in any way working diagnoses. I find it particularly harsh that Dr Kyle has chosen to criticise such diagnoses especially since they did not initiate active therapy. Dr Kyle has added further severity to his criticism by rebutting the provisional diagnoses on the basis of blood tests that it is my understanding were not available to [Dr B] on first seeing [Miss A].

6.3 Dr Kyle criticises [Dr B] for failing to instruct nursing staff that a medical assessment would be necessary if further pain relief was given throughout the night. However this is not the way surgical assessment wards work. Surgeons and surgical registrars depend on the excellent discrimination of senior nurses who as mentioned have extremely low thresholds to alert attending medical staff in the event of deterioration or change in a patient's status. This did not occur because the patient was stable and requiring only relatively minimal amounts of pain relief.

6.4 [Dr B] is also criticised for not discussing [Miss A's] case with [Dr C]. Young women with non specific abdominal pain are by far the most common presentation to acute surgical services. The life of a surgical consultant would be intolerable if it was an expectation that every case of non-specific abdominal pain was notified to them by junior medical staff. That simply does not occur. Even if such a notification had been made it is highly unlikely that [Dr C] would have felt the need to see the patient at that time and even more unlikely that he would have opted for exploratory surgery on the basis of the reported findings.

7.0 Finding of Breach of Code by [Dr D]

7.1 I understand [Dr D] was contacted on several occasions before he went off duty at 10.00 p.m. on the night of the patient's admission, and that he was attending to other clinical matters and was unable to see the patient before he left. This is not ideal practice. However given the stable nature of the patient it is likely that the nursing staff made repeated calls, not because of anxiety about the patient, but rather because they were anxious to have her assessed by the evening rather than the night registrar for completion of their day's work. Ideally [Dr D] should have arranged another individual to assess the patient. If however he was dealing with some urgent situation within the context of short staffing, and knew another registrar would shortly be available for review, it seems harsh to criticise [Dr D] for this. Particularly given the stability of her

condition as advised to [Dr D], which meant that she was in no danger if not reviewed within that time constraint.

7.2 At 8.50am on the morning of her surgery, she was seen by [Dr D] in the course of the 'post acute ward round'. Normally this would have been attended by the consultant but [Dr D] knew that he was unavailable until around midday. Dr Kyle concedes at this time there was still no specific signs of peritonitis or any other condition that would demand surgical attention. In his considerations Dr Kyle states that cases of clinical concern should be discussed with the consultant on call. I agree entirely. However in this situation there was no clinical concern. Furthermore this absence of clinical concern was based on standard objective criteria. [Miss A] was not exhibiting any subjective or objective signs that would demand surgical intervention.

7.3 The notes of [Dr C's] ward round states '? Perf. Appendix ? Torted ovarian cyst'. At that stage she did not have generalised peritonitis as stated by Dr Kyle rather she had rebound tenderness, guarding and peritonism in the right iliac fossa. [Dr C], the consultant surgeon, agreed with [Dr D] that surgery was necessary and that the likely diagnosis was appendicitis. Even a surgeon of [Dr C's] experience had failed to grasp the seriousness of the situation and he was simply responding to the major surgical question that is asked of all patients in this category namely, does this patient require a surgical exploration?

7.4 In the first paragraph of the 'Considerations' section of his report, Dr Kyle correctly acknowledges 'Obviously Surgical Registrars vary markedly in their experience and skill and hence the threshold for communicating with the on call consultant will vary accordingly'. I have had access to the curriculum vitae of both [Dr D] and [Dr B]. It should be noted that both the surgical registrars involved are by no means inexperienced junior registrars. One ([Dr B]) holds a post-graduate Fellowship from a reputable College of Surgeons. The other ([Dr D]) has recently gained his Australasian Fellowship in Surgery. Having said that, had the criticisms been levelled at less experienced practitioners then they would be equally untenable. The clinical performance of these two doctors is perfectly within the scope of standard surgical practice no matter what their seniority is.

8.0 Health and Disability Commissioner's Report.

Much of this report is based on the errors contained in the expert opinion but there are additional errors.

The referring general practitioner did not at any stage mention the possibility of a bowel obstruction. This was supported by the normal x-ray and the fact that her bowel sounds were unremarkable. Nowhere did the referring general practitioner make any allusion to a diagnosis of ischaemic bowel. The Commissioner's report outlines the objective laboratory investigations and radiological findings and apart

from an elevation of her white blood count there were no other abnormalities. [Dr B] did not record peptic ulcer or pancreatitis as alternative diagnoses. His case notes list these as impressions. As mentioned [Dr B] was not called about this patient because the nursing staff, highly experienced assessors of surgical patients, were not concerned about her. I have already commented on the level of pain relief. I re-iterate these doses of Pethidine are infrequent and small.

Review of the notes reveals that when [Dr D] saw the patient some twelve hours after admission he recorded findings consistent with acute appendicitis. Notably the classically recognised progression of pain which develops in the upper abdomen and then reappears with more intensity low on the right side. In regard to the decision of [Dr C] to carry out surgery this was done as the result of a ward round carried out at 12.20pm on the day of surgery. The case notes clearly record that the likely diagnosis was appendicitis or a complicated ovarian cyst.

Summary

In my opinion there is no basis for finding these two doctors in Breach of Right 4(1) of the Code. The care that they provided to [Miss A] was perfectly within the scope of standard surgical practice."

