NEW SOUTH WALES

PERFORMANCE AUDIT REPORT

HOSPITAL EMERGENCY DEPARTMENTS
Delivering Services to Patients

AO
The Audit Office of New South Wales

The Members of the Legislative Assembly
Parliament House
SYDNEY NSW 2000

In compliance with Section 38E of the *Public Finance and Audit Act 1983*, I present a report to the Legislative Assembly titled **Hospital Emergency Departments: Delivering Services to Patients**

R J Sendt
Auditor-General

Sydney
March 2000

Performance Audit Report

Hospital Emergency Departments

Delivering Services to Patients

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The audit

This audit is the second performance audit report of emergency department services in NSW public hospitals. The first report, *Hospital Emergency Departments Planning Statewide Services* tabled in October 1998, examined the approaches to planning for the provision of services, the coordination of services and the impact of initiatives to address system wide problems.[1]

This performance audit examines factors that impact on patient flow through the emergency department from arrival to discharge or admission to hospital. This audit examined the operations of nine emergency departments in principal referral, metropolitan and rural hospitals.

The audit focussed on determining whether:

- emergency departments manage patient flow efficiently and meet benchmarks for waiting times
- an efficient and effective relationship exists between staffing levels, mix of staff and workload
- systems are in place to ensure the provision of high quality services to patients
- management of the emergency department facilitates the effective and efficient treatment of patients.

Audit opinion

There have been notable changes in the provision of emergency department services over the last decade, principally by increasing the number, seniority and training of staff and upgrading facilities. More recently, programs have focussed on achieving improvements in emergency department waiting times (the time taken to see a doctor) and access block (delay in accessing a hospital bed).

However, these programs have had limited effect. Although waiting times for seriously ill patients have decreased, waiting times for around 95% of emergency department patients have increased or remain unchanged and performance against benchmarks for access block has declined each year.[1]

The Audit Office also concluded that:

- **treatment times and resources vary markedly across the hospitals visited**
- **risk management and quality assurance systems relating to patient care require improvement**
- **accountability for emergency department performance is unclear.**

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[1] Department of Health 1998-99 Annual Report p 102

The reasons for delays in emergency treatment are complex and extend beyond the boundaries of the emergency department. Although The Audit Office identified opportunities to improve patient flow in the emergency department, benefits will be limited by access block and the congestion caused by being unable to move patients to a ward. Only a better balance of resources between inpatient access programs (that is booked and emergency department patients) will bring about improvements in access block.

This approach has been acknowledged by the Department and is endorsed by the Access Block Working Party in its report, released in September 1999.[2]

Patients treated

In 1998-99, over 1.7 million people sought treatment in one of over 140 public emergency departments in NSW, an increase of 7.2% over the last two years. Most patients (75%) are seen in metropolitan emergency departments and around 40% of admissions to hospital wards originate from the emergency department.

Waiting for treatment

Half of the emergency departments visited by The Audit Office failed to meet the 1998-99 performance benchmarks set for waiting times, particularly for emergency, urgent and semi-urgent patients (triage categories 2 to 4).

The cause of delays in treating patients in emergency departments is not always a lack of resources (although not enough space and staff are significant contributors to delays). Even if staffing levels are ideal, there are other causes of delays in seeing a doctor and there can be subsequent delays in completing the diagnosis and treatment.

Factors that affect waiting times include the triage process, diagnostic infrastructure, facility design and size, the process of transferring patients and other functions that the emergency department may be involved in that direct attention away from emergency patients.[3]

Emergency departments generally respond to congestion with short term resource solutions (more beds and staff). Few hospitals had addressed these other impediments to patient flow.

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[2] Emergency Department Access Block Working Party Report, Department of Health, 1999
[3] Triage refers to the process of sorting patients according to the urgency of assessment and treatment.

Waiting for a bed

There has been an overall decline in access block performance since December 1994, with fewer patients admitted to hospital within the recommended timeframe. Generally, metropolitan hospitals experience more problems admitting patients through the emergency department than rural hospitals.

High bed occupancy rates in metropolitan hospitals, and a reduction in bed numbers in recent years has exacerbated the problem of access for emergency patients.

While bed availability is a key factor in moving patients to a hospital ward, there are other factors which contribute to poor performance. The measure of access block takes into account treatment times in the emergency department which may have little to do with whether or not a bed is available on the ward.

Programs to improve access

Access programs and numerous other initiatives by the Department of Health have helped to achieve improvements in hospital productivity and efficiency (through better bed management).[4]

Most hospitals visited by The Audit Office had well developed bed management systems and management plans in place to improve bed availability and utilisation in the hospital. These plans generally focussed on improving access to inpatient beds, not improving patient flow through the emergency department.

Productivity and efficiency trade offs

Throughout the 1990s there has been a focus on reducing elective surgery (booked patient) waiting lists.

Financial incentives were used to induce hospitals to improve the throughput of booked patients. These incentives far exceeded any special investment directed at emergency department performance and may have influenced hospital administrators to concentrate on booked patients as a priority rather than improving access for emergency department patients.

The effect of this imbalance in incentives has been to skew improvements in access, productivity and efficiency to part of the system not the entire hospital (possibly at the expense of efficiency gains in the emergency department).

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[4] Other Department of Health initiatives include: Access Block Strategy (1999), Better Practice Guidelines for Patient Management (1998), Demand and Supply in NSW Emergency Departments (1997), Emergency Department Strategic Directions (1997).

The focus is now for hospital administrators to make the system more flexible and correct the balance of resources to maximise efficiency in both programs.[5] This offers a challenge to Area Health Services and hospital administrators who have previously been unable to achieve the correct balance.

Staffing the emergency department

Another factor which affects waiting times is the medical staffing levels in the emergency department. There are no agreed principles for determining the staffing requirements of an emergency department. Similarly, there is a need for guidelines based on patient acuity and number of attendances to determine whether a doctor is required on-site.

The Audit Office also identified issues in the preparation of medical rosters, the use of locum doctors to staff the emergency department and the potential for efficiency gains from re-engineering processes in the emergency department in line with findings from the Workpractice Review Project.

Rural emergency departments

In most rural emergency departments, local General Practitioners (GPs) are contracted as Visiting Medical Officers (VMOs) and are on-call for emergencies. Although there is a credentialling process for determining clinical privileges in emergency medicine, there are no minimum standards of experience, skills and continuing medical education for GPs working in level 2 and 3 rural emergency departments.[6]

Once clinical privileges are assigned, contracts are drafted by each Area Health Service. There is no standard contract. Also, once appointed, there is no routine testing of skills and competencies in emergency medicine.

The right diagnosis and treatment

The major factors contributing to clinical incidents in an emergency department are inexperienced staff, the lack of on-site senior medical cover and a busy department.[7] Quality management in an emergency department needs to identify all risks and have strategies in place to manage risks and minimise the probability of adverse events.

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[5] Access Block Strategy Department of Health May 1999, Emergency Department Access Block Working Party Report Department of Health September 1999

[6] Level 2 and 3 emergency departments have a designated assessment and treatment area, resuscitation and stabilisation capacity and either a visiting medical officer on call (level 2) or on site or available within 10 minutes (level 3).

[7] Vinen JD, Gaudry PL et al, *Critical Incident Monitoring Study [CIMS] in Emergency Medicine: An Interim Report*, Commonwealth Department of Human Services and Health and ACEM, October 1994

The Audit Office found that there are no minimum standards for quality assurance in an emergency department and approaches to quality management varied across the sites.

Accountability for performance

The Audit Office also found that at an operational level, responsibility and accountability for the achievement of performance improvement in waiting times is unclear. Similarly, emergency department staff considered the department lacked autonomy in decision making and had limited power to influence decisions that impacted the provision of emergency department services.

It is important that emergency departments are represented in such a way that the needs of the department are taken into consideration when decisions are made which affect their services. These needs are probably best represented by the emergency department itself.

Key accountabilities need to be clearly defined and centralised in a position of authority in the emergency department to facilitate improvements to service delivery and thus performance. This alone will not relieve delays for patients attending emergency departments but without it the success of other strategies could possibly be at risk.

Summary of Recommendations

It is recommended that the Department of Health:

Waiting times and access block

❑ develop principles for determining the number of treatment areas or beds needed in an emergency department based on presentation levels and patient acuity

❑ monitor access block in terms of length of stay in the emergency department (from arrival to departure ready time) and problems accessing a hospital bed (departure ready time to admission)

❑ consider introducing sanctions for Area Health Services or hospitals that fail to achieve performance targets or fail to implement improvements outlined in the Department's Access Block Strategy 1999

Quality and patient risk

❑ establish principles for determining the staffing requirements of an emergency department, including whether a doctor is required on-site

❑ in consultation with the Australasian College for Emergency Medicine (ACEM), Divisions of General Practice and the Rural Doctors' Association, establish minimum standards of experience, skills and continuing medical education for General Practitioners (GPs) and Career Medical Officers (CMOs) working in level 2 and 3 rural emergency departments

❑ in consultation with ACEM, establish minimum standards for the management of quality in emergency departments that match delineation levels

❑ establish a means of analysing State Coroner's investigation reports to identify systemic issues affecting emergency department services

❑ continue to progress the implementation of recommendations of the Working Group for Mental Health Care in Emergency Departments.

It is recommended that Area Health Services and/or hospitals:

Waiting times and access block

- ensure patients are directed to triage as the first point of contact with the emergency department

- develop protocols on the provision of telephone advice

- realign diagnostic services so that they are available during peak times in the emergency department

- reduce design features that limit patient flow or fail to meet the special needs of patients when refurbishing or building a new emergency department

- review the impact of delays in inter-hospital transfer and discharge of patients from the emergency department

- transfer non-core services where they affect the treatment of emergency department patients, to other locations within the health service

- introduce rostering practices that better match resources to demand

- examine opportunities to introduce extended roles for nurses in the emergency department

- examine the results of the Workpractice Review Project with a view to re-engineering tasks in the emergency department

- address the causes of delays in patient flow within the emergency department and factors that contribute to access block

Quality and patient risk

- include requirements for continuing medical education and routine testing (of skills and competencies) in contracts for Visiting Medical Officers

- where possible, replace locum staff with full time positions

- introduce minimum skill requirements for locum doctors working in the emergency department

- ensure Directors and Nurse Unit Managers have sufficient time for staff supervision and training

- provide formal orientation to all medical staff commencing work in the emergency department

- introduce minimum standards for the management of quality in emergency departments

Accountability

- review reporting structures to determine if they impede performance in the emergency department

- allocate accountability and authority for the management and performance of an emergency department to a position within the department.

Response from the Department of Health

Thank you for the opportunity to respond to the Performance Audit Report "Hospital Emergency Departments – Delivering Services to Patients". This report, together with the earlier report "Hospital Emergency Departments – Planning Statewide Services" forms a comprehensive view of emergency departments in NSW.

The number of presentations to NSW emergency departments continues to rise. From 1996/97 to 1998/99 there has been an increase in emergency department attendances of 7.2%. This trend reflects continued difficulties in the availability of after hours GP services and the rising demand for emergency services from the aging population. The Audit Office report highlights the complexities in continuing to manage a diverse population with differing health and social needs. Emergency department services are an integral part of the hospital system and a number of complex and interrelated factors are involved in both the planning and provision of these services.

Emergency department services continue to be a high priority for the NSW health system. The NSW Health Department has been working closely with the Australasian College for Emergency Medicine and the Emergency Nurses Association to further improve services in NSW. A number of the recommendations put forward by the Audit Office, for example the recommendations of the Working Group for Mental Health Care in Emergency Departments and the extension of the role of nurses, have already been implemented by the Department and Area Health Services.

The Department has endeavored to create the appropriate incentives for the management of emergency department demand and has introduced initiatives to further improve performance. However, it is acknowledged that further efforts are required to improve the continuing pressure and demand that face emergency departments.

Some of these initiatives are:

- A $30 million funding package over three years has been provided to ease pressure on emergency departments. The funding will be used to further improve discharge planning and bed management and to provide additional resources for our emergency departments. These resources will include the creation of additional frontline clinical positions - senior medical and nursing staff, dedicated triage nurses, clinical assistants, discharge planners and nurse educators. The package has been developed in partnership with clinicians.

- In July 1999, at the request of the Minister for Health, the Emergency Department Access Block Working Party was convened to advise on factors contributing to delays in transferring patients from the emergency department to ward beds and identify practical solutions to address these factors to provide a longer term, sustainable strategy to minimise access block problems for emergency departments. The Working Party report was released in September 1999 for immediate implementation by Area Health Services. The recommendations include strategies to improve bed management and linkages with primary care and community health services.

- Area Health Services and the Department are well advanced in implementing the strategies and policies contained in the Mental Health in Emergency Department Working Party Report for the improvement of mental health care in emergency departments across NSW. These include the development of mental health triage guidelines, implementation of guidelines for dealing with patients with possible suicidal behaviour and a Memorandum of Understanding between NSW Health, NSW Police and Ambulance Services.

- The Emergency Department Strategy Implementation Group was established to provide advice on policy and planning issues necessary to maintain an effective network of services. This group comprises emergency department clinicians, Area Health Service managers and representatives of the Ambulance Service of NSW.

