

Purpose of the document

This report examines the role, function and management systems of the Department of Emergency Medicine (DEM) at Bundaberg Base Hospital (BBH).

This review did not examine the specifics of certain allegations reported on the PRIME accident and incident reporting system. Two other reviews in relation to those incidents were occurring concurrently.

Conduct of the Review

The review was conducted by Dr Peter Brennan during the period commencing Thursday the 5th February 2009. Dr Brennan was on the ground in Bundaberg for four days commencing Monday 9th February 2009. On Friday the 13th there were face-to-face meetings in Brisbane. Two extended telephone conferences were held in the following week.

The reviewer was provided with extensive statistical information in relation to the performance of the DEM. Personal interviews were conducted with DEM staff and key stakeholders from other departments of the hospital. A list of persons interviewed is given at Appendix A.

Names and positions of the participants in the various telephone conversations can be obtained from Queensland Health.

It is important to note that this review is not written from a forensic perspective. The information in the Emergency Department Information System (EDIS) and other databases was taken at face value. No attempt was made to independently verify the information provided.

Background

Understanding the context in which a review is undertaken is always important but no more so than on this occasion.

The commencement of the committal hearing of a former surgeon of BBH has attracted national and international attention. A local member of State Parliament has become involved in issues relating to the DEM. Statewide and local media have picked up on the allegations. The end result has been four separate processes:

- A senior medical administrator from Brisbane is reviewing the incidents reported on Prime and, importantly, the management response to those reports.
- All reports on PRIME ie hospital wide not just DEM are being reviewed (approximately 3000).
- Certain other allegations relating to alleged misconduct have been referred by the Crime and Misconduct Commission to the Ethical Standards Unit of Queensland Health.
- This review of functions and systems constitute the fourth arm of the overall response.

Given the intense activity, relationships took some time to establish. To their credit all staff made a significant effort to co-operate with this component of the review.

The consultant was also provided with a copy of an earlier review (15th December 2006). The basic problems are unchanged. Some improvements have been made and these are acknowledged progressively in the appropriate sections of this report.

Statistical Performance

The DEM sees between 35,000 to 40,000 patients per annum. This number puts it pretty much in the middle of the range for Australian emergency departments.

Twenty five percent of the patients are in the paediatric age group. This is a significant proportion which is not reflected in the design or functionality of the department.

The reviewer was provided with extensive documentation in relation to performance indicators. Most of the data are generated through the EDIS system. The information is presented in standardised formats which facilitate comparisons across hospitals.

These reports show waiting times by triage category and are further broken down into the day of the week and the time of the day. The performance of the DEM is pretty much in line with targets and expectations.

The following table is probably the fairest presentation of the several hundred pages provided.

Triage Category	Target to be seen	Target Met	Median Wait (mins)
1: Critical	1 minute	100%	0
2: Emergency	10 minutes	81%	6
3: Urgent	30 minutes	78%	15
4: Semi Urgent	60 minutes	78%	25
5: Non Urgent	120 minutes	92%	19
All		79%	18

These figures are acceptable and a vast improvement on the performance that would have been the *norm* in years gone by for any emergency department.

The perception of underperformance may well come from the phenomenon of *access block*. Access block is a measure of the total time that a patient spends in ED, from initial presentation to departure to the ward (the indicator is not applicable for patients who are discharged home). Of the possible causes of access block some are attributable to inefficiencies or systems problems within the ED but others are not.

The assertion that BBH does have problems with access block for patients admitted through the ED is irrefutable.

The Queensland target is for 100 percent clearance from the DEM at 8 hours. BBH is achieving 72 percent (35 percent at 4 hours and 90 percent at 12 hours).

However a further statistic is useful in interpreting these numbers. The EDIS system records when the patient is ready to depart the emergency department (ie *packaged and ready to go* in ED jargon). The average time for this category for all admitted patients is 168 minutes but it takes, on average, another 131 minutes to receive a bed allocation and depart the ED (ie a total of 299 minutes).¹

The cause of this delay will be considered later in the report.

Anecdotally, the performance for children would be better than presented here and for mental health presentations, probably worse.