Additional independent advice from Dr Kyle

Dr Stephen Kyle was asked to review the additional information provided by Drs D, B and Dr E. Dr Kyle provided the following additional advice:

"I have reviewed my original report regarding [Miss A's] management at [the hospital]. I have again reviewed the relevant information supplied by the Commissioner in achieving that report. I have also reviewed:

- [Dr E's] report to [the lawyer] dated 4.03.03;
- Responses to the report from [Dr B] dated 28.02.03;
- [Dr D] dated 28.02.03; and
- The Commissioner's Provisional Opinion (Case 01HDC02515)

Two documents in particular were influential to my report that were not reviewed by [Dr E] and seemingly not available to [Dr B] and [Dr D]. These are:

1. The report to the H&D Commissioner dated 30.07.01 from [Dr C]
2. The report to [the] Clinical Director Surgical Services [at the hospital] dated 28.8.01 from [the Unit Manager General Surgery of the hospital].

I will quote relevant statements from these reports in my response. In responding to [Dr E's] report, for ease of reading, I will reproduce each numbered paragraph in bold type with my response below.

3.1 [Miss A] a 19-year-old woman was admitted with abdominal pain to [the hospital]. In the absence of clearly defined indications for surgery she was observed for just over 12 hours when it became apparent that she required an operation for undiagnosed peritonitis. At operation she was found to have a rare cause of a closed loop small bowel obstruction which had resulted in gangrene of 1.8m of small bowel. She had a resection of the affected bowel. Apart from pneumonia her post-operative course was uneventful and she is now well.

Response:
From [the Unit Manager's] letter to [the Clinical Director] dated 20.08.01, I am informed that [Miss A] was admitted on to the computer system at [the hospital's] Emergency Department at 2045hrs on 6.02.01. From her initial nursing assessment form, the time recorded for her initial observations was 21.10hrs. [Dr C] made a decision for surgery at 1220hr on his Ward Round on 7.02.01. In the interest of accuracy, [Miss A] was in [hospital] for some 15 hours when it became apparent on the Consultant Ward Round that she required an operation for peritonitis. [Dr E's] synopsis is otherwise correct.

4.1 The condition that [Miss A] had is rare. To appreciate it one needs a basic understanding of intra-abdominal anatomy. The small bowel i.e. that part of the bowel that absorbs nutrition, is suspended from the posterior (back) abdominal wall by a mesentery. A mesentery is a curtain like structure, the free border of the curtain containing the bowel. Within the folds of the curtain like mesentery, run arteries, veins and lymphatics. For reasons that are unclear in a very small number of people, holes develop in this curtain like structure. In [Miss A's] case the hole was of sufficient dimension to allow the ingress of a loop of bowel from the free edge of the mesentery. This is a process that usually develops over a period of six to twelve hours. At the onset of the knuckle of bowel entering the hole the patient has vague and non-specific symptoms.

Response:
I fully accept strangulating small bowel obstruction as a consequence of entrapment in a mesenteric defect is rare. However, if a patient has 1.8m of gangrenous small bowel within the abdomen as a consequence of being entrapped in a mesenteric defect or beneath a tightly stretched band or because it has simply twisted on itself (volvulus) then the consequences to the patient is exactly the same. It is impossible to say that the bowel passed through the hernial defect over a period of 6-12 hours producing vague and non-specific symptoms before strangulating. We know from external hernias that bowel can reside within a hernia for a long period of time before strangulating. I believe with the sudden onset of seemingly severe pain that [Miss A] experienced, that her initial

symptoms were likely to be a result of vascular compromise to this segment of small bowel. I don't believe her symptoms on admission to the public hospital and throughout that evening were vague and non-specific.

4.2 This was exactly the case with [Miss A]. She had intermittent abdominal pain, no vomiting and her examination and investigations were largely normal when she presented to the clinic. As more of the bowel enters the aperture the symptoms become more pronounced. At a certain point in time no further bowel can enter the hole in the mesentery and the bowel becomes entrapped. Following this the venous blood can not escape from the bowel that is trapped on the wrong side of the hole and the bowel starts to swell. This swelling then develops to a point where the arterial inflow is obstructed and at that point the bowel dies and gangrene ensues. This process of venous congestion to gangrene in adults takes between four and six hours.

4.3 The condition is very rare. In a thirty-year surgical practice I have seen two cases so a general surgeon in my position as a whole time surgeon in a busy district general hospital might expect to see this up to five times in their surgical career. As mentioned, this particular patient's clinical presentation was in keeping with the pro-dromal stage of this condition and the findings disclosed by a careful history, physical examination and laboratory investigations were all relatively unremarkable. Her condition remained stable until some ten hours after admission.

Response:
The description of firstly venous compromise and then arterial compromise is correct. With the resulting engorgement a significant amount of blood volume becomes trapped in the segment. It is generally accepted that the ischaemia becomes irreversible after several hours as [Dr E] suggests. Excluding external hernia, strangulating small bowel obstruction from any cause is uncommon. Once again I don't believe there is anything particularly special about the fact that it was due to an internal hernia. There is in fact some confusion as to the exact aetiology, which I will document later.

Despite strangulating small bowel obstruction being uncommon, because of the potential severity of the condition, doctors on a surgical service should be well aware of this condition. As stated in my report, the particular problem in diagnosis is the paucity of clinical signs in the early stages. Typically a young fit patient would appear unwell though in very severe pain. The patient may have a fairly relaxed and not particularly tender abdomen. As the bowel becomes irreversibly ischaemic over several hours, signs of peritonitis will ensue. Abdominal x-rays can also be quite normal in the early stages. Routine blood tests initially may be relatively normal.