- The development of an Emergency Department Service Planning Model for the future location and structure of emergency departments; and a service model incorporating demographic factors, number of patients treated, acuity of presentations and optimal distances between services is underway. This will guide the future development and planning of emergency departments in NSW.

- NSW Health, in conjunction with the South Western Sydney Area Health Service, is in the process of exploring avenues to implement the recommendations of the Australian Medical Workforce Advisory Committee Medical Workforce Report on emergency medicine specialists, with the aim of enhancing the number and distribution of emergency medicine specialists across NSW.

- With the aim of improving access to specialist radiology services in rural hospitals, the New Children's Hospital, in partnership with Macquarie Area Health Service has successfully established a teleradiology project funded by NSW Health under the State Telemedicine Program.

- NSW Health is currently investigating the feasibility of a telephone advisory line to provide telephone triage and assistance to callers to link them to the service most appropriate to their needs.

In conclusion, the Audit Office's report is of value and I am sure that the health system will benefit from the observations and recommendations provided by the Audit Office of NSW. I understand that the NSW Health Council report to be released shortly will include many recommendations which will also assist in the further improvement in emergency services for the people of NSW.

(Signed)
Michael Reid
Director-General
NSW Department of Health

Dated: 29 February 2000

1. Introduction

1.1 Introduction

This is the second performance audit report relating to emergency department services in NSW public hospitals. The first report examined approaches to planning for the provision of emergency department services in NSW hospitals, the coordination of services and the impact of initiatives to address system wide problems. The first report was tabled in Parliament in October 1998.

This performance audit examines factors that affect the efficiency and effectiveness of emergency department services in NSW public hospitals from the patient's arrival at the department, to seeing a doctor through to discharge or admission to a hospital bed.

The underlying premise for the audit is that prolonged delays in the treatment of emergency department patients are an indicator of failure in terms of access to emergency department services.

This audit examines access to services and discusses:

- ❑ the causes of long waiting times for treatment
- ❑ the causes of long waiting times for admission to a hospital bed
- ❑ issues with staffing the emergency department
- ❑ systems for achieving quality health care
- ❑ management issues in the emergency department.

Patient numbers In 1998-99, over 1.7 million people sought treatment in one of over 140 public emergency departments in NSW, an increase of 7.2% over the last two years. Most patients (75%) are seen in metropolitan emergency departments and around 40% of admissions to hospital wards originate from the emergency department.

The Department of Health has introduced numerous initiatives and incentives to improve performance and better manage emergency department demand. There have been notable changes in the provision of emergency department services over the last decade, principally by increasing the number, seniority and training of staff and upgrading facilities. More recently, programs have focussed on achieving improvements in emergency department waiting times (the time taken to see a doctor) and access block (delay in accessing a hospital bed).

Despite these initiatives, there is little or no improvement in waiting times and access block performance continues to decline.

1.2   Methodology

A case study approach was used to review a sample of nine public hospital emergency departments. The sample included representatives from principal referral, major metropolitan and rural hospitals. All were located in different Area Health Services.

The performance audit report presents overall findings in relation to services in each of the nine emergency departments and draws on examples of practices in each of the sites visited. Individual site note reports have also been provided to the emergency department, hospital management and the Area Health Service.

Details of the audit criteria are included in Appendix 1.

This report uses the following definitions.

Principal referral emergency department: Refers to a level 6 emergency department in a teaching hospital located in a metropolitan area health service.

Major metropolitan emergency department: Refers to a level 4 emergency department in a hospital located in a metropolitan area health service.

Rural emergency department: Refers to an emergency department in a Base or District hospital located in a rural area health service.

1.3   Acknowledgement

The Audit Office gratefully acknowledges the cooperation and assistance provided by representatives of the NSW Department of Health and the Emergency Department Strategy Implementation Group who provided guidance on the audit scope and methodology and comments on audit findings.

Specifically, we wish to acknowledge the contribution made by emergency department staff and hospital administrators at each site visited by The Audit Office.

A list of the hospitals visited as part of the audit is included in Appendix 2.

1.4 Cost of the audit

Staff related costs	289,195
Printing (estimate)	6,000
Travel and incidentals	5,643
Total Cost	**$300,838**

Staff related costs include unpaid staff time to the value of $51,946.

1.5 Audit team

Stephen Horne, Director Performance Audit Branch
Jane Tebbatt, Project Leader
Tiffany Blackett

2. Delays in the emergency department

2.1 Introduction

The treatment process

The diagram below outlines the various stages of the treatment process within the emergency department. Although delays can occur at any stage, emergency departments visited by The Audit Office indicated that delays most frequently occurred in waiting to be seen by a doctor, waiting to be admitted to a hospital bed and waiting for diagnostic services (x-ray and pathology).

Figure 1:   The treatment process

Reception → Triage Nurse → Doctor → Treatment → Emergency care complete

Ambulance

X-ray Pathology

Hospital bed

Other specialists

Inter-hospital transfer

Discharged home
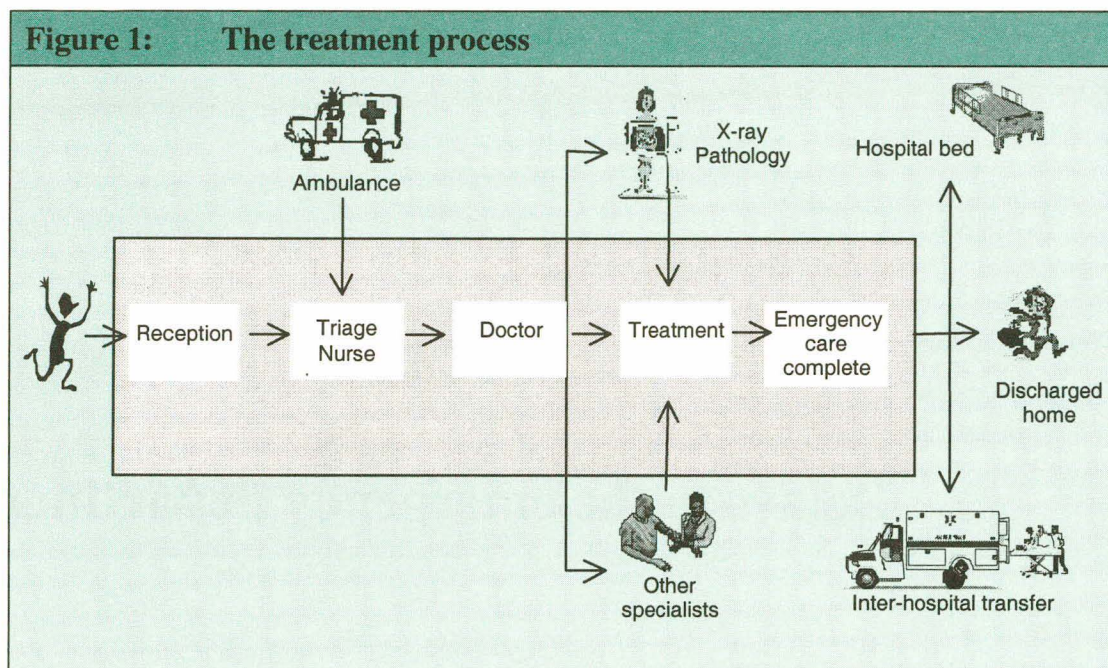
Waiting to see a doctor in an emergency department can extend beyond clinically recommended waiting times and is of particular concern to patients.

Emergency department staff report that one of the primary causes of extended waiting times is delay in moving patients requiring admission to a hospital ward. When the movement of patients out of the emergency department is not immediate, staff are involved in the care of these patients and emergency beds become full. Treatment space becomes congested.

However, there are other causes of delays in seeing a doctor and there can be subsequent delays in completing the diagnosis and treatment. The solution to these problems is not always in allocating more resources but rather, removal of the impediments to patient flow.

Impact of prolonged waits

The potential impact of prolonged waiting times on patient care are:

❑ additional risk to patient outcomes where there are delays between presentation and being seen by a doctor (especially for patients with serious injuries or illness)

❑ risk that delays may be further extended in cases where triage is not undertaken immediately

❑ increases in the number of patients leaving the emergency department before treatment

❑ overcrowding in the emergency department and waiting room

❑ increases in the number of transfers to other hospitals

❑ closure of the emergency department to patients that arrive by ambulance (except where the condition of the patient is considered life threatening).

Case Study 1: Ambulance bypass
In southwest Sydney ambulance services bypass smaller hospitals and take major trauma patients to Liverpool Hospital. The very sickest, such as trauma patients, get priority. Patients presenting with lesser problems have to wait much longer at emergency departments because of increased demand for services. This pressure is reflected in ambulances being turned away, with access restricted to life threatening cases only for up to six days a month.

Source: Sydney Morning Herald 18 March 1999 and site visits

Over half of the emergency departments visited by The Audit Office failed to meet the 1998-99 performance benchmarks set for waiting times, particularly for emergency, urgent and semi-urgent patients (triage categories 2 to 4).

Variation in waiting times

Waiting times for treatment vary markedly between hospitals, both across sites and within hospital peer groups.

Table 1: 1998-99 Performance against benchmarks					
Percentage of patients seen within recommended waiting times for each triage category					
Triage	1	2	3	4	5
Benchmark	2 min	10 min	30 min	1 hour	2 hours
Principal referral					
Site 1	99	79	66	63	85
Site 2	87	67	53	46	76
Site 3	99	91	61	56	77
Major metropolitan					
Site 4	99	81	71	58	83
Site 5	99	75	73	79	96
Site 6	76	66	67	72	91
Rural					
Site 7	100	68	62	64	85
Site 8	99	89	86	86	96
Site 9	No data available				

Source: EDIS and the National Triage Scale
Note: Site 9 is not an EDIS hospital and data on performance was not available.

For patients, this means that waiting times at some emergency departments are longer than at others.

Causes of delay

The Audit Office identified the main causes of delays in the emergency department as:

❏ the triage process

❏ access to diagnostic services (radiography/radiology and pathology)

❏ the design and size of the emergency department

❏ the process of transferring patients to other hospitals

❏ the involvement of staff in other functions.

Moving a patient to a hospital bed and the mix of medical and nursing staff are key factors affecting the speed of patient throughput. Both these issues are discussed in detail in subsequent chapters.

2.2 The triage process

Triage is the process of sorting patients according to the urgency of their illness or injury.

Triage is not always undertaken immediately a patient arrives at the emergency department. Under some circumstances, patients wait for triage (sometimes up to an hour) although emergency departments do not routinely monitor these delays.

Case Study 2: The causes of delays in triage

Patients present to reception before triage
In most emergency departments, the physical layout forced patients to present to reception first with patient details completed prior to triage. Only one emergency department had patients presenting to triage first. Others had signs directing patients to triage, however staff acknowledged that this did not always occur in practice.

Multiple patients present at the same time
Although emergency departments arranged for additional staff to assist when triage was busy, delays (in both reception and triage) still occurred when patients presented to the emergency department simultaneously. To help overcome this problem, one emergency department rostered a second nurse to triage during the busy afternoon shift.

No dedicated triage nurse
Some emergency departments did not have a dedicated triage nurse, particularly rural hospitals or during the night shift at larger metropolitan hospitals. In these circumstances, the nurse rostered to triage would have other responsibilities to perform in the treatment area and may be prevented from triaging a patient at the time of arrival.

The measure of waiting time is from the time triage is undertaken to when the patient is seen by a doctor. As a result, data on waiting times may not give an accurate picture of delays in the emergency department (especially where triage delays add to the total waiting time).

> ### Case Study 3: Telephone triage
>
> Only the rural hospitals operated any form of telephone triage (metropolitan hospitals tended not to give advice over the telephone). In rural hospitals, a nurse generally answered the calls and gave advice as to whether a trip to the emergency department was warranted. These hospitals had a system to document advice to patients (although records were often scarce and incomplete). When in doubt, the patient was advised to attend the emergency department.
>
> Hospitals providing telephone triage services must ensure an effective, well-documented system is in place. Calls could be handled outside the busy emergency department and tools such as computer-assisted triage used to assist nursing staff to give advice. These tools would standardise responses to symptoms, record the advice given and can be fully scrutinised.[8]

Recommendations   **Hospitals ensure patients are directed to triage as the first point of contact with the emergency department. Where triage is not immediate, hospitals should monitor the time from arrival to triage and minimise delays.**

Hospitals develop protocols on the provision of telephone advice and, where a telephone advice service is provided, develop tools to support decision making and documentation.

2.3   Access to diagnostic services

Emergency departments rely on other hospital services to ensure accurate and timely treatment of emergency patients. In particular, diagnostic services (radiography/radiology and pathology) assist doctors in performing comprehensive patient assessment and treatment.

Diagnostic services are traditionally geared toward inpatient services, operating during standard business hours. Although arrangements for diagnostic services varied from site to site, most hospitals had arranged extended services and/or on-call services for emergency after hours access. Some after hours services provided better access than others.

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[8] By Accident or Design UK Audit Commission 1996

Case Study 4: Access to pathology services
One major metropolitan emergency department reported that the hospital's pathology department closed at 11 pm. After hours access to pathology is provided by the Area's nearby referral hospital. The emergency department has to call a taxi to pick up the specimens and deliver them to the referral hospital for analysis.