¹ Note this analysis is based on one month's numbers, January 2009, but does represent 591 admissions.

In summary the major problem performance wise is access block and some, but not all, of this can be attributed to the DEM and its patient care systems.

Facilities

The DEM is well located on the corner of the campus with good access for both ambulant and vehicular traffic. The heliport is immediately outside the ambulance entrance. Radiology has a good physical relationship. The envelope of the department is too small for what they are trying to achieve.

Since the December 2006 report six *observation beds* have been added but, from a systems and management point of view, this could not be said to have been a success.

It is tempting to say that the problems will, or at least should, be solved with the redevelopment of the department. However there is at least two years to go, possibly longer. Some problems need to be fixed in the short term.

The waiting area, triage area, security room and reception are very small and cramped. The environment is not conducive to calm behaviour. The physical layout has given rise to some shortcomings in triage.

There is no separate or appropriate area for children and babies to wait. The reviewer witnessed toddlers mixed up with verbally abusive patients.

The room allocated to security staff is not visible from the waiting area. A visible deterrent should be created where the officer and his / her bank of monitors is clearly visible. Physical separation of the reception and the triage staff will help overcome any ambiguities in their respective roles.

The department has two resuscitation bays, one trauma bay, three acute bays, four non acute bays and the six observation bays. The number is probably inadequate as witnessed by the plans for the new unit but it is not certain that increasing capacity will do much to solve the problems. In fact it is possible that even more medical patients will accumulate in the DEM exacerbating the problem of access block.

There is no appropriate facility for the observation or assessment of behaviourally disturbed patients. There is provision for one such room in the new floor plan but even this does not have dual access and egress.

The problems outlined for the existing unit could be significantly improved with a relatively small outlay. The reviewer is not an expert in design but some options have been suggested to staff. The alternatives should be reviewed by a competent facilities planner / architect.

The reviewer will make further comments about the design of the new unit in a subsequent section. The new Director may well want to review the models of care and place more emphasis on short-stay management units.

Medical Staff

There are four categories of medical staff in the Department of Emergency Medicine at Bundaberg Base hospital. In ascending order of seniority these are:

- Resident Medical Officer (RMO)
- Principal House Officer (PHO)
- Senior Medical Officer (SMO)
- Fellow of the Australian College of Emergency Medicine (FACEM)

The RMOs and PHOs are locums and generally overseas graduates. The 2006 review recommended that the use of RMOs in EDs be phased out. This has not occurred.

The SMOs are a relatively stable group and appear to be competent clinically but, as noted in 2006, do not take on a leadership role.

The specialists (FACEMs) are all locums and mostly New Zealand based. They are all very capable and without them the level of service achieved in recent years would not have been possible. Some confusion has arisen over their role. One model would have it that the FACEMs, who are generally there during the day and early evening, should take control of the floor and be aware of the status of every patient. At the other extreme some would have it that the most experienced clinician should focus on the urgent and sickest patients.

Either model is acceptable and most of the time a mixed model is in operation. The reviewer believes that when only one senior clinician is available an overview of the floor and progress with all patients, is the clinical imperative.

With the appointment of a well qualified Australian trained FACEM it is anticipated that there will be a discernable and almost immediate lift in medical standards.

The consultants from the medical teams in the main wards have some reservations in relation to the opinions of the junior staff in the DEM. This results in delays and frustration while patients wait to be *reviewed* in the DEM by the consultant teams from the wards. This is one of the contributing factors to the access block.

Most of the medical staff have never been involved in a performance appraisal. When asked they are not aware of the performance indicators against which they should be evaluated.

The model of care is somewhat anachronistic. The laudable attempts to establish a short stay observation ward, largely protocol driven, have not been successful. Often the observation ward is nothing more than an overflow for the general medical wards.

The new Director is aware of these issues. He will need the support of senior clinicians and managers across the hospital if they are to be overturned.

Nursing

The standard of nursing in the DEM is commendable, particularly given the variable level of medical support they receive. There are approximately 35 full time equivalents (46 heads).

The nurse unit manager and the nurse educator are senior people who are well respected and neither hesitates to *roll up the sleeves* and *get out on the floor* when required.

