

Patient Management Task Force

Paper No. 2

**Meeting Demand for
Emergency Services:
Better Management
of Emergency Patients**

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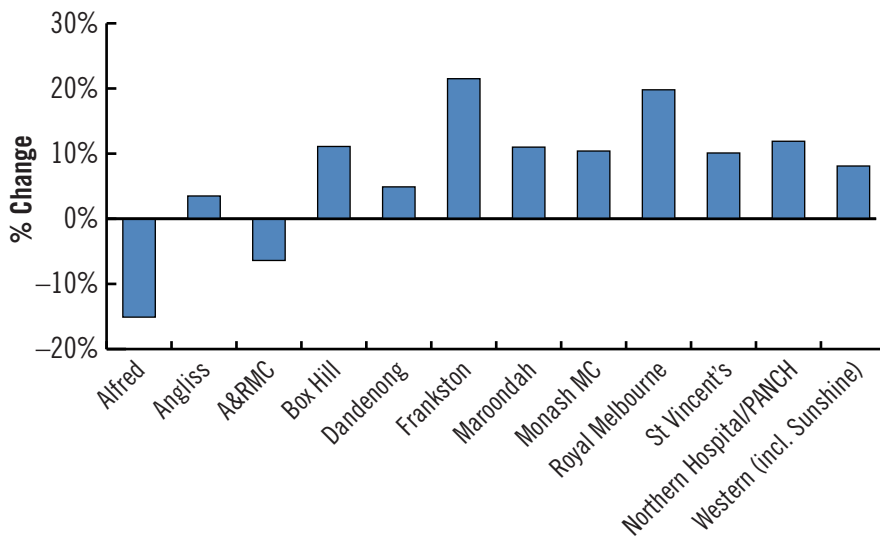
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Introduction

Growth in Emergency Medical Services

The Victorian public hospital system, like hospitals systems around the world, is facing increasing pressure to meet demand for acute inpatient care. Difficulties in providing timely access to hospital beds is reflected by an increase in the numbers of patients awaiting elective surgery, extended waits in emergency departments for inpatient beds and a substantial increase in ambulance bypass.

Figure 1: Increase in Emergency Presentations, 1995–96 to 1999–2000

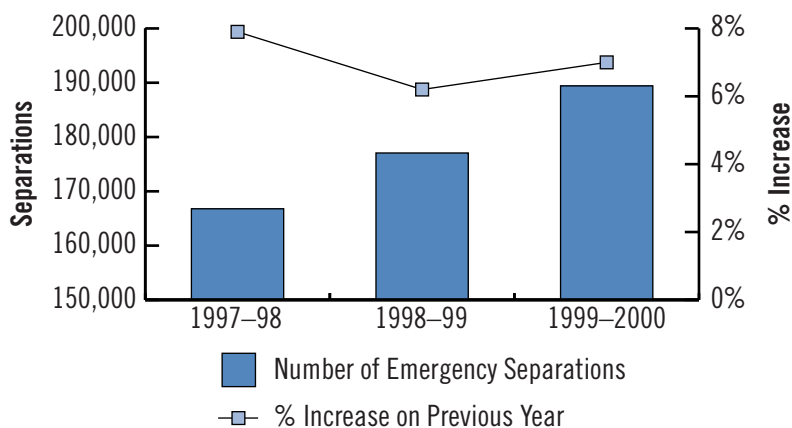


Source: Hospital Access Program

The number of patients requiring emergency admission to the major metropolitan hospitals with emergency departments has increased by 22.6 per cent over the past four years. Key trends in emergency services in Melbourne's metropolitan health services are summarised at Appendix 1.

The causes of growth in emergency medical admissions and the demand for emergency medical beds are complex and inter-related.

Figure 2: Growth in Emergency Separations from 1996–97 to 1999–2000 in Major Metropolitan Hospitals



Source: Victorian Admitted Episodes Dataset

Emergency department attendances are increasing and significantly more patients are being admitted as emergencies from emergency departments in Victoria's major metropolitan public hospitals.

Significant growth in emergency medical admissions is also reported in the US¹ New Zealand² and New South Wales.³ Emergency department overcrowding, particularly non-availability of an inpatient bed, contributes significantly to increased health care costs.⁴ It also decreases the morale and increases the workload of emergency department teams.

Two large, systematic reviews published by the New Zealand Health Technology Assessment Group concluded that the causes of the increased growth in emergency medical admissions and the demand for emergency medical beds are complex, inter-related and mainly involve factors that are outside the control of traditional health services.⁵ They include an increasing number of older people, changing socioeconomic conditions within population groups, and a decrease in the available pool of carers to care for elderly relatives. Factors related directly to the health system, such as increasing readmission rates, increased waiting times for surgery and changes in gatekeeping behaviour by primary care providers, had less significant impacts.

Common issues experienced in managing the increase in presentations include:

- Congested emergency departments.
- Increased levels of ambulance bypass.
- Pressure on medical beds.
- Patients distributed to many different wards throughout the organisation.
- Cancellation of elective surgery.
- Delays in accessing diagnostic services.
- Inadequate discharge arrangements and care plan preparation.
- Lack of community resources including access to community nurses.
- Varied clinical practice including variation in the use of substitution programs such as hospital in the home and post acute care.

In the Australian context, anecdotal evidence provided to the Task Force suggests that the ability or willingness of primary care community-based providers to respond to emergency need has diminished, leading to an increased demand on ambulance services and the hospital emergency department. In general practice, factors such as remuneration for

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- 1 Mingus ML, Bodian CA, Bradford CN, Eisenkraft JB. Prolonged surgery increases the likelihood of admission of scheduled ambulatory surgery patients. *Journal of Clinical Anaesthesia* 1997;9(6):446–450
 - 2 Hider P, O'Hagan J, Bidwell S, Kirk RF. The rise in acute medical admissions. *Australian and New Zealand Journal of Medicine* 2000;30 (2):252–260
 - 3 NSW Health Services Research Group. An overview of trends in acute in-patient services in New South Wales. University of Newcastle, 1998
 - 4 Krochmal P, Riley TA. Increased Health care costs associated with ED overcrowding. *American Journal of Emergency Medicine* 1994;12 (3):265–266
 - 5 New Zealand Health Technology Assessment Group (1998) *Acute Medical admissions. A critical appraisal of the literature*. Department of Public Health and General Practice Christchurch

emergency response and the provision of provider numbers, both in the Commonwealth Government policy sphere, are likely to be relevant. The traditional after-hours medical locum service seems to have virtually disappeared, and GPs appear unwilling to respond out-of-hours due to personal safety, remuneration and lifestyle concerns. Twenty-four hour GP clinics have virtually gone from the metropolitan area and bulk-billing for out-of-hours services appears to have declined in recent times.

As public hospital emergency departments increasingly become the only providers of out-of-hours care (as well as access to interpreting services) that is free at the point of delivery, there is a growing tension between the objective of providing hospital emergency care for those who need hospital-based services and the obligation to provide services to all who seek them.

This paper draws extensively upon two literature reviews commissioned by the Patient Management Task Force from La Trobe University and the Centre for Clinical Effectiveness, Monash Institute of Public Health with the Planning and Development Unit, Southern Health. The literature reviews are available at the Task Force Web site at <http://www.dhs.vic.gov.au/ahs/patman>. However, it is acknowledged that the paper does not contain a detailed or comprehensive review of all the available data, especially with respect to variations in patterns of practice in Victoria (and the causes of those variations).

The Patient Management Task Force

The Patient Management Task Force was set up November 2000 to identify specific areas for improvement in in-hospital patient management processes and to advise on the system factors that will encourage the adoption of best practice in patient management. An objective of the Task Force is to engage actively with hospital management and clinicians in dealing with problems of access to emergency services and elective surgery—both at the individual health service level and in professional forums. The Task Force is also seeking to obtain views from a wide range of stakeholder groups on effective solutions. The Task Force's terms of reference and membership are at Appendix 2.

The Task Force has a principal focus on major metropolitan hospitals⁶ and is carrying out its work in three stages:

- Stage 1, the information gathering stage, is now complete. An overview paper, *Serving the Needs of the Patient: Better Patient Management in Melbourne's Public Hospitals*, was released in March 2001.