Emergency departments reported problems accessing these services, particularly radiography. None had their own dedicated radiography unit, and emergency department patients competed with the rest of the hospital.

While some emergency departments had negotiated priority access to these services, delays could still occur after hours or if radiography staff were called away, for example, to work in theatre. Other emergency departments reported poor access to specific types of diagnostic tools such as CT scans and ultrasound.

Some emergency departments indicated that the longest delays were in receiving reports from radiologists. In some cases, these delays are so prolonged that they do not have any impact on decision making. However, subtle abnormalities may be missed by staff.

Case Study 5: Access to radiologists
A rural hospital contracts a private radiologist to work 1-2 hours a day during the week to perform complex diagnostic procedures and interpret x-ray films. The radiologist often spends part of his/her time writing reports on emergency department patients who had injured themselves playing sport on the weekend. Of course, by this stage many of these patients had already been treated and discharged from the emergency department. Unable to wait 2-3 days for radiology reports, doctors had undertaken their own assessment of x-ray films to ensure the timely treatment of these patients.

So although on-call and extended services exist, there is still scope to improve the provision of diagnostic services to better meet the needs of emergency department patients.

Recommendation   **Hospitals review and realign diagnostic services to ensure that these services are available at peak times in the emergency department, minimising delays and congestion.**

2.4   Emergency department design

Patient flow

Of the nine emergency departments visited, three were built less than four years ago. The others ranged from eight to more than sixty years of age. The design of all emergency departments (even the newer departments) did not always maximise patient flow.

Design limitations prevented maximum utilisation of emergency department facilities, compromised patient safety and confidentiality, and led to inefficient staffing and work practices within the department.

Case Study 6: The limits of design

A major metropolitan emergency department has four beds located in a room adjacent to the main treatment area. The room is small with the beds placed close together. As a consequence, staff are reluctant to fill all beds as this reduces patient privacy and restricts access to the bedside. The room also has to be staffed separately as it can not be observed from the main treatment area. This limits the number and type of patients that are assigned to these beds and prevents the emergency department from optimising its bed capacity.

Common problems raised by emergency department staff were:

- inadequate or unsafe triage area, for example, limited access from triage to treatment area, physical separation of reception and triage, triage nurse unable to observe waiting room

- physical separation of acute area and examination cubicles

- staff being unable to observe treatment areas from a central staff station

- treatment areas and/or waiting room used as a pedestrian thoroughfare

- inadequate space around beds or in examination cubicles

- no safe room for managing aggressive patients or patients presenting with self-injuries

- inadequate staff facilities (including offices, tutorials rooms, tearooms, storage space).

Recommendation

Hospitals identify and remove design elements that limit patient flow when refurbishing or building a new emergency department.

Size of the emergency department

A number of the sites visited indicated that the size of the emergency department was too small for demand and that they suffered chronic overcrowding.

Case Study 7: Not enough space

A busy emergency department in rural NSW receives over 30,000 presentations a year. Staff report that overcrowding in the treatment areas and the waiting room is a major problem. The emergency department has only seven beds that are nearly always full, particularly when busy. In an effort to relieve demand, staff utilise all available space to treat patients. Patients will be placed on one of the two trolleys located in the corridor near the waiting room or outside the treatment area. There is no triage space so often the pan room is used for more detailed triage assessments. Where possible, staff move patients out of treatment areas to the waiting room if they are only waiting for results.

It can not be assumed that more space in the emergency department would prevent overcrowding without also considering other factors that contribute to delays in treatment. However, it is still worthwhile examining the variation in the number of beds at hospitals with similar presentation levels. For example, site number 4 has more than three times the number of beds than site 7, although both emergency departments have similar presentation levels.

Figure 2: Presentations vs number of beds
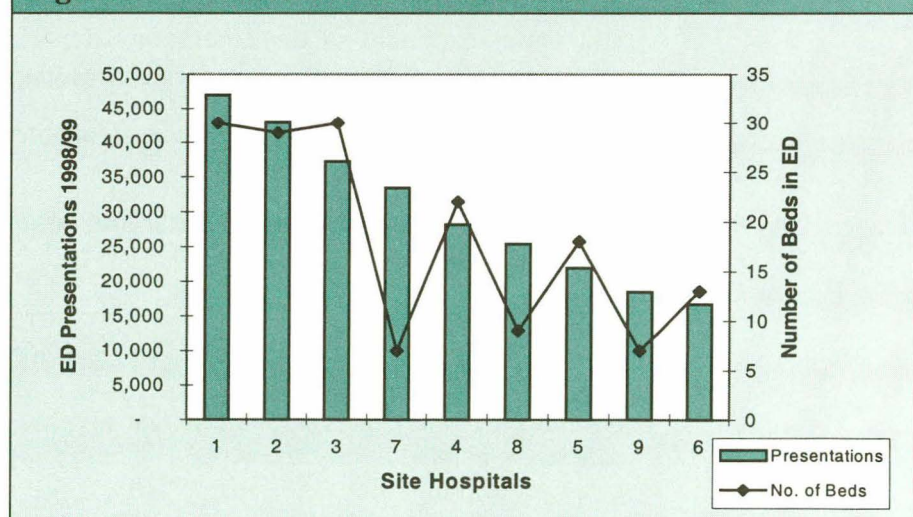
Source: Site visits (bed numbers) and EDIS (presentations)
Note: Sites 1, 2, 4, 6, 9 include paediatric beds

Current Department of Health guidelines for the design of emergency departments do not match the number of beds or treatment areas required in a department to presentations levels or patient acuity.

Recommendation   **The Department of Health include in design guidelines principles for determining the number and type of treatment areas or beds needed in an emergency department based on presentation levels and patient acuity.**

2.5 Transferring and discharging patients

Transferring patients

Most emergency departments reported difficulties transferring patients to other hospitals. These problems generally fell into two categories.

Firstly, contacting the receiving hospital (which may require multiple telephone calls) and finding a doctor to accept the patient. Some emergency departments had negotiated agreements with receiving hospitals to streamline the process, although staff still reported problems with transfers.

Secondly, there can be prolonged waits for ambulance transport for patients who have received treatment in the emergency department and are ready to leave the hospital. Some hospitals have their own patient transport service, however this service is often available during business hours only and may not be appropriate for patients that are unstable.

Discharging patients

Similarly, emergency departments reported difficulties discharging patients, especially patients that could not arrange their own transport. This is a particular problem in rural areas where the distance between the hospital and home is often too far for a taxi and patients remain in the emergency department overnight. To overcome this problem, one emergency department introduced an after hours customer coach service to transport patients home at night.

Problems also occurred when discharging patients to nursing homes and hostels.

Case Study 8: Discharging patients to nursing homes
Several emergency departments reported specific problems discharging patients to nursing homes and hostels. These facilities would not accept patients returning after hours (particularly if they needed some nursing care) and often they would remain in the emergency department overnight although treatment was complete.

Recommendation   **Hospitals monitor and review the impact of delays in inter-hospital transfer and discharge of patients from the emergency department on the provision of emergency department services.**

2.6   The impact of other functions on waiting times

Some emergency departments were undertaking functions that did not involve the immediate treatment of emergency patients. For example, emergency departments were running dressing and fracture clinics, processing elective admissions, and undertaking procedures normally performed in nursing homes.

The principal referral hospitals had generally divested themselves of these additional duties but there were still examples in the major metropolitan and rural hospitals. Rural hospitals also reported that emergency medical staff provided relief in the intensive care unit, undertook retrievals, and covered the hospital wards during the night shift.

The emergency department is often called on to provide after hours services to supplement those provided by allied health services. For example, five of the emergency departments visited provided an after hours needle exchange service and two departments operated a methadone clinic on weekends and public holidays.

On some sites, clinics such as dental and eye clinics, still operate using emergency department facilities. Although these clinics do not involve emergency department staff, they utilise space in an often already crowded emergency department and waiting area.

Some hospitals had recognised the impact of these functions on services and had started to address this issue. For example, one hospital had reduced the number of hours dedicated to the dressing clinic with a view to closing it permanently.

Recommendation   **Hospitals review the role and functions of emergency departments in line with Department of Health policy. This should be done with a view to transferring non-core services where they affect the treatment of emergency department patients, to other locations within the health service.**

2.7 The opportunity to improve

In summary, there is potential for delays to occur at all stages of the treatment process, causing extended waiting times and congestion in the emergency department. Examples of strategies used by emergency departments to manage peak loads are listed in Table 2.

Table 2:	Examples of strategies to deal with peak loads in the emergency department
Corridor beds	Four emergency departments used trolleys in corridors whereas others had a strict *no corridor beds* policy.
Interim beds	One emergency department could open two interim beds for patients arriving by ambulance when the department was full.
Moving patients	Some emergency departments moved patients who had been seen by the doctor back to the waiting room to await test results. Ambulance patients would also be triaged to the waiting room where appropriate.
Special beds	One hospital has four beds designated for patients awaiting transfer to an inpatient bed.
Patient transfer	Most emergency departments had options for moving patients to other hospitals in the Area or nearby private hospitals. Some hospitals had their own transport services.
Overtime & additional staff	During busy periods, emergency departments asked staff to work overtime or undertake additional shifts. Additional staff may also be called in from the wards or casual staff pool if needed.

These strategies can be useful, short-term measures to relieve pressure in crowded emergency departments. However, these strategies do not generally address the causes of delays in the emergency department.

Strategies used by some of the hospitals to address causes of delay are listed in Table 3.

Table 3:	Examples of strategies to address causes of delays
Diagnostic services	Some emergency departments had arranged priority services with pathology and had negotiated more suitable arrangements with radiology services.
At risk patients	One emergency department had employed a social worker to assist with some categories of at-risk patients and facilitate their early discharge.
Aged care	Hospitals had conducted training sessions for local nursing home staff to prevent presentations to the emergency department.
Management of the Emergency Department	Most emergency departments had increased senior staffing and/or registrars working in the department and principal referral hospitals had 24-hour registrar cover. Some emergency departments used nurses to perform tasks such as cannulation and venipuncture and nurses could order x-rays for isolated limb injuries at triage.

Recommendation **Hospitals include strategies to address the causes of delays in patient flow that occur in the emergency department in planning documents.**

However, it is recognised that any improvement to patient flow in the emergency department is limited by access block and the congestion caused by being unable to move patients to a ward. This is discussed in more detail in the next chapter.

3. Delays in getting a hospital bed

3.1   Introduction

Approximately one third of all patients presenting to an emergency department require hospital admission (and represent around 40% of total hospital admissions).[9]   For these patients, admission to hospital is the final step in the treatment process in the emergency department. Yet delays in accessing a hospital bed (referred to as access block) has become a serious problem for metropolitan hospitals.

If there are delays accessing hospital beds, patients remain in the emergency department longer than necessary, occupying beds that could be used to treat other emergency patients and engaging staff in continued care.   This causes congestion in the emergency department and can increase waiting times.

Access block performance

Access block is reported as the percentage of emergency department patients admitted to hospital within 8 hours of being seen by a doctor. It is a key indicator of access to services.[10]

Figure 3:   Seasonal trends in access block in rural and metropolitan hospitals
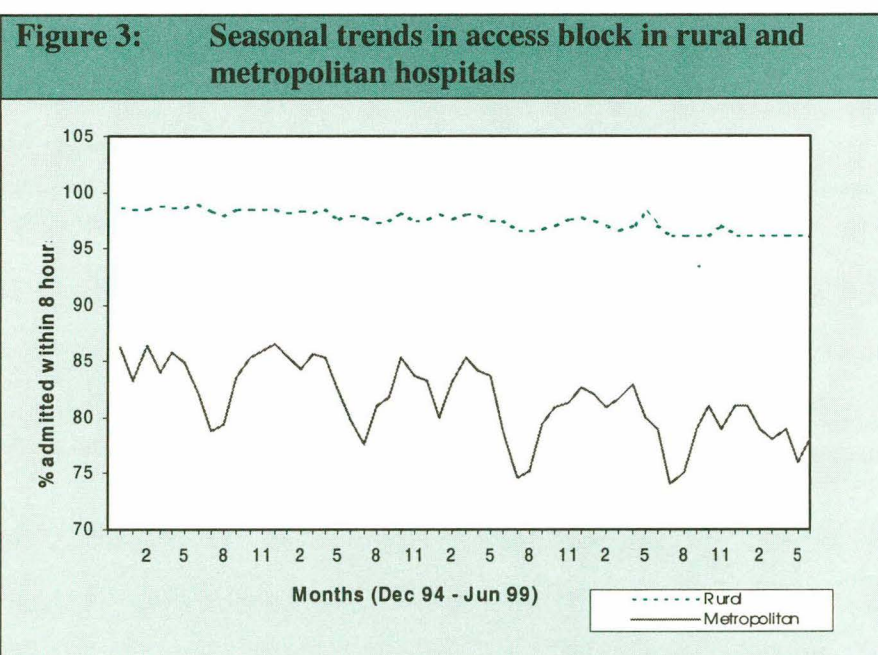
Source: EDIS

This graph illustrates a decline in performance since December 1994, with fewer patients admitted to hospital within the recommended timeframe. Generally, metropolitan hospitals experience more problems admitting patients through the emergency department than rural hospitals.

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[9] Breakdown of total hospital admissions: 40% emergency patients, 56% booked patients, 4% direct admission to wards.

