

Hutt Valley District Health Board
Emergency Medicine Specialist, Dr B
Senior House Officer, Dr C

A Report by the
Health and Disability Commissioner

(Case 07HDC10767)



Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Overview

On 13 December 2006, a 67-year-old man, was assaulted while out walking his dog. He was taken by ambulance to Hutt Hospital Emergency Department (the ED) where he was examined and discharged soon after midnight. His condition deteriorated over the following weeks, requiring him to return to the ED on two occasions. His general practitioner also referred him to Hutt Hospital for outpatient assessment. On 11 February 2007, a CT scan of the head found that he had a subdural haematoma. He was immediately transferred to another public hospital for burr hole evacuation of the clot, and made a good recovery.

Complaint and investigation

On 19 June 2007, the Health and Disability Commissioner (HDC) received a complaint from Health and Disability Advocacy Network Services on behalf of Mr A about the services provided by Hutt Hospital Emergency Department. I commenced an investigation on 5 October 2007. The following issues have been investigated:

- *The appropriateness of the services Hutt Valley District Health Board provided to Mr A between 13 December 2006 and 11 February 2007.*
- *The appropriateness of the services Dr B provided to Mr A between 13 December 2006 and 11 February 2007.*
- *The appropriateness of the services Dr C provided to Mr A between 13 December 2006 and 11 February 2007.*

The parties involved in this case are:

Mr A	Consumer
Dr B	Emergency Medicine Specialist, Clinical Head, Department of Emergency Medicine
Dr C	Senior House Officer
Dr D	Registrar
Dr E	Senior Medical Officer
Dr F	Mr A's GP
Hutt Valley District Health Board	Provider

Independent expert advice was obtained from emergency medicine specialist Dr Garry Clearwater (see Appendix A). In light of the issues of national importance for emergency departments, I obtained further advice from emergency medicine specialist Dr Peter Freeman, Chair of the New Zealand Faculty of the Australasian College of Emergency Medicine (see Appendix B).

Relevant information

Assault

On 13 December 2006, Mr A (then aged 67 years) was assaulted by several people, suffering kicks and punches about the face and head. Mr A cannot remember the attack but he apparently lost consciousness for a period of time — thought to be about 20 minutes. Neighbours found him dazed and bleeding and the police and ambulance were notified.

According to the ambulance report, Mr A was found “sitting on the side of the road”. He was able to walk to the ambulance unassisted. His observations, recorded at 8.35pm, were within a safe range. He had a mildly reduced Glasgow Coma Scale score of 14/15,¹ with obvious bruising of his right eye and very tender facial and jaw bones.

Emergency Department (ED)

The ambulance arrived at the ED at 8.55pm. Mr A was assessed by a nurse and assigned a triage code of 3. He was moved into a room apart from the ED cubicles (known as the “minor [injury]” or “whanau” room). Mr A was interviewed by the police at 9.10pm. At 10.20pm Mr A’s face and arms were cleaned, and he was moved to an ED cubicle. Mr A’s family recall that his wounds were not well cleaned and, although he bled continuously from his mouth, this was not attended to by staff. The records indicate some uncertainty about whether he lost consciousness during the assault, since he could remember people standing around afterwards and the ambulance arriving but not much about the assault.

Shortly before 11pm Mr A was examined by an ED consultant, Dr B. Dr B is an experienced emergency medicine specialist, and a Fellow of the Australasian College of Emergency Medicine (FACEM). Dr B was working during the evening of 13 December 2006 to cover a staff shortage. An ED Senior House Officer was off duty because of illness, and the consultant on call could not be contacted. Dr B had stepped up to the plate and agreed to work a double shift (having worked the previous shift), even though he was not rostered to be on duty. He commented that “workloads had been excessive and the decision was made to seek the assistance of the consultant on call ... (who could not be contacted) ... so (ED) contacted me”, being the only other consultant. “I was therefore in the department assisting with the backlog after a full day’s work, and on an evening when I was not on call.”

Dr B suspected that Mr A had a fractured right jaw, fractured nose and possibly a fractured eye socket on the left side. He ordered an X-ray of the facial bones, and a follow-up appointment at the nose clinic on 19 December 2006. Mr A’s Glasgow Coma Scale score was recorded as 15 at 12.08am. Dr B recorded his assessment of Mr

¹ Glasgow Coma Scale (GCS) is an objective measure (out of a total of 15) used to assess neurological function in patients thought to have a suffered head injury.

A directly into the electronic discharge summary. His assessment is recorded as “Possible right malar fracture”.

Dr B explained that he appreciated that Mr A had suffered a mild head injury, but had decided not to obtain a CT scan of his head. The ED’s guidelines for ordering head CT scans indicate that one should have been immediately requested for Mr A, based on his age. However, Dr B believed at the time a head CT was not obligatory because Mr A’s “physiological age” was less than his “chronological age”. Dr B did not record his reasons in the clinical record or discuss his decision with Mr A.

It was standard practice to have a handover at 11pm between shifts. For this handover, a whiteboard was used, listing the patients in the ED. Mr A’s name was not on the whiteboard, and there was no formal handover from Dr B to the doctor who took over Mr A’s care, Dr C. Dr B did not see Mr A again and had left the ED before Mr A was discharged at around midnight.

Senior house officer Dr C was moderately experienced in this role, and had worked in the ED for approximately three months before treating Mr A. In the early morning of 14 December 2006, Dr C was the only doctor in the ED. Dr C described the pressures in ED as follows:

“It was not uncommon for the ED to be very busy with significant waiting times, especially that time of night. When the department was very busy it was often difficult to access a senior staff member as they were also seeing sick patients themselves. It would be ideal to have at least one senior each shift who were acting purely in an advisory capacity and able to review patients with the junior doctors and teach at the same time. On the night shift I was the only doctor and, although we have the support of our consultant over the phone, it can be very busy and overwhelming. I know the department would like to have two SHOs on nights, but were unable to find enough staff therefore we were by ourselves.”

At approximately midnight, one of the nursing staff asked Dr C if she knew what was happening with Mr A. Dr B was no longer in the ED.

Dr C read Mr A’s X-ray and, on the electronic discharge summary, documented “?? Left orbital fracture ... ? fractured nose”. She prescribed analgesia and discharged Mr A shortly after midnight on 14 December 2006. Although Dr C did not document providing Mr A or his carers with ACC information on care of head injuries, she stated that it was her usual practice to do so. Mr A cannot recall whether he was provided with any pamphlets, but his wife and daughter (who had accompanied him to ED) advised that they were not provided with any written or verbal information about head injuries.

On the nursing assessment sheet Dr C recorded “seen by Dr B. No handover. Patient reviewed for D/C [discharge]”. Mr A was discharged and left the ED at approximately 12am.

ED systems in 2006

Hutt Valley DHB explained the system operating in the ED in 2006:

“[The] notes made in the form of an [electronic discharge summary] are routinely used as an alternative to hand written notes. ...

Medical rosters on file on the 13th December are confusing. Normal cover for the evening would be one senior and two junior doctors. That particular day was scheduled for an all day teaching session for new [senior house officers] who started that week. Additionally one of the evening [senior house officers] is shown to have been off sick. This suggests that either [Dr B] was working the late shift as an extra shift making a long day, or he had been called in to assist due to excessive workload.

... It was normal practice in the department to have a formal handover between shifts. ... At 2300 this process was held around the departments manual ‘Whiteboard’.² Recent introduction of a computerised tracking system has facilitated ... handovers as the printouts now contain clinical information and the patient list is fully up to date, whereas patients *were* only on the whiteboard if on trolleys with an allocated nurse. The triage note on the 13th December shows [Mr A] to have been in Cubicle 8, which is the ‘Minors’ cubicle, and was not usually shown on the whiteboard due to the rapid turnover of occupants.”

Follow-up 19 December 2006–10 February 2007

On 19 December 2006, Mr A attended his scheduled appointment at the nose clinic, where he was examined by the plastic surgery registrar, Dr D. Dr D noted that the X-ray taken on 13 December had been reported on 18 December and confirmed left eye socket (orbit) and cheekbone (maxilla) fractures. Dr D also noted an obviously fractured nose. Mr A reported no abnormal neurological defects such as double vision or ringing in the ears. Dr D ordered a CT scan of the facial bones and arranged to review Mr A the following week.

The senior radiologist and the radiology registrar reviewed Mr A’s CT scan and reported the results on 21 December 2006. The scan revealed a fracture of the left cheek (maxilla) but no definite evidence of a fracture of the floor of the eye socket, and confirmed bilateral fractures of the nasal bones and some fluid in the sinus cavity. Mr A was contacted at home with the results and discharged from the plastic department into the care of his general practitioner, Dr F.

Mr A consulted Dr F on 9 January 2007. He was experiencing a marked deterioration in hearing on the left side, and “having pain and headaches in the base of his skull”. Dr F recorded that Mr A’s speech was “rather slurry and slow with apparent difficulty in recall”. Dr F referred Mr A back to the plastic clinic, recommending a review. In

² Hutt Valley DHB advised that the manual whiteboard system has now been replaced by a computerised tracking system.

her referral letter, Dr F reminded the plastic clinic about the severe assault and noted “nose, right ??? base of skull and cervical spine needed to be X-rayed”. Dr F attempted to talk to the plastic registrar to obtain the X-ray and scan results but was unsuccessful. She faxed her referral to the plastic clinic later that day, and Mr A received an appointment for 8.30am on 11 January 2007.

On 11 January, Mr A attended his appointment at the plastic clinic. Dr D noted an “ongoing headache” and reduced hearing on the left side. Mr A recalls that, during the consultation, Dr D was accompanied by a female junior doctor. Mr A stated that the junior doctor noticed a dark spot in his eye and pointed it out to Dr D, questioning whether it required further investigation. Mr A recalls that Dr D said that the spot did not require investigation and was “normal and to be expected” with his injuries.

Dr D obtained a second reading of the CT scan by two other radiologists but the findings remained unchanged. Dr D recommended sinus rinsing and decongestant medication. She also referred Mr A to the ear, nose and throat clinic for audiology testing. Dr F was advised of the findings. The letter to Dr F referred to a CT scan, but did not specify that it was a facial CT scan, nor was the scan report provided to Dr F. She saw Mr A on 26 January. He agreed to wait for the audiology test and to contact her again if he deteriorated further.

On 8 February, Mr A consulted Dr F. He reported “feeling bad”; his hearing had deteriorated further, and he was particularly troubled by headaches. As he had not heard from the ear, nose and throat clinic, he agreed to have private audiology investigations. Dr F recorded “? needs another CT”.

