Nurses, Ms E, Ms F, Mr G

Medical Registrar, Dr D

A public hospital

A Report by the

Health and Disability Commissioner

(Case 00HDC07869)

Health and Disability Commissioner

Parties involved

Ms A	Complainant / Consumer's daughter
Mrs B (dec)	Consumer
Dr C	Physician
Dr D	Provider / Medical Registrar
Ms E	Provider / Nurse
Ms F	Provider / Nurse
Mr G	Provider / Nurse
Dr H	General Practitioner
Dr I	House Surgeon
Dr J	Radiologist

Complaint

On 2 August 2000 the Commissioner received a complaint from Ms A about the services provided to her mother, the late Mrs B, at a public hospital. The complaint is that:

On 31 May 2000 Mrs B was taken by ambulance to the first public hospital with a suspected cerebro-vascular accident. During the time Mrs B was in the Emergency Department, Ms A repeatedly told the staff of her mother's worsening symptoms. The first public hospital's Emergency Department did not provide Mrs B with appropriate services because:

- *Mrs B was in the Emergency Department for over two hours before a doctor adequately examined her.*
- *Mrs B had a headache and sore neck, which developed soon after her admission but at midnight her headache became very bad. Ms A informed the nursing staff but waited from midnight to 12.30am before Mrs B was given paracetamol.*
- *Mrs B was not adequately monitored during this time. Her condition deteriorated, which was reported to the nursing staff, but nothing was done for her.*
- *A CT scan was not ordered until after midnight and then there was an unreasonable delay before the scan was done.*
- *The consultant physician, Dr C, was not consulted until approximately 3.00am and a consultant did not see Mrs B.*
- *Dr C advised dexamethasone and vitamin K, which should have been prescribed sooner.*

- *A second public hospital's neurosurgeon's report was not received until approximately 3.30am, which could have been two hours after the scan.*

- *At approximately 3.40am a clinician, who did not introduce himself, came into Mrs B's cubicle because he was "just being nosey".*

An investigation was commenced on 10 November 2000 and extended to include Dr D on 19 February 2001, and Ms E, Ms F and Mr G on 25 May 2001.

Information reviewed

- Mrs B's medical records from the first public hospital

- Independent expert advice from Dr Geoffrey Hughes, an emergency medicine specialist

Information gathered during investigation

Background
On 31 May 2000 Mrs B was playing croquet at her club when she collapsed. An ambulance was called. The ambulance attendant suspected that she might have suffered a stroke, and transported her to a local hospital for assessment.

At the local hospital, Mrs B was examined by a general practitioner. The general practitioner wanted Mrs B to go to the first public hospital for a CT scan but she did not want to go to hospital. Mrs B assured the general practitioner that should she become ill at home, she could easily call a doctor. The ambulance transported Mrs B home at about 4.30pm. Later that evening Mrs B lapsed into unconsciousness while talking by telephone to her daughter, Ms A, who lived in a city. Ms A telephoned the general practitioner on call, Dr H, then left the city to drive to her mother's nearest public hospital.

Dr H visited Mrs B immediately and examined her. He recorded the following:

> "Normally fit and active lady. Self-caring in own home. Attends local clubs & societies. At croquet this afternoon had some form of loss of consciousness. Taken by ambulance to [the local hospital], then discharged.
>
> Drowsy … speaks with difficulty. Eaten some tea. Left sided weakness.
>
> O/E BP 190/90 Eyes divert to Rt pupils 3cm …GCS 15. Lt plantar up – Lt sided weakness. P 72 SR [normal] Imp: CVA to WPH (impression cerebro-vascular accident – to [the first public hospital])."

Dr H arranged for an ambulance to take Mrs B to the Emergency Department ("ED") at the first public hospital, and notified the medical registrar on afternoon duty. Dr H advised that he suspected a stroke, and that Mrs B was on warfarin.

Staff on duty at ED
On the evening of 31 May the first public hospital's ED was very busy, with approximately 32 patients. Two medical registrars (general medicine and cardiology/respiratory) completed their duty at 10.30pm and the night registrar commenced at 10.00pm. The medical team during the night consists of one registrar and one house surgeon. A specialist physician for general medicine was also available on call. The number of junior medical staff on duty at any one time is determined by the numbers estimated to be necessary for safe care, the junior medical staff employment contracts, the projected numbers of patients, and unit budgets. There were six nurses on duty.

Initial assessment at Emergency Department
When patients arrive at ED they are coded by the triage nurse according to need. Codes range between one to five, with one being the most urgent. The registrar must give priority to the most urgent triage 1 patients. Triage standards require code 4 patients to be seen by medical staff within one hour. The first public hospital advised me that this time frame is often not achieved because of lack of resources.

Mrs B arrived at the first public hospital's ED at approximately 10.10pm. Ms A was at the hospital when the ambulance carrying her mother arrived. The triage nurse on duty was Mr G. The records indicate that Mr G assessed Mrs B at about 10.10pm and categorised her as triage 4, which meant she should have been seen by a doctor within one hour of her arrival. Mr G placed Mrs B in an assessment cubicle to await the availability of a nurse.

Ms F was the nurse assigned to care for Mrs B from 10.30pm until she completed her duty at 11.00pm. Ms F completed Mrs B's observations and documented her condition as "stable". She noted that Mrs B was pain free, but that she felt drowsy and her speech was slurred; her blood pressure was 189/94, pulse 60bpm, temperature 36.7, GCS 15 (assessment of neurological state), which was normal, oxygen saturation 97% and respiration 15; her current medication included warfarin. Ms F took a blood sample, completed an ECG recording, and inserted an intravenous cannula. She then completed her handover report before going off duty at approximately 11.15pm. Ms A recalled that Ms F took her mother to the toilet in a wheelchair but she was unable to pass urine.