[Miss A's] nursing observations of temperature, blood pressure and pulse were reasonably stable overnight with only a small drop in blood pressure and no tachycardia recorded. I agree and appreciate how reassuring this can be.

5.1 The Commissioner seems to have based his report largely on the expert opinion given by Dr Stephen Kyle. Dr Kyle has listed the relevant information on which he has based his report. In my view there are some errors expressed in or underlying this report. I comment on these below.

5.2 In paragraph 1, in his executive summary, Dr Kyle states that [Dr B] did not appreciate the seriousness of her condition and did not inform the on-call consultant [Dr C]. He thereby assumes that the final diagnosis of irreversible ischaemic bowel was extant at the time of her admission. This is a fundamental error in Dr Kyle's report, which shapes much of his opinion on the matter. As outlined above and based on the account of how the pathology of this condition develops I believe Dr Kyle's view is incorrect. Dr Kyle has confused this presentation with the more common type of strangulating small bowel obstruction that occurs following adhesions. They are entirely different propositions. Such adhesions develop following intra-abdominal surgery. [Miss A] had had no such previous surgery. His description in the second paragraph under considerations pertains entirely to a band adhesion type presentation rather than a presentation of a mesenteric defect as [Miss A] describes.

Response:
Once again, I am unaware of any difference in clinical course between strangulating obstruction as a consequence of small bowel being caught in a mesenteric defect, or beneath a tight band or bowel twisting on itself (volvulus). I cannot find any different description in recognised texts. Previous surgery accounts for the vast majority of adhesive bands. If this were the case a scar would be present. However, it is well known that congenital bands can occur.

I should clearly point out that there is some confusion in the reports as to what was in fact, responsible for trapping the affected segment of small bowel. In [Dr C's] operation note, he describes '*findings at laparotomy were that of a congenital band with internal herniation and volvulus of the small intestine resulting in gangrene. The turn was a 3 x 360^{o} turn involving the lower small bowel. The length of bowel involved was 1.8m.*'

In [Dr C's] report to [the Commissioner] dated 30.07.01, he reported '*she went to theatre at 1330hrs and was noted to have gangrene of her small bowel on the basis of internal herniation through a congenital mesenteric rent causing a volvulus. 1.8m of the mid small bowel was resected and primary anastomosis was done.*'

[Dr D] assisted [Dr C] at [Miss A's] surgery. In his report to the Commissioner dated 28/11/01 he states, '*The gangrenous bowel was found to be due to a volvulus around a congenital adhesive band.'*

Hence the exact pathology responsible for the strangulating segment is unclear. All 3 possibilities are mentioned. I don't believe it matters; it is the net outcome, which is important.

5.3 In the second paragraph of Dr Kyle's Executive Summary, he states that throughout her admission [Miss A] was in severe pain. His view that she was in severe pain seems to be based on the amount of Pethidine (a narcotic analgesic) she required. He states that she required 'repeated doses of Pethidine'. On my review of the medical records, she had four doses of Pethidine during her twelve-hour stay in the Emergency Department. Pethidine is one of the weakest narcotic analgesics available. I have consulted the Director of Acute Pain Management for [another] District Health Board [and the doctor] agrees with my view that the administration of the amount of Pethidine administered to [Miss A] is not a proper basis for concluding that her pain was severe. Further, during her stay she was under the constant care and supervision of highly experienced triage and Emergency Room nurses who have, in such departments, extremely low thresholds to contact attending medical staff if they are concerned about the clinical state of a patient. This did not occur. None of the attending medical staff were notified by the nursing staff for the simple reason that the nursing staff were not concerned about [Miss A's] clinical condition. I therefore believe that Dr Kyle is in error in assuming severity of pain based on infrequent administrations of a low-level narcotic analgesic.

Response:
Pethidine is an opiate narcotic. Morphine is approximately 8 times more powerful than Pethidine. Thus if 80 mg of Pethidine was given this would have the effect of 10 mg of morphine. Pethidine is widely prescribed by surgical staff for patients with acute abdominal pain. I agree entirely that the administration of the amount of Pethidine administered to [Miss A] is not an accurate basis for concluding that her pain was severe. The response to Pethidine is highly variable. There is the potential for nursing staff to vary in how liberal they are with this agent. There is also the potential for nursing staff to be busy with other problems and to not get around to giving Pethidine when otherwise it would be thought appropriate. Patients vary in how they cope with pain.

The fact that she was given Pethidine at all would suggest that she had significant pain. From my review she received 5 doses of Pethidine at [the hospital] prior to [Dr C's] ward round. In the nursing notes it is documented that she received a dose at 0150 am which is not recorded on the medication chart. This probably accounts for my total differing from [Dr E's]. It should be noted that she also received 75mg Pethidine prior to referral to [the hospital]. The fact that she had repeated doses of Pethidine would suggest her pain was ongoing.

I fully accept the difficulties in trying to determine the severity of her pain. From a retrospective review of her records, I feel I can only achieve a reasonable impression. Dr F in his referral letter writes, '*Pain +++*'. In the A&E Department, [Miss A] was described as loudly moaning and asking for pain relief. Her nursing records state that '*she was told by several nurses she must be seen by the MO before pain relief could be given*'. Further evidence that [Miss A] was experiencing severe pain comes from her

Father's letter of complaint. He states that she could not stand or even lay down straight on the bed. He also describes the Pethidine given during the night as being ineffective. It would seem the ongoing seemingly severe pain [Miss A] experienced has largely precipitated this complaint.