On 10 February, Dr F wrote to the plastic clinic requesting that they re-assess Mr A because of “severe and ongoing headaches, facial and palate parasthesia and pain and hearing loss”.

Second visit to Hutt Hospital Emergency Department — 10 February 2007

At 4.05pm on 10 February, Mr A’s family took him to the ED. They were concerned about Mr A’s odd behaviour. He had blacked out on several occasions and referred to his brother-in-law as his son. He was again assessed by Dr C. She recorded his worsening headaches, starting at the back of the head and moving to the front and behind his eyes. She found Mr A quite vague, unable to remember his last job and the medication he was taking. He knew he had a doctor’s appointment the following week but could not remember any further details. Dr C performed a mini mental state exam on Mr A, and he scored 10/10. She discussed Mr A’s case with senior medical officer Dr E, who advised that there was no indication for acute investigations. Dr C prescribed codeine phosphate and, when Mr A’s headache eased, discharged him. Dr C told Mr A to see his GP for a referral to the neurology clinic if the headaches persisted.

Third visit to Hutt Hospital Emergency Department — 11 February 2007

On 11 February, Mr A returned to the ED via ambulance. He had deteriorated considerably overnight and was confused, disoriented, very sleepy with a severe frontal headache, and unable to recognise family members. Dr C briefly noted Mr A's history, and repeated the mini mental state exam — he scored 3/10. Dr C assessed his Glasgow Coma Scale score as 13/15 (Mr A believes that this examination was not conducted). Dr E also assessed Mr A (it is Emergency Department practice for patients who re-present within 48 hours to be seen by a senior doctor), and ordered an urgent CT scan, which revealed:

“Evidence of large left cerebral convexity subdural haematoma ... of isodensity with the brain suggestive of 2–3 weeks old, in addition there are small hypodensities in keeping with acute bleed on top of the subacute one especially seen in the lower aspect of the left subdural haematoma.

There is mass effect with midline shift to the left measuring approximately 1.4cm with early obliteration of the left side of the suprasella cistern.

The maximum measurement of the subdural haematoma is 2.4cm high over the left parietal region.

There is moderate effacement of the left lateral ventricle with a displacement to the right. Minimal dilation of the right contralateral ventricle.”

Mr A believes that a CT scan was only ordered because his daughter demanded that one be taken, and the radiologist had already been called in to provide services for a woman involved in a motor vehicle accident.

Mr A was transferred to the neurology unit of another public hospital, by ambulance, and arrived just before 1am on 12 February. He was examined by the neurosurgical registrar at 1.38am and taken to theatre immediately for burr hole evacuation of “L [left] chronic SDH [subdural haematoma]”. The radiologist thought the clot was 2–3 weeks old. There was also some evidence of small “acute bleed on top of the subacute one”. The exact date of the haemorrhage is unknown.

Mr A recovered well and was discharged to Dr F's care on 15 February. On 19 February, Dr F removed the dressing on Mr A's burr holes, and noted, “The wounds have really healed well. Looking much brighter ... he appears much more ‘with it’...”

Accident Compensation Corporation decision

ACC accepted Mr A's claim for treatment injury in April 2007.

Actions taken

Hutt Valley DHB

Hutt Valley DHB is undertaking a number of changes and improvements in response to this case. They include:

- developing Emergency Department guidelines for assessment of headache, expected to be completed by 31 October 2008;
- developing Emergency Department guidelines for the use of electronic discharge summaries in conjunction with hand written notes, expected to be completed by 31 October 2008;
- reviewing priority for implementing a free text recording function in the electronic medical record;
- ensuring that head injury guidelines are incorporated into education sessions at the beginning of each new junior doctor run;
- recruiting additional junior doctors to fill vacancies in the Emergency Department late shift (11pm to 7am), from 1 September 2008;
- copies of all radiology results are now forwarded to the patient's general practitioner, regardless of whether the referral came from the GP or another hospital department;
- from October 2007, Hutt Valley DHB has provided all local GPs with access to its patient data system to allow laboratory and radiology test results to be viewed directly.

Hutt Valley DHB stated:

“The experience of Mr A has highlighted a number of issues for us to address. We wish to unreservedly apologise to Mr A for the unacceptable standard of care he received”.

Commissioner's opinion

Overview

I am critical of some aspects of the care Mr A received from individual health professionals in the ED. However, this must be seen in the context of the rostering and communication systems at the time. Staff in the Hutt Hospital ED during the period concerned were hindered in their ability to provide satisfactory treatment by

inadequate staffing and systems. Accordingly, my main criticism is directed at the ED processes in place at Hutt Valley DHB in late 2005/early 2006.

Breach — Dr B

Dr B was working in difficult conditions on 13 December 2006. He had already completed a full day's work, but had agreed to continue working (even though he was not on call), to assist with the backlog of patients. As a senior consultant and Head of the Emergency Department, Dr B was expected to maintain thorough clinical notes, provide a high standard of care to patients, and effectively hand over to junior medical staff at the end of his shift. The key question for determination is whether Dr B took "reasonable actions in the circumstances", taking into account the DHB's resource constraints³ (including staff shortages and inadequate ED processes) at the time.

CT scan

Dr B did not consider it clinically necessary to order a head CT scan for Mr A, although his presentation met the objective criteria for ordering one. Dr B identified that Mr A had suffered a mild head injury, and the ED had guidelines in place for deciding whether such patients require an urgent head CT scan. These guidelines were issued by the New Zealand Guidelines Group and the Accident Compensation Corporation and, according to Dr Clearwater, were circulated to emergency departments in 2006. The guidelines are based on "decision rules" developed as a result of internationally recognised research into mild head injury. They state:

"CT Scanning should be immediately requested for adults with any of the following risk factors who have experienced an injury to the head with some loss of consciousness or amnesia since the injury:

- Age 65 years or older
- Coagulopathy (history of bleeding, clotting disorder, current treatment with warfarin)
- High-risk mechanism of injury (a pedestrian struck by a motor vehicle, an occupant ejected from a motor vehicle, or a fall from a height of greater than one metre or five stairs)."

Mr A was 67 years old and had suffered a head injury (which Dr B assessed as mild), associated with unconsciousness and retrograde amnesia. According to the ED guidelines, given his age he required an urgent head CT scan. Taking into account the fact that Mr A had probably suffered a moderate to high-risk mechanism of injury, the need for a CT scan was greater still. However, Dr B did not order a CT scan, for the following reasons:

³ See clause 3 of the Code of Health and Disability Services Consumers' Rights.

“[T]he presence of amnesia and an age of 67 years would appear to indicate a need for CT scanning. However such guidelines are intended to provide guidance rather than be rigid protocols. ... I formed the opinion that [Mr A’s] physiological age was significantly younger than his chronological age, and consequently that CT scanning was not obligatory.”

In the front cover of the published Head Injury Guidelines, the New Zealand Guidelines Group qualifies its conclusions:

“While guidelines represent a statement of best practice based on the best available evidence (at the time of publishing), they are not intended to replace the health practitioner’s judgement in each individual case”.

Dr B appropriately drew my attention to this qualification. I agree that a guideline is intended to be a guide to clinical practice. Doctors cannot and should not be expected to practise “cookbook medicine”. It is perfectly reasonable for a doctor to apply clinical judgement to the application of guidelines, but if clearly identified criteria are to be ignored, the clinician is duty bound to discuss this with the patient and document the reasoning in a contemporaneous clinical record.

In this case, Dr B did not discuss his decision with Mr A or his family, and his reasoning was not documented in the clinical record. Because a head CT was not ordered, it cannot be determined when Mr A’s subdural bleed first occurred. However, this case illustrates how evidence-based guidelines may provide a better basis for requesting investigative procedures than individual clinical judgement. Dr B himself acknowledges that, with the benefit of hindsight, he made an error of judgement in not ordering a CT scan when he saw Mr A.

Clinical record

Good medical care also includes keeping clear, accurate and contemporaneous patient records that report the relevant clinical findings, and the decisions made.

Dr B did not record a detailed or accurate assessment of Mr A’s neurological function or physical condition. Dr B’s summary was limited to a description of Mr A’s facial injuries, and did not convey any concern about mild head injury or other injuries that may have been sustained during the assault. He did not record his reasons for coming to the conclusion that Mr A had a mild head injury. Nor did he record his reasons for not ordering a head CT scan.

Furthermore, Dr B’s summary of Mr A’s facial injuries did not mention the obvious nasal fracture, and noted a “possible right malar fracture” when, in fact, the fracture was on the left side.

Dr Clearwater advised:

“The very limited notes (such as one and a half lines for the entire examination findings) were incomplete for a patient who had been seriously assaulted, might require evidence in a criminal trial and was to be handed over to a junior

doctor. They do not list any of the important injuries that were subsequently determined (to brain, nose, left cheek).”

No doubt the sparseness of Dr B’s notes reflect the pressure on the ED at the time. Nonetheless, his notes were intended to double as a contemporaneous clinical record and discharge summary. They were not sufficient to fulfil either function. The purpose of writing discharge summary and/or clinical notes is to inform those who will treat the patient at a later date of all relevant assessments, investigations, and diagnoses. Dr B’s notes for Mr A did not meet this standard, as he acknowledges.

Conclusion

It is hard not to feel sympathy for Dr B, who was working beyond the call of duty to help the ED cope with a backlog of patients on the evening of 13 December 2006. The department was clearly under pressure. I endorse the comment of my reviewer, Dr Freeman, that “overcrowding in ED is a major issue for Emergency Physicians as it is becoming increasingly difficult to ensure an appropriate standard of care is delivered to *all* patients in ED”.

Does the overcrowding and staff shortages excuse Dr B’s failure to order a CT scan (or discuss and document his reasons for not doing so) and to keep proper records? As Dr Freeman noted, “it is established doctrine that overcrowding and/or work pressures do not excuse sub standard care”. I endorse the following comment of Judge Doogue in *Perera v Medical Practitioners Disciplinary Tribunal*:⁴

“There can be no doubt that the test is harsh on medical practitioners who are working under-resourced and under-staffed and often extreme hours. The expected standard in relation to medical practitioners must be high, because unlike with lawyers and psychologists, errors can be life threatening or fatal.”

In my opinion, Dr B did not meet professional standards of care and documentation in his assessment of Mr A. Although it may be harsh to make this finding when he had agreed to work a double shift to cover a staff shortage, I feel bound to conclude that Dr B breached Right 4(2) of the Code.⁵ It is greatly to his credit that he has accepted responsibility and apologised to Mr A. No doubt emergency medicine specialists will point to this finding of their individual liability in advocating for additional resources for emergency departments.