Ms A recalled that she asked a doctor (who she believed was Dr D but who was not identified) when her mother would be having a scan. The doctor told Mrs B that irrespective of whether her mother had a cerebral haemorrhage or a cerebral blockage, her treatment would not alter. Ms A was concerned about this explanation but was unable to clarify it as the doctor told her she had to attend to an emergency in the ward. Ms A recalled telling the doctor that her mother took warfarin. The doctor explained that if her mother had a blockage (clot), warfarin would be helpful, but if she had had a cerebral haemorrhage (bleeding), warfarin would not be helpful, and that nothing could be done as the warfarin was already in her system. Ms A said that despite her questioning and attempt to seek further clarification, she was not informed that the blood thinning effects of warfarin

were to some degree reversible with the administration of vitamin K. She was led to believe that if her mother had had a haemorrhagic stroke and she continued to deteriorate, there was simply nothing that could be done.

Monitoring and treatment
Ms A recalled that while her mother was in the ED she approached the nursing staff on at least five occasions to report signs that her mother's condition was deteriorating, but nothing was done. She could not recall the exact sequence in which the symptoms occurred.

Ms E was the ED nurse assigned to care for Mrs B at 11.00pm. Ms E completed the handover from Ms F at approximately 11.15pm. Ms E had a number of other patients to care for and checked all of them between 11.15 and 11.30pm. She noted that Mrs B was triage code 4. Ms E described Mrs B as drowsy but able to communicate. When she spoke, her speech was slurred, and the weakness down her left side was obvious. Ms E adjusted Mrs B's pillows, and Mrs B told her that she was reasonably comfortable. The cot sides were in position when Ms E left Mrs B's bed.

Ms A told Ms E that her mother had spasms in her legs and was very uncomfortable. Ms E explained that leg spasms often occur in people who have had a stroke, and briefly massaged Mrs B's legs.

Ms E left to attend to her other patients. A short time later Ms A, who had remained with her mother, approached Ms E because her mother wanted to go to the toilet again. Ms E suggested to Ms A that her mother might like to use a bedpan but Mrs B preferred to go to the toilet. At about 11.45pm, Ms E assisted Mrs B into a wheelchair, took her to the toilet, and stayed with her. When Ms E lifted Mrs B into the wheelchair, Ms A noted her mother's deterioration from the time she had climbed off the stretcher at the earlier occasion. Ms E assisted Mrs B back to bed and made her comfortable. Ms E estimated that by this time it was about 11.50pm.

Ms A said that she approached Ms E again because her mother had a sore neck and was feeling very uncomfortable, but that this information was ignored. She was afraid to leave her mother in case she fell off the stretcher. Ms A felt that in the two-hour period between 10.30pm and 12.30am, her mother was slowly deteriorating and her condition was being ignored.

Soon after returning from the toilet Mrs B complained of a very bad headache. She was very restless and hot and continually tried to remove her covering sheets. It was obvious to Ms A that her mother had very little balance or co-ordination. At about midnight, Ms A told Ms E about her mother's headache. Ms E took Mrs B's blood pressure (187/83), pulse (63) and other observations, and noted that her GCS was unchanged from when she was admitted to ED.

Ms A said that her mother tried to get off the stretcher in an effort to ease her discomfort. Ms A helped her mother off the stretcher, and steadied her while she tried to walk to the end of the stretcher. At about 12.10am Ms E left the cubicle to get some paracetamol for

Mrs B. While she was obtaining the paracetamol, she had to attend to another patient and by the time she returned to Mrs B it was between 12.20am and 12.30am.

Ms A recalled that between the time of her mother's admission and 12.30am her mother's slow, but definite, deterioration began to escalate. By the time Ms E arrived with the tablets, her mother was even more difficult to rouse, the right side of her face was very flushed, and she required a lot of assistance to sit upright and had difficulty swallowing the paracetamol. Her speech was extremely slurred, her face had dropped further, and she was dribbling uncontrollably.

Medical assessment

The medical house surgeon on duty that night was Dr I. It was her role to assess less sick, triage code 4 patients, leaving the medical registrar to see to the others. Dr I saw Mrs B at 12.30am but did not assess her. It was her usual practice to read through a new patient's notes before performing an examination. She read Mrs B's medical history and began to record the relevant sections, leaving gaps in her documentation to be filled in after she completed her assessment. She found that Mrs B's condition was much worse than the triage category code 4 led her to believe. She stayed for only a few minutes before leaving to inform Dr D of her findings.

Dr D was the medical registrar on duty in the ED from 10.00pm until 8.00am. Dr D knew that Dr H had referred Mrs B to ED for further investigation and management of a left-sided weakness and slurred speech.

Dr D commenced duty just before 10.00pm and received a hand-over report from the evening registrar, which took about 40 minutes. The registrar reported that he had spoken to the on-call consultant physician, Dr C, who advised him about the treatment options for Mrs B, including imaging. Dr C told him to tell Dr D that if Mrs B deteriorated during the night she was to have an urgent CT scan. An urgent CT scan was to be performed if there was suspicion of active bleeding, her condition became unstable, or she had a prolonged INR (blood coagulation test). Dr D was aware that Mrs B had atrial fibrillation and took warfarin to prevent clots (a complication of atrial fibrillation).

When Dr D completed the handover report from the afternoon medical registrar, she had seven patients waiting to be assessed. One patient was triage code 3, and the remaining patients, including Mrs B, were triage code 4. Dr D's priority was to assess and treat the triage code 3 patient first.