All nurses have an annual performance appraisal. This is based on an electronic *pro forma* completed by the staff member and assessed by the NUM prior to the face-to-face meeting. One outcome can be the nurse being placed on performance management. The system also has a development component. Development and educational plans are agreed, documented and reviewed the following year.

Of the 46 nurses about one quarter have, or are, pursuing post-basic qualifications. On every shift one of the more experienced is designated the shift coordinator who is in *control of the floor*. In other units the *control of the floor* would be function of a senior physician but given the variability of medical staff in both seniority and experience it is a model that works and works well.

Instantaneous decisions have to be made about priorities and resource allocation. The nurses appear to do it superbly.

The reviewer's only concern is the extent of the shift coordinators role. As well as the floor, the shift coordinator is also responsible for ambulance coordination and triage of patients presenting via ambulance. This duplication of function has two significant consequences. Firstly, the activity detracts from the crucial role of *calling the shots* on the floor. Secondly, it breaches one of the fundamental principles of triage. Triage is a single function and can only be carried out by one person (or more than one person but with a single individual making the decisions).

As it pans out in the DEM the designated triage nurse is controlling the walk-ins and supervising the waiting room and the shift coordinator assesses and triages the ambulance arrivals. It is unreasonable to assume that patients, with say chest pain, presenting to the ambulance entrance are necessarily of greater urgency than a patient with chest pain who walks through the front door. The triage issue has been discussed with staff. An enrolled nurse may need to be teamed with the triage nurse but it must be one function.

The design issues discussed earlier will need to be addressed to achieve a single triage function. The use of consulting room one (on the *fast track* corridor) would give the triage nurse easy access to both the walk-ins and the ambulance corridor.

The 2006 report criticised the lack of quality assurance programs. This has now been addressed largely at the instigation of senior nurses. There is now a monthly clinical services forum which is attended by

the FACEMs, the SMO and nursing staff. At that meeting all category one cases are presented, all in-unit deaths are discussed, all long waits are reviewed and all incident reports (ie the PRIME system) are tabled along with management's response. The records of these meetings are available to all staff in the tearoom / locker room.

Given the variable level of medical support it is surprising that greater use is not made of the clinical skills of the nurses. There are possibly three avenues that nursing skills could be used, and indeed are, in many EDs across Australia.

Fast track clinics can be managed by nursing staff. Patients with minor and / or straightforward issues can be triaged to a nurse led clinic for immediate attention. This happens to some extent at BBH but it is not optimal.

A second set of initiatives generally goes under the name *nurse initiated protocol*. Under these protocols patients do not see a medical person before the plan is implemented. These protocols are usually used in the ED and cover such areas as pain relief, referral to radiology, symptom relief and referral to a GP or hospital clinic.

More sophisticated protocols cover chest pain assessment, closed head injury, renal colic and DVT. Nurse initiated referral is not in place at BBH, allegedly because there is no Director to authorise the protocols. This obstacle will now be overcome but the reviewer would argue that the problems in recruiting medical staff justify greater rather than lesser efforts in these areas.

A number of recent nursing appointees have come from metropolitan EDs and have certified competencies in a variety of procedural skills, suturing and arterial lines for example. At BBH they have not been allowed to use these skills. The decision has a double impact. Talented staff will be disillusioned and move on and, the opportunity to use these skills to enhance the efficiency of patient care is lost. In reality many of the nurses simply go ahead and do what has to be done irrespective of the formal protocols. Others, understandably, are more reluctant to risk censure.

In passing, some of these comments could also apply to various allied health professionals. For example many EDs have physiotherapists for front line management of soft tissue injuries without any need for medical involvement.

Queensland legislation has provision for formal training and registration of nurse practitioners. Such a person(s) would make a significant contribution but it is a protracted development process. The advanced nursing skills discussed previously are evidence-based and simple to implement. Allowing nurses to use their skills and competencies can only add to recruitment and retention of talented individuals.

Currently the shift handover is from nurse to nurse and doctor to doctor. There is no unit round for all staff as is often seen in critical care areas.