⁴ District Court, Whangarei, MA94/02, para 57.

⁵ Right 4(2) of the Code of Health and Disability Services Consumers’ Rights states that “[e]very consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards”.

No breach — Dr C

Dr C was also working in difficult circumstances. Dr Clearwater commented:

“After midnight, the night shift would be the nadir of ED clinical standards: [Dr C was] a Senior House Officer (... with 3 months’ experience in the ED), not in a specialist training role, working in a busy department that was probably understaffed overnight (according to the SHO’s account) with no other ED senior staff on site for ready consultation.”

Dr C first met Mr A on the evening of 13 December 2006, after he had been assessed by Dr B. She read Mr A’s facial X-ray and noted a possible left orbital fracture, then prescribed analgesia and discharged him with a follow-up appointment at the nose clinic on 19 December. Dr C did not record providing Mr A with written head injury advice, although she stated that it was her usual practice to do so.

Dr Clearwater advised:

“[I]t is reasonable that [Dr C] did not appreciate that a significant brain injury had occurred and did not place much emphasis on [providing head injury advice at the time of discharge].”

Dr C attended Mr A again on 10 February 2007. She recorded a number of neurological symptoms and signs, and administered a mini mental-state examination. Dr C sought the advice of the senior medical officer as to whether further investigations were required, and administered pain relief. Mr A’s headache eased, and Dr C followed the advice of her colleague to discharge him. She advised Mr A to seek a referral to a neurologist if his headaches persisted.

On 11 February 2007, Mr A returned to the ED and was seen by Dr C for a third time. She assessed him and noted a significant deterioration in mental function. She immediately requested a head CT Scan and it demonstrated a subdural haematoma.

I agree with my expert that Dr C provided Mr A with a standard of care that was appropriate for a doctor of her limited experience as an SHO in the ED, at all three consultations.

Breach — Hutt Valley DHB

Handover

Good handover is essential when different doctors and nurses take over responsibility for a patient's care. Dr Clearwater was critical of Dr B's failure to hand over care of Mr A to Dr C. Dr Freeman also commented that "[i]t is the responsibility of the handing over doctor to ensure that all relevant clinical information is passed on to the clinician assuming a duty of care for the patient and that this should include all outstanding results and a clinical plan".

However, in my view the inadequacies of the system operating at Hutt Valley DHB at the time were the root cause of the lack of handover.

The manual whiteboard system used for handover in the ED in December 2006 was incomplete, and did not ensure accurate and thorough handover of patient care between shifts. It allowed patients in side rooms to be overlooked. This has been recognised by Hutt Valley DHB, and the whiteboard has been replaced by an electronic tracking screen that provides real-time information about every patient being treated in the ED. Patient information is now printed out at the end of each shift and verbal handover occurs.

Although the new system is apparently working well, the old system allowed Mr A to "fall through the cracks", and significantly contributed to Dr B's failure to hand over Mr A's care to Dr C on 13 December 2006. In these circumstances, Hutt Valley DHB breached of Right 4(5) of the Code⁶ by failing to ensure continuity of care for Mr A.

Communication with the GP

As vital as it is for there to be good communication between hospital staff, it is equally important that hospitals ensure the patient's GP (or other lead primary care provider) is given sufficient information to provide ongoing care.

Although the ED sent discharge summaries directly to Mr A's GP, Dr F, the Radiology and Plastics Departments failed to communicate well with Dr F.

The Radiology Department failed to send Dr F a copy of its report on Mr A's facial X-rays, taken in the ED and reported on 18 December 2006. Dr F also did not receive a report on Mr A's facial CT scan, reported on 21 December 2006.

The Plastics Department did not send Dr F a copy of the clinic notes after Mr A underwent a facial CT scan on 19 December 2006. When Dr F telephoned the Plastics Department on 9 January 2007, she was misinformed that the CT scan was "not read" when in fact it had been reported on 21 December 2006.

⁶ Right 4(5) of the Code of Health and Disability Services Consumers' Rights states that "[e]very consumer has the right to co-operation among providers to ensure quality and continuity of services".

It is likely that poor communication and cooperation between the Plastics and Radiology Departments and Dr F contributed to the delay in diagnosing Mr A's subdural haematoma. My expert noted:

“If the GP had been clearly informed that the CT was only of the face and not of the entire brain, she may have determined that a head CT was warranted and referred the patient for this.”

Despite the Plastics, ENT, Audiology & Dermatology Service Manager's claim that “[w]e endeavoured to keep both [Mr A] and his GP aware of tests being done and the results of these and the treatment plan”, the Radiology and Plastics Departments clearly did not have robust reporting processes in place for reporting to GPs. In these circumstances, Hutt Valley DHB breached Right 4(5) of the Code.

Electronic records in ED

Although there are many benefits to adopting an electronic system for note-taking, there are some drawbacks, as highlighted in Mr A's case. Dr B relied solely upon a brief electronic summary of his assessment, which recorded only Mr A's facial injuries and few negative findings. This was likely due to time pressure, avoidance of a lengthy discharge summary, and slow typing. The problems with Dr B's notes were compounded by poor handover to the next shift. At the time of these events, Hutt Valley DHB did not have departmental guidelines for the use of electronic discharge summaries (EDS) as the sole record. Guidelines for the use of EDS in conjunction with handwritten summaries are now being developed and should help to standardise and improve the quality of EDS notes.

Staffing levels

The staffing levels at Hutt Hospital ED were low on 13 December 2006. Indeed, Dr Clearwater referred to the night shift (with only an SHO with limited experience on duty) as “the nadir of ED clinical standards”. This created significant pressure on the clinical staff treating Mr A. There is always a danger that exhausted and stressed staff will provide substandard patient care, especially when senior staff are not readily available to review patients.

Requiring staff to work back-to-back shifts, as Dr B did on 13 December 2006, is also undesirable. Such arrangements are damaging to staff health and morale, and may place patients at unacceptable risk.

Of relevance, the Australasian College of Emergency Medicine recently published an updated *Guideline on constructing an Emergency Medicine medical workforce*.⁷ Section 7.1 states:

⁷ Guideline G23, adopted July 2008:
http://www.acem.org.au/media/policies_and_guidelines/G23_Constr_Workforce.pdf

“Rostering — Shifts should be no longer than 10 hours. Continuous working hours should not exceed 12 [hours]. Evidence shows that decision making accuracy decreases, mental alertness decreases whilst error rates increase when physicians work continuously beyond 10 hours and changes exponentially beyond 12 hours of continuous duty. A minimum of 10 hours between finishing and resuming clinical duties is mandatory.”

Conclusion

I conclude that Hutt Valley DHB did not have appropriate systems in place or adequate staffing in the ED in late 2005/early 2006. In my view, the DHB must accept the lion’s share of responsibility for the various omissions in the care of Mr A.

It is encouraging to see the improvements that have been made to ED processes and the recruitment drive for additional ED medical staff, since these events. I also commend Hutt Valley DHB on sending Mr A an unreserved apology in response to my provisional opinion.

Recommendations

I recommend that by **14 November 2008**, Hutt Valley District Health Board provide to HDC:

- a copy of the Emergency Department guidelines for assessment of headache
 - a copy of the Emergency Department guidelines for the use of electronic discharge summaries in conjunction with handwritten notes
 - an update on the expected completion date for implementing a free text recording function in the electronic medical record.
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Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand and the Australasian College for Emergency Medicine.
- A copy of this report, with details identifying the parties removed (except Hutt Valley DHB, Hutt Hospital and expert advisors Dr Clearwater and Dr Freeman) will be sent to the Minister of Health, the Director-General of Health, all district health boards, and the Royal New Zealand College of General Practitioners, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A

Independent advice to Commissioner — Dr Clearwater

Initial advice

The following expert advice was obtained from Dr Garry Clearwater:

“I am an Emergency Medicine Specialist, qualified MBChB in 1982 and a Fellow of the Australasian College for Emergency Medicine (FACEM) since 1999. I currently work as a full-time staff specialist in 2 Emergency Departments (EDs) at Waitemata District Health Board and I was Clinical Director of the Emergency Medicine service between 2000 and early 2006. I have previously worked as a GP in a semi-rural practice and as a Medical Officer of Special Scale at Middlemore Hospital ED. Our service employs specialists, Senior Medical Officers and registrars in training. We employed Senior House Officers up until 2005.

I have been asked to review the case of [Mr A] to provide expert advice about whether medical staff of Hutt Hospital Emergency Department (ED) provided an appropriate level of care to [Mr A] in three separate visits: 13 December 2006, 10 February 2007 and 11 February 2007.

I have been asked to advise whether [Mr A] received an appropriate standard of care from [Dr B] (an Emergency Medicine specialist), [Dr C] (a locum Senior House Officer) and the ED of Hutt Valley Hospital as well as:

1. The standards that applied to [Mr A's] consultations in the ED on:
 - a) 13 December 2006
 - b) 10 and 11 February 2007.
2. Whether [Mr A] required additional observation, a CT scan or other investigations before he was discharged from ED at about midnight on 13th December 2006.
3. Whether [Mr A] required additional observation, a CT scan, or other investigations before he was discharged on 10 February 2007.
4. Any other issues that should be brought to the Commissioner's attention.

I have reviewed the summary of the complaint, and 96 pages of documentation including copies of:

- A letter from [the] HDC Consumer advocate, dated 18 June 2007 outlining [Mr A's] concerns about his care;
- Correspondence from the office of the HDC to [Drs B and C] and Hutt Valley DHB between 5 December 2007 and 11 December 2007.

- Responses from [Dr B] dated 4 January 2008, [Dr C] dated 16 December 2007 and [the] Service Manager, Acute & Chronic Care, dated 25 January 2008.
- A report from [Dr B] and [the Service Manager] on behalf of Hutt Valley DHB, dated 1 November 2007.
- Copies of the clinical records relating to [Mr A's] care in General Practice between 14 December 2006 and 20 February 2007, by [Dr F] (dated 31 October 2007).
- A response to the HDC from the Service Manager of Plastics, ENT, Audiology and Dermatology dated 26 July 2007.
- ED records of the visits on the 3 dates.
- General Plastic Surgery clinic letter dated 11 January 2007.
- Records relating to a referral and assessment at Plastic Surgery clinic on 19 December 2006
- Inpatient records relating to an admission to Capital and Coast Neurosurgical service between 12 February 2007 and 15 February 2007.
- CT scan films of the face (taken 19 December 2006) and a set of head CT scans taken 11 February 2007.