I note at 0015hrs, she was recorded as being alert and non-distressed in the nursing notes after she had received Pethidine 50mg at 2315hrs. Observations were stable at that time and hence I fully accept that there was seemingly no need for concern at that time from a nursing perspective at least. However, Pethidine can have a significant dissociative affect and a patient who has had severe pain may appear alert and non-distressed even at this dose.

Contrary to [Dr E's] report, on my review of the notes, at 0640hrs because of increasing pain, the on-call House Surgeon was notified. There is no record of attendance.

5.4 In his third paragraph under 'Considerations' Dr Kyle states that Pethidine can obtund and diminish the pain the patient is experiencing and falsely reassure the attending doctor. This is incorrect. It is well recognised that even stronger narcotics than Pethidine will not diminish the response of the patient to peritonitis. Many years ago the somewhat traditional view was held that until the patient had been seen by a person who would be able to make a decision about surgery that they should not have narcotics but this is no longer the case.

Response:
I would be most interested for Dr … to be given this statement that ***Pethidine can obtund and diminish the pain the patient is experiencing and falsely reassure the attending doctor,*** and hear his response. I have put the phase to Dr … a specialist in pain management at [another public hospital] and a Fellow of the Faculty of Pain Medicine (FRCA, FFPMANZCA). She agrees with this statement, as do another four local anaesthetists that I have questioned. No anaesthetist has reported the statement as being false. I think I make it quite clear in my report that Pethidine can be used in undiagnosed patients with severe acute abdominal pain. To quote from my report '*Pethidine can be given judiciously to patients with undiagnosed abdominal pain to ease suffering and sometimes to facilitate assessment. However, the fact that this has been given, is to be taken into account during assessment. The requirement for further doses of Pethidine while the problem of acute undiagnosed pain persists, should lead to further medical evaluation.*'

Of note, in response to the last sentence of 5.4, [Miss A] was denied pain relief by the nursing staff until she was seen by the medical officer. I would agree with this policy.

5.5 Dr Kyle records that the GP's ([Dr F's]) differential diagnosis included constipation or ischaemic bowel (p.7 of HDC draft report). I have seen no mention of a differential diagnosis of ischaemic bowel from the GP. His letter of referral to [the hospital] makes no mention of that, and furthermore the clinical findings recorded by [Dr F] are inconsistent with that diagnosis (for

example, normal bowel sounds). Additionally x-rays done both at the clinic where [Miss A] presented initially and at [the hospital], showed no evidence of a small bowel obstruction or in fact any abnormality. Dr Kyle concedes in his analysis of the sequence of events that her observations were all normal.

Response:
In the documents sent to me by the Commissioner are two pages from [the Clinic]. The first page is a referral form which is hand written by [Dr F] where he describes [Miss A] has having pain +++ and he records that she has been given Pethidine 75mg at 1815hrs. The second page, is a computer record of medical notes, dated 6.02.01. The last line reads '*MMH surge ?cause ?constipation ?ischaemic bowel. Father wanted to take patient by car.'* I presumed this copy of the medical notes was included with the referral form. I fully accept that this may not have occurred and could have been obtained by the Commissioner separately. As previously described, the clinical findings and x-ray are not inconsistent with the very early stages of small bowel strangulation.

I actually believe, it was something of a fluke that [Dr F] suggested this diagnosis. Yet, the take away message from him recording this is that he actually thought that [Miss A] might have a serious underlying abdominal condition. If he indeed thought she did potentially have a serious underlying abdominal condition, then why not transfer her to [the hospital] forthwith. There is almost a three hour delay from entry into [the Clinic] to entry to [the hospital's] Emergency Department.

5.6 Dr Kyle states that a more prompt referral from the clinic may have altered the outcome for this patient. It would not have. Both the referring general practitioner and the attending doctors found no objective indication for surgery.

Response:
Somewhere between 1700hrs on 6.02.01 at the onset of her pain and the time of [Miss A's] surgery the following day, there was a window of opportunity that her bowel ischaemia was reversible. We all seem to agree that this was of only a few hours. To be fair, probably on any single day in any public hospital within New Zealand, there would be a reasonable chance [Miss A] would have ended up with a bowel resection as the window of opportunity would have passed due to delays in getting to hospital, being assessed with its attendant difficulties as in this case and delays in arranging surgery.

I have endeavoured to outline in my report, what would be ideal and counter this with practical realities. I clearly state that I have no concern that [Dr B] and [Dr D] failed to make the correct diagnosis. My criticism has been consistent with [Dr C's] and Consultant Colleagues of [Dr C] at [the hospital]. There was a failure of discussing the case with the responsible Consultant. I believe that as the diagnosis was unclear, she did seem to have severe pain; then she warranted repeated review and consultant input.

5.7 In the next paragraph (p.8 HDC draft report) Dr Kyle states that triage code 3 patients should be seen within 30 minutes. That is correct but he has omitted to mention the other criteria for triage 3, namely, that there is a

defined need for the patient to be seen by a doctor, and that the condition is stable. This latter criterion is the prime characteristic of a triage code 3. It indicates a low level of clinical concern, and certainly no deterioration, I should also add that 30 minutes for the patient to be seen is an ideal standard but rarely attained in busy metropolitan hospitals. Dr Kyle acknowledges this in his report.