Dr D confirmed that Dr I initially saw Mrs B at 12.30am and called her to review Mrs B soon after because her condition was deteriorating. At 1.00am Ms E recorded that Mrs B's blood pressure was raised (239/128, pulse 81), she was clammy, and she had a very bad headache. Ms E assessed her GCS (15/15), which remained unchanged from that recorded on admission. When Dr D saw her, Mrs B complained of a severe headache and had vomited. Dr D noted her GCS score at 15, elevated blood pressure, slurred speech and left-sided paralysis. When Ms E took Mrs B's GCS at 1.15am it was 13.

At approximately 1.00am, immediately after seeing Mrs B, Dr D contacted the on-call radiology registrar, Dr J, who was at home. She requested an urgent CT scan. Dr D explained Mrs B's condition, and why a CT scan was required urgently. Dr J agreed to come in and perform the scan. In the meantime, Dr D prescribed intravenous morphine 2.5mg (1.25am), 1.5mg (1.30am) and 0.5mg (1.40am) and Maxolon 10mg (given at 1.25am) to settle Mrs B and in preparation for her transfer to the Radiology Department. Before Mrs B left ED, Dr D asked the ICU registrar to assess her fitness to travel to the Radiology Department without ventilatory support. Dr D did not contact Dr C because she was carrying out the plan he had advised earlier.

At 1.30am Mrs B was taken to the Radiology Department for a CT scan. Ms E remained with Mrs B until she handed her to the clinical support nurse who took her down to radiology.

The CT scan was completed at 2.00am. Mrs B's next observations were recorded in the ED at 2.15am (blood pressure 205/115, GCS 10). Dr D advised me that she received a written provisional report from Dr J between 2.20am and 2.30am. The report stated:

> "Large haemorrhagic infarction with surrounding oedema with an epicentre in the right basal ganglia at the posterior right frontal lobe measuring 5 x 5 x 5cm at the maximum dimension and within the right Middle Cerebral Artery Territory. There was a 10mm midline shift, and blood in both lateral ventricles as well as other abnormalities."

Dr D said that Dr J transmitted the films electronically to the second public hospital Neurosurgical Service for assessment (the first public hospital does not have a neurosurgical unit). Dr D said that until she received the CT scan report, she was unsure whether Mrs B had a cerebral clot or a cerebral haemorrhage (given Mrs B's history of atrial fibrillation and her coagulation studies at the lower end of the therapeutic range).

Dr D telephoned the on-call neurosurgical registrar at the second public hospital as soon as she received the CT scan report. The neurosurgical registrar told her that he would review the CT scan, consult the neurosurgeon on call, and telephone her back with their recommendation.

Dr D contacted the neurosurgical registrar at the second public hospital a second time when there was a further fall in Mrs B's GCS. Dr D said that she had intended to call Dr C once the neurosurgeon's opinion was available. However, Mrs B's condition continued to deteriorate and she called Dr C at approximately 3.00am, before she received the neurosurgeon's recommendation. Dr D was concerned because Mrs B's GCS, which had been between ten and nine (2.30am and 2.45am), had fallen further, to between eight and seven (3.00am, 3.15am and 3.30am) and she did not know whether there was a surgical option for Mrs B.

Dr D asked Dr C whether Mrs B should be placed on a ventilator prior to receiving the neurosurgeon's opinion. Dr C advised her to wait for the neurosurgical decision. Dr C also advised Dr D to give Mrs B dexamethasone 8mg (3.45am) and vitamin K 1mg (3.50am). Dr C advised me that he prescribed dexamethasone when there was evidence, confirmed by

CT scan, of cerebral oedema secondary to the cerebral haemorrhagic infarction. Dr C prescribed vitamin K to reverse Mrs B's anticoagulant effect when it was apparent that she had suffered a cerebral haemorrhage. Dr C offered to come to the ED to assess Mrs B and talk to Ms A, but Dr D told him that she felt confident about the management plan they had agreed upon and she declined his offer. Dr D told him that she had explained the prognosis to Ms A, who was very upset.

Dr D received the second public hospital's neurosurgeon's opinion at approximately 3.30am, shortly after her conversation with Dr C. The neurosurgeon's opinion, after viewing the CT films, was that Mrs B had suffered a primary intracerebral haemorrhage and surgery was not recommended. Dr D advised Ms A. Following these discussions, Dr D issued a "not for resuscitation" order and Mrs B was admitted to the ward. She died at approximately 6.30am.

Ms A stated that Dr D's examination at 12.30am was the first time her mother had been seen for longer than a few seconds by anyone other than a nurse. Ms A said that between 1.25am and 1.30am she ran out to get a nurse because she thought her mother was dying. Shortly after, Dr D asked Ms A whether she wanted her mother resuscitated if she stopped breathing. Ms A was very surprised and told Dr D she could not make that decision until after she had seen the scan. Dr D told her that her mother had hours rather than days to live. Ms A asked Dr D how she had come to that conclusion, and Dr D explained that it was because of her mother's presentation and degree of agitation. Ms A realised that the symptoms she had been reporting to the staff all evening were the symptoms Dr D was also talking about. Until that time Ms A had mistakenly assumed that her mother's symptoms were either of no real significance and there was no cause for concern, or there was nothing more that could be done.

Ms A's concerns

Ms A believes that her mother had been slowly, steadily and definitely deteriorating from within 20 minutes of arriving at the first public hospital, and that the rate of deterioration escalated rapidly at 12.00am. By the time her mother had the CT scan, she was unconscious, and the statement by Dr D that Mrs B was stable prior to organising the CT scan was, in her opinion, "reflective of the amount of attention, interest and care her mother received". Ms A stated that the scan may have been arranged within five minutes of Dr D seeing Mrs B, but considerable and valuable time had elapsed from the time she had begun deteriorating rapidly.