I have not seen any correspondence from the ED Senior Medical Officer, [Dr E], who was consulted during the admission to ED on 10 February 2007.

I have not seen any direct account by [Mr A] or his family regarding their recall of events and what was said to them at each ED visit.

I do not have any detailed data about rosters, workload and delays in this ED at the time of the events.

SUMMARY OF EVENTS

This 67-year-old man was punched in the face on the evening of 13 December 2006.

He sustained facial injuries, had disorientation for several minutes and some amnesia: a 'mild head injury'. He was assessed initially in ED by an ED consultant who wrote limited notes in the electronic summary. The significance of the head injury was not recorded and the focus was on the associated facial injuries. The ED consultant considered requesting a head CT according to the departmental guidelines but decided to over-ride these recommendations.

The care was indirectly handed over to a more junior medical officer on a busy night shift who discharged the patient 4 hours after the injury with a diagnosis of facial injury.

In the absence of arranging a head CT, the patient's family should have received detailed and clear Head Injury advice — there is no record that this

was done. The significance of subsequent symptoms may not have been fully appreciated by the patient or his family.

The patient was assessed in Plastic clinic 6 days later to assess his facial injuries and a CT scan of his face was arranged which showed significant facial fractures. There was no direct communication about the scan or the facial fractures to the GP who was told later by the patient that he had a ‘head scan’ and that it was normal. The GP saw the patient 3 weeks after the injury and was concerned about the patient’s severe headaches, amongst other things. The patient was reviewed semi-urgently in Plastics clinic and discharged without follow-up.

The patient [re-] presented to ED 59 days after the assault with a history of worsening atypical headache and concerns about mild drowsiness and confusion. The ED SHO who assessed him noted some mild signs of cognitive impairment but no other neurological deficit. The case was discussed with a Senior Medical Officer and the patient was discharged home with reassurance and pain-killers — without further tests or a clear diagnosis and with limited advice about follow-up.

The patient returned the next day, 60 days after the original assault. By this time it was evident that a serious neurological abnormality was developing. This was appropriately investigated. A head CT indicates that there had been a chronic subdural haematoma present for at least 2–3 weeks that had developed a second bleed that precipitated the acute deterioration. It is not clear from the report whether the chronic subdural was sustained in the assault 60 days previously or whether it was possibly sustained in a relatively minor head injury (perhaps a minor fall) after that time.

The patient underwent emergency neurosurgery to drain the blood clot and has made a good recovery albeit with some residual symptoms.

FIRST VISIT TO ED	Wednesday 13 December 2006
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This man was punched in the face by one or two assailants while out walking his dog.

An ambulance was despatched at 2021h indicating that the injury occurred some time before 2020h that evening.

At 2035h the ambulance noted facial bruising and a mildly reduced GCS of 14/15 (*Glasgow Coma Scale, a quick standardised assessment of neurological function*) due to disorientation (*i.e. the verbal component of the GCS was 4 out of a maximum 5, compared to 5/5 — fully orientated*).

Thus he had a reduced GCS for at least 15 minutes.

GCS was back to normal at 2045h, the next recording.

The Ambulance 'Provisional Diagnosis' is listed as 'KO' which I presume means 'Knocked Out'.

At 2055h the ED Triage Nurse noted that a reduced GCS of 14/15 had been recorded by the ambulance and indicated uncertainty as to whether he had been Knocked Out ('?KO'd'). The patient had pain and bruising of the face, a GCS of 15/15 and normal vital signs.

Nursing notes have 3 normal recordings of GCS and vital signs between 2055 and 0008h.

A hand-written segment in the Nursing Assessment Sheet by [Dr C], the SHO (Senior House officer) records that the patient was 'seen by [Dr B]. No handover. Pt reviewed with d/c (*presumably means discharge*).'

[Dr B] is an Emergency Medicine specialist whose qualifications include FACEM.

Supplementary information indicates that an ED Senior House Officer (SHO) was off duty due to sickness and no replacement had been found for the evening shift, leaving 2 doctors instead of 3. In [Dr B's] words 'Workloads had been excessive and the decision was made to seek the assistance of the consultant on call... (who could not be contacted)... so (ED) contacted me', being the only other consultant. 'I was therefore in the department assisting with the backlog after a full day's work, and on an evening when I was not on call.'

The consultant wrote his clinical notes regarding [Mr A] directly into the Electronic Discharge Summary after 2253h, noting that the patient remembered the assault and was 'alert and well' at the time of assessment. Facial injuries were documented, concluding with an assessment of 'possible right malar fracture.' Facial X-rays were requested.

The consultant's total examination record comprises one and a half lines. The only neurological assessment is 'alert and well', full eye movements and normal cheek sensation. There is no record of assessment of the scalp, nose, teeth, jaw, ears, neck, spine, thorax or limbs.

The consultant typed his notes directly into the electronic summary section, to be 'finalised' by a doctor on the next shift. Typically, the next doctor adds any final comments and completes the summary under their own name. He did not write any separate notes by hand.

[Dr C], a locum SHO who had worked in this ED for 3 months, started her night shift at 2300h. She was the sole ED doctor on duty after midnight. There was usually a verbal handover meeting based around a list of patients on a hand-written white board. This handover system (now superseded by an

electronic system) did not routinely include a list of patients in the waiting room, 'leading to the possibility of missing such patients.'

The SHO did not receive any handover about [Mr A]. The first thing that she knew about him was when a nurse asked about him at midnight. The SHO had to rely on the electronic record written by the consultant as the only record of the previous medical assessment.

The SHO viewed the facial X-rays and satisfied herself that there was no facial tenderness where the X-rays suggested a possible fracture and added her interpretation to the electronic summary. No other assessment was recorded.

Note that the consultant's interim note listed the injury as a possible malar fracture on the right side of the face but the clinical concern and X-ray assessment by the SHO was on the left side (and subsequent events confirm that the injury was on the left side).

The EDS Discharge Diagnosis was '? Fractured nose'. The patient was discharged with a script for an anti-inflammatory medication and follow-up to be arranged at a nose clinic on 13/12/06.

The patient was discharged after 0020h, almost exactly 4 hours after the assault.

The SHO states that she did not think that any further treatment was needed for a possible head injury because his GCS had been 15/15 throughout his time in ED, with no focal neurology documented and no significant amnesia. She discharged the patient to the care of his wife. She states that 'my normal practice would (be) to give verbal and written advice regarding head injuries, ... (including) what features to be concerned about, and when to seek medical attention or return to ED... the department has an ACC 'Head Injury Advice Sheet' for this purpose. Usually I would document doing this therefore can only assume I would have followed my normal practice.'

There is no record of any advice sheet being given.

RADIOLOGY REPORT Day 5	18/12/2006
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The report for the facial X-rays taken 5 days previously:

- Fracture of the floor of the Left orbit (*eye socket*)
- A fluid level under the maxilla (cheek bone) suggested blood from a fracture.

PLASTIC SURGERY OUTPATIENT CLINIC	Day 6 Tuesday
19/12/2006	

Detailed hand-written clinic notes record that the patient may have lost consciousness at the time of the assault, had retrograde amnesia and some episodes of blurred vision.

The focus of the clinic assessment was understandably on the facial injuries. Injuries included:

- Epistaxis (*bleeding nose*) which settled after 2 days
- bilateral periorbital haematomas (*bruises around both eye sockets: 'Raccoon Eyes'*)
- altered sensation in the Left maxilla (cheek) and upper jaw
- nasal bridge deviated to the Right.

A CT scan of the face was requested and performed the same day.

Report of CT scan of the face	Day 8 Thursday 21/12/2006
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CT scans were viewed by a radiologist the next day and the report was typed on 21st December.

Findings:

- Slightly depressed fracture of the anterior (*front*) wall of the Left maxilla (*cheek bone*).
- Subtle fracture of the nasal bones bilaterally.

An addendum to the original clinic notes noted that the scans were reviewed with the Plastics consultant, that no further treatment was warranted and that the patient was contacted at home.

None of this information was conveyed directly to the GP.

Note:

A CT scan of the face is optimised to view the bones and soft tissues of the face; it indirectly includes some imaging of the lower part of the brain but is not a full brain scan and could not be expected to reliably detect a blood clot in the upper part of the brain.

GP referral to Plastic Surgery Unit	Day 27	09/01/2007
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Notes written by the GP who was assessing the patient for the first time after the injury:

- (describing the original assault): 'unconscious for what is likely to be about 20 min.'
- '(he) has little memory of what happened after the beating commenced.'

- ‘he was called back the following week and a CT of head done but he doesn’t seem to know what this showed: told “Normal”.’
- ‘he is having ++ pains and headaches in the base of the skull.’
- ‘speech rather slurry and slow with apparent difficulty in recall.’

The GP records that she phoned to get a copy of the X-ray and CT scan results and was told that they were ‘not read yet’ (although they were in fact reported by 22/12/2006).

The Plastic Surgery registrar was ‘unable to take my call’ — advice to send a referral.

A referral was faxed to Plastic Surgery:

Requesting review ‘as early as possible’:

- Unable to breathe through his nose
- ‘Severe and ongoing headache’
- Left facial and palate paraesthesia and pain
- Left hearing loss

From a patient’s viewpoint, the procedure for a head and face CT is the same.

Based on the only evidence given to her, it would be reasonable for the GP to assume that a head CT had been done and therefore a subdural haematoma was excluded.

Plastic Surgery Clinic	Day 29	11/01/2007
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Notes written by the Plastic Surgery Registrar.

The letter to the GP notes that the patient ‘was initially seen by myself on the 19th December 06, after he was assaulted on the 13th December 06. At that time he complained of some retrograde amnesia and was unsure whether or not he lost consciousness...’

It details the facial injuries and radiology findings. ‘He has ongoing headaches ... (he) notices some episodes where he is slightly forgetful... (and) lapses of concentration.’

‘Our impression at this stage is that his headache and feeling of congestion is most likely due to sinusitis due to the slow resolution of the fluid in his left maxilla.’

- plan: sinus rinsing, decongestant, ENT referral

In the final paragraph, the registrar noted: ‘I would recommend that he be assessed by an Occupational Therapist and offered some support with his experiences as he has not had any personal experience of head injury of this nature and assault and is not able to communicate his experiences at the moment and I think would benefit from having someone just to run through **what he is experiencing now in terms of inability to concentrate and slight lapses in memory.**’ (emphasis mine).