Response:
The Australasian College for Emergency Medicine is responsible for the Australasian Triage scale. It is designed for use in Hospital Based emergency services throughout Australia and New Zealand and is a scale for rating clinical urgency. It is a clinical tool for ensuring that patients are seen in a timely manner. An ATS Score of 3 means a patient should receive medical attention within 30 minutes. A performance indicator threshold for this score is 75%. Clearly if a patient is unstable, they would need to be seen before 30 minutes. On the Australasian College for Emergency Medicine's Website, a description of this category can be easily obtained. The description for an ATS score of 3 is divided into two parts.

- Firstly, – potentially life threatening – the patient's condition may progress to life or limb threatening or may lead to significant morbidity, if assessment or treatment is not commenced within 30 minutes of arrival, or
- Secondly – situation or urgency – there is potential for adverse outcome if time critical treatment is not commenced within 30 minutes or humane practice mandates the relief of severe discomfort or distress within 30 minutes.

I believe in [Miss A's] case she was given an ATS score of 3 as she was perceived to be in significant pain.

5.8 Dr Kyle assumes that when [Dr B] first saw [Miss A], the blood results were available to him. My understanding is that this is not correct.

Response:
On [Dr B's] admission notes, he records her white cell count, so clearly has her full blood count results. He also documents that he is awaiting her liver function tests and amylase. In his report to the Commissioner dated 20/12/01 he states this as being at 10:15pm. Serum Amylase and liver function tests take approximately 20-30 minutes to perform. The results should have been available within an hour or so at most. I don't believe their initial unavailability has any bearing on [Miss A's] overall management. If anything it should provoke reassessment when the full results are available. This seems to have occurred. From [Dr B's] report to the Commissioner, which is not documented in the notes, he states he examined [Miss A] before she left the Emergency Department. She arrived on the ward at 2350 hours.

5.9 The clinical environment in which both these doctors were working was in an Emergency Department which the Department of General Surgery uses as a receiving area for surgical admissions. It is not the case that these doctors were solely dedicated to the Emergency Department. They had commitments

to the operating theatres, ward calls and other matters pertaining to a busy hospital general surgical department which might in some circumstances preclude them responding immediately or even promptly to a call. The clientele who present for acute surgical assessment include a large number of people in this age group, of this gender with these symptoms. Low level acute abdominal pain in young women would be in every surgical department the most common presentation that has to be managed.

Response:
I agree completely with this paragraph except for the second to last sentence. The evidence is against [Miss A] having the common presentation of low level acute abdominal pain.

A Surgical Registrar's workload is onerous. The hours of work, stress and demands are exceptional. In any other career they would probably be regarded as unacceptable. General Surgery has the particular problem of dealing with life and death situations, which can require instant decisions, often in unfavourable circumstances. If we don't get it 'quite right', patients can suffer significant morbidity or die. This makes us very vulnerable to complaints such as this. I know many surgeons around the country feel threatened that complaints such as this appearing before the Commissioner are inevitable. Even the most skilled and conscientious surgeon will not make the correct decision every time, especially when looked at in retrospect.

The staffing in hospitals to provide satisfactory times for assessment is a political problem in terms of funding and a management problem in terms of staff organization and rostering. I have not been critical of the one hour before assessment in the Emergency Department. In fact I state it is probably reasonable. I noted [Dr D] was contacted three times by the nursing staff by Beeper to assess [Miss A] on admission though failed to see her before finishing duties at 2200hrs. I was not critical of this. I personally feel that beepers are extremely inefficient and are responsible for delays and errors. [Dr D] believes no number was left on his pager when he was called in his response to the provisional report. This does not surprise me. The Commissioner has chosen to criticise [Dr D] for his failure to respond. This is not on my advice. If the appropriate Registrar is unavailable in a reasonable time frame other staff may need to be contacted.

I personally believe Surgical Registrars should be supplied with both Cell phones and a page. This would allow direct communication in urgent cases and each would serve as a backup. Some hospitals are reluctant to supply medical staff with individual cell phones. In my own region with two hospitals, the Communication Technician tells me, that of the 190 cell phones [the hospital] supplies only 5 are for medical employees. Doctors who are required to promptly attend life and death emergencies and be available for extremely long periods don't seem to qualify. It is sometimes argued that cell phones might interfere with medical equipment. The evidence for this is poor. As cell phones are such a part of every day existence, I would suggest that any technology that is

vulnerable to cell phone interference should be abandoned in place of more modern non-susceptible equipment.

6.1 Dr Kyle is critical of [Dr B] in providing a number of provisional diagnoses. He has interpreted these statements as strong possibilities of diagnosis where as in fact they are solely impressions of [Dr B]. From an analysis of the notes it is clear a diagnosis could not be secured. [Miss A] was, as previously alluded to in this report, one of many young women who present with undiagnosed abdominal pain which has not developed a level of specificity that will allow a diagnosis. It is entirely reasonable and proper that registrars posit possible diagnoses in cases, such as this, where the diagnosis is unclear. I should note that these three diagnoses are very common ones for abdominal pain presenting in young women.

6.2 The provisional diagnoses entertained by [Dr B] were entirely reasonable given the clinical presentation of this particular patient. It is not the case as Dr Kyle seems to suggest that these diagnoses were in any way working diagnoses. I find it particularly harsh that Dr Kyle has chosen to criticise such diagnoses especially since they did not initiate active therapy. Dr Kyle has added further severity to his criticism by rebutting the provisional diagnoses on the basis of blood tests that it is my understanding were not available to [Dr B] on first seeing [Miss A].