Ms A said that, given the potential seriousness of haemorrhagic stroke, and her mother's history and presenting features, she believed that her mother was inadequately assessed. The risk of ongoing bleeding or re-bleeding over the period she was in the ED was sufficient to warrant a reasonably thorough assessment and close and skilled monitoring. In her opinion, her mother received neither.

Ms A stated that while she was with her mother, a doctor, who did not introduce himself, came into her mother's cubicle and said he was there simply because he was "nosey". The first public hospital has been unable to confirm the name of the doctor or whether this incident occurred.

Subsequent events
The first public hospital advised that at the time of these events the Emergency Department was frequently unable to meet triage targets: "Regrettably, we were unable to meet [triage standards] for [Mrs B] and we acknowledge that this is a common occurrence due to lack of resources. We are actively working towards meeting the triage standards." In response to the incident, the first public hospital now rosters one additional registrar to the afternoon medical team to try to prevent the backlog of patients facing the one registrar rostered during the night.

Independent advice to Commissioner

Dr Geoffrey Hughes, an independent emergency medicine specialist, provided the following expert advice:

"**Purpose of Report**

The purpose of this independent report is to respond to a complaint to the HDC by the daughter of [Mrs B].

Clinical Events

The sequence of clinical events which provoked the complaint is well documented in the various papers that I have been sent. I do not feel the need to repeat them verbatim. However I will refer to the papers as I go through the questions put to me by the Commissioner. In addition to answering his specific questions I will add my own comments as appropriate.

Papers Provided by the HDC

- [Ms A's] letter to the Commissioner marked 'A'
- The Commissioner's investigation letter to [the first public hospital] marked 'B'
- The Commissioner's investigation letters to [Ms E], [Ms F], [Mr G] and [Dr D] marked 'C'
- [Dr …'s] response on behalf of [the first public hospital] marked 'D'
- [Dr D's] response marked 'E'
- [Ms F's] response marked 'F'
- [Ms E]' response marked 'G'
- [Mr G's] response marked 'H'
- [Mrs B's] medical records marked 'I'

The Nature of the Complaint

The complaint is outlined in full in [Ms A's] (daughter of [Mrs B]) letter to the HDC.

In essence the complaint is that:

On 31 May 2000 [Mrs B] was taken by ambulance to [the first public hospital] with a suspected cerebro-vascular accident. During the time [Mrs B] was in the Emergency Department (ED), [Ms A] repeatedly told the staff of her mother's worsening symptoms. [The first public hospital's] ED did not provide [Mrs B] with appropriate services because:

- [Mrs B] was in the ED for over two hours before a doctor adequately examined her.
- [Mrs B] had a headache and a sore neck, which developed soon after her admission, but at midnight her headache became very bad. [Ms A] informed the nursing staff but waited from 12 midnight to 12.30am before [Mrs B] was given Paracetamol.
- [Mrs B] was not adequately monitored during this time. Her condition deteriorated, which was reported to the nursing staff, but nothing was done for her.
- A CT scan was not ordered until after midnight, and then there was an unreasonable delay before the scan was done.
- The consultant physician, [Dr C], was not consulted until approximately 3.00am and did not see [Mrs B].
- [Dr C] advised Dexamethasone and Vitamin K, which should have been prescribed sooner.
- The [second public hospital's] neurosurgeon's report was not received until approximately 3.30am, which could have been two hours after the scan.

Expert Advice Required

To advise the Commissioner whether, in my opinion, [the first public hospital] provided services with reasonable care and skill, and in addition:

- What are the standards that apply in this case and were these standards followed?
- Whether [Dr D] should have consulted [Dr C] earlier and if so, when?
- Whether [Mrs B] was adequately monitored during her time in the Emergency Department? Who was responsible for monitoring [Mrs B]?
- When should [Mrs B] have been assessed by a doctor?
- Whether [Mrs B] should have received Dexamethasone and Vitamin K earlier and if so when? What effect would these drugs have?

- Whether the time taken to receive the neurosurgeon's report from [the second public hospital], at approximately 3.30am, was reasonable in the circumstances.

Any other matter which in my opinion should be brought to the Commissioner's attention.

Opinion

I will respond directly to the questions above and expand as I feel appropriate. As stated earlier I will not repeat all of the events of the night in question. I will not detail all the timings or quote endlessly from the statements and letters that I have been sent.

I will say right at the beginning that I am of the opinion that overall [the first public hospital] provided services with reasonable care and skill. The key word to bear in mind is the word reasonable. So taking the HDC's questions one by one I will now expand on this statement.

What are standards that apply in this case and were these standards followed?

This is not an easy question to answer. Although it is logical and reasonable to expect that a standard can be pulled off the shelf, rather like a cake recipe, it is not possible in all clinical cases. In some clinical situations it is definitely possible to have a defined and clear standard of care. In some it isn't. This is one [such case].

What constitutes a standard? A standard can be measured or defined by or against an international or national benchmark, a consensus view of what constitutes best practice, a legislative demand or an application of humanitarian common sense. If the medical literature is carefully searched it is soon apparent that the health world is confounded by an overwhelming number of attempts (in good faith) to write protocols and standards for a whole spectrum of clinical entities. This is not easy. Success and agreement amongst doctors and nurses tends to be easier in well-defined and straightforward situations. When the situation is uncertain and the clinical setting indefinite then it becomes very hard to determine a standard. In reality this reflects the complexity of disease processes, the myriad ways in which they may present and the range of treatment options for any one condition that can be available.