SECOND ED VISIT	Day 59	Saturday 10 February 2007
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The presenting complaint was listed as ‘headaches’. The patient was registered in the department at 1605h and was discharged home at midnight that night (i.e. nearly 8 hours later).

Nurses recorded the following concerns: ‘today headache radiating from back through to face; painful over eyes.’ Complains of ‘light-headedness when stands.’ Wife ... reports that patient not usual self and has slept most of the day.

The assessing doctor was the same SHO as had seen him on the day of his assault. She recorded her notes directly into the electronic discharge summary:

- increasing headaches over the last week
- today the headache is ‘very severe, ... pressure feeling from back to front of head’
- lethargy, spent the morning in bed.
- ‘Felt light-headed on standing and was very pale according to wife.’
- The history of head injury was noted.

Examination was recorded in some detail, including MMSE of 10/10 (*Mini Mental Status Exam: a more detailed assessment of cognitive function than the GCS*) and normal peripheral neurological exam and gait.

‘(D)uring history taken [sic] patient quite vague, unable to remember last job and medications. Has an appointment ... next week and unable to recall why??’

Thus it seems that the patient had presented with non-specific worsening headaches and mild brain impairment without evidence of localised brain abnormality. Examination findings include mild impairment of concentration and memory.

The patient was given pain-killers: Codeine phosphate 60 mg (a mild opiate/narcotic) and Diclofenac 75 mg (an anti-inflammatory).

On review: ‘Headache settled. Discussed with SMO (Senior Medical Officer): nil further acute investigations required.’

Primary diagnosis: Headache

Discharged on Codeine phosphate (*for pain*).

‘Follow up with GP — if headache persists, please consider referral to neurologist’.

THIRD ED VISIT	Day 60	Sunday 11 February 2007
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The patient presented with worsening headaches and confusion, with a marked decline in his MMSE score (from 10/10 the day before, to 3/10).

His assessment and investigations appear to have been appropriate at this visit, by which time it was evident that he was seriously unwell.

An urgent head CT demonstrated a subdural haematoma. The formal report noted ‘a large left cerebral convexity subdural haematoma ... of isodensity with the brain suggestive of 2-3 weeks old. In addition there are small hypodensities in keeping with acute bleed on top of the subacute one especially seen in the lower aspect of the left subdural haematoma.’

The patient was transferred to a neurosurgical service and I have not reviewed his care from that point as it is not in my area of expertise.

QUESTIONS RAISED BY THE HDC

Did [Mr A] receive an appropriate standard of care from [Dr B] (an Emergency Medicine specialist)?

[Dr B] is an experienced, well-qualified specialist. He responded to a call from ED made at short notice to cover a staff vacancy on a busy evening shift, despite not being rostered on-call and having already worked ‘a full day’s work’ earlier. Fatigue and heavy workload may have contributed to a number of suboptimal actions.

[Dr B] did not record a detailed assessment of the patient’s brain function or neurological assessment. In his letter he states that he recognised that a mild head injury had occurred.

He decided to ‘over-rule’ the Head Injury decision rules (discussed separately below).

Secondary to that, he did not order a head CT when, in my opinion, it was warranted.

He left limited summary notes for his SHO to follow-up the patient. They did not convey concern about a head injury that might have alerted an inexperienced SHO to review this aspect in detail.

His brief notes did not address other possible injuries that might have been sustained in such an assault (neck, spine, scalp, abdomen, limbs). They did not allude to the nasal fracture. They concluded that there was a 'possible right malar fracture' when in fact the fracture was on the other side.

He did not verbally hand over his patient to the SHO arriving on the night shift.

- **The following comments need to be interpreted in the context that the specialist was probably fatigued and working under pressure in a busy shift.**

- **In general, it represents a moderate departure from the standard of care for a specialist to omit a verbal handover of the patient to a junior doctor, especially when the notes were brief. However, this is mitigated by the suboptimal handover system in the ED and the unusual circumstances, making it a mild departure.**

- **The very limited notes (such as one and a half lines for the entire examination findings) were incomplete for a patient who had been seriously assaulted, might require evidence in a criminal trial and was to be handed over to a junior doctor. They did not list any of the important injuries that were subsequently determined (to brain, nose, left cheek). They represent a moderate departure from the standard of care for an ED doctor.**

- **Overall, it represents a moderate departure from the standard of care for a specialist to omit ordering (or discussing) a head CT in this situation: I have discussed this in more detail in the section below that raises this specific question.**

Did [Mr A] receive an appropriate standard of care from [Dr C] (a locum Senior House Officer)?

[Dr C] was a moderately experienced House Officer (various hospital roles for 3 and a half years) who had worked in ED for only 3 months. She was working in a busy, stressful metropolitan ED with no other ED doctor on site to assist her after midnight.

She saw the patient on each of the three occasions that he presented to ED. Her documentation was of a good standard.

A. On the first occasion she was not given a handover of the patient, had to make a follow-up assessment based on brief summary notes by a consultant who had not indicated any concern about a brain injury and who was focused on facial injury.

It was reasonable that she overlooked the significance of the head injury and she took some reasonable steps to assess the patient before he was discharged.

She did not document that she provided the patient and his wife any Head Injury advice; although she states that it was her usual practice to do so.

- **Overall, this was a reasonable standard of care for an SHO of her experience.**

B. On the second visit she recorded a number of significant symptoms and signs that ideally would have generated concern and warranted admission and/or a head CT but she was falsely reassured by a normal MMSE examination. Commendably, she sought advice from an experienced SMO and followed his advice to discharge the patient without further investigation.

- **Overall, this was reasonable for an SHO of her experience.**

C. On the third visit she made a thorough assessment of a patient who had significant deterioration in mental function and correctly requested an urgent head CT that was diagnostic.

1a. The standards that applied to [Mr A's] consultations in the ED on 13 December 2006.

There were effectively two standards.

The first standard relates to the care provided by an experienced ED specialist on the afternoon shift, which should be of a high standard. However, this was in the context of him being recalled unexpectedly to a busy understaffed department after working all day.

The second standard would be significantly lower. After midnight, the night shift would be the nadir of ED clinical standards: a Senior House Officer (in this case, with 3 months' experience in the ED), not in a specialist training role, working in a busy department that was probably understaffed overnight (according to the SHO's account) and with no other ED senior staff on site for ready consultation. Some assistance could be provided by experienced nursing staff, inpatient specialty doctors and an ED consultant available by phone at home but many SHOs would be reluctant to use this last option routinely.

This system was traditional for many years in New Zealand EDs, seen as a valuable learning experience for junior doctors and relatively cheap. It is gradually being phased out because of the unacceptable level of stress and risk.

1b. The standards that applied to [Mr A's] consultations in the ED on 10 and 11 February 2007.

These were of an intermediate standard. I do not have a staffing model or roster but it is evident that these weekend shifts were staffed by at least one SHO with access to a Senior Medical Officer: an experienced doctor without specialist qualifications in Emergency Medicine but qualified in the Accident & Medical Practitioners' Association (AMPA) vocational group.

Senior Medical Officers (SMOs) qualified in the AMPA vocational standard have a different level of Emergency Medicine formal training that is focused on standards appropriate to primary care Accident & Medical clinics (but extending to cover non-specialist SMOs in hospital EDs). Some AMPA-qualified doctors are highly experienced and knowledgeable in Emergency Medicine care, particularly if they work primarily in EDs with good levels of specialist support but the AMPA standard is significantly different to that set by the Australasian College for Emergency Medicine (ACEM) which is focused entirely on Emergency Department work, entails a longer period of ED and hospital-based training and requires a greater depth of academic knowledge and a broader range of skills.

Whatever the staffing model, the standard of care in any ED is seriously affected by the workload and staffing levels. There is a growing body of evidence that if an ED is overloaded, standards of care fall and there is significant increase in overall patient mortality and adverse outcomes. This relates to delays seeing patients (delayed diagnosis and intervention), difficulty getting expert opinions (junior and senior staff are too busy individually trying to manage their heavy workloads), the temptation to use 'system shortcuts', rushed decision-making, stress and tiredness.

This particular case illustrates how overload and/or understaffing can adversely affect care: a specialist who has already worked during the day is called in at short notice to cover a staffing shortfall on a busy evening shift, writes a brief summary note and does not hand over a patient who is then assessed after midnight by a relatively junior doctor who is working alone; the patient returns to ED weeks later and is seen by the same junior doctor but the supervising SMO makes a decision based on a verbal report and does not take time to assess the patient personally.

In his report, the ED specialist described the ED workload on the evening of 13th December 2006 as 'excessive.'

In her report the ED SHO clearly outlines the pressures:

‘It was not uncommon for the ED to be very busy with significant waiting times, especially that time of night. When the department was very busy it was often difficult to access a senior staff member as they were also seeing sick patients themselves. It would be ideal to have at least one senior each shift who were acting purely in an advisory capacity and able to review patients with the junior doctors and teach at the same time. On the night shift I was the only doctor and, although we have the support of our consultant over the phone, it can be very busy and overwhelming. I know the department would like to have two SHOs on nights, but were unable to find enough staff therefore we were by ourselves.’

- **There are themes that suggest suboptimal and high-risk conditions in this ED:**
 - **Staff shortages and/or inability to increase staffing levels to match heavy workload.**
 - **The use of a sole ED SHO working on the overnight shift.**
- **ED specialists and SMOs are less effective if they are too busy managing their own patient load to be readily accessible for advice and to review patients seen by junior staff.**
- **While this scenario is primarily related to resource and occurs to various degrees in other EDs throughout New Zealand, it represents a significant risk to patient safety and would meet with moderate disapproval by Emergency Medicine specialists.**

The optimum standard would be for an ED to be sufficiently staffed with Emergency Medicine specialists on all shifts (as occurs in many training EDs in the USA) with sufficient overall staffing to allow full supervision of all cases. The Australasian interim standard is to aim for at least one specialist on every day and afternoon shift and available on call overnight with a registrar (rather than a SHO) on duty overnight.

2. *Did [Mr A] require additional observation, a CT scan or other investigations before he was discharged from ED at about midnight on 13th December 2006?*

The short answer is ‘yes’.

EDs commonly deal with patients who have sustained head injuries. The majority of these cases are in the category of ‘minor head injury’ and they are a challenge because only a small proportion will develop complications serious enough to require surgery. For patients with a history of mild head injury who have normal GCS and neurological findings once they are in ED, the risk of having an intracranial haematoma requiring surgery is quoted as being somewhere between 0.1% and 3% (Tintinalli JE, Kelen GD et al, Emergency

Medicine: a comprehensive study guide, 6th edition; 2004. American College of Emergency Physicians: page 1561).