Response:
I would absolutely encourage provisional diagnoses to be made on any patient presenting with abdominal pain. The facts of the matter are, as [Dr E] suggests, a clear diagnosis could not be secured. Hence I believe repeated assessment and Consultant input was warranted. Each of [Dr B's] diagnoses has major flaws. Firstly, the diagnosis of cholecystitis in a slim woman (she is described as being slim in the notes) is somewhat unlikely with a negative Murphy's sign. I accept it may be possible, the point is, it is unlikely. I find it quite bizarre that both [Dr E] and [Dr B] feel that peptic ulcer is a common diagnosis in an otherwise fit young woman, not taking any ulcerogenic drugs. I have had a computer search performed from 1999-2003 at [another public hospital] of emergency admissions with abdominal pain in the age group 15 to 25 who are also coded as having a peptic ulcer. Of the 433 patients recorded with acute abdominal pain, no patient had a confirmed peptic ulcer. The clinical picture is not in keeping with an uncomplicated peptic ulcer as [Dr B] suggests. The diagnosis of pancreatitis is effectively excluded by a normal serum amylase. I fully accept that [Dr B] made this provisional diagnosis without this blood test being available. This needed to be reviewed once this result was available which should have been a short time later and probably occurred as discussed previously.

Hence, I am in no way criticizing [Dr B] for making provisional diagnoses. When we do this, we reflect on evidence for and against this. Each of these diagnoses had significant flaws. [Miss A] had significant abdominal pain and I believe once again, if the first

assessment could not provide a reasonably clear diagnosis, then repeated review and consultant input was appropriate in her case.

6.3 Dr Kyle criticises [Dr B] for failing to instruct nursing staff that a medical assessment would be necessary if further pain relief was given throughout the night. However this is not the way surgical assessment wards work. Surgeons and surgical registrars depend on the excellent discrimination of senior nurses who as mentioned have extremely low thresholds to alert attending medical staff in the event of deterioration or change in a patient's status. This did not occur because the patient was stable and requiring only relatively minimal amounts of pain relief.

Response:
I have largely discussed these issues previously except to note that it is a standard principle that repeated surgical assessment preferably by the same observer, is extremely helpful in achieving a diagnosis in acute abdominal pain. [Dr B] also states in his letter dated 20.12.01 that he examined [Miss A] again before she left the emergency department and found her much more comfortable with most of the pain gone. While there is no documentation in the notes of this, I could certainly understand [Miss A] appearing more comfortable having had Pethidine, albeit a small dose. I fully understand the difficulties in documenting all assessments and would not expect this. Presumably [Dr B's] recollection is accurate in the report to the Commissioner dated 10 months after the event. In support of [Dr B's] description, [Miss A] is described as being alert and non distressed by the nursing staff at 2350 hrs after Pethidine 50 mg at 2315 hours. Once again, the response to Pethidine is very variable and she may seemingly get good relief with a small dose. I stated in my report, it was reasonable in view of the severe pain that [Miss A] presented with, and the flaws in the differential diagnosis, to suggest to the nursing staff, irrespective of their experience, that if [Miss A] has further significant pain, that he be notified. I believe further assessment would have likely given the impression that she had significant ongoing pain without a clear diagnosis. Despite having stable nursing observations it would be reasonable to obtain Consultant advice.

6.4 [Dr B] is also criticized for not discussing [Miss A's] case with [Dr C]. Young women with non specific abdominal pain are by far the most common presentation to acute surgical services. The life of a surgical consultant would be intolerable if it was an expectation that every case of non-specific abdominal pain was notified to them by junior medical staff. That simply does not occur. Even if such a notification had been made it is highly unlikely that [Dr C] would have felt the need to see the patient at that time and even more unlikely that he would have opted for exploratory surgery on the basis of the reported findings.

Response:
Non-specific abdominal pain in young women is indeed very common. The vast majority of these cases seem to be lower abdominal and pelvic pain often consequent on gynecological conditions, many of which are self limiting. These patients do not tend to

loudly moan with pain and repeatedly ask for pain relief on admission. They can generally lay down straight in bed. I certainly agree that the common presentation of non specific abdominal pain does not require Consultant notification.

[Dr C] in his report to the Commissioner, dated 30.07.01, makes the following statement, '*this is a rare condition in a person of her age and to make an initial diagnosis of this in the absence of other signs is very difficult. The fact that she required repeated doses of analgesia should have prompted the Registrar to discuss the case with the Consultant which was not done'*. [The Unit Manager General Surgery's letter] to [the Clinical Director Surgical services] dated 20.08.01 stated '*as a result of this case, discussions were held between this teams Consultants and Registrars to highlight the failure to recognise and diagnose [Miss A's] condition and the lack of hand over to the Consultant at the time of her admission on 6.02.01*.' She further comments '*The Surgical Department in March 2001 discussed this case at length at Audit Meeting (Morbidity and Mortality Meeting) attended by all Consultants, Registrars and Surgical House Surgeons. It was agreed that Junior Medical Staff should have discussed this case with the on-call Consultant on the evening of Admission when the diagnosis was uncertain. This meeting serves as an important clinical teaching forum for advanced and basic surgical trainees on complications.'*

I found it hard to be supportive of the Registrar's management of this case when their own Consultant and other Consultants at [the hospital] make these statements. Clearly, they would have a better overview of this case than me simply reading the reports, hence this did influence my conclusions.