[10] Department of Health Access Block Strategy, May 1999, p 5

3.2   Is there a bed available?

The availability of inpatient beds is often cited as the chief factor in access block. While bed availability is just one of a number of factors, it is an important one.

> *...emergency patients are regularly turned away from hospitals and have to be driven to the other side of Sydney to find a vacant bed...*
> Daily Telegraph 18.1.99
>
> *...patients bank up in emergency on trolleys in the corridor because no bed is available (in the hospital)...*
> Sydney Morning Herald 13.7.99

One factor that affects the availability of beds within a hospital is the hospital bed occupancy rate.

Table 4: Bed occupancy rates and performance against access block, 1997-98		
Hospital	**Bed occupancy rates %**	**Access block benchmark met**
Principal referral		
Site 1	95.3	✗
Site 2	93.9	✗
Site 3	86.5	✗
Major metropolitan		
Site 4	93.9	✗
Site 5	84.0	✗
Site 6	72.9	✓
Rural		
Site 7	78.4	✓
Site 8	85.0	✓
Site 9	82.3	na

Source: NSW Public Hospital Comparison Data Book, 1997-98.
Access Block Data: EDIS 1997-98.

As Table 4 illustrates, the higher the bed occupancy rate the more difficult it will be to find a bed for emergency department patients. With the exception of Site 8, all hospitals with an occupancy rate above the 1997-98 state average (83.8%) failed to meet the benchmark for access block.[11][12]

Similarly, as occupancy rates near 100% (optimum efficiency), hospitals will be less able to accommodate unplanned admissions.

Competition for beds

A challenge for public hospitals is managing the competing demands of emergency and booked patients while optimising bed utilisation. Ideally, hospitals should aim to achieve a balance between booked surgery and emergency department admissions with access based on clinical priority.[13]

However, if emergency department admissions are under-estimated or if too many booked patients are scheduled, then patients requiring admission from the emergency department will experience delays in being moved to a hospital ward (especially where there is a strong reluctance to cancel booked surgery).[14]

Case Study 9: Cancelling booked admissions
In competing for beds, most bed managers indicated that admissions through the emergency department had clinical priority over booked admissions, which would be cancelled if necessary. The Audit Office tried to determine the level of overcrowding in the emergency department that would trigger a decision to cancel booked admissions. Interestingly, overload in the emergency department was not the trigger for cancellations. The general response to overload in metropolitan emergency departments is to go on ambulance bypass, not cancel booked admissions.

So availability of inpatient beds is still a significant contributor to access block within hospitals. High occupancy rates, particularly in metropolitan hospitals and a reduction in bed numbers over recent years have exacerbated the problem. The challenge for hospitals is in predicting demand for emergency department admissions and allocating sufficient resources to manage it.

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[11] Department of Health 1997-98 Annual Report p 18

[12] Department of Health 1998-99 Annual Report reports that the state average bed occupancy rate has increased to 84.7%.

[13] The Department of Health categorises medical and surgical patients by clinical urgency to ensure that patients receive the best care in the most timely manner.

[14] Access Block Strategy, Department of Health, May 1999, p 5

3.3   Other factors that contribute to access block

While bed availability is a key factor in moving patients to a hospital ward, there are other factors which contribute to performance. The current measure of access block takes into account treatment times in the emergency department which may have little to do with whether or not a bed is available.

Factors identified by The Audit Office that may contribute to delays in the emergency department are listed in Table 5.

Table 5:	Factors contributing to access block
Delays in diagnostic work-ups	All emergency departments reported delays in accessing diagnostic services or in receiving test results and radiology reports (refer also section 2.3). Emergency departments also reported that some inpatient doctors requested all test results before accepting a patient into their care.
Patient assessment by inpatient doctors	Most emergency physicians had authority to admit patients to hospital. However, this authority was meaningless where patients required further assessment by inpatient teams (within the emergency department) before admission. Often, inpatient doctors were undertaking theatre work or ward rounds and were delayed in attending the emergency department. Also, if the decision to admit can only be made by an emergency physician, then the availability of these staff affects the expediency of the admission process.
Handover process to inpatient doctors	Handovers occur when an inpatient doctor accepts a patient into his/her care. Although this may only require a phone call, many emergency departments experienced difficulties locating and speaking to inpatient doctors. Handovers often require multiple phone calls.
Work practices and protocols	Some emergency departments reported that there were numerous administrative tasks required to process admissions. Often these were undertaken by medical or nursing staff, when clerical staff were unavailable.
Limited access to specialist beds	Some hospitals reported difficulties accessing intensive care or coronary care beds. When beds in these units were full, emergency department patients were either transferred to other hospitals (if a bed could be found) or kept in the emergency department until a bed became available.
Overcrowding in the emergency department	Congestion and peak workloads create problems. Although a bed may be available in the ward, staff in a busy emergency department may focus on caring for new patients with less emphasis on moving patients to a hospital ward.
Staffing inpatient wards	Some staff were reluctant to send patients to inpatient wards which they considered unable to provide the level of care required, particularly during night shifts. As a result, patients requiring admission would remain in the emergency department longer than necessary (and generally overnight).

Recommendations   **The Department of Health monitor access block in terms of length of stay in the emergency department (from arrival time to departure ready time) and problems accessing a hospital bed (from departure ready time to admission).**

Hospitals review the factors that contribute to access block that occur within the emergency department and develop strategies to address the causes of delays.

3.4   Programs to improve access to inpatient beds

During the 1990s a reduction in bed numbers in NSW public hospitals and a focus on reducing booked surgery waiting lists has meant that emergency departments have experienced increases in waiting times for non urgent treatment and an increase in the time it takes to move a patient to a ward.

Waiting list reduction

In 1995, the Government introduced the Waiting List Reduction Program, aimed at reducing the number of people waiting for booked surgery (by offering financial incentives to Area Health Services worth $75m). This program continued in 1996-97 with $64m allocated to reducing waiting lists.

Priority access

The *Priority Access Strategy (PAS)* was introduced for Area Health Services in August 1997 to integrate emergency department and booked patient management programs (previously the Waiting List Reduction Program) through better admission and discharge practices and the development of integrated bed management plans.

Funding to implement this program was established at $30m for 1997-98 and 1998-99 and supplemented with a one-off payment of $37m in 1998-99 for improved throughput of selected groups of booked patients. These payments were not tied to performance levels. All Area Health Services received funding whether or not they met performance targets. Refer to Appendix 7 for further details of program funding.

Integrated bed management

All hospitals visited had some form of bed management plan with a variety of different bed management strategies in place.

Table 6:	Examples of bed management strategies at site hospitals

- flexible bed base (ie ability to open additional inpatient beds)
- unisex wards (genderless beds)
- increases in day surgery
- day of surgery admissions (supported by pre-admission clinics)
- alternatives to admission such as post acute community care or hospital in the home programs
- transfer protocols with other hospitals (including acute, aged care and private hospitals)
- early discharge planning (including discharge planners, fixed discharge hours)
- discharge or transit lounge
- centralised bed management system.

3.5   Has the Priority Access Strategy (PAS) achieved its aims?

In terms of best practice in bed management, there has been a definite improvement. The productivity and efficiency of NSW public hospitals has increased each year with improvements in both bed occupancy rates and case flow (the number of patients through a bed) and reductions in the average length of stay.

Despite this, there has not been an overall improvement in access block. Each year more emergency department patients have to wait longer for a bed on the ward.

Performance against benchmarks

Of the eight hospitals visited that reported access block performance, only three met the target for access block (92% of patients admitted within 8 hours) in 1998-99.[15]

From 1997 to June 1999, half of the site hospitals experienced little or no improvement in access block performance, while the remainder showed a decline in performance.

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[15] Two of these hospital were located in rural areas and one was located in an outer suburban area of Sydney.

Table 7:	Percentage of patients admitted to hospital within 8 hours of being seen by a doctor			
Hospital	1997-98 %	Benchmark met	1998-99 %	Benchmark met
Principal referral				
Site 1	80	✗	76	✗
Site 2	75	✗	76	✗
Site 3	70	✗	65	✗
Major metropolitan				
Site 4	90	✗	81	✗
Site 5	70	✗	76	✗
Site 6	99	✓	98	✓
Rural				
Site 7	99	✓	99	✓
Site 8	99	✓	99	✓

Source: EDIS
Note: Site 9 Hospital is not an EDIS Hospital and no data is available on access block

Some bed management strategies have resulted in increased workloads in the emergency department. For example, one emergency department reported that patients requiring treatment with anti-coagulants would have previously been admitted to hospital. Now, due to new drug therapies, treatment can commence in the emergency department and continue under a hospital in the home program. This represents additional work for emergency department staff but does not require hospital admission.

3.6   The problems with PAS

Two factors which may have limited the success of PAS in reducing access block are:

❑ the way in which incentives were used to induce performance improvements

❑ the primary focus of PAS being on the movement of booked patients through the system and improvements in the way inpatient beds are managed.

The problems with incentives

Possible reasons why incentive funds have not achieved improvements in access for emergency department patients are:

❑ the imbalance between incentives for performance. The initial $75m (and further special allocations) to reduce waiting lists exceeded investments in emergency department performance (around $8.5m pa. for participating hospitals). This level of funding may have influenced hospital administrators to concentrate on booked patients as a priority rather than improving patient flows through the emergency department.

❑ incentives have not been tied to the achievement of performance targets and there are no sanctions for failing to meet targets.

The problems with PAS

Generally, strategies developed under PAS (such as integrated bed management) to improve access block have focussed on improved bed availability and utilisation in the hospital, not improved movement of patients through the emergency department.

Case Study 10: Bed management

Most hospitals visited had centralised bed management systems. In the large hospitals, one or two full time staff would be dedicated to coordinating patient admissions and discharges.

However, these bed managers were only available during business hours Monday to Friday. Relief staff took over during nights and on weekends but these staff had other responsibilities within the hospital.

Yet for emergency departments, weekends and nights are often the busiest times for admitting patients. On Monday mornings there is often a backlog of patients in the emergency department waiting for admission to a hospital bed (these are patients that had presented over the weekend). Mondays is also always the biggest day for booked surgery.

Access block is a more complex problem than just trying to make a bed available in a ward. As it is currently measured, access block is not just a bed problem but includes delays that can occur in the emergency department after the patient has seen the doctor. [16]

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[16] Access block is measured from the time the patient is first seen by a doctor to the time the patient reaches a bed in the ward. This measure of access block takes into account treatment time in the department.

Current initiatives

In May 1999 the Department of Health released a report analysing the causes of access block and linking these causes to gaps in the performance of a hospital. The document again recognises the need for access to be balanced between booked and emergency patients and that this balance has not as yet been achieved.

Released prior to the winter of 1999, it recommends strategies for hospitals to better manage demand and resources (although most of the hospitals visited had already implemented many of these strategies with no improvement in access block).

Possibly only a better balance of resources between booked patient programs and emergency patient programs will bring about improvements in access block.

Recommendations

The Department of Health consider the impact of incentives directed at improvements in one area of a hospital on efficiencies in other parts of the system.

The Department of Health consider introducing sanctions for Area Health Services or hospitals that fail to achieve performance targets or fail to consider / implement improvements outlined in the Department's Access Block Strategy 1999.

4.   Staffing the emergency department

4.1 Introduction

Patients who present to an emergency department have a right to expect quality medical care consistent with professional standards. To achieve this, there is general agreement that emergency departments should be staffed by emergency physicians (specialists) and specially trained nursing staff.

In recent years there has been an increase in the senior medical staff working in emergency departments with the number of emergency physicians increasing by 278% between 1984-85 and 1995-96.[17] There has also been an increase in senior cover at night and after hours.

Yet there is still a number of emergency departments that are not staffed by emergency physicians and/or do not have adequate senior cover 24 hours a day. This in part, is due to problems with recruiting senior medical staff to outer-metropolitan and rural hospitals.

4.2 Staffing levels

Medical staff

Comparison of medical staffing across the nine sites shows there is some consistency between the number of medical posts and the number of patient attendances. However, there is wide variation in the mix of staff, ie the number of emergency physicians, registrars and junior medical staff employed on any one site.

For example, the percentage of junior medical staff varied from zero to over 70% of total staff on site.