⁶ The Alfred Hospital (Bayside Health); Austin and Repatriation Medical Centre; Box Hill, Maroondah and Angliss Hospitals (Eastern Health); Frankston Hospital (Peninsula Health); Monash Medical Centre (Clayton and Moorabbin) and Dandenong Hospital (Southern Health); Northern Hospital (Northern Health); Royal Melbourne Hospital (Melbourne Health); St. Vincent's Hospital; Western and Sunshine Hospitals (Western Health)

- Stage 2 involves producing papers on 'action areas' for consideration and comment by the field. Papers are being published on the following topics:
 - Emergency services
 - Ambulatory care
 - Multi-day medical and elective surgery patients
 - Services for the frail aged
 - Care decision making
 - Improving the system.
- Stage 3 of the Task Force's work will be the preparation of a short final paper which will include a summary of its principal themes, key areas for action and incorporating any changes to the views of the Task Force as a result of comments received.

This paper focuses on patient management processes and models of care for people presenting at public hospital emergency departments. The focus is on improving access to treatment and care through avoiding unnecessary presentations (for example, by offering more attractive care alternatives), better coordination of emergency services across the metropolitan area as a whole, as well as improved management of the individual hospital emergency department. The goal is for the public to be confident that when they are critically ill, they will get timely and high quality care.

Providing Feedback

The Patient Management Task Force invites you to submit your views and comments on this paper and its recommendations to:

Patient Management Task Force
Level 16, 555 Collins Street,
Melbourne Vic 3000

Email: patient.management@dhs.vic.gov.au

Recommendations

1. The Department of Human Services should establish a working group comprising emergency clinicians, health service management and the Metropolitan Ambulance Service (MAS) to develop and publish guidelines to hospitals on ambulance bypass policies and procedures.
2. All metropolitan health services should establish internal policies and procedures for managing ambulance bypass to give effect to the guidelines.
3. After consultation with the metropolitan health services and the MAS, the Department should issue a common policy framework for the establishment of emergency services clusters. This should be completed by 31 July 2001.
4. By 30 September 2001, metropolitan health services should jointly establish emergency services clusters adapted to local needs to coordinate ambulance bypass events in their area.
5. After a year of operation, each emergency services cluster should provide a review report to the Department of Human Services. The cluster arrangements should be evaluated within two years of operation.
6. Metropolitan health services should evaluate fast-track strategies (such as short stay and observation units) and promptly adopt systems that meet local needs in order to direct patients quickly from emergency departments to appropriate levels of care.
7. Metropolitan health services should develop patient management clinical pathways for high volume conditions within the emergency department. Metropolitan health services should collaborate in sharing pathways that have already been developed and learn from each others' experiences.
8. The Department of Human Services should support the metropolitan health services experiencing high demand pressure to operate short stay units. It should provide an incentive to run them effectively by funding the cost of maintaining 80 per cent occupancy. It should also provide a contribution to the cost of rapid assessment teams.
9. All metropolitan health services should:
 - Increase the use of hospital in the home (HITH) and post-acute care (PAC) services as an alternative to inpatient admission from the emergency department.
 - Investigate opportunities to develop HITH within the nursing home.
10. During 2001–02, the Department of Human Services should extend the development of HITH by:
 - Supporting the development of guidelines for HITH in emergency services and establishing performance improvement benchmarks.
 - Initiating HITH pilot projects that explore the opportunity to combine HITH and new telecommunications technology.
11. Metropolitan health services should consider utilising the PAC program to provide services that provide rapid-response home-based care for those at risk of admission.

12. Metropolitan health services should aim for a maximum of 50 per cent of total presentations at the emergency department in triage categories 4 and 5. The Department should provide a quarterly comparative report to hospitals on the trends in presentations by triage category.
13. The Department should support the proposal for the MAS triage pilot project.
14. The Department of Human Services should negotiate with the Department of Health and Aged Care to pilot a Commonwealth funded program of hospital-based GP locum services.
15. During 2001–02, the Department of Human Services and the metropolitan health services should formulate an indicator of total turnaround time in the emergency department that is capable of being routinely collected and reported for comparative purposes.
16. Metropolitan health services should ensure they have the right mix of senior and specialist staff in their emergency departments and use risk screening and assessment tools to smooth the flow of emergency patients into hospital and enable those patients not requiring acute care to be discharged promptly.
17. The Department of Human Services should provide continuing support in 2001–02 for the implementation and further development of care coordination models.
18. During 2001–02, metropolitan health services should review diagnostic services to ensure that delays are minimised and that they are responsive to the needs of the emergency department.
 - Performance indicators for timeliness, quality and cost should be set at benchmark levels and hospitals should set up formal arrangements to compare results and learn about service innovations.
 - Where private operators provide services to hospitals, their contracts should be reviewed at the earliest opportunity to ensure they also meet benchmark standards.
19. As part of the metropolitan health services plan, and in conjunction with expert clinicians and senior health service managers, the Department of Human Services should identify projected demand for emergency services and likely pressure points, and determine the numbers, distribution, roles and funding of emergency departments in metropolitan Melbourne.
20. The Department of Human Services should ensure that information reporting systems are tailored to gather and disseminate comprehensive data on emergency demand. During 2001–02, the Department and hospitals should set up arrangements to report on bed occupancy as part of routine automated data collections.

Observations and Findings

From its discussions with clinicians, managers and other stakeholders, the Task Force makes four principal observations about the need to improve access to emergency services:

- Ambulance bypass policies and procedures vary widely between hospitals and there is little collaborative effort across health services to prevent bypass or to manage it when it does occur. A coordinated approach is required. **Observations and Findings 1 and 2.**
- Substitution and diversionary strategies can help to unclog hospital emergency departments. These include fast-track systems and short stay and observation units; better links with aged residential and community care providers; more vigorous use of HITH and PAC; and links with general practice and the private hospital sector. **Observations and Findings 3–7.**
- Rapid access to specialist expertise and faster response times for diagnostics improve the turnaround time in emergency departments. **Observations and Findings 8 and 9.**
- The most appropriate distribution and roles of emergency departments need to be planned for the future so that the correct level of infrastructure is available in each location. **Observation and Finding 10.**

1. Decision making criteria and processes for ambulance bypass vary across hospitals. There are few effective early warning systems to give nearby hospitals time to gear up in case of flow-on emergency presentations.

In Victoria there are no official guidelines for hospitals on the development and implementation of bypass policies and procedures. The Massachusetts Department of Public Health has published a set of best practice guidelines for hospitals to use to prevent and manage ambulance diversions (<http://www.state.ma.us/dph/99dec.pdf>). The guidelines cover:

- Intra-institutional best practices—what a hospital needs to do internally (prevention and planning activities).
- Inter-institutional/service best practices—meet and communicate with other hospitals and pre-hospital transport services before there is a need for diversion.
- Communication and coordination of best practice—what actually happens once a diversion decision has been made.

Guidelines could be issued by the Department of Human Services to assist hospitals in preparing for and managing bypass effectively. To be developed in conjunction with the MAS, emergency physicians and other affected groups, they would oblige hospitals to:

- Define who is responsible for bypass decision making (the CEO should allocate this role to a very senior clinician within the metropolitan health service).
- Set out the criteria for bypass decision making.
- Give early warning of a potential requirement to go on bypass.

Most hospitals have some form of internal bypass policy, but they are very variable and often deal with low-level procedural issues.

In order to maximise bed utilisation, appropriate hospital staff need to be notified as soon as it has been determined that a potential overload of patients might occur.

- Ensure the bypass decision is communicated to other stakeholders within the hospital and to neighbouring hospitals.
- Ensure that bypass prevention strategies are developed, implemented and reviewed regularly.
- Collect and analyse bypass data (including the factors within the hospital that contribute to bypass) and provide regular reports to hospital senior management and the board.

In view of the imminent winter high demand period, these guidelines should be issued as soon as possible and metropolitan health services should ensure that their internal policies and procedures are modified to meet them prior to the onset of expected winter demand.

Recommendations

1. The Department of Human Services should establish a working group comprising emergency clinicians, health service management and the MAS to develop and publish guidelines to hospitals on ambulance bypass policies and procedures.
2. All metropolitan health services should establish internal policies and procedures for managing ambulance bypass to give effect to the guidelines.

2. There is a ‘domino effect’ when hospitals go on ambulance bypass in a sequence usually related to geography.

Many hospitals have found that the domino effect had a significant impact on their occasions of bypass.

A range of external factors beyond the immediate control of the hospital can cause hospitals to go on ambulance bypass. While there is no consistent pattern evident from the limited data available for analysis, many hospitals have found that the domino effect had a significant impact on their occasions of bypass.

Initial attempts to establish informal early warning systems do not appear to have had a significant impact to date.

In Toronto, clusters or ‘networks’ of service providers have been established. The goal of this system is to improve coordination, review and monitoring through four emergency service networks, each with a regional coordinating hospital. The networks coordinate the emergency care services of local hospitals and Toronto ambulance services. Cooperation between hospitals in each network ensures that at least one hospital in each network will always be able to accept ambulance emergency patients.