A unit round not only contributes to continuity of care but can also be a valuable educational tool. There is every reason why allied health staff, particularly pharmacists, should participate in a unit round.

It is hoped the new director will instigate these or similar mechanisms.

Administration and Security

Administration

A recent trial of additional administration staff has just been completed. It appears to have been successful. Once the evaluation is complete these positions should be formally established and funded.

The Australian Service Union has requested two full time staff members on all shifts except the overnight shift (11pm – 7am) and that the senior admin person (A04) be supernumerary to the requirements of the front counter. The request in relation to the A04 is supported. Any further increases in establishment should be considered after the evaluation of the current trial.

It may be appropriate to stress here that administrative staff should not be involved in clinical activities, either therapeutic or triage.

Security

As mentioned elsewhere the room used by the security staff in the existent area is small and poorly located. It offers no visual deterrent to undesirable behaviour in the waiting room. As well as relocating

the office to a more imposing position it is recommended that an additional officer be stationed in the office from say 5pm until midnight, seven days a week. This is in addition to the two security staff rostered for the hospital.

It is understood that if an incident occurs one of the other two will need to be called but a single officer should be enough to provide a visual deterrent

Relationship of the DEM with Other Clinical and Diagnostic Departments

Radiology

As mentioned earlier the physical location of the imaging department is almost ideal with direct access through a dedicated corridor to all the necessary modalities.

The functional relationships however are less than satisfying. There is no on-site radiologist. The arrangements with the local practice are complex and possibly lost to history. Ironically the imaging department has a sophisticated digital subtraction angiography facility (DSA) which is never used – or more correctly only used for trivial reasons, way below its capacity.

Reporting is remote and, particularly for CT, requires manual transfer through electronic firewalls on both sides.

The complexity of the relationships between the hospital and off-site radiology services is beyond the scope of this review but certainly needs to be addressed by senior management.

The proposals for the redeveloped ED mean that access to plain imaging (other than with a mobile) and CT will not be as good as they are now. The plans should be revisited. A relocation of CT and one plain room to the current DSA area would provide direct access to the acute floor and resuscitation bays.

In passing the reviewer notes that there will be no roof-mounted gantry in what will be the trauma room. Surely this was an oversight.

Paediatrics

Given that 25 percent of the presentations to the DEM are in the paediatric age group a good working relationship with the DEM is essential and indeed that appears to be the case. The paediatric consultants and house staff respond promptly to requests for help or second opinions in the DEM.

Concern was expressed that some of the junior medical staff have little or no experience in paediatrics.

The waiting room issues have already been mentioned. From a child protection perspective children should not be in adult areas. This includes waiting areas, treatment areas and definitely patient accommodation areas.

Orthopaedics

The orthopaedics consultants and house staff are highly responsive to requests from DEM staff. They have produced a manual to guide staff with limited experience in orthopaedics. Orthopaedic admissions cannot be initiated by ED staff but given their responsiveness this rarely seems to be a problem of the type seen in internal medicine.

Surgery

The surgical staff expressed concern that often they were not notified early enough of surgical patients being assessed in the DEM. They cited the inexperience of some DEM staff which resulted in either protracted periods of observation or unnecessary and time consuming investigations, particularly abdominal CT.

The surgeons also expressed concern that there is no mechanism for feedback to the DEM staff of the ultimate patient diagnosis and outcome. In particular, what the operation findings were in relation to the working diagnosis in the DEM. They argue that improvement will never occur if staff are not told of the accuracy of their provisional diagnosis.

Mental Health

The relationship with mental health services is complex as indeed it is with most emergency departments in Australia.

DEM staff claim that mental health staff are slow to respond and that the insistence on *medical clearance* and sobriety of the patient is unreasonable. On the other side the Director of Mental Health points out that all patients require the same level of diligence and care on presentation to the DEM. A prior history of mental health disorder or contact with the mental health service is not *per se* a reason for an immediate referral to the duty mental health team.

There is no doubt that the attitudes of some emergency staff, not just in Bundaberg, are a legacy of the stigmatisation associated with mental health problems. The issues are complex and in the time available, the reviewer was unable to reach a conclusion on the claims and counter-claims. The reviewer recommends that the new Director of the DEM and the Director of Mental Health jointly develop protocols and education programs to address the perceived problems.