The exact definition of a 'minor head injury' differs in detail between different guidelines and research papers. The influential research paper by Stiell et al 2001 defined minor head injury as *a head injury with witnessed loss of consciousness, definite amnesia or witnessed disorientation in a patient with GCS between 13 and 15.*

This is essentially the definition used in the standard Australasian Emergency medicine textbook, Cameron P, Jeliniek G et al, 2004. Textbook of Adult Emergency Medicine 2nd edition, Churchill Livingstone: page 45.

The international textbook of Emergency Medicine that is also commonly used in EDs in New Zealand (Tintinalli JE, Kelen GD et al, Emergency Medicine: a comprehensive study guide, 6th edition; 2004. American College of Emergency Physicians) defines a mild traumatic head injury on page 1561 as having *a history of loss of consciousness, amnesia or loss of memory to the event, any change in mental status at the time of event, and/or persistent or transient focal neurological deficit.*

The research paper by Haydel et al 2000 defined a minor head injury as *a loss of consciousness at any stage with a normal brief neurological examination and a GCS of 15 at the time of arrival in ED.*

Thus, by all definitions this patient had a significant mild/minor head injury.

Head CT scan is the standard diagnostic technique for detecting significant blood clots or bleeding in or around the brain after head injury. It has two significant drawbacks:

- It uses high doses of radiation for the multiple Xray beams that are used for the procedure. There is concern that this adds a small but significant long-term risk of developing cancer.
- Equipment and expertise for performing the scan is a stringently limited resource.

There are a number of guidelines regarding whether or not to perform a brain scan on a patient with minor head injury, to optimise the use of this resource.

Two recent research papers identified criteria for scanning for minor head injury. These papers and their recommendations are part of the core knowledge of Emergency Medicine specialists.

Stiell I, Wells G et al (The Canadian CT rule for patients with minor head injury. Lancet 2001; 357: 1391–6) determined that head CT scan should be performed if any of the following were present:

- Age greater than 64 years
- GCS less than 15, 2 hours after injury
- Suspected open skull fracture
- Signs of a basal skull fracture
- 2 or more episodes of vomiting.

The main author of this study (Professor Ian Steill) has been at the forefront of a major improvement in the way radiology services are used in ED, based on a concept of 'decision rules'. These rules were designed to get around the problem of marked variation in the way that radiology tests were ordered by different doctors who based their decisions on subjective ill-defined criteria and to address concerns about 'over-ordering' of tests. They are published for injuries of the ankle, foot, knee and neck as well as for head injury. They were designed to be objective and unequivocal. They were developed on the basis of extensive research.

These criteria separate patients with specific injury into 2 categories:

- those outside the criteria can reasonably avoid having a radiological investigation because the risk of finding an abnormality is so low;
- those patients within the criteria had a significant chance of having an abnormal radiological test.

They are demonstrably more effective than the variable clinical opinion of individual ED doctors. They tend to have reduced the total number of requests while reliably detecting virtually all significant abnormalities.

Haydel MJ, Preston CA et al (Indications for computed tomography in patients with minor head injury. *New England Journal of Medicine* 2000; 343: 100–5) used the same concept and concluded that head CT should be performed if any of the following were present:

- age greater than 60 years
- any headache on-going after the injury
- any vomiting
- drug or alcohol intoxication
- persistent anterograde amnesia
- any external evidence of injury above the clavicles
- a seizure after the injury.

Note that in the second paper, only 6.3% of these patients had an abnormal brain scan.

On the basis of both of these papers, this patient should have had a head CT at least because of his age (greater than 64 and 60 years respectively).

There was at least one other criterion in the second paper that would have warranted a scan: his facial injuries ('external evidence of injury above the clavicles').

In his letter, the ED specialist states that the guideline available in the ED was that issued by the New Zealand Guidelines Group and ACC. This guideline was substantially based on the 2 research papers mentioned above. According to this guideline, the patient still fulfilled the criteria for a head CT (as the ED specialist admitted in his response) based on his age and probable amnesia.

At this point I take issue with points made by the ED specialist in his response dated 4 January 2008:

'I have accepted that the presence of amnesia and an age of 67 years would appear to indicate a need for CT scanning. However such guidelines are intended to provide guidance rather than rigid protocols. [Mr A] had no past history and no health issues and I formed the opinion that his physiological age was significantly younger than his chronological age and consequently that CT scanning was not obligatory.'

○ This concept does not reflect the basic premise of the research that produced these papers. They are not guidelines in the sense used by [Dr B]. It is no coincidence that they are described as 'decision rules'. These rules are demonstrably more effective and clear than the variable clinical opinion of individual ED doctors and were designed to be so.

○ The decision rules were designed to be objective. They do not use an inexact concept of 'physiological age', they simply classify patients by objective chronological age.

If the specialist had applied the decision rules as they were designed, the patient would have been advised to have a head CT scan and the presence or absence of a subdural haematoma would have been established in a timely manner.

It may have been reasonable to omit a head CT for a patient within these criteria, as part of a calculated risk-benefit analysis, the pros and cons of which are carefully discussed with the patient and his family in the context of informed consent. For example, some patients decline to have a CT because of their concerns about radiation. A decision to omit a head CT would need to be supplemented with a clear and detailed explanation of the need to watch for other symptoms and to return promptly as soon as these occurred.

There is no evidence that such a joint discussion occurred. Instead, the specialist made an individual decision to omit a head CT despite the fact that the decision rules indicated that his patient had significant risk of intracranial

bleeding. He over-rode agreed departmental recommendations and thereby accepted the risk and responsibility for an adverse outcome.

Apart from the unusual and onerous circumstances that [Dr B] had to work in ED that evening, one other possible mitigating factor is mentioned by the patient's GP in her letter to an Otolaryngologist on 8 February: 'The difference is quite marked for ([Mr A]) to complain about: **he is in my experience an extremely stoic person.**' (emphasis mine).

Reading the staff reports I suspect that the patient did not want to cause any trouble to staff and tended to play down his symptoms. Such patients are sometimes seen in ED: stoic, uncomplaining, typically concerned that everyone else in the department must be more deserving of staff attention. This is a supposition but might contribute to the impression that he gave to staff that he was not so bad, had no significant disability and was coping well with his injuries. It can be misleading for a doctor assessing such a patient in a busy department.

- **The ED specialist did not seem to use the Head Injury Decision Rule appropriately.**

- **The failure to discuss or request a head CT represents a moderate departure from the standard expected of a specialist. Fatigue might have affected his judgement, having been called in unexpectedly after-hours to an ED with an excessive workload.**

The related question is whether the patient should have been kept in for observation overnight, beyond the 4 hours that he spent in ED. I do not think that this is a major issue.

It is not always feasible to organise a head CT scan promptly via ED, for various reasons. If the scan is not undertaken at the time that the risk is assessed and the patient seems to be stable, there is a case to be made for observation until a scan is next available.

However, in this case a decision had already been made by a consultant to omit a head CT scan so there would be no point in holding the patient if he was otherwise well. This is different to the more common scenario where an SHO or registrar might be unsure of the need for a scan and holds the patient overnight for a definitive consultant opinion in the morning.

In the absence of a head CT scan, the small possibility of a slowly developing subdural haematoma remains a concern after leaving hospital: it might take hours, days or weeks for it to become apparent. It requires clear instruction to the patient and his observers of the symptoms that warrant urgent medical review. Ideally this should be supplemented by a handout with the key points for the use of family or other observers.

The evidence suggests that this education did not occur to the ideal standard, if it occurred at all.

- **If a decision has been made (rightly or wrongly) to omit a head CT, it was reasonable to discharge the patient home overnight if the patient was neurologically normal and so long as the patient is in the company of well-informed capable observers who could activate medical attention if his condition deteriorated.**
- **Overall, it represents a moderate departure from the standard of care to have not clearly given (and documented) head injury advice at the time of discharge. However, it is reasonable that the ED SHO did not appreciate that a significant brain injury had occurred and did not place much emphasis on this.**

3. Did [Mr A] require additional observation, a CT scan, or other investigations before he was discharged on 10 February 2007?

Again, the short answer is ‘yes’.

The patient and his wife described an escalating headache (‘today headache very severe’) over the previous week with lethargy (‘Feel [sic] lethargic, spent morning in bed’); he was noted to be mildly confused when taking the history.

This is a different issue to the first visit because there was not such a clear link to the head injury that occurred more than 8 weeks previously. It is a scenario of a patient presenting with an atypical worsening headache with mild drowsiness and disorientation. Guidelines for assessment of headache are not so clear-cut but standard practice would be based around identifying the ‘red flags’ that warrant further investigation.

In this case the red flags would include a ‘worst-ever’ headache, the progression of the headache and the history from the family of altered mentation (albeit subtle).

These should have prompted expert review with a view to further investigation in hospital for a range of possibilities including intracranial haematoma, subarachnoid haemorrhage, intracranial mass, infection or metabolic abnormality. Investigation may have included blood tests, urine tests, a CT of the head and/or a lumbar puncture. With the benefit of hindsight we know that the symptoms represented a subdural haematoma.

Despite these symptoms and signs, the SHO was apparently reassured on the basis of the physical examination (and response to opiate analgesic) that the patient was well.

It is understandable for such a conclusion to be made by a junior doctor but reflects inexperience and/or lack of specialised knowledge.

The case was discussed with a non-specialist SMO (Senior Medical Officer) and we do not have a report from him as to what happened.

We do not know whether the full range of ‘red flag’ symptoms was conveyed to the SMO. It is possible that undue emphasis was placed on the patient having apparently improved after opiate analgesia and documentation of a Mental Status score of 10/10 — a trap for inexperienced or inexperienced players.

- **It represents a moderate departure from the standard of care for a patient with these symptoms to be discharged without further investigations.**
- **It was reasonable for the SHO to discharge the patient based on the advice of her SMO so long as she clearly described the patient’s condition.**
- **It is mildly substandard for a non-specialist SMO to discharge such a patient without reviewing the patient personally. However, we do not have the SMO’s account of what he was told about the case and his decision could be mitigated by heavy workload in ED if it limited his ability to undertake a timely review in person.**
- **Ideally there should be a departmental guideline regarding the assessment of headache in ED.**

4. Any other issues that should be brought to the Commissioner’s attention.

When did the Subdural Haematoma occur?