Geographically based clusters of hospitals could be established in Melbourne.

In the same way, geographically based clusters of hospitals could be established in Melbourne. The objective would be to minimise the adverse impact of ambulance bypass on patients, and improve hospital and ambulance performance. Each cluster would develop protocols with the MAS within a common metropolitan-wide framework of guidelines (to be developed by the working group proposed above) to ensure that at least

one hospital in each network is always able to accept ambulance emergency patients.

Each cluster would develop coordinated policies and protocols, and practices and procedures, covering all hospitals in the same service area and the MAS, to include:

- Communications arrangements (notification of the MAS; notification of other hospitals; coordination of media interactions should they be necessary).
- Management of emergency transports by the MAS when one or more hospital is on bypass.
- Defining, by agreement, who can make a decision to override a local bypass decision.
- Coordination of inter-hospital transfers.
- Monitoring inpatient bed and emergency department capacity within the cluster.
- Maintaining and monitoring data on frequency, duration and reasons for bypass.

These arrangements would require resources (perhaps one project officer per cluster who could be auspiced by the MAS or the coordinating hospital) and should be evaluated regularly to assess compliance and for review and renewal.

Based on bypass information, the following clusters of metropolitan health services are suggested for discussion:

- Bayside, Southern and Peninsula.
- Melbourne, St Vincent's and Western.
- Austin and Repatriation Medical Centre, Eastern and Northern.

Recommendations

3. After consultation with the metropolitan health services and the MAS, the Department should issue a common policy framework for the establishment of emergency services clusters. This should be completed by 31 July 2001.
4. By 30 September 2001, metropolitan health services should jointly establish emergency services clusters adapted to local needs to coordinate ambulance bypass events in their area.
5. After a year of operation, each emergency services cluster should provide a review report to the Department of Human Services. The cluster arrangements should be evaluated within two years of operation.

3. Many patients do not need to be admitted to an acute inpatient bed, and special units can help in this decision process.

As the emergency department is often the main route to an acute admission, there has been a significant amount of attention to interventions at this point. The interventions include process redesign

(including structural design), guideline implementation and fast-tracking, streaming into short stay observation units and the use of new technologies.

Fast track approaches aim to increase patient throughput, decrease waiting times and increase patient satisfaction by expediting a patient's transition through the emergency department.

Meislin et al⁷ introduced the term 'fast track' to describe their ten-week trial that diverted less acutely ill patients to a specialised treatment facility next to their standard emergency department. In their descriptive evaluation, the fast track patients spent less time in the hospital and had fewer complaints about their care.

Fast track may operate in two ways, firstly, by streaming the less acutely ill patients and those with minor complaints into a rapid assessment and treatment unit and secondly, by utilising specialised protocols and strategies to expedite a patient's admission with a defined condition.

The use of fast track services to treat patients with minor complaints who present to emergency departments has grown rapidly in the United States. A selective survey conducted in 1993 of 49 US emergency departments in urban teaching hospitals showed that 58 per cent had opened a fast track treatment facility, while an additional 25 per cent were considering doing so.⁸

Processes that expedite specific treatments for acute medical emergencies should improve emergency department efficiency and directly affect overall inpatient bed management. For example, multi-centre randomised controlled trials have demonstrated that thrombolytic agents decrease overall 30–35 day mortality after myocardial infarction by 18–25 per cent, with increasing benefit as the time from onset of pain to thrombolysis is reduced.⁹ The challenge for clinicians is to introduce care delivery systems that decrease door to needle times (the standard measure of speed to thrombolytic treatment). An example of this is the Emergency Breakthrough Collaboration currently under way in the majority of Melbourne's metropolitan public hospital emergency departments.¹⁰

Short stay or observation units and medical assessment and planning units are dedicated specialist evaluation and treatment facilities that can be associated with an emergency department where less acutely ill patients are diverted to define their diagnosis and determine their continued hospitalisation or discharge plan and destination. Short stay or observation units are generally used for patients requiring brief episodes of care.

7 Meislin et al *Annals of Emergency Medicine* 1988;17(5):453–456

8 Nollman et al *Journal of Emergency Nursing* 1994;20(6):483–486

9 *GISSI Investigators Lancet* 1986;I:397–402

10 The Breakthrough methodology was designed by the Institute for Healthcare Improvement in the US in 1995 to bring together health agencies that share a commitment to making major, rapid changes that make breakthrough results.

Medical assessment and planning units are designed to focus on longer-term assessment and care planning for medical patients. More details on short stay and observation units are provided at Appendix 3.

Potential advantages of well-managed units include:

- Reduced length of stay for target patient groups.
- Reduced numbers of diagnostic investigations.
- Reduced numbers of inappropriate discharges.
- Reduced numbers of inappropriate admissions.
- Improved patient satisfaction.
- Improved emergency department efficiency.
- Improved use of hospital beds.

Key features of short stay or observation unit service models include:

- Location within, or in close proximity to, the emergency department.
- Focus on patients with an expected length of stay of up to 24 hours.
- Configuration with facilities similar to those of a hospital ward (for example, beds, lockers, showers).
- Strict admission and discharge criteria.
- Frequent consultant-level medical review of patients.
- Priority access to pathology and radiology investigations.
- Clinical protocols for management of high volume conditions.
- Sharing of infrastructure and staffing with the emergency department.

Some hospitals may not be able to set up such units (for example, because of physical space constraints). However, they should be able to demonstrate that they achieve equivalent results by changing local work practices—for example by introducing the ‘virtual short stay unit’ as well as rapid assessment teams that deal with less urgent (triage category 4) patients.

The Angliss Hospital has developed 29 clinical pathways for patients admitted to its short stay unit. The criterion for admission to the unit is that the expected length of stay is a maximum of 24 hours. Currently, of the patients admitted to this unit, 15 per cent are subsequently admitted to an overnight bed, with the remaining 85 per cent being transferred home (of these, around 10 per cent are discharged to HITH). This pattern of outcome is consistent with models in the United States where mean length of stay is about 14 hours.

Recommendations

6. Metropolitan health services should evaluate fast-track strategies (such as short stay and observation units) and promptly adopt systems that meet local needs in order to direct patients quickly from emergency departments to appropriate levels of care.
7. Metropolitan health services should develop patient management clinical pathways for high volume conditions within the emergency department. Metropolitan health services should collaborate in sharing pathways that have already been developed and learn from each others’ experiences.

Evaluation and adoption of systems that incorporate best practice and employ clinical pathways should be done through collaborative approaches with support from metropolitan health service CEOs.

8. The Department of Human Services should support the metropolitan health services experiencing high demand pressure to operate short stay units. It should provide an incentive to run them effectively by funding the cost of maintaining 80 per cent occupancy. It should also provide a contribution to the cost of rapid assessment teams.

4. Hospital in the Home services (HITH) have the potential to reduce the use of hospital-based beds as a direct admission from the hospital emergency department.

Further substitution of home-based for in-hospital care could be achieved through the application of HITH to new conditions, and new models of care.

Some metropolitan health services have used funding provided under the Winter Emergency Demand Strategy to increase HITH usage and create additional bed capacity. Further substitution of home-based for in-hospital care could be achieved through the application of HITH to new conditions, new models of care such as HITH in nursing homes and adoption of successful practices used in other hospitals. An analysis of the potential for substitution of HITH for in-hospital care is included in the Task Force's paper on multi-day medical and elective surgery patients.

Similar opportunities exist for the use of the PAC program. In order to maximise diversionary and substitution opportunities with an emphasis on emergency medical procedures that currently require an inpatient admission, there is a need for:

- Greater exchange of information and comparative analysis of hospitals' experiences and performance.
- Development of services that assist in integrating PAC within emergency departments.
- Better linkages between the emergency department and HITH (including 'Hospital in the Nursing Home') and PAC.

Recommendations

9. All metropolitan health services should:
 - Increase the use of HITH and PAC services as an alternative to inpatient admission from the emergency department.
 - Investigate opportunities to develop HITH within the nursing home.
10. During 2001–02, the Department of Human Services should extend the development of HITH by:
 - Supporting the development of guidelines for HITH in emergency services and establishing performance improvement benchmarks.
 - Initiating HITH pilot projects that explore the opportunity to combine HITH and new telecommunications technology.

5. Services that provide rapid-response home-based care for those at risk of admission are an effective alternative to hospital care.

Services that provide rapid-response home-based alternative care for those at risk of admission have been established and evaluated in several countries, including the UK¹¹, Canada¹² and Australia¹³. Typically, they accept referrals from emergency department staff and general practitioners (GPs), and aim to respond within hours with a range of home-based nursing, allied health and home help services designed to support, for a limited time, patients at risk of emergency admission.