General Medicine and Access Block

Although general medicine and its relationship with the DEM could have been addressed in the previous section they are discussed under this heading as there is a major problem for BBH overall not just the DEM.

As illustrated earlier the major aberration in the statistical performance of the DEM is in relation to access block. (The time from presentation to the admission of the patient to a ward or *upstairs* in the local jargon.)

Issues within the DEM do contribute to access block. In this case the seniority and experience of the medical staff in the DEM results in an initial delay in deciding the need for admission. This delay is compounded by the insistence of some of the medical teams on assessing the patient in the DEM before accepting the patient. On this latter point the Director of Medicine issued an instruction in mid 2007 which would have left the decision to admit in the hands of the doctors in the DEM. The admitting physicians had the option to discharge the patient after assessment on the ward. The instruction was clarified by the hospital management team and ultimately resulted in an option for patients to be sent to the ward (provided a bed is available) on a four hour plan.

The notion of *packaging* an ED patient is relatively common and typically includes a:

- A working diagnosis.
- Stable haemodynamics.

- A management plan.
- Implementation of the plan in a manner to keep the patient stable for four hours.

This policy falls down when the admitting medical team (or the ward nursing staff) do not have confidence in the DEM medical staff for reasons of seniority or competence. When certain FACEMs are on the floor they regard the policy as the default option and arrange for the transfer of the patient to the ward.

However all these policies have become academic now as there is rarely a medical bed available.

The hospital launched a major investigation into the adequacy and use of medical beds. The study was based on patient flow methodologies pioneered in the NHS. These include critical path analysis, lean thinking and constraint theory. The reviewer was given voluminous documentation of these processes along with a list of recommendations. If these studies had not been done the reviewer would have recommended the same course of action. The work is technically correct, the methodology cannot be faulted and the conclusions and recommendations appear to be fully justified.

The main conclusions relate to the discharge process including the setting of expected discharge dates, discharge planning, discharge medications, discharge rounds and poor coordination of discharge from Friday night to Monday morning (a significant proportion of the hospital week). The reviewer does not plan to present the detailed findings. They are readily available in the hospital.

Unfortunately the final step – implementation, was not pursued and the situation has deteriorated further. The failed implementation is clearly an issue of leadership. The argument was advanced that socioeconomic factors contributed to excessive lengths of stay. It could be argued however, that where socioeconomic issues are significant the need for meticulous discharge planning is even greater.

To corroborate these opinions the reviewer asked for an analysis of average length of stay for each major medical diagnosis category (DRG) for BBH and a comparison with state averages.

The data were supplied for the top 20 DRGs for all medicine, for each medical unit and for individual clinicians. The conclusions drawn from this brief analysis support the findings of the earlier studies. The work practices and discharge planning on the medical wards must be improved before any increase in

capacity can be contemplated. The relative inefficiencies on the medical wards are impacting the performance of the DEM (and the ICU). There is also a danger that the expansion of capacity in the redeveloped DEM will be offset by the inefficient practices on the medical ward.

The reviewer believes that the implementation of these work practice changes should be put in the hands of an experienced clinician manager. He / she will need the unequivocal support of senior management.

The Redeveloped ED

Throughout this review commentary has been made on the proposed design of the redeveloped DEM.

In summary the issues that deserve further consideration are:

1. The model of care. It is unlikely that six observation beds will meet the needs of care models being considered by the new Director, short stay management, assessment and planning units (MAPU), protocol driven observation beds – chest pain, DVT, closed head injury etc.
2. The triage area is again aligned to the ambulatory entrance and waiting room and physically away from the ambulance entrance.
3. Mental health has one secure room near the entrance but only one other room for observation / interview which is inadequately designed.
4. Children do not have a separate and secure waiting area.
5. Imaging. The proposed physical relationship of radiology and the DEM is significantly worse than the current arrangement. Relocation of CT and a plain room would provide good functional and physical relationships. At least one of the resuscitation bays should be equipped with a gantry to facilitate the management of trauma patients.