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[17] Australian Medical Workforce Advisory Committee, *The Emergency Medicine Workforce in Australia, Supply, Requirements and Projections, 1996 – 2007,* 1997 p 14

Table 8:	Medical staff employed in emergency departments at site hospitals					
Hospital	**Senior medical staff**			**Junior medical staff**		**Total**
	Emergency physicians	**Registrars**	**CMO/GP**	**RMO**	**Interns**	**FTE**
Principal referral						
Site 1	5 *(16%)*	13 *(40%)*	0	7 *(22%)*	7 *(22%)*	32
Site 2	5.3 *(19%)*	8 *(27%)*	0	10.9 *(37%)*	5 *(17%)*	29.2
Site 3	3.6 *(13%)*	5 *(19%)*	0	12 *(45%)*	6 *(23%)*	26.6
Major metropolitan						
Site 4	3 *(19%)*	3.5 *(22%)*	1.7 *(10%)*	6 *(37%)*	2 *(12%)*	16.2
Site 5	1 *(7.3%)*	1 *(7.3%)*	1.7 *(13%)*	8.8 *(65%)*	1 *(7.3%)*	13.5
Site 6	0	0	7.4 *(100%)*	0	0	7.4
Rural						
Site 7	3.4 *(21%)*	0.7 *(4%)*	4 *(4%)*	5 *(31%)*	3 *(19%)*	16.1
Site 8	0	0	6.5 *(68%)*	2 *(21%)*	1 *(11%)*	9.5
Site 9	0	0	1.2 *(100%)*	0	0	1.2

Source: Data from site visits. In all cases full time staffing equivalents (FTE) have been used.
Key
CMO/GP: Career Medical Officer or General Practitioner
RMO: Resident Medical Officer
Emergency Physicians refers to medical staff that are Fellows of the Australasian
College for Emergency Medicine (FACEM)

Some of this variation is due to the role of the hospital (teaching hospitals have interns) and problems recruiting senior staff to rural areas. However, the variation in the mix of medical posts may also be due to the fact that there are no universally accepted principles for determining the number of medical posts required in an emergency department.[18] Similarly, there is a need for guidelines based on patient acuity and number of attendances to determine whether a doctor is required on-site.

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[18] Variation may also be affected by the number of junior medical staff allocated to each hospital by the Postgraduate Medical Council. It should also be noted that not all hospitals in NSW are allocated junior medical staff.

Case Study 11:   The hospital with no on-site doctors
One rural hospital in the sample did not employ full time doctors (the emergency department is staffed by nurses).   Medical services are provided by local General Practitioners as Visiting Medical Officers (VMO) under the Rural Doctors Agreement.   These doctors are rostered for periods of 24 hours on-call to the emergency department. As the emergency department is busy (and presentations have continued to increase) the hospital recently employed two part-time medical officers to work weekends.   A recent coroner's report recommended that doctors be employed on weekends to reduce the risk of VMO fatigue and the possible effects this may have on the quality of care. The decision regarding whether or not a hospital recruits on-site medical staff is left to local management as there are no guidelines for exactly how many attendances would suggest full time medical staff are needed. In some rural areas recruiting full time medical staff maybe difficult.

College guidelines

Only one emergency department used the Australasian College for Emergency Medicine (ACEM) guidelines to determine the medical staffing establishment. These guidelines also provide a framework for determining staffing mix based on the ratio of emergency physicians:registrars:junior medical staff. [19]

Although the Department of Health does not support a rigid staffing ratio, there are currently no agreed principles for determining the staffing needs of an emergency department.

The Audit Office recognises staffing principles would need to be developed in recognition of complex factors such as patient acuity and local needs.

Recommendation

The Department of Health develop principles for determining the staffing requirements of an emergency department. These principles should consider factors such as staff seniority and skill level, staff supervision and demand (patient attendances and acuity). They should also provide guidance on whether a doctor is required on-site.

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[19] Guidelines for Medical Staffing of Emergency Departments from the Australasian College for Emergency Medicine recommends a staffing establishment based on the ratio of one doctor:patient:hour for non ambulatory patients and one doctor:patient:half hour for ambulatory patients. For optimum patient care, supervision and teaching in high workload departments, a ratio of emergency physicians:registrars:junior medical staff of 1:1:1 should be sought. In smaller departments the ratio of emergency physicians/registrars:junior medical staff of 1:1 should be sought.

4.3 Employing senior medical staff

Emergency department staff indicated that there has been recognition of the benefits of employing senior staff in the department and a general movement away from employing mainly junior staff.

Senior medical cover had improved with principal referral and major metropolitan hospitals achieving on average 16 hours senior or emergency physician cover, 7 days per week. In the principal referral hospitals there was also 24 hour registrar cover (or at least registrars on the night shift) and improved supervision of interns.

Table 9: The benefits of senior medical staff
❑ Improve the reputation of the emergency department with other medical groups ❑ Improve the communities perception of and confidence in the emergency department ❑ Reduce the costs associated with inefficient use of medical staff ❑ Improve patient throughput ❑ Improve the quality of care in emergency departments ❑ Reduce the number of errors due to the inexperience of junior staff ❑ Reduce the number of unnecessary investigations, admissions, waiting times and treatment times ❑ Improve teaching, training and supervision of medical staff ❑ Better use of new technology.

Source: Report on the Emergency Department Senior Staffing Scheme 1996, Report of the Emergency Services Taskforce 1993 and site observations.

Senior Staffing Program

The Department of Health implemented a program in 1994 to increase the number of senior staff in emergency departments. Selected pilot sites (11 emergency departments) received additional funds to employ senior staff in an effort to improve patient throughput and service quality.

By January 1996, 32.5 additional staff were employed (including 17.5 emergency physicians).

Although the program was successful in achieving an increase in the number of senior staff in the 11 emergency departments and funding to these hospitals has continued even after the program ceased (at $1.8m pa), there have been no further trials and no other programs of this type introduced in the State.

4.4   Rostering practices

Staff rosters

Emergency departments are generally busier in the evenings, on Fridays and weekends.   Only a few of the sites visited used attendance data to develop medical staff rosters.   In most of the hospitals, the number of medical staff during high activity periods was the same as, or less than, normal business hours.

Senior cover (and the number of emergency physicians on the floor) also peaked during normal working hours.   The result is that the most qualified and experienced doctors are not necessarily working when the emergency department is at its busiest.

Case Study 12: Matching resources to demands
An emergency department in rural NSW is busiest on weekends and on evenings during the week (6.30 pm to 10 pm).   During the week, senior medical cover is around 18 hours a day, but this drops to 6-8 hours a day on weekends.

In contrast, nursing rosters had at least the same number or more staff on evenings in recognition of attendance patterns.

Some emergency departments had procedures in place for preparing rosters that were consistent with best practice.   Some of the following examples of best practice were gathered from site observations.

Table 10:	Best practice in medical rosters

Emergency department medical rosters should:

❑ Allocate staff according to peak times and demands

❑ Ensure senior staff are rostered during the busy periods (evenings and weekends)

❑ Achieve registrar level or above cover after hours (in principal referral hospitals)

❑ Ensure that interns are not rostered to work on their own and that junior medical staff are rostered with senior medical staff for supervision

❑ Create a sufficient overlap between shifts to improve patient handover

❑ Minimise the risk of fatigue associated with working long hours in any one period (usually beyond 10 hours)

❑ Aim to achieve at least 16 hours senior medical coverage seven days a week

❑ Document on-call arrangements.

Source: Site Notes Reports, AMA Draft National Code of Practice September 1998

Although best practice in rostering requires documented procedures that address these criteria, rostering also needs to be sufficiently flexible to meet the individual needs of staff.

Recommendation **Hospitals introduce rostering practices that better match resources to forecast demand for emergency department services.**

4.5 Staffing rural emergency departments

Medical cover for rural emergency departments (level 2 and 3) is generally provided by Career Medical Officers (employed on-site by the hospital) or local General Practitioners (GPs).[20,21] In the case of GPs, they are subjected to a process of credentialling to determine what clinical practices they can perform in the hospital (clinical privileges) prior to appointment as a Visiting Medical Officer (VMO).

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[20] Information from the Department of Health indicates that there are at least 98 rural hospitals that employ General Practitioners under the Rural Doctors Agreement to work in their emergency department (level 2 and 3).

[21] Level 2 and 3 emergency departments have a designated assessment and treatment area, resuscitation and stabilisation capacity and either a visiting medical officer on call (level 2) or on site or available within 10 minutes (level 3).

Each Area Health Service has its own Credentials Committee that determines the clinical privileges of VMOs. Although the formal credentialling process followed by each Area Committee is similar (and based on guidelines issued by the Department of Health), there is no minimum level of experience or skills required by GPs to be granted clinical privileges in emergency medicine.

Once clinical privileges are assigned, contracts are drafted by each Area Health Service (as there is no standard contract). Also once appointed, there is no routine testing of skills and competencies in emergency medicine.

In contrast, ambulance officers have their competencies routinely tested for certification.

Recommendations **The Department of Health in conjunction with the Australasian College for Emergency Medicine (ACEM), Divisions of General Practice and the Rural Doctors' Association, establish minimum standards of experience, skills and continuing medical education for General Practitioners and Career Medical Officers working in rural emergency departments (level 2 and 3).**

In developing minimum standards the parties consider the need for supervision of the CMO or GP (at a distance) by a specialist emergency physician and completion of the Emergency Life Support (ELS) course offered by the Australasian Society for Emergency Medicine.

Hospitals in consultation with Area Health Services, consider including requirements for continuing medical education and routine testing (of skills and competencies) in the contracts of Visiting Medical Officers.

4.6 Employing locums

Most hospitals employ doctors from locum agencies to fill casual vacancies on the roster (although the principal referral hospitals were keen to avoid having to do this). Hospitals indicated that where they had trouble rostering doctors to fill unpopular shifts in the emergency department (such as nights and weekends), locum doctors were employed. For example, one site employed locum doctors from Friday to Sunday to cover the weekend and night shifts.

Those hospitals employing locum doctors did not report any concerns regarding the quality of treatment. However, additional costs are incurred and possible risks to patient care may need to be better managed.

Although senior medical staff reviewed the resumes of locum doctors before they commenced duty, mechanisms for reviewing the performance of these doctors were weak or non-existent. Also, for locum doctors working in unfamiliar surroundings there was often insufficient induction and little, or no, supervision available.

Case Study 13:   Locum doctors on the night shift

At one emergency department, two (27%) of the medical staff on the roster are locum doctors (which is an improvement on last year when 50% of the medical staff were from an agency). In this hospital, the locums are rostered to work the night shift in a hospital where they are the only doctor on site.

At another emergency department, three (18%) of the medical staff on the roster are locum doctors. These doctors also work the night shifts on the weekend as the senior doctor in the emergency department.

At a third emergency department, locum doctors were employed to cover all the night shifts.

In an attempt to reduce the number of locum doctors employed, one Area Health Service was creating a more flexible medical workforce by recruiting doctors to the Area rather than specific hospitals. This will allow the Area to transfer doctors from one hospital to another if they are needed.

Recommendations **Hospitals where possible, replace locum staff with full time positions as a means of reducing financial risk and risks to patient care.**

Hospitals consider introducing minimum skill requirements for locum doctors (such as completion of the Australasian Society for Emergency Medicine's Emergency Life Support (ELS) course) before working in the emergency department, and put in place procedures to review individual performance.

4.7   Work practices

Emergency physicians

In all cases, Directors of metropolitan emergency departments worked Monday to Friday (business hours or evenings), some weekends and were on-call after hours. These Directors were not included on the junior medical roster and had mostly teaching, administration, research and clinical roles which included supervision of other medical staff on the floor.[22]

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[22] The junior medical roster assigns shifts to interns, RMOs and Registrars working in the emergency department.

In addition, the Directors of rural emergency departments were included on the junior medical staffing roster and often assumed responsibility for other departments such as intensive care.

Emergency physicians will usually work weekends and evenings but rarely work nights. College guidelines indicate that an emergency physician should be available on the floor of the emergency department within a short time ie on call 24 hours, 7 days a week.

In hospitals that employ more than one emergency physician, an on-call roster is in place. However, in smaller hospitals where there may be only one emergency physician employed, it is not practical to expect this person to be continuously on-call.

Nursing staff   The role of Nurse Unit Managers (the most senior nursing post on the floor) also varied. In metropolitan hospitals, Nurse Unit Managers were more likely to be involved full time in management and administration than their rural counterparts. Also there tended to be additional senior nursing posts in these emergency departments (Clinical Nurse Specialist and Clinical Nurse Consultant posts).

In rural hospitals, Nurse Unit Managers were included on the nursing roster and allocated time to undertake management duties (on one site, this resulted in 1 day a month for management duties).

Like doctors, there are no agreed criteria for determining the number of nursing posts for the emergency department and the number of nursing posts was generally based on historical allocations. Most emergency departments used a combination of attendances, the design of the department, nursing posts at peer hospitals and the number of beds to justify the number of nursing positions needed. Appendix 4 provides details of total nursing posts at each site hospital visited by The Audit Office.

Extended roles   Most hospitals train nurses to undertake roles that extend beyond their traditional duties (see Table 11) but whether or not nurses practiced these roles varied across sites. In rural hospitals, nurse initiated treatments were commonplace (as doctors were not always available) with appropriate protocols and training in place. In principal referral hospitals, current workpractice arrangements had doctors undertaking these tasks as well.

Table 11:	Extended role of nurses

In rural hospitals, additional nursing tasks included:
- undertaking venipuncture/cannulations for patients
- taking patient bloods
- suturing
- triage initiated x-rays for isolated limb injuries.

In all cases, these functions were defined in hospital protocols and regular training and testing of competencies was carried out.

Recommendations **Hospitals review the work arrangements for Directors and Nurse Unit Managers to ensure sufficient time is allocated for supervision and training.**

Hospitals examine opportunities to introduce extended roles for nurses in the emergency department as a means of optimising the efficiency of medical resources.

Clerical support The level of clerical support also varied across sites. About half of the site hospitals had 24 hour clerical support. Where clerical support was less than 24 hours, clinical staff undertook clerical duties such as reception, data entry and retrieving patient records. Only one site had a communications clerk whose role was to streamline communication between the Department and the rest of the hospital, allowing clinical staff to concentrate on treating patients.