A South Australian Emergency To Homecare Outreach Service at Flinders Medical Centre was found to be effective and identified that one-third of all patients admitted to the service would otherwise have had an inpatient admission. The financial analysis found that the service was cost-effective, but this was based on the assumption that savings from averted days of stay, at average cost, could be reallocated to the service, a highly unlikely outcome. Special funding for the service has continued, and the hospital has extended referral rights to a selected group of local GPs with strict criteria designed to ensure that the service is not used as a substitute for community-based care.

In Victoria, these services can now be provided under the PAC program.

Along with care pathways, care coordination can be further developed as part of disease management approaches to prevent subsequent re-presentation at emergency departments. Such an approach could be piloted for some conditions, such as chronic obstructive airways disease.

Recommendation

11. Metropolitan health services should consider utilising the PAC program to provide services that provide rapid-response home-based care for those at risk of admission.

6. A number of people who present at emergency departments, do so because of access barriers to more appropriate and convenient services, or a lack of knowledge of alternative services.

In metropolitan Melbourne, only approximately 27 per cent of emergency attendances arrive by ambulance. The majority, 73 per cent of presentations, are walk-up visits, many of which are assessed as less

Services that provide rapid-response home-based care for those at risk of admission are an effective alternative to hospital care.

Care coordination models have proved to be successful in assisting many patients to return home earlier with appropriate support.

In metropolitan Melbourne approximately 27 per cent of emergency attendances arrive by ambulance with the remaining 73 per cent non ambulance attendances.

11 Barlow et al. 'Fast movers' *Community Care* March 1996

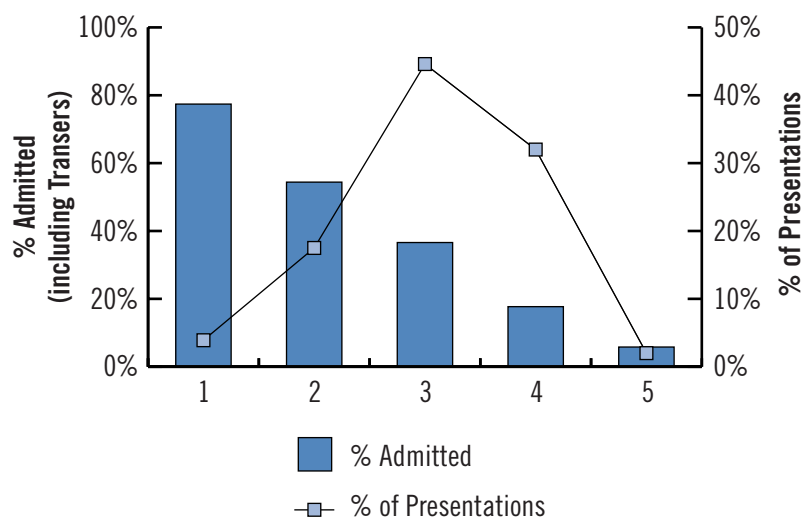
12 Brazil et al. 'Substituting home care for hospitalisation: The role of the quick response service for the elderly', *Journal of Community Health* 1998

13 Coopers and Lybrand (1997) *Evaluation of the Emergency to Homecare Outreach Service: Final Report*

urgent triage categories 4 and 5. The proportion of category 4 and 5 patients at the metropolitan health services has declined in recent years to 57 per cent of attendances as at December 2000.

Some category 4 and 5 presentations require admission to the hospital as an inpatient but in most cases (84 per cent) a GP or other community-based provider could have managed the patient safely and appropriately. The 16 per cent who are admitted represent 34 per cent of admissions from the emergency department.

Figure 3: Percentage of Admissions (inc Transfers) by Triage Category



Source: Victorian Emergency Minimum Dataset

There are opportunities for metropolitan health services to improve their links with GPs and nursing homes.

According to a study conducted in New Zealand, arrangements to make a rapid consultant opinion available to GPs may reduce emergency admissions by 5 per cent.¹⁴ Many metropolitan health services have worked hard at developing links with GPs through the GP Divisions. Through links with GPs they can:

- Identify and publicise GP clinic hours and after-hours arrangements.
- Provide a phone advisory service (for example, a 1800 number) for GPs (and residential care facilities) to obtain prompt advice on patient treatment options, as well as timely, relevant and accurate information for patients about available care alternatives.
- Using modern information and communications technology, provide real-time information about current waiting periods to patients who require GP care.
- Avoid referrals from the GP to the emergency department simply for tests.

¹⁴ Hider et al (1998b) *Assessment of Acute Medical Admissions: A Critical Appraisal of the Literature* Department of Public Health and General Practice Christchurch School of Medicine Report 6

There are similar opportunities for metropolitan health services to improve their links with nursing homes:

- They should set up outreach arrangements with nursing homes to ensure that transfer to the emergency department is undertaken only when clinically necessary to do so.
- The hospital should act as a resource to nursing homes with staff interchanges and joint education programs.

Residential Care: The Western Health Working Group

Purpose

In summary the purpose of the working group is to:

- work to enhance the relationship between residential care providers and inpatient hospital care providers for the catchment of Western Health
- raise, discuss and where possible resolve issues impacting on the smooth transition of patients from one care sector to another
- raise, discuss and where possible resolve issues impacting on the care of 'shared' patients in each of the sectors
- identify and embark on shared educational opportunities

As issues arise, 'cross- sector' performance improvement groups are formed and report back to monthly working group meetings.

Membership

The working group meets monthly and is attended by:

- Continuum of Care Co-ordinator—Western Health (chair)
- 5 residential care providers from Western Region (high and/or low level care facilities)
- nurse unit managers from Sunshine Hospital, Williamstown Hospital and Western Hospital
- Quality Manager, Williamstown Hospital
- Aged Care Clinical Nurse Consultant from hospital-based Aged Care Consultative Service
- social work representatives from Sunshine Hospital, Williamstown Hospital and Western Hospital

Members of the working group act as conduits to gather feedback, information and ideas from the broader sector. The venue for the meetings rotates between residential care facilities and hospital campuses.

Western Health Executive endorsement

The 'working group' reports to the Western Hospital Continuum of Care Committee through the Continuum of Care Co-ordinator and to the Quality Committee of the Western Health Board via this route. The Quality Committee of the Board addresses issues as required.

The MAS has developed a proposal to pilot a project to improve the triaging of requests for emergency ambulance assistance. The aim is to identify 000 callers with non-critical symptoms whose needs would be better met by another service, such as a locum doctor. The pilot would involve refining existing structured call taking protocols to identify potentially relevant callers. Additional structured questioning about the patient's clinical symptoms would be used to confirm the initial triaging and, if appropriate, identify a suitable service for referral. An emergency ambulance would be dispatched at any time during the process should this become necessary.

While demand for lower level hospital emergency services may reflect problems of access to GP services, especially out of hours, it is also heavily influenced by community and consumer expectations of the hospital emergency service. A review of acute medical admissions conducted by the Department of Public Health and General Practice at the Christchurch School of Medicine in 1998 reported on a New York mass media campaign to educate the community on the appropriate use of the emergency department. It reduced the hospital's emergency department usage by 14 per cent over two years (though there have been criticisms of the study's methodology).¹⁵ Similarly, mass media-based education campaigns have been run in New South Wales to inform the community about the services available from emergency departments and alternative care providers.

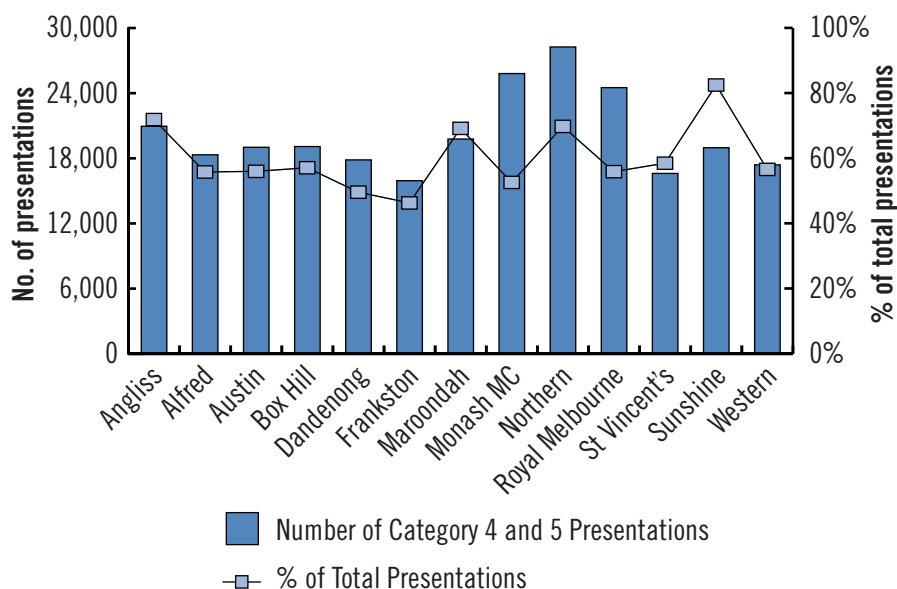
Face-to-face patient education and information about alternative options provided in the hospital emergency department (at a time when the patient is likely to be most receptive) may reduce the likelihood of avoidable presentations in the future. In the same way, routine post discharge follow-up by the patient's GP or other community-based care provider, particularly for patients with a high risk of re-presentation, should make a difference.