This crucial question relates to whether the Subdural Haematoma detected on the brain scan on 11 February was sustained in the original assault 60 days previously or whether it was sustained more recently, perhaps in a minor fall 2–3 weeks prior to 11 February. The Patient Advocate’s report states that the patient had ‘blacked out’ on 2 occasions subsequent to the assault.

The question arises because the CT reported described ‘a large left cerebral convexity subdural haematoma ... of isodensity with the brain suggestive of 2–3 weeks old. In addition there are small hypodensities in keeping with acute bleed on top of the subacute one especially seen in the lower aspect of the left subdural haematoma.’

A subdural haematoma is a blood clot that forms on the outer aspect of the brain surface, between the brain and the rigid skull. It typically follows moderate head injury that shakes the brain enough to tear a low-pressure blood

vessel on the surface of the brain. It can build up gradually as the blood vessel continues to slowly leak but eventually stops enlarging at a size that presses on the brain and causes headache and some minor brain dysfunction but that is not large enough to provide more obvious clues. The blood clot may then soften and scar as the body's immune system reacts to it and can then bleed again, developing a new clot on top of the original clot, as occurred in this case.

In older patients, a subdural haematoma can occur after relatively minor head injury and can produce very mild vague symptoms so long as it remains small and fixed.

It is certainly possible for a subdural haematoma to be present for many weeks but I cannot offer expert advice regarding the accuracy of 'dating' of haematomas. A radiologist or neurosurgeon would need to comment whether the same CT appearance could be consistent with an injury 8 weeks previously.

However, there were several clues to suggest that the patient had a significant brain injury soon after the original assault — although we don't know for certain if this was concussion (non-specific brain dysfunction) or a blood clot:

- The injury itself was significant with loss of consciousness, amnesia, reduced GCS and evidence of significant facial injuries (indicating a lot of injury energy to the head).
- The GP recorded significant symptoms on 9 January: 'having ++ pains and headaches in the base of the skull' and referred him to the Plastics Clinic with 'severe ongoing headaches.'
- The Plastics clinic letter of 11 January describes his 'ongoing headaches' and 'some episodes where he is slightly forgetful ... and ... lapses of concentration.'

If a subdural was present at the time of injury, an opportunity was missed to rule it in or rule it out when the decision was made to omit a CT.

Suboptimal communication with the GP

The GP assessed the patient 27 days after the injury but had no information from the hospital regarding his Plastics Clinic visit 3 weeks earlier. She was left to deduce from the patient (who had impaired memory) that he had a 'head CT' scan and that it was probably 'normal'.

The GP could understandably assume that a head CT had been done and that therefore a subdural haematoma was excluded.

She had to phone the hospital in an unsuccessful attempt to find the result of the scan (performed and reported 3 weeks previously), was misinformed that

the scan had not yet been read, was unable to discuss the case with the Plastics Registrar and was asked to send a referral to clinic.

- **It seems suboptimal that the Plastics clinic did not communicate with the GP regarding their detailed assessment 6 days after the assault. Nor did the clinic staff or the hospital communicate the type of CT scan or its result. This is despite the CT scan showing facial fractures (left cheek bone and the nasal bones) and possible sinusitis.**

- This contrasts with the comments made by Service Manager of Plastics in her letter (#042) ‘we endeavoured to keep both (the patient) and his GP aware of tests being done and the results of these and the treatment plan.’

- **If the GP had been clearly informed that the CT was only of the face and not of the entire brain, she may have determined that a head CT was warranted and referred the patient for this.**

Delays reporting X-rays

There was a delay of 5 days before the facial X-rays in ED were interpreted by a radiologist, having only been read by a junior ED doctor (who did not detect the relevant abnormalities).

A delay of this sort is unfortunately common in hospital systems and means that the interim interpretation made by junior medical staff remains unchallenged for days. It would not have affected outcome in this case.

No copy was sent to the GP.

Electronic Discharge Summaries

Electronic notes are gradually being introduced into hospital practice, to good effect. Advantages include legibility, easy access (via a computer network as opposed to waiting for paper notes to be located and transported to ED) and faster transmission of information to GPs.

However, this case illustrates some risks associated with the use of the EDS format when it is used alongside hand-written notes. Typically, the hospital has a paper file for each patient that holds hand-written records written by ancillary staff, nurses and doctors. A summary EDS is completed by a doctor at the end of the consultation, is emailed (or faxed) to the GP and a copy is printed and filed in the paper file.

GPs appreciate the prompt electronic notification but often prefer to peruse a succinct summary rather than extensive detail.

Many doctors are slow typists and are more adept at writing notes. It is time-consuming to have to write a detailed clinical record then type a summary into

the EDS. There is a trend to type the notes directly into the EDS, thereby eliminating duplication but tending to result in less detail than hand-written notes. This is reasonable if the patient is discharged on the same shift and their problem is simple — but it is challenging if the patient has multiple complex problems. In this patient’s case, the ED specialist did not hand-write any notes and relied solely on an electronic summary relating to facial injuries. It is an incomplete record, presumably in the interests of brevity and possibly reflecting the busy department and pressure to write the bare minimum.

One problem with having the sole record as an EDS is that it can only be viewed on a computer. If a patient suddenly deteriorates in ED, there is no medical record on hand at the bedside. This is not a problem if the doctor who wrote the EDS is promptly able to attend but can be a problem if that doctor is unavailable or delayed and other staff must piece together the background.

Problems can arise at handover. Traditionally a doctor who accepts a handover patient has detailed notes written by the first doctor, including an indication of the various problems under consideration (in this case, minor head injury and facial injuries) with relevant positive and negative findings. A brief summary is less useful. For example, in this patient’s case, what was the SHO to make of the absence of any description of assessing the neck, spine, scalp, abdomen and limbs? Was she expected to examine all these herself or should she assume that they were assessed adequately by the consultant?

Handover is a risky transition in patient care and needs to be supplemented with good medical records by the doctor who hands over the case. If an EDS is used, ideally an interim copy should be printed out at the time of handover.

There is a place for agreed guidelines about the appropriate use of EDS as the sole medical record.”

Further advice

Dr Clearwater provided the following additional advice, having reviewed my provisional opinion, the comments of Dr Freeman (see Appendix B) and the response of [Dr B].

“Thank you for asking me to review your provisional report on this case, along with the responses from [Dr B] and Dr Freeman.

I believe that your considered and fair report has concisely highlighted a number of important issues that can improve patient safety in the future.

As one of a group of practising Emergency Medicine specialists who face an alarming rise in risk and workload in two metropolitan EDs, I appreciate that your comments about [Dr B’s] actions were sympathetic to his plight and were placed in the context of the wider system issues at the hospital, including staffing levels and systems that represent a significant barrier to optimum care.

As Dr Freeman also highlighted, this case will cause some concern for supervising Senior Medical Officers in overloaded EDs around New Zealand. Senior doctors (and some nurses) increasingly face a difficult decision: at what point should we stay on (or return) after a full, busy shift to assist the next shift when it is overloaded and/or understaffed? On one hand, there is a pressing clinical need while on the other hand the effects of exhaustion begin to impair safe and effective clinical practice. Both options (leaving an overloaded shift vs staying while exhausted) present risks. It is the opinion of many staff that the balance of risk is tipped unfairly against the clinician at the coalface (who must personally face the consequences of a complaint) while managers and organisations are relatively protected.

I believe that your report will clarify the issue in respect to the standards expected of doctors in this predicament as well as the responsibility of DHBs to address safe staffing issues in EDs. I expect that it will generate useful discussion as well.

Of relevance to these issues, ACEM has recently published an updated ‘Guideline on constructing an Emergency Medicine medical workforce’ (Guideline G23, adopted July 2008) that includes the following point on Page 9 (section 7.1):

- *Rostering — Shifts should be no longer than 10 hours. Continuous working hours should not exceed 12. Evidence clearly shows that decision making accuracy decreases, mental alertness decreases whilst error rates increase when physicians work continuously beyond 10 hours and changes exponentially beyond 12 hours of continuous duty. A minimum of 10 hours between finishing and resuming clinical duties is mandatory.*

It also makes the following statement on the challenges and risks associated with Emergency Medicine practice:

7.6 Risks

Risks to longevity of emergency physicians and sustainability of the emergency medicine workforce have been identified:

- *The inability to recruit sufficient trainees.*
- *Inadequate remuneration and incentives for anti-social working conditions.*
- *Generational changes in attitudes to work.*
- *Failure of maintenance of adequate staffing levels.*
- *Lack of appropriate ED resources.*
- *Inadequate organisational support and recognition.*
- *Inadequate workforce planning both intermediate and long term.*

Regarding the comments by Dr Freeman, I think that we are in general agreement about the points highlighted in your report. In particular, we seem to agree that documentation, handover and discharge advice need to be managed with care, that ‘decision rules’ guidelines are the best available scientific basis for deciding on critical investigations in a limited number of clinical scenarios and that exceptions can be made in full consultation with the patient. This case was a good

illustration of how a decision rule would have provided a better basis for requesting a head CT than individual clinician judgement.

I would like to clarify a few points raised by Dr Freeman.

Electronic Medical Records.

Dr Freeman makes the comment that, 'contrary to the view expressed by Dr Clearwater ... Most EDs are moving to an electronic health record...'

I think that we are actually in agreement, as I noted in my advice that, 'Electronic notes are gradually being introduced into hospital practice, **to good effect**' (emphasis mine).

We were in agreement that clear contemporaneous records were an important component of clinical practice.

I did touch on some of the 'pros and cons' of electronic notes: that many doctors feel that they can write faster than they can type (although this will probably improve as they make more use of electronic records) and that there can be a problem if a patient suddenly deteriorates while the only medical record is on a computer: it makes it difficult for other medical staff to quickly acquaint themselves with the case, compared to having a 'hard copy' record in the patient file at the bedside.

This has occasionally been an issue at our two EDs, especially after a patient has been handed over. We have recommended that a printout of the record be filed in the notes before the first doctor leaves the department.

I did not mean to make a detailed analysis of this topic and was merely pointing out that it is a developing issue. I welcome your suggestion ... that, 'departmental guidelines ... might help standardise and improve the quality of EDS notes'.

I can say that it has been normal practice for several years in our service to use a discharge summary as the sole contemporaneous medical note in very limited circumstances. This system has worked well for us (a group of 18 specialists, 30 Medical Officers and 5 registrars working across two EDs), including when summaries were handwritten before the introduction of electronic notes. It is only recommended for straight-forward problems where the patient is expected to be discharged and where it would take just as long to write a simple clinical note as to write up the discharge summary. That is to say, it can improve efficiency ...