Workpractice Review Project A team from Liverpool Hospital is currently conducting the Emergency Department Workpractice Review Project funded by Area Health Services. The first stage of the project was completed in 1997. The project examined the non-clinical duties in an emergency department and the potential for productivity increases arising from:

- task re-allocation or modification
- creative use of clerical and ancillary staff
- extending the clinical role of nurses
- optimal use of communications technology.

The results of stage 1 indicated that improvements could be achieved through these modifications. Benefits include:

- reducing non-clinical duties by re-directing or eliminating these tasks
- streamlined communication
- increased efficiency and productivity of clinical staff.

The project has now been extended for two years to further examine the allocation of clinical and non-clinical functions in the emergency department, the roles of doctors and nurses, and best practice in clinical documentation.

Although this review concentrates on functions in the emergency department alone (not hospital wide issues), initial results are impressive and will possibly lead to significant improvements in the efficiency of practices within the department and better (and more appropriate) resource utilisation.

Recommendation **Hospitals examine the results of the Workpractice Review Project with a view to re-engineering tasks in the emergency department.**

5. Ensuring the right diagnosis and treatment

5.1   Quality management

An essential element in achieving high quality emergency health care is the presence of an effective framework for managing the quality of services in a systematic way.

In assessing the way in which quality is managed, The Audit Office focussed on the extent of quality assurance practices in the emergency department and how departments manage and minimise risks.   The review did not extend to auditing the efficacy of the system or assessing the Hospital's approach to quality management.

Risk management

The main factors contributing to clinical incidents in an emergency department are inexperienced staff, the lack of on-site senior medical cover and a busy department.[23]   Quality management in an emergency department needs to identify all risks and have strategies in place to manage these risks and minimise the probability of adverse events occurring.

The approach to quality management in emergency departments varied across the sites visited.   Some systems were highly sophisticated with regular monitoring, investigation and feedback. Other systems were at least adequate.   There were two sites where there was no formal investigation of treatment practices or patient outcomes.

Case Study 14:   Limits to improving the quality of care

A large rural hospital has a quality management framework that has been accredited by a third party, and its emergency department employs a Director supported by senior and junior medical staff.   The emergency department undertakes quality management activities including monitoring performance against clinical indicators, monitoring patient transfers into the emergency department from outlying hospitals and some special reviews of trauma cases.

However, the emergency department does not routinely monitor x-ray results for missed fractures or abnormalities (although senior staff may do this when time permits).   This function is essential where patients are discharged before x-ray reports are available.   The night locum is responsible for checking patients' pathology reports for abnormal results.

There is no program of peer review in the emergency department and the department does not undertake mortality and morbidity audits.   This further limits opportunities to investigate treatment practices and minimise patient risks.

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[23]   Vinen JD, Gaudry PL et al, *Critical Incident Monitoring Study [CIMS] in Emergency Medicine: An Interim Report*, Commonwealth Department of Human Services and Health and ACEM, October 1994

Variation in practices may be due to the fact that there are no minimum standards for an emergency department quality assurance system (although there have been minimum standards introduced for Area Health Services).[24]

Elements of quality

The following components of a quality management system for an emergency department were identified by The Audit Office during site visits.

Table 12: Components of an emergency department QA system
❑ accreditation of the quality framework by a recognised external accrediting body
❑ monitoring clinical performance using indicators
❑ conducting mortality and morbidity audits
❑ monitoring X-ray and pathology investigation results
❑ conducting trauma and/or resuscitation audits
❑ establishing a system of reporting and investigating adverse events and incidents
❑ conducting regular reviews of patient records and documents
❑ conducting regular audits of triage practices
❑ staff training and the induction of new staff
❑ monitoring rostering practices to ensure maximum senior cover, adequate supervision of junior staff and matching of resources to peak times and demands
❑ implementing an effective complaints mechanism (including protocols for investigating, reporting and providing feedback to the complainant)
❑ conducting customer satisfaction surveys and obtaining feedback from customers
❑ establishing a program of formal audits/reviews of practices
❑ introducing a robust and regular reporting system that highlights quality of care issues to management or the hospital executive

Source: Emergency Medicine Indicators ACHS/ACEM 1998; The Framework for Managing the Quality of Health Services in NSW 1999; Data from site visits.

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[24] NSW Health's Framework for Managing the Quality of Health Services was introduced in 1999. This is the means by which the key elements of clinical governance (accountability for the quality of care being shared between management and clinicians) are to be established by Area Health Services.

Recommendations   **The Department of Health in consultation with the Australasian College for Emergency Medicine, establish minimum standards for the management of quality in emergency departments that match delineation levels.**

Hospitals introduce the minimum standards for the management of quality as identified by the Department of Health and the Australasian College for Emergency Medicine.

Information from the NSW State Coroner   One of the roles of the State Coroner is to ensure that all deaths that come under the Coroner's jurisdiction are properly investigated and concluded. This includes bringing to the notice of relevant authorities any practices, policies or laws which could be changed to prevent similar deaths in future.

Some, but not all investigations lead to formal inquests. Issues of statewide significance arising from formal inquests are reported to the Minister for Health and the Director-General, Department of Health.

However, issues identified in investigations that do not result in formal inquests are often dealt with as deficiencies in local policy or procedures. At present, there is no routine analysis of this information to identify trends or systemic deficiencies of which the Department of Health should be aware.

Recommendation   **The Department of Health in consultation with the State Coroner, establish a means of analysing investigation reports to identify systemic issues affecting emergency department services.**

The problems with peer review   Peer review is the self-regulating process used by the medical profession to review the performance of its members. It is an important part of quality assurance.

It appears that in most hospitals it is normal practice not to document anything to do with peer review. There are no records of the cases referred (or the criteria used to select cases), no record of outcomes of deliberations and no record of recommendations.[25]

One of the site hospitals had established a quality assurance system that formally integrated peer review. The major difference with this system is that cases are independently identified, the results of peer evaluation are recorded and recommendations for improvement are followed up.

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[25] Quality assurance committees can apply for legal privilege to protect committee documentation from subpoena under the *Health Administration (Quality Assurance Committees) Amendment Act 1989*.

Case Study 15: Quality assurance
One hospital has established a continuous hospital-wide quality assurance program, which focuses on patient outcomes. The quality program screens in-patient records for: ❑ deaths   ❑ unplanned readmission within 28 days of discharge   ❑ length of stay greater than 30 days   ❑ unplanned transfers to intensive care unit   ❑ caesarean section   ❑ unplanned return to the operating room   ❑ paediatric transfer to another hospital   ❑ specific referrals.   Identified (flagged) cases are referred to the relevant department for assessment. A clinician also reviews the cases and reports whether there are problems with practices that need to be addressed. The department considers the report and where required, makes recommendations to introduce protocols or change practices to prevent a recurrence. The Quality Activities Department maintains a database of all cases and recommendations and follows up implementation.

In the emergency department, this meant that "flagged" cases were automatically subject to review and staff could make specific referrals for peer evaluation (such as a review of responses to pain management or the treatment of patients presenting with asthma) if they wished to get feedback on their performance.

5.2 Major risks to patient care

Supervision of junior staff

Quality of care in the emergency department relies heavily on the skills and experience of medical staff and the supervision and training of junior doctors.

Junior doctors are part of the workforce in an emergency department. They are not "excess to requirements" and training is experiential. Supervision on the floor, particularly at night is essential and there is a need for interns/RMOs to be able to call for assistance and guidance whenever required.

In the principal referral hospitals visited, interns were restricted from working in some areas such as resuscitation and examination cubicles (where it was difficult to observe their activities) and across all sites, interns were never rostered to work on their own. However, in some cases interns were rostered to work with an RMO or an RMO would be rostered to work on their own in the emergency department at night.

Case Study 16: The trade off between cost and quality
Sometimes, cost-conscious hospital administrators set department budgets that make it difficult to achieve significant improvements in the quality of care. For example, using the least costly resource (interns and resident medical officers) to staff an emergency department can increase the risk of adverse events if supervision is not adequate. Even though the Australasian College for Emergency Medicine has urged all hospitals to have out-of-hours emergency specialist cover (ideally 24 hours, 7 days) for emergency departments, only the major hospitals can meet this target.

Induction of new staff

Most of the sites provided limited orientation for doctors or locums commencing work in the emergency department (although interns usually attended a formal hospital induction program). Orientation was generally undertaken at the beginning of a shift with the doctor rostered to work. Underlying this practice is the belief that all emergency departments are the same and that doctors do not need much time to familiarise themselves with local custom.

Contrary to this, nursing staff had formal programs in place that allowed nurses to be supernumerary for at least the first shift while they learnt the system.

Recommendation

Hospitals consider the need for formal orientation of all medical staff commencing work in the emergency department.

5.3 The treatment of potentially vulnerable patients

The Audit Office also examined approaches to the treatment of potentially vulnerable patients within an emergency department. The two areas examined were the treatment of children and the treatment of patients with a mental health problem.

Caring for children

Generally, children and adolescents (up to 16 years of age) represented about 30% of the total attendances to the sample emergency departments.

In all emergency departments there was a general awareness of the special needs of children. Most had special guidelines for triaging children. These guidelines listed the different observation techniques for children and the need for children to be given prompt treatment.

It is agreed that paediatric patients should be shielded as much as possible from adult treatment areas so that they do not get distressed.[26] Yet, only five of the eight emergency departments treating children had a special paediatric treatment area (although sometimes these were part of the adult acute areas). Only one of these hospitals had its paediatric treatment area physically separate from the adult treatment area.

None of the hospitals visited had a separate waiting area for children (on three sites, there was space in the waiting room for children to play). On three sites, the design of the triage area would have made it difficult for the nurse to adequately observe and supervise sick children in the waiting room.

The principal referral hospitals and most metropolitan hospitals had access to specially trained staff (ie a paediatrician on-site). Two hospitals transferred paediatric presentations requiring admission to nearby tertiary hospitals and others used telephone consultancy services or retrieval services for seriously ill children.

Recommendation

Hospitals consider paediatric design requirements (eg separate waiting rooms and treatment areas) when refurbishing or building a new emergency department.

Treating patients with a mental health problem

There has been an increasing trend for emergency departments to be used by patients with a mental illness as a source of mental health care. As indicated in the report of the *Working Group for Mental Health Care in Emergency Departments* (1998), one of the most common issues in the treatment of these is the risk that staff will not recognise that the patient has a mental illness or not recognise the severity of the risk of self harm.[27]

The report made a number of recommendations to improve treatment practices and patient outcomes. The primary recommendations deal with better recognition of the needs of patients with a mental health problem and better coordination of, and access to, specialist mental health consultations.

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[26] Australasian College for Emergency Medicine Policy on Hospital Emergency Services for Children March 1999

[27] Working Group for Mental Health Care in Emergency Departments: Final Report NSW Health Department 1998 p 16

Some of the recent changes in practice in the emergency departments visited were:
- 24 hour access to mental health teams
- staff training on mental health issues
- committees and working parties to discuss service coordination problems
- brochures in waiting rooms listing local mental health services
- the development of triage guidelines for better and more appropriate patient assessments
- protocols for the discharge of at-risk patients at night.

All but one of the emergency departments indicated that arrangements with local mental health teams (for assessment of the patient) had improved. One emergency department indicated that services had actually declined in the last 12 months with no on-call arrangements and no access to mental health teams between 10 pm and 8 am.

Most principal referral hospitals had a separate room to isolate people with acute mental health problems who were waiting an assessment. In other emergency departments, staff indicated that they would call the police if patients became aggressive.

Recommendation   **The Department of Health continue to progress the implementation of recommendations of the Working Group for Mental Health Care in Emergency Departments.**
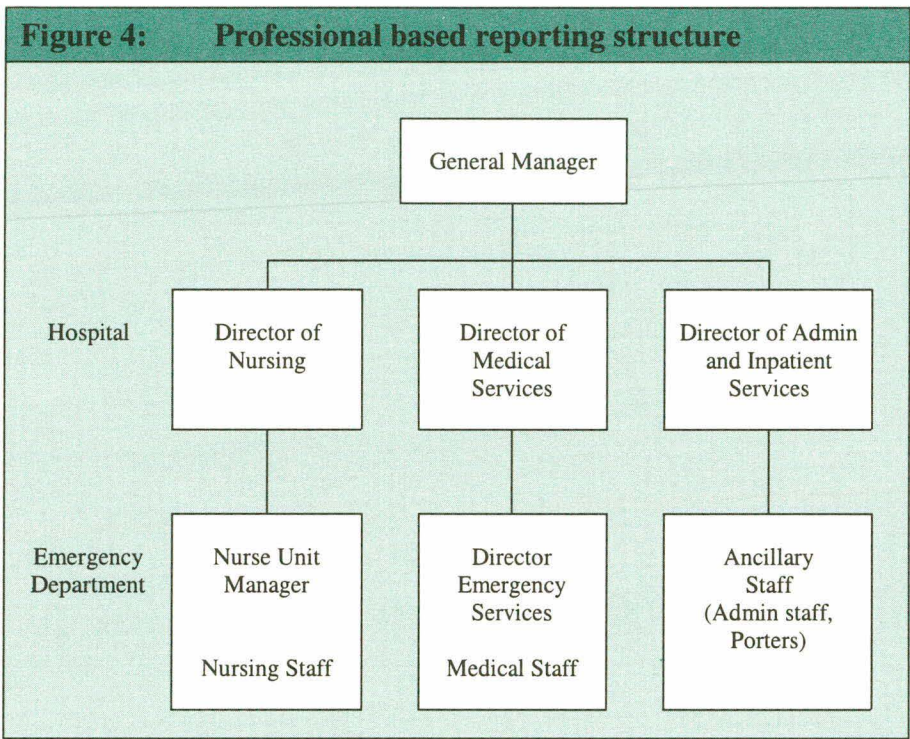
6. Accountability for performance

6.1 Introduction

Generally, the structure of emergency departments follows traditional hospital models with reporting separated into three streams: medical, nursing and administration. Staff report to divisional heads outside the emergency department.