The Task Force is not yet satisfied that such campaigns are cost-effective. A risk is that, far from reducing demand on hospital emergency departments, as a direct consequence of the publicity, they may do the opposite. The Task Force, therefore, suggests that the Department of Human Services should undertake a careful study of the feasibility and cost-effectiveness of a mass media-based education campaign.

By taking positive steps to work with other providers (such as GPs through the GP Divisions) and by providing information and follow-up to patients, the Task Force believes that many hospitals could reduce the number of triage category 4 and 5 patients who present at the emergency department. The hospital with the lowest proportion of triage categories 4 and 5 in 1999–2000 was Frankston with 46 per cent. The Task Force suggests that hospitals should aim for a target of no more than 50 per cent of total attendances in triage categories 4 and 5.

15 New Zealand Health Technology Assessment *Acute medical admissions A critical appraisal of the literature* Department of Public Health and General practice Christchurch School of Medicine August 1998 Report 6, p. 142

Figure 4: Number of Triage Category 4 and 5 Presentations 1999–2000 and Percentage of Total Presentations



Source: Victorian Emergency Minimum Dataset

There are growing concerns among emergency practitioners about the numbers of triage category 4 and 5 patients who abandon waiting for treatment. So-called ‘absconding rates’ seem to vary from 5–10 per cent. A rate of 5 per cent is generally regarded as acceptable but anything over 10 per cent is not. Hospitals should monitor absconding rates as a marker of access to care.

Recommendations

12. Metropolitan health services should aim for a maximum of 50 per cent of total presentations at the emergency department in triage categories 4 and 5. The Department should provide a quarterly comparative report to hospitals on the trends in presentations by triage category.
13. The Department should support the proposal for the MAS triage pilot project.

7. Better access to out-of-hours general practice services could reduce emergency department presentations.

Some metropolitan health services have made arrangements with GP groups to set up general practice clinics near the hospital emergency department. This enables category 4 and 5 patients to have the option of faster and more appropriate care in a general practice setting. For example, at Frankston and Northern hospitals, local medical practices have combined to run a service adjacent to the emergency department each weekday evening and on Saturday and Sunday. A 24-hour service is provided near St Vincent’s Hospital emergency department.

In the absence of a comprehensive network of well-publicised, 24-hour, bulk-billed GP services within easy reach of patients (and culturally appropriate), it is not surprising that GP-type presentations make up a significant proportion of emergency department attendances.

Currently a number of general practices refer out-of-hours calls not to a locum service but to the local hospital emergency department. The Commonwealth GP Practice Improvement Program encourages GP practices to provide after hours cover. The eligibility criteria for participation in (and receipt of additional payments from) the Commonwealth GP Practice Improvement Program include, 'The practice ensures reasonable 24 hour medical care for patients. If the practice involves other agencies (eg a deputising service or other practices) in its own after hours arrangements, this must be formally agreed and there must be provision for the agencies to feed information back to the practice'.¹⁶

The Task Force proposes a joint Commonwealth-Victoria pilot project to establish hospital-based GP out-of-hours services. The project would:

- Identify best practice in existing services.
- Review evidence relating to out-of-hours care to ensure initiatives have an evidence base.
- Develop links with the Better Health Channel and the Clinicians Health Channel.
- Develop explicit standards in relation to:
 - access
 - service and organisational models;
 - continuous quality monitoring, critical event analysis and audit;
 - continuous professional development and accreditation of staff.
- Develop recommendations on funding (in the context of the 'measure and share' provisions of the Australian Health Care Agreement) to ensure incentives are aligned.

Recommendation

14. The Department of Human Services should negotiate with the Department of Health and Aged Care to pilot a Commonwealth funded program of hospital-based GP locum services.

8. Some people remain in emergency departments because either appropriate senior and specialised staff are not on hand, or the services required to allow the patient to be discharged are not accessible.

The Task Force believes there is substantial variation in turnaround times in emergency departments; though data are not collected and reported uniformly across the major general metropolitan hospitals to enable direct

¹⁶ A practice must provide documentary evidence that its doctors provide their own 24 hour cover individually or through a roster; or it has a formal agreement with a nearby practice; or it has a formal collaboration agreement with a local hospital; or it has formal arrangements with a deputising service; or it uses a combination of these arrangements; and [it must also] provide a practice information sheet that describes after hours arrangements including an after hours telephone number. (<http://www.hic.gov.au/html/pip/index/htm>)

comparisons. The current measures focus on access to care (for example, time to admission or transfer and time to discharge). There are, however, measurables that demonstrate departmental processes rather than simple waiting time quartiles. Such measures of quality of timed processes include access to inpatient bed, results turnaround, time-to-thrombolysis or plasty and so on.¹⁷ Measures of this kind have been taken up in the Emergency Breakthrough series and hospitals are using them to improve internal processes.

However, the Task Force believes a robust measure of turnaround time in the emergency department which is routinely collected and reported is needed to focus on ensuring the patient spends no more time in the emergency department than is absolutely necessary. It therefore proposes that the industry develops a measure of the total time from presentation at the emergency department to disposition—either admission to a hospital bed or discharge.

A number of interventions have been identified as promising for decreasing the turnaround time in emergency departments. These include:

- The use of senior staff in the emergency department—the propensity of junior medical staff to admit more readily than experienced staff has been documented in the literature.
- A multidisciplinary approach within the emergency department—the benefits of a multidisciplinary approach to the management of patients within emergency departments have been well researched. As part of the National Demonstration Hospitals Program, Peninsula Health conducted a project on the multidisciplinary allied health team in the emergency department. The principal aim of the team was to perform an assessment of the patient, provide information and avoid admission. Similar objectives have influenced other projects such as the ALERT program at St Vincent’s Hospital.

The characteristics of people presenting at emergency departments are changing. There are increasing numbers of older people with complex needs, people with psychiatric disorders, and patients requiring expertise related to drug use. Emergency departments should have rapid and seamless access to such specialist capability, but hospitals vary in the extent to which such services are available.

Key features of the ALERT program at St Vincent's Hospital

- Assessment
- Liaison and early referral
- Staff experience reflects patient needs
- Proactive management earlier in the admission or presentation
- All patients have a risk assessment to identify issues for the team

¹⁷ Kennedy, M 'Access to care; what should we be measuring', *Emergency Medicine* 2000 12:66–69

Key features of the RAD Team at Peninsula Health

- Assessment and response
- Risk assessment and early referral—100 per cent compliance
- Prevention of admission—12 per month
- Interface with community providers
- Interface with inpatient process
- Seven day allied health service

Care coordination is an important response to the increasing number of patients with complex needs presenting at emergency departments.

The care coordination funding provided under the Winter Emergency Demand Strategy has proved to be effective in managing patients better by assisting them to return home earlier with appropriate support or move more quickly to another setting better suited to their needs. Care coordination is an important response to the increasing number of patients with complex needs presenting at emergency departments, particularly older patients and those with psychiatric and substance abuse problems. Staff employed in care coordination roles in the emergency department include gerontic nurses, psychiatric nurses, social workers and other allied health staff.

Patient management practices that are likely to smooth the flow of patients through the emergency department include:

- Risk-screening tools commencing within the emergency department to identify those patients who will require coordinated management.
- Specialised caregivers within the emergency department such as gerontic nurses and psychiatric nurses.
- A separate area within emergency departments to manage psychiatric patients, where physically possible.
- Surgical and medical ward rounds within emergency departments to reduce the time spent by patients waiting in review.
- Optimal staffing levels within emergency departments with careful rostering of consultant staff (including extended consultant hours).

Specialist nurses within the emergency department, in areas such as diabetes, respiratory, cardiac and gerontology, have a major role in enhanced approaches to managing medical admissions.

