

# Hospital demand management strategy 2001–2002

Summary of findings from project annual reports



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**November 2002**

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## 1. Executive summary

The Hospital Demand Management (HDM) Strategy was established in October 2000 to manage the growth demands and capacity constraints within the Victorian public health system. The strategy has provided \$582 million over four years (2001–02 to 2004–05) to meet demand pressures, with an emphasis on collaboration between service providers and promotion of new and alternative models of care.

In 2001–02, the strategy funded the Metropolitan Health Services and Barwon Health to develop and implement over 80 projects in the areas of prevention, substitution, improving patient flows and the acute/subacute service interface.

This paper presents a summary of the HDM project annual reports provided by health services following the first twelve months of implementation. It highlights findings to date, key lessons, factors that have facilitated or hindered project implementation and the importance of projects to the success of the strategy.

The projects represent a broad range, from simple interventions such as recruitment of a single staff member (for example, additional clerical support within an emergency department) to those that have undertaken a major change management process (for example, the Patient Access Taskforce established at Melbourne Health).

The positive impact of the projects on demand management is demonstrated by the improvement in key performance indicators (KPIs) from 2000–01 to 2001–02. All health services have reached the target of 100 per cent for 'Triage category 1 patients seen within target' and 'Elective Category 1 patients admitted within target'. There have been substantial decreases in ambulance bypasses and increases in the percentage of patients 'admitted within 12 hours', with targets for 2001–02 generally being met by the health system as a whole, with the exception of a slight deterioration during the peak winter demand months.

In addition to these demonstrated improvements in KPIs across the system, projects were also asked to rate their importance to the success of the HDM Strategy. A rating of 'one' is equivalent to 'no impact on the HDM Strategy' and a rating of 'five' is equivalent to 'critical to the success of the HDM Strategy'. On average, the projects have rated their importance to the overall success of the HDM Strategy as four out of five. Project reports have also commented on the improvement in health service KPIs resulting from the simultaneous implementation of several projects at a particular site. Thus, projects can be seen to be interdependent in terms of their impact.

Most projects have not, as yet, undergone formal evaluation and, with one or two exceptions, the data available has not been subject to statistical analysis. However, several projects have been able to provide descriptive data, some have been able to provide evidence of substitution or of prevented presentations and admissions, and a couple of projects have demonstrated statistically significant improvement in key outcome measures. Some projects have also been able to publish their results.

It would be expected that, as projects evolve and data collection systems improve, there will be a greater emphasis on more rigorous and consistent reporting of indicators and a capacity to more directly compare the impact and outcome of projects between hospitals.

'Improving patient flows' was the single biggest project category. Interventions focused on either the Emergency Department (ED) or inpatient services. ED projects included changes in triage processes and reconfiguration of the management of specific patient groups within defined units such as short stay units. Inpatient-focused projects included care coordination and discharge planning initiatives, reconfigured and new types of units which facilitated rapid assessment and management of patients, establishment of transit lounges and increased utilisation of day procedure centres.

The ED triage projects designed to 'fast-track' patients have, in general, reported improved ED waiting times and satisfaction for both patients and staff. However, recruitment of senior medical staff has been difficult and there are still issues to be resolved regarding the scope of practice of specialist nurses in these roles.

Short stay units and new types of inpatient units (such as medical assessment and planning units and rapid assessment medical units) have also reduced length of stay (LOS) for eligible patient groups and improved patient and staff satisfaction. Their establishment has been facilitated by the development and utilisation of clear protocols for patient eligibility and care. Reconfiguration of established inpatient units in some health services has also improved patient management. For some services, reconfiguration has meant adding an extra medical unit, while for others consolidation of several units into a single unit has been found to be more suitable to local conditions.

Several projects that have utilised inpatient care coordination and/or discharge planning (particularly at weekends) have been successful in substantially reducing LOS. The availability of experienced staff, relationships with other providers and the development of protocols have facilitated the implementation of this type of project.

Prevention projects comprised the next biggest category. Key prevention interventions included care coordination in the ED and disease management/case management for patients with chronic heart failure and chronic obstructive pulmonary disease. Care coordination projects demonstrated decreased LOS in the ED and evidence of averted admissions. Most reported high levels of patient and staff satisfaction. Project reports highlighted the importance of multidisciplinary assessment, links and partnerships with other providers, integration with existing services, the skill base of the care coordinators and the availability of brokerage funds as being vital to their success. However, difficulties in recruiting staff, the need for more brokerage funds and gaps in service provision in the community were also reported. The majority of care coordination projects were rated as 'critical to the

overall success of the HDM Strategy'. As one report commented, 'we highly recommend this model to other institutions'.

Disease management/case management projects have emphasised evidence-based management, multidisciplinary care, collaboration with other providers, especially general practitioners (GPs), and provision of education and support to patients and their carers. Several have demonstrated reductions in ED presentations, re-admissions and LOS.

Substitution projects have included the establishment of ambulatory care centres for the management of patients with specific conditions, the Bayside Medihotel, pre-admission clinics, enhancement of post acute care (PAC) services and purchase of 'beds' in non-acute facilities such as hostels. Where data is available, it has shown savings in inpatient bed days and high levels of patient satisfaction with care received.

Several primary care liaison projects were also funded. Although a core aim of these projects was to improve collaboration between hospitals and GPs, there was some variation between projects in how the model was implemented and in the types of interventions emphasised.

Common themes have also emerged from annual reports regarding facilitators and barriers to project implementation. Facilitators have included the support of senior staff, the development of collaborative relationships with multiple stakeholders, and the utilisation of available evidence in developing interventions and staff commitment to change. Some of the barriers have been difficulties with staff recruitment associated with workforce shortages and gaps in the availability of community services.