Figure 4:   Professional based reporting structure

All site hospitals (delineation level 4 and above) had a Director appointed yet the role of the Director varied across sites.[28] Some Directors were responsible for the overall management of the emergency department, monitoring expenditure against budget and performance. Others concentrated on the clinical and teaching aspects of the emergency department, with limited management/administrative responsibilities.

Case Study 17:   Role of Director

A rural emergency department (level 4) has appointed a Director responsible for emergency services in both the emergency department and the intensive care unit of the hospital. As the role is split, the Director is rostered to work in the emergency department 10 hours per week only but is on-call at other times. In this department, the Nurse Unit Manager has assumed responsibility for managing the emergency department and monitors the department's budget and performance against benchmarks.

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[28] A level 4 (and above) emergency department must have a full time Director of Emergency Services.

Reporting structures

Seven of the nine sites had reporting structures as illustrated in Figure 4.

Staff at these sites identified the limits of these arrangements as:
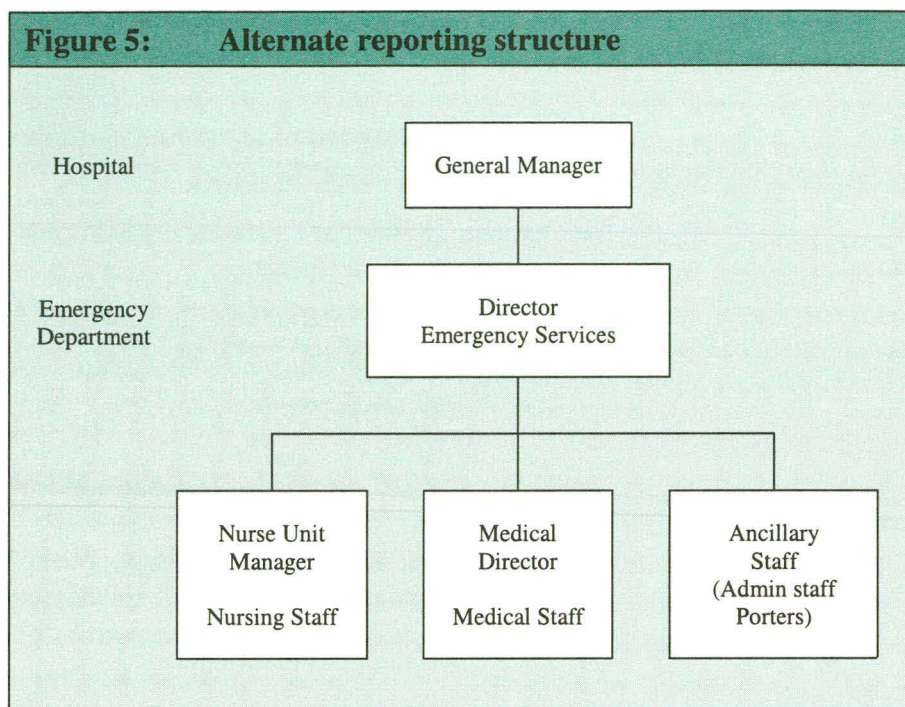
❑ a lack of autonomy in decision making

❑ limited power to influence decisions that impact on the emergency department

❑ no control or influence over priorities of other hospital divisions

❑ a lack on integration and coordination between streams within the emergency department.

For example, an emergency department may have its clerical support hours reduced as a result of budget cuts in the Administration Division. Similarly, the Nursing Division of a hospital responsible for leave replacements may provide the emergency department with nurses with limited or no experience in emergency medicine. This lack of autonomy made it difficult for emergency departments to set local priorities and limited their ability to bring about change and improve services.

Although Directors (and other staff) were represented on numerous hospital committees, many of these were advisory not decision making bodies. As a result, many staff considered that emergency departments were not always seen as an integral part of the hospital system and lacked influence over decisions made at the hospital executive level.

It is important that emergency departments are represented in such a way that the needs of the department are taken into consideration when decisions are made which affect their services. These needs are probably best represented by the emergency department itself.

Two of the emergency departments visited had alternate structures with Directors reporting to the General Manager of the hospital.

| Figure 5: | Alternate reporting structure |

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Hospital                          ┌─────────────────┐
                                  │ General Manager │
                                  └─────────────────┘
                                           │
                                  ┌─────────────────┐
Emergency                         │     Director    │
Department                        │Emergency Services│
                                  └─────────────────┘
                                           │
               ┌───────────────────────────┼───────────────────────────┐
        ┌──────────────┐           ┌──────────────┐           ┌──────────────┐
        │  Nurse Unit  │           │   Medical    │           │  Ancillary   │
        │   Manager    │           │   Director   │           │    Staff     │
        │              │           │              │           │ (Admin staff │
        │ Nursing Staff│           │Medical Staff │           │   Porters)   │
        └──────────────┘           └──────────────┘           └──────────────┘
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The merits of these arrangements are:

❑ the Director has the same level of authority and influence as other department heads

❑ the Director is involved in strategic decision making on hospital wide issues

❑ the emergency department is an autonomous unit within the hospital structure

❑ can maintain a professional based reporting structure within the emergency department and hospital.

6.2 Performance monitoring

Effective monitoring of emergency department performance is essential for accountability and internal management control.

Reports on performance are generated by the Department of Health and provided to Area Health Services, hospital management and emergency departments.

All Area Health Service Boards have benchmark targets for waiting times and access block established as part of their performance agreements with the Minister. Area Health Services (and the Department of Health) monitor the performance of their hospitals against these targets.

At an operational level, responsibility and accountability for improvements in waiting times is unclear. Accountability is not established anywhere in the emergency department (where the service should be managed and controlled).[29]

The routine monitoring of performance in emergency departments varied across sites. In some emergency departments, Directors (or the Nurse Unit Managers) routinely monitored performance. Others relied on the monthly Department of Health reports for performance information.

There was also mixed responses to the question of who should be responsible for managing the emergency department. Some Directors indicated that they wanted more autonomy and authority and others did not wish to assume management roles.

Thus, responsibility for the management and performance of emergency departments is somewhat blurred. If Directors are supposed to be accountable for these things, then their level of authority does not necessarily match their level of accountability.

Unless key accountabilities are clearly defined and centralised in a position of authority within the emergency department, improvements in emergency department service delivery (and therefore performance) are unlikely to occur.

Recommendations **Hospitals review current reporting structures to determine if they impede performance in the emergency department.**

Hospitals allocate accountability and authority for the management and performance of an emergency department to a position within the department.

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[29] It is important to note that access block is a hospital-wide problem that is neither caused by emergency departments nor able to be resolved in isolation. Accountability for access block should therefore remain with the head of the hospital.

Appendices

Appendix 1   Audit scope and objectives

This audit examined factors that affect patient flow through the emergency department from arrival to discharge (or admission to hospital) and selected elements of quality assurance.

Scope

The audit scope is based on the premise that prolonged delays in the treatment of emergency department patients are an indicator of failure in terms of access to emergency department services.

Objectives

The audit focused on the following areas of review:
- staffing arrangements and work practices
- the use of management information and performance data
- the effectiveness of quality systems
- the relationship between the emergency department and other hospital departments
- emergency department design
- access to diagnostic services.

Criteria

1.   Management of patient flow in emergency departments

Hypothesis being tested: That hospital emergency departments manage patient flow efficiently and perform to desired levels against benchmarks for waiting times

Issues examined:
- managing waiting time for treatment
- demand for services
- access block and bed management practices
- emergency department design
- access to diagnostic services
- impact of non-core functions on patient flow.

2.   Staffing and work practices

Hypothesis being tested: An efficient and effective relationship exists between staffing levels (numbers and seniority of staff) in an emergency department and workload (volume of patients and severity of conditions).

Issues examined:
- staffing formula
- rostering practices
- work practices
- Senior Staffing Scheme 1994.

3. Quality assurance

Hypothesis being tested: Systems are in place in the emergency department to ensure the provision of high quality services to patients.

Issues examined:
- ❏ quality assurance framework
- ❏ service audits and reviews
- ❏ complaint procedures
- ❏ treatment of potentially vulnerable patients.

4. Management of emergency departments

Hypothesis being tested: Administrative arrangements in the emergency department facilitate the effective and efficient treatment of patients.

Issues examined:
- ❏ authority and responsibility
- ❏ recognition of the emergency department
- ❏ policies and procedures
- ❏ monitoring services.

Appendix 2   Hospitals visited during fieldwork

Area Health Service	Hospital emergency department
South Eastern Sydney	Prince of Wales
Hunter	John Hunter
South Western Sydney	Liverpool
Northern Sydney	Ryde
Western Sydney	Mt Druitt
Wentworth	Blue Mountains
Macquarie	Dubbo
New England	Tamworth
Southern	Queanbeyan

Additional public hospitals visits:

Royal North Shore Hospital

Westmead Hospital

Interstate hospitals visited:

Monash Medical Centre

Royal Melbourne Hospital

Flinders Medical Centre

Appendix 3 Glossary

Access block	The proportion of emergency department patients who are moved to an inpatient bed within 8 hours of having been first seen by a doctor at the emergency department.
Ambulance bypass	The practice of diverting an ambulance to another nearby hospital emergency department during periods of overcrowding.
Attendance	A single visit by a patient to the emergency department of a hospital.
Bed occupancy rate	The percentage of available beds in all institution types (excluding Community Residential Care units) which have been occupied over the year. The bed occupancy rate is a measure of the intensity of the use of hospital resources by inpatients.
Booked (elective) admission	Admission to hospital for surgery which, although deemed necessary by the treating clinician, can be delayed, in the clinicians opinion, for at least 24 hours.
Career Medical Officer (CMO)	A registered medical practitioner employed by a hospital or health service.
Clinical Nurse Consultant/ Specialist	Registered nurses with post basic experience and/or qualifications in a specialist field.
EDIS	The Emergency Department Information System (EDIS) is a computerised information system that records data on emergency department activity including volume of presentations, waiting times for each triage category and access block.
Emergency department admission	Patients presenting to the emergency department who are admitted through the emergency department to an inpatient bed in a hospital.
Emergency Department Director	The most senior medical position in an emergency department.
Emergency physician (FACEM)	An emergency physician is a registered medical practitioner trained and qualified in the speciality of emergency medicine. The recognised qualification of an emergency physician in Australasia is the Fellowship of the Australasian College for Emergency Medicine (FACEM).
Inpatient	A patient admitted to hospital for day only procedures or acute care involving overnight and multiple day stay.
Inter-hospital transfer	The transfer of patients by ambulance between acute hospitals.
Intern	A junior medical officer in the first postgraduate year of hospital clinical practice.

Locum	A doctor who is filling a temporary vacancy in an established post, or who is standing in for an absent doctor.
Major metropolitan emergency department	For the purpose of this report, a level 4 emergency department in a hospital located in a metropolitan Area Health Service.
Nurse Unit Manager	The most senior nursing position in an emergency department.
Peer group	A hospital classification system based on the volume and type of services provided.
Presentation	See attendance.
Principal referral emergency department	For the purpose of this report, a level 6 emergency department in a teaching hospital located in a metropolitan Area Health Service.
Registrar	A Registrar working in an emergency department is a trainee in the study of emergency medicine.
Resident Medical Officer (RMO)	A junior medical officer in the second or subsequent year(s) of hospital clinical practice.
Role delineation	The level of services provided by emergency departments in relation to medical and nursing staff arrangements and access to hospital inpatient services.
Rural emergency department	For the purpose of this report, an emergency department in a Base or District hospital in a rural Area Health Service.
Telephone triage	Providing advice over the telephone to patients who call the emergency department for medical advice. See also Triage.
Triage	The process of sorting patients according to the urgency of assessment and treatment.
Waiting time	The time taken for a patient triaged in an emergency department to be seen by a doctor.
Visiting Medical Officer (VMO)	A medical practitioner appointed by the hospital board to provide medical services for public patients on an honorary, seasonally paid or fee for service basis.

Appendix 4 Hospital profiles

Profiles of hospitals visited during fieldwork							
	Level	Total attendances 1998-99	No. of beds	Director F/T or P/T	Total FACEMS	Total medical staff	Total nursing Staff
Principal referral							
Site 1	6	46,968	30	F/T	5	32	56.4
Site 2	6	42,913	29	F/T	4.3	29.2	56
Site 3	6	37,290	30	F/T	3.6	26.6	49.6
Major metropolitan							
Site 4	4	28,162	22	F/T	3	16.2	32
Site 5	4	21,923	18	F/T	1	13.5	27
Site 6	4	16,727	13	F/T	0	7.4	10.6
Rural							
Site 7	4	33,431	7	P/T	3.4	16.1	15.5
Site 8	4	25,373	9	P/T	0	9.5	15
Site 9	3	18,500	7	-	0	1.2	7.8

Notes

P/T Directors are responsible for other departments within the hospital such as ICU.