The Scottish Review of Emergency Demand¹⁸ found that specialist nurses within the emergency department, in areas such as diabetes, respiratory, cardiac and gerontology, have a major role in enhanced approaches to managing medical admissions. In Australia, discussions on advanced level practice for registered nurses have been taking place for some time.¹⁹ The Task Force believes there are significant opportunities to expand the role of nurses as advanced practitioners in the emergency department. Against this background, the Task Force suggests the Department should commission a study of the needs for specialist clinicians (doctors, nurses and allied health) in emergency departments.

18 Scottish Office (1998) *Acute Services Review Report*

19 In Victoria, the report of the Nurse Practitioner Task Force was completed in December 1999. It is being progressed through the Nurses Board of Victoria, a Nurse Practitioner Implementation Advisory Committee and a series of demonstration projects.

Recommendations

15. During 2001–02, the Department of Human Services and the metropolitan health services should formulate an indicator of total turnaround time in the emergency department (with supporting process measures) that is capable of being routinely collected and reported for comparative purposes.
16. Metropolitan health services should ensure they have the right mix of senior and specialist staff in their emergency departments and use risk screening and assessment tools to smooth the flow of emergency patients into hospital and enable those patients not requiring acute care to be discharged promptly.
17. The Department of Human Services should provide continuing support in 2001–02 for the implementation and further development of care coordination models.

9. Timely access to diagnostic services is a rate limiting factor in emergency departments' capacity to process patients quickly through to hospital admission or discharge.

Some metropolitan health services have attempted to improve links with diagnostic services, but the performance of services vary from site to site and traditionally are geared toward inpatient services that operate during business hours.

Many such services have been outsourced to private providers in recent years and contracts may not have focused on service performance standards as much as they have on cost reductions. Currently, there are limited opportunities for comparisons of the performance of internal or external providers. Turnaround times need to be included in contracts.

Recommendation

18. During 2001–02, metropolitan health services should review diagnostic services to ensure that delays are minimised and that they are responsive to the needs of the emergency department.
 - Performance indicators for timeliness, quality and cost should be set at benchmark levels and hospitals should set up formal arrangements to compare results and learn about service innovations.
 - Where private operators provide services to hospitals, their contracts should be reviewed at the earliest opportunity to ensure they also meet benchmark standards.

Emergency departments rely on other hospital services to ensure accurate and rapid treatment of emergency patients.

10. Planning for the future development of hospital emergency departments must pay particular attention to role delineation and the needs of the outer metropolitan fringe.

Some emergency departments face particular problems because of their geographical location or the level of support infrastructure available to them.

This paper highlights some of the problems facing emergency departments in metropolitan health services. In addition to growing demand, there is pressure from other parts of hospitals, such as operating theatres and intensive care units, as well as the special requirements of patients with particular needs, such as people with mental health conditions or alcohol and drug problems, and older people with respiratory conditions or heart disease.

The distribution and role of emergency departments needs to be planned in the context of shifting populations and the transport, referral and other service delivery patterns across the whole of the metropolitan area. (Refer to Figure 5.)

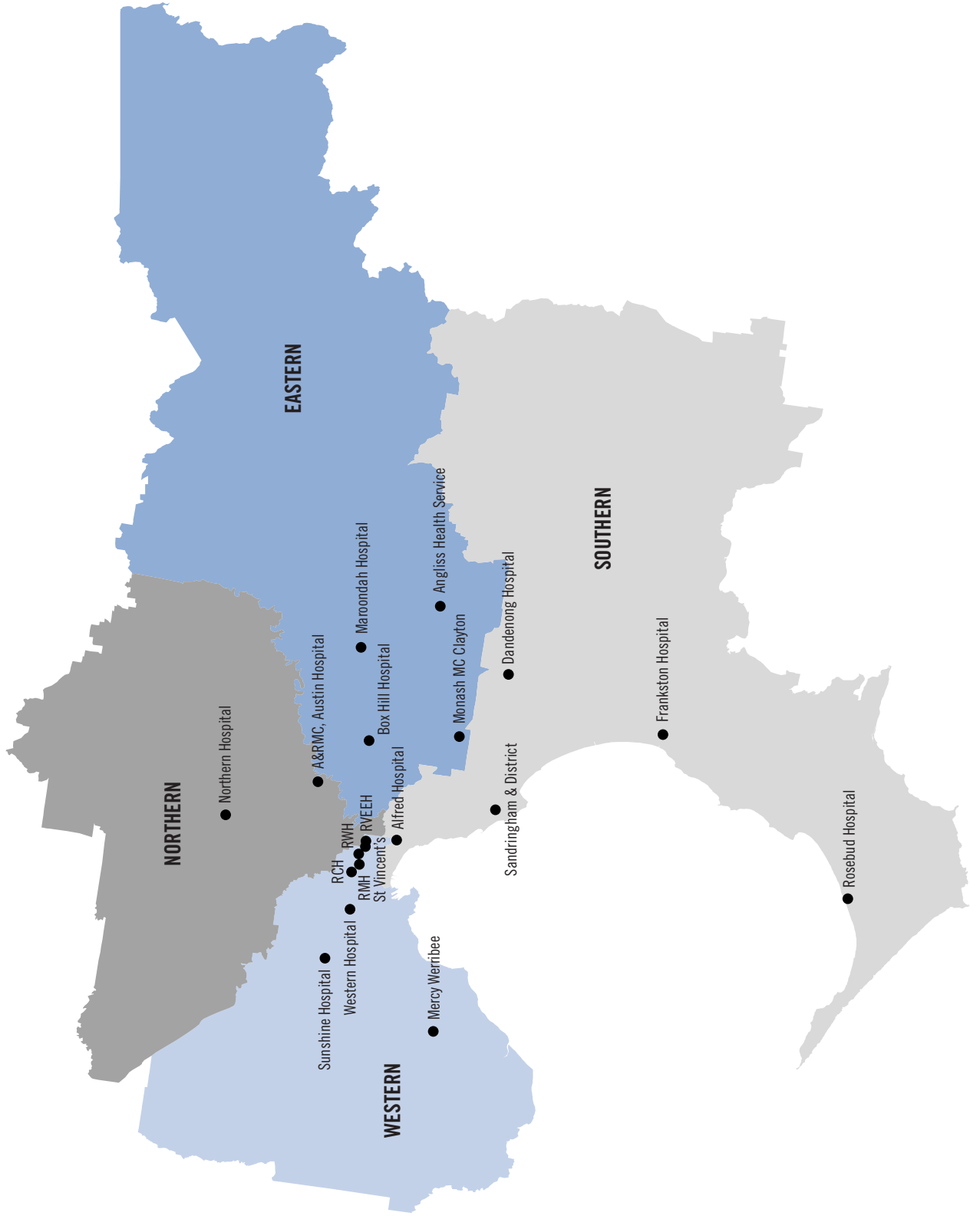
An agreed plan for the role and distribution of emergency departments should ensure that the right level of services is available to meet the needs of local populations and that adequate support (including intensive care beds, operating theatres and key specialist medical and nursing staff) is in place.

There is a now well-established relationship between regular bed shortages and periodic bed crises and average occupancy rates above 90 per cent. However, bed occupancy rates are not routinely collected by hospitals and reported to the Department.

Recommendations

19. As part of the metropolitan health services plan, and in conjunction with expert clinicians and senior health service managers, the Department of Human Services should identify projected demand for emergency services and likely pressure points, and determine the numbers, distribution, roles and funding of emergency departments in metropolitan Melbourne.
20. The Department of Human Services should ensure that information reporting systems are tailored to gather and disseminate comprehensive data on emergency demand. During 2001–02 the Department and hospitals should set up arrangements to report on bed occupancy as part of routine automated data collections.

Figure 5: 2001 Metropolitan Melbourne Hospitals with 24-Hour Emergency Departments

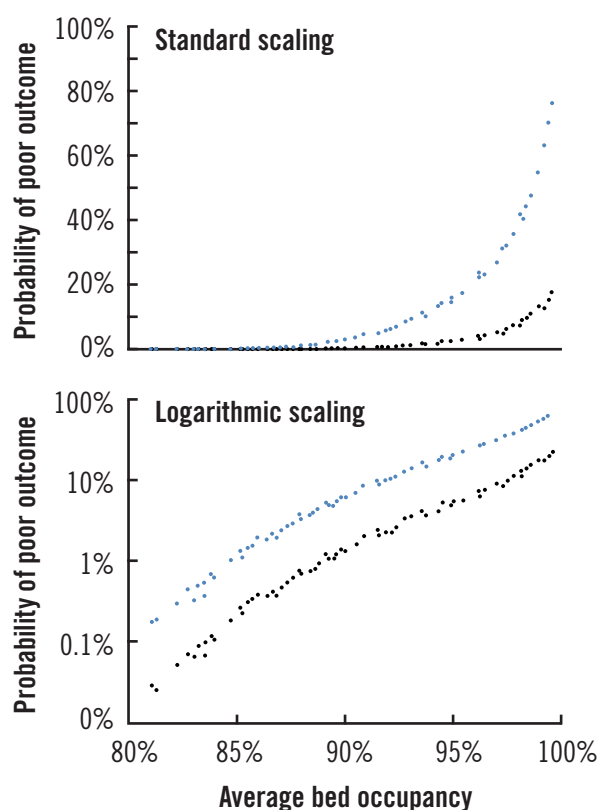


Appendix 1: Key Trends in Emergency Services in Melbourne's Metropolitan Health Services

The acute sector is operating at close to capacity with occupancy rates in most metropolitan health services at 90 per cent or above.