7.1 I understand [Dr D] was contacted on several occasions before he went off duty at 10.00 p.m. on the night of the patient's admission, and that he was attending to other clinical matters and was unable to see the patient before he left. This is not ideal practice. However given the stable nature of the patient it is likely that the nursing staff made repeated calls, not because of anxiety about the patient, but rather because they were anxious to have her assessed by the evening rather than the night registrar for completion of their day's work. Ideally [Dr D] should have arranged another individual to assess the patient. If however he was dealing with some urgent situation within the context of short staffing, and knew another registrar would shortly be available for review, it seems harsh to criticise [Dr D] for this. Particularly given the stability of her condition as advised to [Dr D], which meant that she was in no danger if not reviewed within that time constraint.

Response:
The Commissioner has chosen to criticise [Dr D] for not seeing [Miss A] on admission. I have previously discussed these issues.

7.2 At 8.50am on the morning of her surgery, she was seen by [Dr D] in the course of the 'post acute ward round'. Normally this would have been attended by the consultant but [Dr D] knew that he was unavailable until around midday. Dr Kyle concedes at this time there was still no specific signs

of peritonitis or any other condition that would demand surgical attention. In his considerations Dr Kyle states that cases of clinical concern should be discussed with the Consultant on call. I agree entirely. However in this situation there was no clinical concern. Furthermore this absence of clinical concern was based on standard objective criteria. [Miss A] was not exhibiting any subjective or objective signs that would demand surgical intervention.

Response:
[Dr C] in his letter dated 30.07.01 stated '*the Consultant who saw her on his post-acute ward round and a diagnosis of acute generalised peritonitis was given and urgent laparotomy ordered.'* This ward round occurred at 1220hrs. [Dr D] assessed [Miss A] at 0850hrs. He found her to have generalised tenderness though reported no signs of peritonitis. He awaited further assessment by [Dr C] at around midday.

Either one of two things has occurred. Either following [Dr D's] assessment at 0850hrs, [Miss A] subsequently developed gangrenous bowel and peritonitis, which was detected by [Dr C] on his Ward Round at 1220hrs.

Alternatively, [Miss A] did in fact have gangrenous bowel and peritonitis at 0850hrs which was not appreciated until [Dr C's] ward round at 1220hrs. As [Miss A] had a significant length of infarcted small bowel and seemingly had severe pain for over 12 hours of abrupt onset, I feel it is likely that she did have peritonitis that morning. I fully accept this becomes more obvious with time.

[Dr D] states in his response (dated 28/02/03) to the Commissioner's provisional report that the improvement in [Miss A's] white blood cell count from 16.4 on admission to 11.9 the following morning contributed to obscuring the picture. I agree. These same blood tests however, reveal a haemoglobin of 131 on admission dropping to 103 the following morning. This represents a significant drop and should have been noted and questioned. This finding in association with the reported generalised tenderness and ongoing pain should have prompted further action. As previously discussed with the engorgement of strangulation, a significant volume of blood becomes sequestered in the strangulated segment. From my review I believe it was reasonable to discuss her case with [Dr C] at that time.

7.3 The notes of [Dr C's] ward round states '? Perf- Appendix ? Torted ovarian cyst'. At that stage she did not have generalised peritonitis as stated by Dr Kyle rather she had rebound tenderness, guarding and peritonism in the right iliac fossa. [Dr C], the consultant surgeon, agreed with [Dr D] that surgery was necessary and that the likely diagnosis was appendicitis. Even a surgeon of [Dr C's] experience had failed to grasp the seriousness of the situation and he was simply responding to the major surgical question that is asked of all patients in this category namely, Does this patient require a surgical exploration?

Response:
I agree [Dr C] did not seem to appreciate the underlying pathology. What is important, is that he believed her condition required prompt surgery. He unequivocally states in his report to the Commissioner that he noticed acute generalised peritonitis on his Ward Round. I note that there is an inaccuracy after this when he states that a laparotomy was ordered and in fact this was not the case. A laparoscopy was ordered which was subsequently converted to a laparotomy. This would be in keeping with [Dr C's] provisional diagnoses of perforated appendicitis or perhaps a torted ovarian cyst.

7.4 In the first paragraph of the 'Considerations' section of his report, Dr Kyle correctly acknowledges 'Obviously Surgical Registrars vary markedly in their experience and skill and hence the threshold for communicating with the On Call Consultants will vary accordingly.' I have had access to the curriculum vitae of both [Dr D] and [Dr B]. It should be noted that both the surgical registrars involved are by no means inexperienced junior registrars. One ([Dr B]) holds a post-graduate Fellowship from a reputable College of Surgeons. The other ([Dr D]) has recently gained his Australasian Fellowship in Surgery. Having said that, had the criticisms been levelled at less experienced practitioners then they would be equally untenable. The clinical performance of these two doctors is perfectly within the scope of standard surgical practice no matter what their seniority is.