Site 9 has no permanent doctors on-site. GPs are contracted as VMOs to work in the emergency department. CMOs are employed only to cover weekends.

Appendix 5 Benchmarks for waiting times and access block

Triage scale	Seen by doctor	Department of Health Benchmarks					ACEM benchmarks
		1994-95 %	1995-96 %	1996-97 %	1997-98 %	1998-99 %	%
1 Resuscitation	2 mins	60	60	95	98	98	98
2 Emergency	10 mins	55	55	70	83	83	95
3 Urgent	30 mins	55	55	65	72	72	90
4 Semi urgent	1 hour	50	50	70	75	75	90
5 Non urgent	2 hours	50	50	85	85	85	85
Admission Access block	8 hours	75	75	90	92	92	N/A

Source: Amended from the Australasian College for Emergency Medicine (ACEM) Policy Document on Triage and NSW Department of Health documents.

Appendix 6   Guide to the role delineation of health services in NSW

Level	Description of Role
0	No service
1	No planned emergency service.
2	Emergency service in small hospital. Designated assessment and treatment area. Visiting medical officer on call.
3	As Level 2 plus designated nursing staff available 24 hr. Has 24 hr access to medical officer(s) on site or available within 10 minutes. Specialists in general surgery, anaesthetics, paediatrics and medicine available for consultation. Full resuscitation facilities in separate area.
4	As Level 3 plus can manage most emergencies. Purpose designed area. Full time director. Experienced medical officer(s) and nursing staff on site 24 hours. Specialists in general surgery, paediatrics, orthopaedics, anaesthetics and medicine on call 24 hours.
5	As Level 4 plus can manage all emergencies and provide definitive care for most. Has undergraduate teaching and undertake research. Has designated registrar. May have neurosurgery service.
6	As Level 5 plus has neurosurgery and cardiothoracic surgery on site. Subspecialists available on rosters. Has registrar on site 24 hours.

Source: Guide to the Role Delineation of Health Services, Department of Health, 1991

Appendix 7   Incentive/investment allocations for access programs in NSW

Access Programs	1995-96	1996-97	1997-98 (2)	1998-99
Waiting lists	$75m ($64m from government and $11m from Department of Health)[30]	$64m continued funding for waiting list reduction	$30m under PAS (to incorporate improvements in access)	$30m under PAS $37m one off to improve performance in specific booked patients categories
Emergency departments	$8.5m Incentive and Investment Scheme (1) [31]	$8.5m to implement Emergency Department Strategic Directions (2)	$8.5m distributed on basis of case weighted attendances (3)	$9.0m distributed on basis of case weighted attendances (3)

Source: Department of Health

Key:

1. Only those hospitals with the Emergency Department Information Systems (EDIS) installed were eligible to receive incentive/investment funds for the provision of a minimum data set for monitoring emergency department performance. In 1995-96 $1.35m was available for providing data and $7.15m as incentive payments.

2. EDIS hospitals only. Incentive component discontinued. Payment was for the implementation of policies from the Emergency Department Strategic Directions document (ie to develop integrated bed management plans). Allocation was on the basis of attendances (case weighted), not performance.[32]

3. EDIS hospitals only. Allocation was on the basis of attendances (case weighted) not performance.

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[30] NSW State Budget Papers 1995-96 Waiting List Reduction Program and allocation to improve Emergency Department performance p.8

[31] ibid

[32] Case weighted attendances take patient acuity into account.

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Performance Audits by
The Audit Office of New South Wales

Performance Auditing

Performance audits seek to serve the interests of the Parliament, the people of New South Wales and public sector managers.

The legislative basis for performance audits is contained within the *Public Finance and Audit Act 1983, Division 2A*, which differentiates such work from the Office's financial statements audit function. Performance audits examine whether an authority is carrying out its activities effectively and doing so economically and efficiently and in compliance with all relevant laws. These audits also evaluate whether members of Parliament and the public are provided with appropriate accountability information in respect of those activities.

Performance audits are not entitled to question the merits of policy objectives of the Government.

When undertaking performance audits, auditors can look either at results, to determine whether value for money is actually achieved, or at management processes, to determine whether those

processes should ensure that value is received and that required standards of probity and accountability have been met. A mixture of such approaches is common.

Where appropriate, performance audits provide recommendations for improvements in public administration.

Performance audits are conducted by specialist performance auditors who are drawn from a wide range of professional disciplines.

The procedures followed in the conduct of performance audits comply with The Audit Office's Performance Audit Manual which incorporates the requirements of Australian Audit Standards *AUS 806 and 808.*

Our performance audit services are certified under international quality standard *ISO 9001,* and accordingly our quality management system is subject to regular independent verification. The Audit Office of NSW was the first public audit office in the world to achieve formal certification to this standard.

Performance Audit Reports

No.	Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
1	Department of Housing	*Public Housing Construction: Selected Management Matters*	5 December 1991
2	Police Service, Department of Corrective Services, Ambulance Service, Fire Brigades and Others	*Training and Development for the State's Disciplined Services: Stream 1 - Training Facilities*	24 September 1992
3	Public Servant Housing	*Rental and Management Aspects of Public Servant Housing*	28 September 1992
4	Police Service	*Air Travel Arrangements*	8 December 1992
5	Fraud Control	*Fraud Control Strategies*	15 June 1993
6	HomeFund Program	*The Special Audit of the HomeFund Program*	17 September 1993
7	State Rail Authority	*Countrylink: A Review of Costs, Fare Levels, Concession Fares and CSO Arrangements*	10 December 1993
8	Ambulance Service, Fire Brigades	*Training and Development for the State's Disciplined Services: Stream 2 - Skills Maintenance Training*	13 December 1993
9	Fraud Control	*Fraud Control: Developing an Effective Strategy (Better Practice Guide jointly published with the Office of Public Management, Premier's Department)*	30 March 1994
10	Aboriginal Land Council	*Statutory Investments and Business Enterprises*	31 August 1994
11	Aboriginal Land Claims	*Aboriginal Land Claims*	31 August 1994
12	Children's Services	*Preschool and Long Day Care*	10 October 1994
13	Roads and Traffic Authority	*Private Participation in the Provision of Public Infrastructure (Accounting Treatments; Sydney Harbour Tunnel; M4 Tollway; M5 Tollway)*	17 October 1994
14	Sydney Olympics 2000	*Review of Estimates*	18 November 1994
15	State Bank	*Special Audit Report: Proposed Sale of the State Bank of New South Wales*	13 January 1995
16	Roads and Traffic Authority	*The M2 Motorway*	31 January 1995
17	Department of Courts Administration	*Management of the Courts: A Preliminary Report*	5 April 1995

| No.	Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
18	Joint Operations in the Education Sector	*A Review of Establishment, Management and Effectiveness Issues (including a Guide to Better Practice)*	13 September 1995
19	Department of School Education	*Effective Utilisation of School Facilities*	29 September 1995
20	Luna Park	*Luna Park*	12 October 1995
21	Government Advertising	*Government Advertising*	23 November 1995
22	Performance Auditing In NSW	*Implementation of Recommendations; and Improving Follow-Up Mechanisms*	6 December 1995
23	Ethnic Affairs Commission	*Administration of Grants (including a Guide To Better Practice)*	7 December 1995
24	Department of Health	*Same Day Admissions*	12 December 1995
25	Environment Protection Authority	*Management and Regulation of Contaminated Sites: A Preliminary Report*	18 December 1995
26	State Rail Authority of NSW	*Internal Control*	14 May 1996
27	Building Services Corporation	*Inquiry into Outstanding Grievances*	9 August 1996
28	Newcastle Port Corporation	*Protected Disclosure*	19 September 1996
29	Ambulance Service of New South Wales	*Charging and Revenue Collection (including a Guide to Better Practice in Debtors Administration)*	26 September 1996
30	Department of Public Works and Services	*Sale of the State Office Block*	17 October 1996
31	State Rail Authority	*Tangara Contract Finalisation*	19 November 1996
32	NSW Fire Brigades	*Fire Prevention*	5 December 1996
33	State Rail	*Accountability and Internal Review Arrangements at State Rail*	19 December 1996
34	Corporate Credit Cards	*The Corporate Credit Card (including Guidelines for the Internal Control of the Corporate Credit Card)*	23 January 1997
35	NSW Health Department	*Medical Specialists: Rights of Private Practice Arrangements*	12 March 1997
36	NSW Agriculture	*Review of NSW Agriculture*	27 March 1997
37	Redundancy Arrangements	*Redundancy Arrangements*	17 April 1997
38	NSW Health Department	*Immunisation in New South Wales*	12 June 1997
39	Corporate Governance	*Corporate Governance Volume 1 : In Principle Volume 2 : In Practice*	17 June 1997

No.	Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
40	Department of Community Services and Ageing and Disability Department	*Large Residential Centres for People with a Disability in New South Wales*	26 June 1997
41	The Law Society Council of NSW, the Bar Council, the Legal Services Commissioner	*A Review of Activities Funded by the Statutory Interest Account*	30 June 1997
42	Roads and Traffic Authority	*Review of Eastern Distributor*	31 July 1997
43	Department of Public Works and Services	*1999-2000 Millennium Date Rollover: Preparedness of the NSW Public Sector*	8 December 1997
44	Sydney Showground, Moore Park Trust	*Lease to Fox Studios Australia*	8 December 1997
45	Department of Public Works and Services	*Government Office Accommodation*	11 December 1997
46	Department of Housing	*Redevelopment Proposal for East Fairfield (Villawood) Estate*	29 January 1998
47	NSW Police Service	*Police Response to Calls for Assistance*	10 March 1998
48	Fraud Control	*Status Report on the Implementation of Fraud Control Strategies*	25 March 1998
49	Corporate Governance	*On Board: guide to better practice for public sector governing and advisory boards (jointly published with Premier's Department)*	7 April 1998
50	Casino Surveillance	*Casino Surveillance as undertaken by the Director of Casino Surveillance and the Casino Control Authority*	10 June 1998
51	Office of State Revenue	*The Levying and Collection of Land Tax*	5 August 1998
52	NSW Public Sector	*Management of Sickness Absence NSW Public Sector Volume 1: Executive Briefing Volume 2: The Survey - Detailed Findings*	27 August 1998
53	NSW Police Service	*Police Response to Fraud*	14 October 1998
54	Hospital Emergency Departments	*Planning Statewide Services*	21 October 1998
55	NSW Public Sector	*Follow-up of Performance Audits: 1995 - 1997*	17 November 1998
56	NSW Health	*Management of Research: Infrastructure Grants Program - A Case Study*	25 November 1998
57	Rural Fire Service	*The Coordination of Bushfire Fighting Activities*	2 December 1998

No.	Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
58	Walsh Bay	*Review of Walsh Bay*	17 December 1998
59	NSW Senior Executive Service	*Professionalism and Integrity* *Volume One: Summary and Research Report* *Volume Two: Literature Review and Survey Findings*	17 December 1998
60	Department of State and Regional Development	*Provision of Industry Assistance*	21 December 1998
61	The Treasury	*Sale of the TAB*	23 December 1998
62	The Sydney 2000 Olympic and Paralympic Games	*Review of Estimates*	14 January 1999
63	Department of Education and Training	*The School Accountability and Improvement Model*	12 May 1999
64	Key Performance Indicators	• *Government-wide Framework* • *Defining and Measuring Performance (Better practice Principles)* • *Legal Aid Commission Case Study*	31 August 1999
65	Attorney General's Department	*Management of Court Waiting Times*	3 September 1999
66	Office of the Protective Commissioner Office of the Public Guardian	*Complaints and Review Processes*	28 September 1999
67	University of Western Sydney	*Administrative Arrangements*	17 November 1999
68	NSW Police Service	*Enforcement of Street Parking*	24 November 1999
69	Roads and traffic Authority of NSW	*Planning for Road Maintenance*	1 December 1999
70	NSW Police Service	*Staff Rostering, Tasking and Allocation*	31 January 2000
71	Academics' Paid Outside Work	▪ *Administrative Procedures* ▪ *Protection of Intellectual Property* ▪ *Minimum Standard Checklists* ▪ *Better Practice Examples*	7 February 2000
72	Hospital Emergency Departments	*Delivering Services to Patients*	March 2000
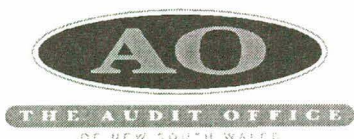
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Location:	Level 11 234 Sussex Street SYDNEY NSW 2000 AUSTRALIA
Office hours:	Monday to Friday 9.00 a.m. to 5.00 p.m.
Postal address:	GPO Box 12 SYDNEY NSW 2001 AUSTRALIA
Telephone:	(02) 9285 0155
Facsimile:	(02) 9285 0100
Website:	www.audit.nsw.gov.au
Email:	mail@audit.nsw.gov.au