It is easier to answer the question above by breaking down into its constituent parts the care given to [Mrs B] on the night in question.

Firstly triage.

Triage is an internationally agreed system used to prioritise patients who present to EDs. It is important to have such a system because patients do not present to an ED in a 'controlled' or systematic way. For example yesterday afternoon in my own department over thirty patients arrived within two hours of each other. The department was already full and experiencing one of the busiest days since it opened fifteen months ago. Triage allows prioritisation, so that demand for attention can be channelled to the most urgent patients with a degree of safety. It is not a perfect system but it is currently the best

system we have. Despite widespread usage and acceptance that it is important, triage is not a precise science. In the final analysis it is subject to the human factor, namely the experience, training and interpretative skills of the individual triage nurse. At one end of the spectrum there are black and white cases in which the triage category to be allocated to a patient is straightforward. At the other end are grey cases where it is not clear which category to use.

The triage system used in [the first public hospital] is the same as that used in the rest of Australasia. It allocates a patient to one of five categories. [Mrs B] was triaged as a category 4, meaning she needs to be seen by a doctor within 60 minutes. Having read the papers and clinical notes I think this is a reasonable decision. I can also add that I think it is also reasonable if she had been put into triage category three (to be seen in 30 minutes). My only reason for saying this is to indicate the 'imprecision' of triage. Either category three or four is a reasonable option.

Having looked at triage I'd now like to look at whether the triage time was met. Did a doctor see her within an hour? The answer is no. The times in the notes show this and it is acknowledged (with an expression of regret) in a letter written by [Dr …] and [..] dated 16th January 2001.

Why was she not seen within an hour? Are there any standards for this?

The correspondence from [the first public hospital] offers an explanation as to why she was not seen within 60 minutes. The department was busy (32 patients), staff were changing shifts and patient handover between doctors was taking place.

32 patients is a snapshot that indicates a busy shift.

The public and our politicians expect all triage times to be met. This is an unrealistic and simplistic view. The ability to meet triage times depends on many factors but the final common denominator is based on human (doctors, nurses, orderlies) and physical resources (design and size of a department as well as its proximity to wards and x-ray etc).

In general terms emergency departments are not staffed to a level where triage times can be consistently met around the clock, seven days a week. Staffing levels are determined by the finite budgets we have to work with, an organisation's desire to invest in its emergency department, the ability to recruit and retain staff, sickness and the day to day human problems that affect staff as well as the public.

Physical design, size and proximity to the rest of the hospital are crucial factors in efficient work practice that are easily forgotten. It is axiomatic that these design elements will impact on the speed with which patients are seen, x-rayed and admitted into the main wards. Patients can block cubicles for long periods for many reasons but exit block (as it is called) can adversely impact on triage times.

The Australasian College for Emergency Medicine defines a standard for triage. It is called the Performance Indicator Threshold.

ATS CATEGORY	TREATMENT ACUITY (Maximum waiting time)	PERFORMANCE INDICATOR THRESHOLD
ATS 1	Immediate	100%
ATS 2	10 minutes	80%
ATS 3	30 minutes	75%
ATS 4	60 minutes	70%
ATS 5	120 minutes	70%

This means that the College expects that 70% of patients in triage category 4 will be seen in sixty minutes. 30% of patients will not be seen in that time.

The standards that can be considered in the rest of the care given will be discussed below.

Whether [Dr D] should have consulted [Dr C] earlier and if so, when?

I am not convinced that [Dr C] should have been consulted earlier. The letter to the Commissioner dated 16th January details the discussions that took place. The input and the timing is very reasonable. I do not think his earlier input was indicated or would have influenced the final outcome. The derivative argument is that consultants should see or be involved early in all medical emergencies. That is quite a separate issue and is not really germane to this case. There is no universally agreed standard for this. The method in which any individual consultant works when on call varies between individuals and hospitals. I repeat my belief that I do not think his earlier input was indicated or would have influenced the final outcome.

Whether [Mrs B] was adequately monitored during her time in the Emergency Department? Who was responsible for monitoring [Mrs B]?

I believe she was (with emphasis on the word adequate). Patient monitoring ranges from a critical care/intensive care approach of constant monitoring with one to one nursing to a less intense/lower grade approach. In the latter a nurse is allocated to look after several cubicles or patients. The nurse will 'float' between the cubicles monitoring and observing the patient as best as she/he can, and based on the clinical problems. The nursing numbers on duty, specific workload of the shift and case mix of patients impacts on the time spent in each cubicle.

The responsibility for monitoring is that of the nurse allocated to look after the patient. Overall 'flow' of a shift lies with a nurse co-ordinator function. This may have different titles in different hospitals. In modern EDs this role is that of an appropriately experienced nurse and the function is to co-ordinate the department to keep things running as smoothly as possible and to 'trouble shoot' problems as best as possible.

When should [Mrs B] have been assessed by a doctor?

This depends on the triage category. Category 4 means within 60 minutes. I have discussed this earlier.

Initial triage is not the end of the matter however. Subsequent changes in the patient's condition may lead to reclassification. Any patient may improve or deteriorate. This does not mean that the initial triage code is changed or wrong. The uncertainty of triage allied with the fact that initial assessment is just that and not a definitive diagnosis means that a patient's priority can and does change. It is primarily a nurse dependent function.

Whether [Mrs B] should have received Dexamethasone and vitamin K earlier and if so when? What effect would this drug have?