Dates of the Head Injury Guidelines

Dr Freeman states that the ACC guidelines for Traumatic Brain Injury 'were not formally published until March 2007'. I presume that he mentions this in relation to the time frame of [Mr A's] head injury in December 2006.

It would be unreasonable to hold a clinician to a standard that had been promulgated after an episode of care so I would like to clarify this point.

The ACC guidelines were updated in March 2007 but an earlier version was circulated to EDs before 2007. ACEM representatives had input to the original guidelines (as with the current version). The version published in July 2006 has the same recommendations for head CT as the updated version. I enclose a copy

of this 2006 version to clarify this. I downloaded this earlier version from the internet where it was available in 2006. A printed version was circulated to EDs in 2006.

As I mentioned in my original advice, the ACC guidelines were based on key research that has been part of the Emergency Medicine standard of care for several years. The most relevant paper (Stiell et al) was published in an Emergency Medicine journal in 2001 and I listed the commonly-used Emergency Medicine textbooks that listed recommendations based on this research from 2004.

The standard for a non-specialist SMO to discharge a patient without reviewing the patient personally

I fear that Dr Freeman has misinterpreted my comments ... Dr Freeman is concerned that I was implying that all discharged patients should be personally examined by a supervising SMO.

However I certainly did not intend to imply that there was a general standard relating to a supervising SMO having to personally review all patients before discharge and I don't believe that I stated such a standard.

To clarify my comments it was in the context of describing red flags that applied to [Mr A] that might have warranted more detailed assessment 'In this case the red flags would include a worst-ever headache the progression of the headache and the history from the family of altered mentation (albeit subtle).'

My exact comment in this respect was 'It is mildly substandard for a non-specialist SMO to discharge **such a patient** without reviewing the patient personally' (Emphasis in bold is mine).

My point was in the context of a supervising doctor having agreed to discharge this particular patient in the face of such red flags I don't believe that I was setting a general standard for all discharged patients. My intention was to merely point out that some clinicians would have been concerned about the red flags and would have made further checks.

I apologise if any more general standard was inferred and I concur with Dr Freeman that ACEM has an appropriate guideline for general supervision that is in the process of being updated."

Appendix B

Independent advice to Commissioner — Dr Peter Freeman

In light of the issues of national significance for emergency departments raised by this case, emergency medicine specialist Dr Peter Freeman, chair of the New Zealand Faculty of the Australasian College of Emergency Medicine, was asked to review my provisional opinion and Dr Clearwater's initial advice. Dr Freeman advised as follows:

“My comments are based entirely on the detail as provided in the HDC report as I have not seen the contemporaneous clinical records for the case

[Dr B] recorded his assessment of [Mr A] directly into the electronic discharge summary.

This is a somewhat unusual practice and, although I can see that this was intended to save time, confuses the purposes of two documents (electronic or otherwise). Contemporaneous notes are required to be kept for all clinical interactions and these would be expected to be of an appropriate standard. Discharge notes are for the benefit of the primary care provider and sometimes also the patient when they are handed to the patient in hard copy format ... [M]ost EDs are moving to an electronic health record and this is far less likely to get misplaced than paper records. The advantage is that any clinician can access the record from any computer in the ED without having to rely on locating a hard copy record. In addition the existence of electronic ED notes makes the process of handover more reliable as handover is often completed in front of a computer ... The issue of double data entry is problematic in busy EDs but most Emergency Physicians would expect the main electronic clinical record to populate a discharge summary (EDS) rather than relying solely on the discharge summary as the record. There is comment from Hutt Valley DHB that ‘notes made in the form of an electronic discharge summary are routinely used as an alternative to hand written notes.’ This might be considered as ‘custom and practice’ but would not be supported by ACEM [the Australasian College of Emergency Medicine].

[Mr A's] name was not on the whiteboard, and there was no formal handover from [Dr B] to the doctor who took over [Mr A's] care, [Dr C].

I understand this practice has now changed at Hutt ED such that all patients are identified on the electronic tracking screen and that this is used for handover. It is the responsibility of the handing over doctor to ensure that all relevant clinical information is passed on to the clinician assuming a duty of care for the patient and that this should include outstanding results and a clinical plan.

[Mr A] can not recall whether he was provided with any pamphlets, but his wife and daughter (who had accompanied him to ED) advised that

they were not provided with any written or verbal information about head injuries.

This would be a variation from recommended practice which is to provide instructions to patients and family members of all patients who are discharged after head injury. ACC Evidence-based best practice guideline summary for Traumatic Brain Injury (TBI) (March 2007) states on page 19 that all people with any degree of suspected TBI receive verbal advice on discharge — but as many of these patients may be unable to remember such advice — the common practice is to give written instructions. ACC provide such leaflets free of charge.

Follow-up 19 December 2006 — 10 February 2007

Following discharge from ED on the morning of 14 December 2006, [Mr A] **attended his scheduled appointment at the nose clinic, where he was examined by the plastic surgery registrar, [Dr D]. [Mr A] reported no abnormal neurological defects such as double vision or ringing in the ears.**

[Mr A] consulted Dr F on 9 January 2007. He was experiencing a marked deterioration in hearing on the left side, and ‘having pain and headaches in the base of his skull’.

There is documented deterioration in [Mr A’s] condition between 19 December and 9 January. Dr F referred [Mr A] back to Hutt Plastics clinic and was seen on 11 January when [Mr A] was noted to have ‘ongoing headache’ and reduced hearing on the left side.

This deterioration in [Mr A’s] condition is relevant to my comments about the indication for Brain CT on 13/ 14 December 2006.

There was further deterioration between [Mr A] being seen a second time in ED on 10 February and his return on 11 February when an urgent Brain CT was performed and identified ‘evidence of a large left cerebral convexity subdural haematoma ...’

I note ACC accepted [Mr A’s] claim for treatment injury in April 2007.

[Dr B] states ‘**The presence of amnesia and an age of 67 years would appear to indicate a need for CT scanning. However such guidelines are intended to provide guidance rather than be rigid protocols...**’

Your expert Dr Clearwater disagreed with [Dr B’s] reasoning and stated ‘I take issue with the points made by [Dr B] in his response. The ED guidelines are not guidelines in the sense used by [Dr B]. It is no coincidence that they are described as ‘decision rules ...’

Although Dr Clearwater is correct in his explanation of Decision Rules — the guidelines used in Hutt ED would appear to be those promoted by ACC.

Although these were not formally published until March 2007 (attachment) — the statement of intent states ‘while guidelines represent a statement of best practice based on the latest available evidence (at the time of publishing) they are not intended to replace the health practitioner’s judgement in each individual case’.

My view would be that in NZ the ACC guidelines are a more consistent standard than one of the published ‘decision rules’ — although ACC have used the best evidence from the decision rules papers for their criteria for indications to order urgent Brain CT after TBI. The problem with strictly applying the decision rules reasoning is that there are in fact three commonly referred to Brain CT decision rules and they all differ slightly in their indications for Brain CT. Age features in the indications for CT in all three decision rules as well as being in the ACC guidelines. My opinion is that it is reasonable to apply clinical judgement to the application of guidelines but that if a clearly identified criteria is to be ignored — the clinician is duty bound to discuss this with the patient and document the reasoning in the contemporaneous clinical record. Although [Dr B] has give his reasons for not ordering a CT on the night of 13 December 2006 he has not documented his reasons.

Conclusion

I think your comments are fair and have recognised the pressure [Dr B] was under. However it is established doctrine that overcrowding and/or work pressures do not excuse substandard care.

While being in agreement with this principle — overcrowding in ED is a major concern for Emergency Physicians as it is becoming increasingly difficult to ensure an appropriate standard of care is delivered to *all* patients in ED. Emergency Physicians, particularly Consultants, do try to ensure care is delivered to *all* patients but a defensive approach (and not to the patients’ benefit) would be to limit care to a few patients in order to apply a high standard of care. An individual duty of care would not be developed with other patients in ED which would increase risk to the DHB.

[Dr B] has gone beyond the call of duty and allowed his standard to fall. I think it should be made very clear that although [Dr B] is responsible for his own standards of care the DHB is responsible for providing an environment and workforce sufficient to provide care of an acceptable standard to the expected workload of an ED. This view is represented in your final paragraph of Hutt Valley breach — but I feel with the epidemic of overcrowded EDs facing NZ (as well as the rest of the world) — the balance of responsibility needs to be shifted away from the hard pressed clinicians who come to work to do the best they can and more towards the DHBs who to a large part are not motivated to address the ED overcrowding issue. ...

I think Hutt Valley ED needs to be recommended to identify the Guidelines in use for the management of head injury and to ensure that these are consistent with best practice. ... I also agree a guideline of the management of headache is desirable. I do not think they should be encouraged to use an Electronic Discharge Summary as a sole patient record.

I think Hutt Valley DHB need to provide you with evidence that ED staffing levels are to an acceptable standard at *all* times.

...

I believe however the emphasis on ‘rules’ is contentious and not consistent with practice across NZ. It would however be reasonable to emphasise the importance in using existing well validated guidelines to assist clinical decision making. Variance from these requires particularly careful documentation.

[Dr] Clearwater is correct to point out that ‘The decision rules were designed to be objective. They do not use an inexact concept of physiological age, they simply classify patients by objective chronological age.’ However it is also important to mention that risk of intracranial bleed does not suddenly appear at 65 years of age and that a degree of common sense needs to be adopted when applying rules based on statistics.

It is relevant to point out that a Brain CT performed on the night of 13 December 2006 may have been normal as a subdural classically develops slowly. Neurological deterioration was identified at a later date, and a CT and surgery identified a haematoma which looked old — there is no firm evidence that [Dr B’s] failure to order a CT of [Mr A’s] brain was the causative reason for a delayed diagnosis.

...

I believe of more importance is the lack of handover and instructions to the patient and family to return in the event of clearly identified neurological deterioration (as documented on the ACC 572 head injury advice).

...

Whilst it is clearly desirable for all patients to be personally examined by an SMO this is not practicable in NZ at this point in time ... Any standard to which clinicians are measured needs to be qualified by a statement that this would be the expected action of other similar individuals in similar situations elsewhere in NZ (which it is not) or quote a standard which is generally accepted by a governing body such as ACEM.

You will be pleased to know that ACEM has now published the guidance for supervision and consultation ... I shall be drawing the attention of NZ FACEMs to these policies and guidelines.”