The connections between demand, bed capacity and the risk of having no bed available for any patient requiring immediate admission is directly related to the average occupancy rate. At rates above 85 per cent, risks become discernible and above 90 per cent the hospital is subject to regular bed crisis.²⁰ Where hospitals cooperate in pooling capacity the situation could be eased. Where several hospitals are all operating close to maximum capacity, a crisis in one hospital can quickly be transmitted through the whole of the local system—the domino effect. Spare bed capacity is therefore essential for the effective management of emergency admissions

Figure 6: Relation of Performance Risks to Average Occupancy



Source: Bagust et al. 1999

Key conclusions of the Bagust study are:

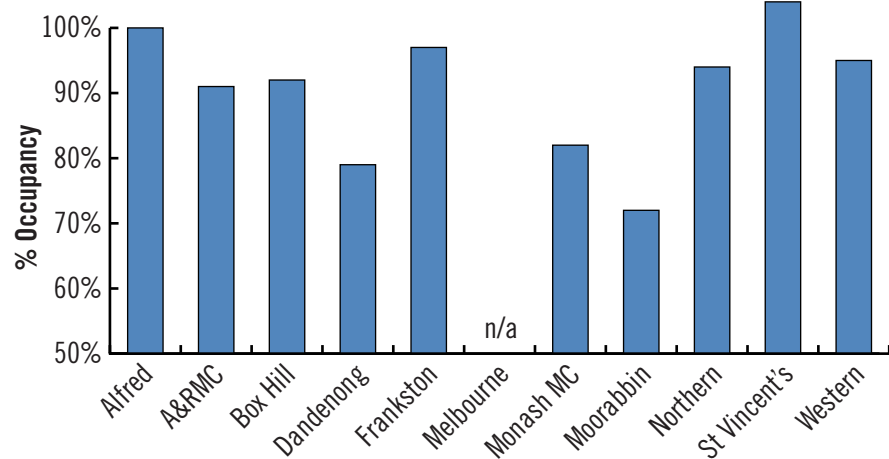
- acute hospitals which operate at bed occupancy levels of 90 per cent or more face regular bed crises;
- management interventions should focus on measures with long term benefits to counteract the growth trend in demand for admission;

²⁰ Bagust et al. 'Dynamics of bed use in accommodating emergency admissions: stochastic simulation model', *BMJ* 1999;319:155–158 (17 July)

- many initiatives have only a short term effect; they briefly delay the worst effects but do not address the growing mismatch between supply and demand; and
- evaluating management interventions year-on-year at a single hospital is futile—any effects are swamped by random variation.

Data collected by the Task Force from the major metropolitan hospitals showed that in the first half of 2000–2001, the average occupancy rates for overnight acute beds (based on a daily bed census) exceeded 90 per cent, when specialist units such as maternity and paediatrics were excluded.

Figure 7: Average Occupancy Rates For Overnight Acute Beds



Monash, Moorabbin and Dandenong include maternity and paediatrics. St Vincent's is not based on a bed census.

Source: Hospital Provided Data

There has been substantial growth in emergency department attendances in Melbourne's metropolitan public hospitals but it has not been uniform.

Growth in emergency department attendances over the past 5 years has not been uniform with attendances at the Alfred Hospital and the Austin and Repatriation Medical Centre both declining during this time. Both of these hospitals have other significant hospitals within their catchments that may be limiting flow into them. The greatest growth was experienced at Frankston Hospital with a 21.5 per cent increase over the past five years.

Recent studies have found that the increase in the longevity of the population has significantly increased the number of people requiring hospital care.²¹ Another factor may be that emergency departments are receiving an increased number of elderly patients with complex problems relating to multi-system disease.²² The additional time required to diagnose and treat these patients has been noted as a major factor

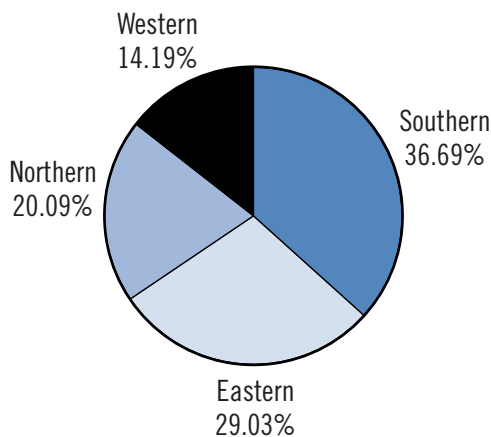
21 Cartwright A, *Journal of Public Health Medicine*, 13, 81–87

22 Eliastam M 1989 *Ann Emergency Medicine*, 18, 133–140

increasing waiting times in emergency departments as well as contributing to rising admission numbers.²³ The following factors are likely to increase their length of stay: dementia, immobility, increasing age and living alone.

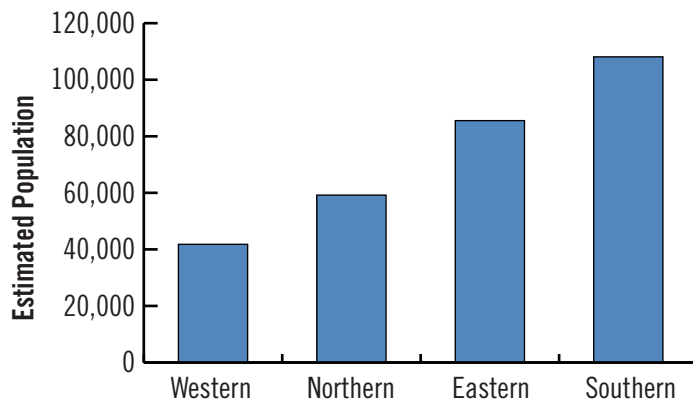
In 1999–2000, people aged 70+ occupied 43.3% of all emergency beddays in Melbourne’s major general hospitals. This population group is not evenly spread across metropolitan Melbourne.

Figure 8: Regional Share of Melbourne’s Estimated 2001 Population Aged 70+



Source: Department of Infrastructure

Figure 9: Estimated 2001 Population Aged 70+



Source: Department of Infrastructure

Ambulance bypass episodes have broken out of the pattern that strongly linked them to seasonal factors.

During the period from the September quarter 1998–99 to the December quarter 2000, the number of ambulance bypasses for the major metropolitan hospitals in Melbourne jumped from an average of 27 episodes for each month of the quarter to an average of 281 episodes for each month, an increase of 941 per cent.

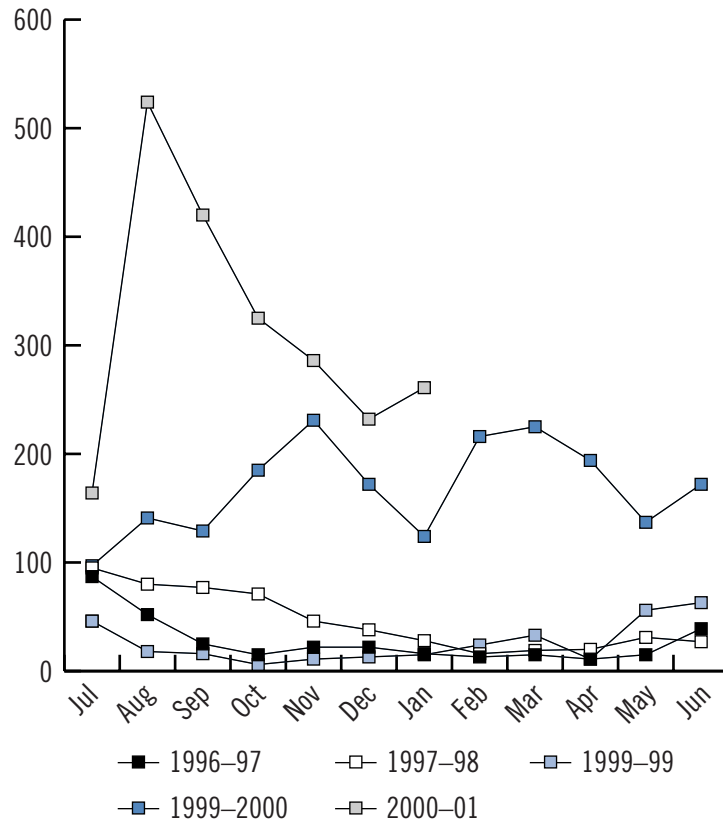
²³ Cameron et al.1989; *Medical Journal of Australia*, 150, 546–8.