Dexamethasone is a potent synthetic steroid with anti-inflammatory and immunosuppressant properties. It has many clinical uses. In this case the desired effect is to reduce cerebral oedema (swelling) around the haemorrhagic infarction in the brain. It does not have an immediate effect. The delay in onset of action is such that treatment takes several hours to be effective. Its actual efficacy in this setting is uncertain.

Vitamin K can reverse the anti clotting properties of warfarin. It also has a delay before having a clinical response.

It is my view that the decision to prescribe these drugs is dependent on the CT findings. The CT needs to be reported first. I do not think many clinicians will prescribe them 'blindly'. The scan was finished at approx. 0200 and [Dr C] gave the treatment advice an hour later at 0300. It is possible I suppose that [Dr C] could have been contacted slightly earlier and thus the drugs given slightly sooner (by 0230 for example). This will of course depend on other pressing clinical matters.

I do not think it appropriate to have given the drugs before 0200. On the balance of probabilities any suggested slight delay (0230 instead of 0300) of the prescription will have had virtually no (if any) impact on the final outcome.

Whether the time taken to receive the neurosurgeon's report from the second public hospital, at approximately 3.30am, was reasonable in the circumstances.

In simple terms yes (emphasis on the word reasonable).

Once a CT scan is finished the images are usually printed off as films or 'plates'. The images can be transferred to another centre by digital (electronic) means, fax or by taxi. The method used depends on the equipment and systems in place between the two

hospitals. Once received it is reasonable for a registrar to get advice from his/her own consultant. These discussions may happen quickly or be protracted, depending on the workload and activity of the doctors at the time. It is possible that the doctors may have been involved in seeing other patients and/or scans when the images from [the first public hospital] arrived, leading to delay in being able to report back to [the first public hospital].

A delay of 1.5 hours may not be desirable but is understandable and can be considered reasonable.

Conclusion

It is evident that [Ms A] has major and profound criticisms of the care given to her late mother at [the first public hospital]. The detail and understanding that she has of the clinical and pathological processes that led to her mother's death is clear from the detail written in her letters to the HDC. I admire and applaud her for this.

I hope this report will provide some comfort to her.

At first glance it seems that [the first public hospital] have made some major errors and / or have some major system problems.

It is my view that I do not think they have made any major errors.

It is also my view that the system problems they have in their ED are no different to those facing major EDs all over the modern world. It is fair to say that ideally [Mrs B] will have been in a CT scan within a few minutes of arriving at the hospital and will have had the [second public hospital's] report and opinion within a few minutes of the scan being completed.

We do not live in a perfect world. As alluded to in my report there are several reasons why we do not live in a perfect world.

It is my view that overall the standard of care provided on the night in question was reasonable and was probably little different to that that would have been provided in other similarly sized and staffed institutions."

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4
Right to Services of an Appropriate Standard

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

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

Opinion: No breach – The first public hospital

In my opinion the first public hospital did not breach Right 4(2) of the Code of Health and Disability Services Consumers' Rights.

Mrs B had the right to health services of an appropriate standard, which met professional standards, and were delivered with reasonable care and skill. Individual health providers have an obligation to uphold the Code, and the first public hospital has an organisational duty to meet recognised standards. The standards that apply in this case are the Australasian College for Emergency Medicine Performance Indicator Threshold Standards for triage. According to the standards, 70% of patients in triage code 4 will be seen in 60 minutes; 30% of patients will not be seen within one hour.

Examination by a doctor in the Emergency Department
On the night of 31 May 2000, Mrs B was taken by ambulance to the first public hospital's Emergency Department, arriving at about 10.10pm. She was assessed and triaged as code 4 which, according to the triage standard, meant that a doctor should have seen her within one hour. A doctor did not see her until 12.30am, some two and a half hours after her arrival. Clearly the first public hospital did not meet the triage standard.

A provider has a defence for failing to meet the obligations set out in the Code if it can show that its actions were reasonable in the circumstances. My emergency medicine advisor noted that the triage standard is an imprecise estimate. Triage categories are not fixed and may change as the patient's condition changes. My advisor stated that, in his opinion, the initial allocation of triage code 4 to Mrs B was a reasonable estimate.

The Australasian College of Emergency Medicine indicates that patients categorised as triage code 4 should be seen within one hour, but recognises that this will be possible only 70% of the time. This means that 30% of the time, patients who should been seen within one hour are not. Although it is regrettable that Mrs B was not assessed by a doctor within

an hour, it is unrealistic to expect that triage times can always be met. My advisor suggested a number of reasons why triage standards are not met, including the ratio between the number of patients and the number of staff, and the time of the day.

Mrs B arrived at a very busy time in the Emergency Department. There were 32 patients. The evening registrar was handing over to the night registrar, which took about 40 minutes. Ideally Dr D would have assessed Mrs B after she received the evening report, but she was the only registrar on duty, and she had seven patients to see, including one triage code 3 patient, who took priority. Ms E, the nurse assigned to Mrs B's care, monitored her blood pressure and documented her condition regularly. There was no documented deterioration in blood pressure, pulse or GCS prior to approximately 12.30am when Dr I, the house surgeon, first saw Mrs B. Dr I immediately realised that Mrs B's condition was more serious than the triage code 4 indicated. Dr D was notified and saw Mrs B immediately.

I have considered the information provided by Ms A and my independent advisor. Although Mrs B was not assessed by a doctor within one hour of her arrival, thereby failing to meet the Emergency Medicine Performance Indicator Threshold Standards for triage, I am satisfied that the first public hospital responded reasonably in the circumstances and did not breach Right 4(2) of the Code.