Response:
In the Health and Disability [Commissioner] Guidelines for independent Advisors, the following statement exists: ***State your opinion whether the conduct of the provider failed to meet the standard of care and skill reasonably expected of such a provider in those circumstances. You should also state in your opinion if the departure is minor or major, whether conduct of the provider would incur the disapproval of other peers, and whether this approval is mild moderate or severe.***

In this case, based on the report from [Dr C] to the Health and Disability Commissioner and the report of [the Unit Manager] to [the Clinical Director] of the Morbidity and Mortality meeting, held in March 2001, these Registrars are criticised for failing to contact the on call consultant. Hence, disapproval has already been documented by [Dr C] who had direct involvement with this patient and consultant colleagues at [the hospital] who understand very well, the particular difficulties in working at that hospital. I agree with their criticism. The question remains, how much disapproval. I certainly believe this is a difficult case. The registrars were obviously very busy and I have been made aware for the first time in [Dr D's] letter dated 28.02.03 to the Health and Disability Commissioner, that [Dr D] was the only Registrar on Call when normally there should be two. Once again, staffing is a political (funding) and management issue. I appreciate that [Dr B] states he reviewed [Miss A] prior to her leaving the Emergency Department and was reassured that her clinical state had significantly improved. I do believe she should have had further medical assessment that night. Morbidity and Mortality Meetings in the interest of teaching and striving for perfection are perhaps

sometimes overly critical. To allow free criticism many Surgeons would like the content of these meetings to remain confidential.

For these reasons, I would like to change my conclusion in my original report from a major departure of reasonable standard of care incurring disapproval of peers to a minor departure of a reasonable standard of care incurring disapproval of peers.

8.0 Health and Disability Commissioner's Report.

Much of this report is based on the errors contained in the expert opinion but there are additional errors.

The referring general practitioner did not at any stage mention the possibility of a bowel obstruction. This was supported by the normal x-ray and the fact that her bowel sounds were unremarkable. Nowhere did the referring general practitioner make any allusion to a diagnosis of ischaemic bowel. The Commissioner's report outlines the objective laboratory investigations and radiological findings and apart from an elevation of her white blood count there were no other abnormalities. [Dr B] did not record peptic ulcer or pancreatitis as alternative diagnoses. His case notes list these as impressions. As mentioned [Dr B] was not called about this patient because the nursing staff, highly experienced assessors of surgical patients, were not concerned about her. I have already commented on the level of pain relief. I re-iterate these doses of Pethidine are infrequent and small.

Review of the notes reveals that when [Dr D] saw the patient some twelve hours after admission he recorded findings consistent with acute appendicitis. Notably the classically recognised progression of pain which develops in the upper abdomen and then reappears with more intensity low on the right side. In regard to the decision of [Dr C] to carry out surgery this was done as the result of a ward round carried out at 12.20pm on the day of surgery. The case notes clearly record that the likely diagnosis was appendicitis or a complicated ovarian cyst.

Response:

1. No one has written that the General Practitioner stated the possibility of bowel obstruction.
2. Once again the General Practitioner did question the possibility of Ischaemic bowel, this was recorded in the Medical Records at [the Clinic] which I presumed accompanied the referral letter in the same way it was sent to me from the Health and Disability Commission. I accept this may not have been the case.
3. I fail to see the difference between a list of impressions of possible diagnoses and a list of alternative diagnoses.
4. It would be a mistake to have complete faith 7 days a week, 24 hours a day, in the clinical acumen of nursing staff. Doctors are employed to make medical assessments assisted by nursing observations. The on call House Surgeon was notified because of increasing pain at 0640 hours.

5. I accept the doses of Pethidine would probably be generally regarded as small. However, the effect is very variable and some patients are very sensitive to this agent. This was a slim young woman. I have previously discussed the issues surrounding this.
6. Review of the notes at 0850hrs on 7.02.01 is not at all in keeping with acute appendicitis. The words that are written are '*still in pain, afebrile, obs stable, currently menstruating'*. A picture of the abdomen is drawn depicting generalised tenderness. Generalised tenderness is not a feature of non-complicated acute appendicitis. Even simple acute appendicitis or a torted ovarian cyst, if this was truly thought to be the case, should prompt surgery rather than waiting for a consultant assessment later in the day. Even more so if the Registrar is experienced.
7. [Dr E] is absolutely correct that [Dr C's] differential diagnosis written in the notes on 7.02.01 at 1220hrs is firstly perforated appendicitis, and secondly a torted ovarian cyst. These would be the commonest causes of peritonitis in young women. What is important is that a decision was made for urgent surgery.

Summary:

In my opinion there is no basis for finding these two doctors in Breach of Right 4(1) of the Code. The care that they provided to [Miss A] was perfectly within the scope of standard surgical practice.

Response:
In responding to [Dr E's] report I feel I have covered most issues raised by [Dr B] and [Dr D]. There are however, a couple of unresolved issues. [Dr B] states that I report '*an experienced and astute Clinician would have considered this diagnosis*'. My report actually reads '*it is possible that an astute, experienced clinician may have considered this diagnosis, or at least, the need for urgent surgery at a stage where the ischaemia is reversible*.' By not obtaining a Consultant opinion in this case both [Dr B] and [Dr D] open themselves to criticism.

A laparoscopy or even a laparotomy can be an investigation in itself. A Surgeon needs to have an awareness of the possibility of closed loop strangulating small bowel obstruction. The trap is, while a patient appears unwell and has severe pain, clinical signs are minimal in the early stages. Loudly moaning with pain, repeatedly requesting pain relief, not being able to lay down straight on the bed, suggests severe pain to me. The fact that further doses of pethidine are given would suggest the pain was ongoing.

I believe [Dr D] and [Dr B] failed to meet a reasonable standard of care by not obtaining Consultant advice in this difficult case. I believe the departure is minor."