The monthly average for the first 2 quarters in 2000–2001 was 325 episodes for each month. Historically, ambulance bypass tends to rise and fall in line with seasonal factors. However, since the increase in the July 2000 quarter, the number of episodes has not returned to previous seasonal lows.

The largest numbers of ambulance bypass have been reported at the Royal Melbourne, Frankston, and Northern Hospitals and at Monash Medical Centre.

Lack of access to inpatient beds has seen record numbers of ambulance bypass and admission block.

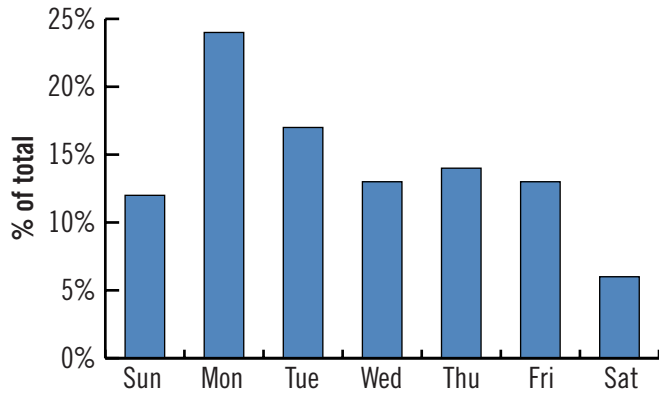
Figure 10: Hospital Access Program—Ambulance Bypass



Source: Hospital Access Program

During the period from October 1999 to October 2000, more episodes of bypass occurred on a Monday with an average of 24 per cent. Western Hospital had the greatest proportion of episodes of bypass on a Monday with 36 per cent followed by Dandenong, Northern and Royal Melbourne Hospitals with 29 per cent. This pattern of Monday bypass suggests that there may be a specific set of practices contributing to their regular occurrences.

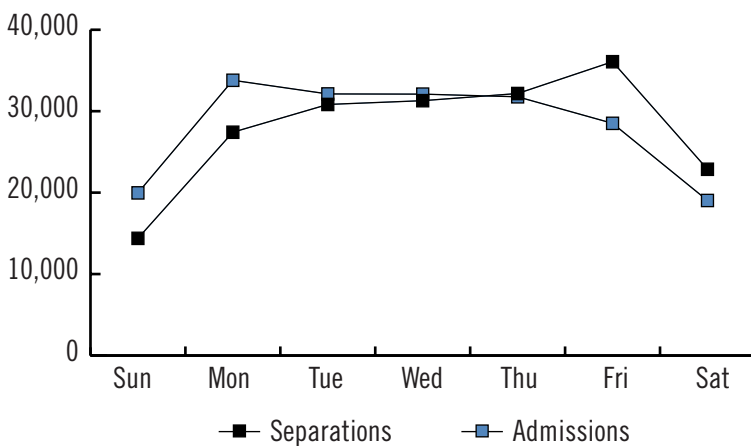
Figure 11: Percentage of Ambulance Bypass by Day of the Week, 1999–2000



Source: Hospital Access Program

The pattern of patient admissions and discharges for the metropolitan health services shows that there are more admissions and fewer discharges on Mondays—the worst day for ambulance bypass. It is believed that a proportion of patients who could be discharged on the weekends remain in hospitals, thereby restricting the flow of patients through the system.

Figure 12: WIES Funded Admissions and Discharges by Day of the Week YTD Dec 2000—12 Major Metropolitan Hospitals plus Moorabbin and Sunshine



Source: Victorian Admitted Episodes Dataset

Appendix 2: Patient Management Task Force

Terms of Reference

1. To identify essential organisational and patient management practices that should be in place in all hospitals.
2. To determine the extent to which these practices are occurring in metropolitan health services, identify specific areas where improvements should occur and advise on how these improvements could be quickly achieved.
3. To determine key indicators of good patient management practice and the benchmarks that should be achieved by health services.
4. To advise on incentives and other strategies that could be used to encourage health services to achieve benchmarks.
5. To communicate and engage with representative bodies of health professionals, practitioners, managers and other stakeholders in identifying and implementing good patient management practices.

Membership

Dr Michael Walsh (Chair), Chief Executive, Bayside Health

Dr Jim Breheny (Deputy Chair), Chair, Austin and Repatriation Medical Centre Board

Professor Gordon Clunie, Chair, Ministerial Advisory Emergency and Critical Care Committee

Ms Ella Lowe, Executive Director Operations, Peninsula Health

Mr Robert Burnham, General Manager, Northern Hospital

Dr Heather Buchan, Assistant Director, Quality and Care Continuity Branch, Acute Health Division, Department of Human Services

Mr Geoff Lavender, Regional Director, Barwon-South Western Region, Department of Human Services (Project Director)

Secretariat

Ms Robynne Cooke (Austin & Repatriation Medical Centre)

Mr Peter Lewis (Acute Health Division, Department of Human Services)

Mr Nick Legge (Aged, Community & Mental Health Division, DHS)

Mr Amos Yee (Acute Health Division, Department of Human Services)

Ms Julie La Gamba (Acute Health Division, Department of Human Services)

Appendix 3—Short Stay and Observation Units

Many conditions have been successfully managed in observation units. Patients have a low likelihood of admission but they need additional time before a decision on the patient's disposition can be made. Conditions that benefit from diagnostic evaluation in observation units include abdominal pain, chest pain, fever, seizure, abdominal trauma, head trauma and thoracic trauma.

Observation units (or medical assessment and planning units) are an important innovation in emergency care, and typically are specially designed and staffed to enable appropriate testing and assessment of who should be admitted. Such units generally have a higher proportion of senior or specialist staff than emergency departments, and decisions regarding treatment for certain conditions are supported by protocols. There are general, condition specific (eg for chest pain, asthma, transient ischaemic attacks, stable drug overdoses, selected infections, allergy reactions, head injuries and self-harm) and age specific (eg paediatric) observation units.

Short stay units have the potential to facilitate the streamlining of patient care processes, remodelling clinical care around substitution and diversion services for suitable patient groups, while they may also play a role in expanding care coordination to new groups of patients who require a brief episode of in-hospital care. Conditions suitable for short-term therapy are asthma, dehydration, infection, overdose, pancreatitis, psychiatric emergency, alcohol abuse, paediatric patient care and geriatric care.²⁴

Short Stay Units and Medical Assessment and Planning Units in Metropolitan Health Services

Hospital	Short Stay Unit	MAPU
Angliss	4 bed Observation Ward	
Austin & Repatriation Medical Centre	—	23 beds
Box Hill Hospital	—	—
Dandenong Hospital	7 bed Observation Holding Unit	—
Frankston Hospital	6 ED Observation cubicles	—
Maroondah Hospital	—	—
Monash Medical Centre	10 Emergency Transitional Unit beds	—
Northern Hospital	—	—
Royal Melbourne Hospital	5 bed Chest Pain area in ED	—
St Vincent's Hospital	6 bed Observation Unit	15 beds
Sunshine Hospital	—	—
The Alfred	6 bed Observation Holding Unit	—
Western Hospital	—	20 beds

Source: Melbourne Health (2001) *Short Stay and Observation Units in Victorian Hospitals*, p 32

²⁴ Melbourne Health (2001) *Short Stay and Observation Units in Victorian Hospitals*

In an environment of unusually high emergency demand, these units need to be managed so that beds are quarantined for short stay purposes or patients that require longer-term care may readily occupy them. In order to optimise their role in hospital demand management strategies it is important to manage these units at less than 100 per cent occupancy. Average occupancy rates should be in the order of 80 to 85 per cent, though the general occupancy definition of beds occupied at midnight may not be the most appropriate measure for these units.

A recent study found that three observation units at Monash Medical Centre and the Royal Melbourne and Alfred Hospitals, were unable to function as observation facilities when they were used as a normal ward due to severe bed pressures. Commitment to a defined role and admission criteria assist in avoiding sub-optimal use of these units.