Opinion: No breach – Mr G

In my opinion Mr G did not breach Right 4(1) of the Code.

Monitoring of Mrs B
Monitoring in the Emergency Department is largely the role of the nursing staff. Medical staff rely on nurses to keep them informed about the patient and any signs of deterioration.

Mr G was the ED triage nurse on duty when Mrs B arrived by ambulance at about 10.10pm. It was his responsibility to complete a preliminary assessment of all patients arriving in ED and assign them a triage category, which determines the order in which they are seen by a doctor. He assessed Mrs B as triage code 4. My advisor said that this was a reasonable assessment, on the basis of her presentation on arrival in the ED. Mr G handed over Mrs B's care to another nurse and had no further contact with her.

In my opinion Mr G provided services with reasonable care and skill and did not breach Right 4(1) of the Code.

Opinion: No breach – Ms F

In my opinion Ms F did not breach Right 4(1) of the Code.

Monitoring of Mrs B
Ms F was the ED nurse who cared for Mrs B from 10.30pm until she completed duty at 11.00pm. Ms F continued the monitoring of Mrs B commenced by Mr G. She took and documented Mrs B's observations, took blood for laboratory analysis (in particular INR), and recorded a brief medical history including her medication. Ms F took Mrs B to the toilet.

There is no evidence that Ms F failed to perform her duties with reasonable care and skill. Accordingly, Ms F did not breach Right 4(1) of the Code.

Opinion: No breach – Ms E

In my opinion Ms E did not breach Right 4(1) of the Code.

Delay in obtaining paracetamol
Ms E was responsible for Mrs B's care, as well as the care of several other patients, from 11.00pm on 31 May. It was Ms E's role to monitor Mrs B and alert medical staff to any deterioration. At approximately midnight Ms A advised Ms E that her mother had a headache. Ms E took Mrs B's observations and massaged her legs, before leaving to obtain analgesia at 12.10am. She had to attend to another patient and was therefore delayed in returning to Mrs B until between 12.20am and 12.30am.

In my opinion, whilst this delay was regrettable, it does not amount to a failure to provide services with reasonable care and skill. It is inevitable that minor delays will occur in busy emergency departments, where staff are detained by the needs of other patients. Accordingly, in relation to the delay in providing paracetamol, it is my opinion that Ms E did not breach Right 4(1) of the Code.

Monitoring of Mrs B while in the Emergency Department
Triage categories are imprecise and change as the patient's condition changes. It is the responsibility of the nurse allocated to the patient to alert medical staff to any changes. Drs I and D relied on Ms E to keep them informed about Mrs B's condition and, in particular, any changes in her condition that warranted urgent medical intervention or a higher triage category. Mrs B was to have an urgent CT scan if she became unstable, and therefore she needed to be assessed regularly for any deterioration.

Ms A believed that her mother's condition was slowly deteriorating from the time she was admitted to ED but that signs of her deterioration were ignored. However, when Ms E recorded Mrs B's observations at midnight there was no change from the observations recorded at 10.30pm.

The evidence suggests that Mrs B began to deteriorate between midnight and 12.30am, as indicated by her rising blood pressure, increasing drowsiness, inability to position herself upright and difficulty in swallowing. The house surgeon, Dr I, who came to assess Mrs B, noted her obvious deterioration and notified Dr D.

The question is whether Ms E should have noted deterioration and alerted the medical team to Mrs B's condition before 12.30am. My independent advisor stated that Mrs B was adequately monitored, and that earlier medical input was not indicated and would not have influenced the final outcome. I accept this advice.

Ms A believed that nursing and medical staff ignored her concerns and her mother's deterioration. I accept that this is how it appeared to Ms A but, in my opinion, the evidence does not support her claim. Several patients demanded Ms E's attention that night and there was no definite indication prior to 12.30am that Mrs B required intensive nursing care. Ms E monitored Mrs B's condition regularly and when she showed signs of further deterioration, Ms E appropriately informed the medical registrar. In my opinion Ms E's actions were reasonable in the circumstances and she did not breach Right 4(1) of the Code.

Opinion: No breach – Dr D

In my opinion Dr D did not breach Right 4(1) of the Code.

Delay in ordering and completing CT scan
Dr D was the only medical registrar on duty the night Mrs B arrived at the first public hospital's ED. As noted above, there were 32 patients in ED at the time. Dr D had seven patients to be assessed when she came on duty, including one triage code 3 patient, who took priority over Mrs B. Dr D relied on nurses to monitor all patients and alert her to any deterioration. Dr D had been alerted to Mrs B's arrival and was familiar with her treatment plan, which Dr D's colleague had discussed with the consultant physician on call, Dr C; this information had been provided to her at handover.

Dr C advised the registrar on evening duty to tell Dr D that Mrs B should have an urgent CT scan if there was suspicion of active bleeding, she became unstable, or she had a prolonged INR. Once Mrs B's condition became unstable (between midnight and 1.00am) and Dr D was informed, she organised a CT scan immediately and the results were transmitted to the second public hospital for neurosurgical consultation. This was in accord with Dr C's management plan.

Dr D spoke to Dr J, radiology registrar, soon after she first saw and assessed Mrs B, between 12.30–1.00am. The scan was completed at 2.00am. Between 1.00am and 2.00am the radiology registrar travelled from his home to the hospital, prepared the machine, and recorded the CT scan. In the meantime Mrs B received three separate administrations of morphine and was seen by the ICU registrar.

Ms A expected that her mother would have a CT scan as soon as she arrived in the ED. However, on arrival her condition was stable and she displayed none of the signs described by Dr C as indicating the need for an urgent scan. The CT scan was ordered at 1.00am when her GCS, increased level of agitation and restlessness signalled deterioration in her cerebral state.

My advisor noted that it would have been ideal for Mrs B to have had the CT scan when she arrived at the first public hospital, quickly followed by a neurosurgical consultation if necessary. The speed with which these services can be delivered depends on the number of staff, time of day and patient demand. After considering all the information, my advisor commented that "a 1.5 hours delay may not be desirable but was understandable and can be considered reasonable". I accept this advice.

Dr D assessed Mrs B immediately she was aware of deterioration in her condition and, in accordance with that assessment and with the planned intervention discussed with the on-call consultant physician, she ordered an urgent CT scan. Dr J, the on-call radiology registrar, was immediately called in from home, responded, set up the machine and completed the scan, all within one hour. I am satisfied that there was no inappropriate delay in ordering and completing the CT scan. In my opinion Dr D treated Mrs B with reasonable care and skill and did not breach Right 4(1) of the Code.

Delay in obtaining neurosurgical opinion

Dr J sent the CT scan to the second public hospital's neurosurgical unit as soon as he completed his report at about 2.20am. As soon as Dr D had the results from Dr J, she spoke to the neurosurgical registrar at the second public hospital by telephone, bringing Mrs B's condition to his attention. Dr D delayed notifying Dr C of the scan results, hoping for the report from the second public hospital. She telephoned the second public hospital a second time when there was a further fall in Mrs B's GCS level. The neurosurgical opinion did not arrive until about 3.30am. In the meantime, as Mrs B continued to deteriorate, Dr D telephoned Dr C.

My advisor noted that obtaining a neurological opinion takes time. The neurosurgical registrar needed to review the scan and seek advice from the neurosurgical consultant before advising Dr D. The delay that occurred was not desirable but was understandable. I accept this advice. Dr D attempted to gain the results quickly and, in response to Mrs B's further deterioration, sought advice from Dr C about whether anything else could be done. In my opinion Dr D responded reasonably in the circumstances and did not breach Right 4(1) of the Code.

Consultation with on-call physician

Dr C was consulted about Mrs B on two occasions. Initially, Dr C was consulted when it became known that Mrs B was being transferred to the first public hospital by ambulance by her general practitioner, Dr H. Dr C and the afternoon medical registrar discussed her management plan, which was conveyed to Dr D. It was agreed that Mrs B should have a CT scan urgently if there was a suspicion of active cerebral bleeding, deterioration in her observations, or her INR was prolonged. My independent advisor considered that it was

appropriate for these discussions to take place and that the proposed actions were reasonable and timely.

When Mrs B arrived in the ED at 10.30pm she had some signs of neurological impairment such as slurred speech and left-sided weakness. However, her GCS, an indicator of neurological function, was normal. By 12.45am Mrs B's GCS fell to 13, she was more agitated and restless, and these signs indicated the need for an urgent scan. Dr D did not consult Dr C at 1.00am because she was confident that she was carrying out the agreed plan. Dr D next notified Dr C at 3.00am. My advisor noted that there was no indication Dr D should have notified Dr C earlier. He stated: "I do not think his earlier input was indicated or would have influenced the final outcome." I accept this advice.

Dr C offered to come to the first public hospital at 3.00am during his consultation with Dr D. His reason for coming to the hospital was to talk with Ms A about her mother's prognosis. Dr D assured him that she had spoken to Ms A, who was aware of the seriousness of her mother's condition. Dr C was confident that Dr D would complete the treatment plan agreed to earlier that night and that there was no need to personally assess Mrs B. My advisor described Dr C's intervention as timely and appropriate. I am satisfied that Dr D consulted Dr C appropriately and did not breach Right 4(1) of the Code.

Prescription of dexamethasone and vitamin K

Ms A questioned why her mother had not been prescribed dexamethasone and vitamin K sooner because they take some time to take effect. Dr C advised Dr D to prescribe dexamethasone and vitamin K when it became obvious at 3.00am that Mrs B's condition was precarious, but in the knowledge that it might be of little or no benefit. The results of her CT scan were known by then and the medical staff were aware that she had suffered cerebral oedema secondary to a cerebral haemorrhage. Dr C hoped dexamethasone would relieve the cerebral swelling and, because the scan revealed a haemorrhage, ordered vitamin K to reverse the effects of the warfarin, even though her INR was in the therapeutic range.

My specialist advisor commented:

> "It is my view that the decision to prescribe these drugs is dependent on the CT findings. The CT needs to be reported first. I do not think many clinicians will prescribe them 'blindly'. The scan was finished at approx. 0200 and [Dr C] gave the treatment advice an hour later at 0300 … I do not think it appropriate to have given the drugs before 0200. On the balance of probabilities any suggested slight delay (0230 instead of 0300) of the prescription will have had virtually no (if any) impact on the final outcome."

I accept this advice and am satisfied that there is no substance to the allegation that Mrs B should have received dexamethasone and vitamin K earlier. Accordingly, Dr D did not breach the Code in this regard.

Opinion: No further action

Visit from another unidentified doctor

Ms A complained that at some time in the early hours of the morning a doctor, who did not identify himself, came into her mother's cubicle because he was being "nosey". The first public hospital was unable to ascertain the identity of the doctor. If an unidentified doctor did behave in this way, his conduct was reprehensible. However, the failure to identify the doctor concerned means that I cannot take the matter further. I have therefore decided to take no further action in relation to this matter.

Actions

- A copy of this report will be sent to the Nursing Council of New Zealand and the Medical Council of New Zealand.
- A copy of this report with identifying features removed will be sent to the Australasian College of Emergency Medicine, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.