In conclusion, a broad range of HDM projects has been implemented in a short space of time. Health service providers are working in collaborative and innovative ways to manage demand pressures in the health system and to provide patient care that is more timely and appropriate. They have developed projects to suit local conditions. The first 12 months of implementation have been successful as evidenced in the overall achievement of KPIs for ambulance bypass, the percentage of patients admitted within 12 hours, Triage Category 1 patients seen within target and Elective Category 1 patients seen within target for 2001–02. The project results, in relation to indicators such as LOS, ED presentations, numbers of acute admissions and bed days utilised, are also showing positive trends. Project staff have identified both project facilitators and barriers. These provide signposts that can assist the Department of Human Services and health service providers in future HDM project development. There is a need for improvement in data collection by individual projects and for more rigorous and consistent reporting by project staff. The results from formal project evaluation in the future will also provide vital information for future HDM policy development and implementation.

## 2. Introduction

The HDM Strategy was established in October 2000 to address the growth demands and capacity constraints within the Victorian public health care system, providing \$582 million over four years to meet demand pressures. Key aspects of the HDM Strategy are:

- creating extra capacity through funding growth
- relieving pressure on acute hospital beds and EDs through diversion to alternative options for care where clinically appropriate
- working with clinicians to achieve better patient management practices through negotiation of a tailored response for each hospital
- improving working conditions that will attract and retain nurses
- implementing a prevention strategy to reduce the demand pressures on hospitals (known as the Hospital Admission Risk Program or HARP).

The HDM Strategy focuses on the service system as a whole rather than on fragmented interventions or single organisations. The strategy emphasises collaboration between health care providers, promotes appropriate pathways for people using health services and encourages models of care that respond to current demands for health services.

Under the 2001 -02 Hospital Demand Management Agreement, Metropolitan Health Services and Barwon Health have been funded to develop and implement over 100 projects and initiatives in four broad categories – prevention, substitution, improving patient flows and the interface between acute and sub-acute services.

Although projects are at different stages of implementation, annual reports for the period July 2001 to June 2002 have now been completed. The annual reports were required to:

- provide a basis for health services to exchange information on key lessons and experiences in implementing demand management strategies
- inform the subsequent development of demand management initiatives
- provide information on the initiatives that are being implemented to a range of stakeholders, including primary care services, GPs, consumers, carers and the Department of Human Services.

This paper presents a summary of the findings from the majority of these reports. Interim care and falls projects and initiatives such as additional Geriatric Evaluation and Management Beds, Rehabilitation in the Home, and Hospital in the Home (HITH) will be reported and evaluated through separate processes undertaken by the Department of Human Services Continuing Care Programs Unit.

Projects have been grouped according to the four broad categories above. Where projects have comprised multifaceted strategies, such as both prevention and improvement in patient flows, they have been classified according to the predominant strategy.

This paper presents a summary of:

- findings to date
- key lessons
- factors that have facilitated or hindered project implementation
- identification of organisational or clinical practice changes resulting from project implementation
- the importance of individual projects to the success of the HDM Strategy.

Specific project findings have also been highlighted. A large amount of the data available from project reports has been included, much of it in tabulated form for ease of reading. Unfortunately, projects have not always reported on the same impact indicators. This, combined with the differences in project implementation timelines, has made project comparability difficult. It should also be noted that few projects have undergone formal evaluation at this stage.

An annotated list of the projects included in this report can be found at Attachment 1 and a copy of the project reporting proforma can be found at Attachment 2.

## 3. Annual reports July 2001–June 2002

### 3.1 Prevention

Prevention projects aimed to decrease ED presentations and admissions/re-admissions to acute inpatient services. Twelve projects involved care coordination in an ED and a further nine projects involved disease management for Chronic Heart Cardiac Failure (CHF) or Chronic Obstructive Pulmonary Disease (COPD). Bayside Health targeted inpatients with complex problems who are frequent attenders. A number of prevention projects utilised an acute-primary care liaison model.

Other prevention projects involved:

- Extension of psychiatric liaison and drug and alcohol service provision to the Southern Health EDs to manage patients with drug and alcohol problems more effectively and prevent re-presentation to the ED.
- Establishment of an After Hours Telephone Hospital Access Advice Unit at Western Health.
- The Bayside Mobile Assessment and Treatment Service which provides on-site assessment and management to patients in residential care facilities.
- A trial at Peninsula Health of allied health outreach at home to patients who are assessed by the Metropolitan Ambulance Service as being at risk of admission if allied health services were not provided.

#### 3.1.1 ED care coordination and discharge planning

ED care coordination and discharge planning projects aimed to reduce unnecessary presentations to the ED and unnecessary or inappropriate admissions to acute inpatient services. The projects were often combined with inpatient care coordination or other HDM projects, providing a range of strategies for responding to hospital demand, but this section describes only the ED care coordination or discharge planning components. These projects focused on patients described as complex medical, frail older patients and those at high risk for admission due to psychosocial factors, usually providing a seven-day per week service with extended hours. Care coordinators came from either nursing or allied health disciplines.

The majority of these projects have only been operational since the second half of 2001. However, two projects (at Melbourne Health and Northern Health) commenced in mid-2000 and one project (at Southern Health) did not commence until March 2002. Thus, the availability of data between projects varies and data comparability is limited.

The following table highlights key data from each of the ED care coordination reports.

Project	Key data
Angliss Hospital	Of 1,400 patients assessed, 930 (66.4%) were not admitted to an inpatient bed. Of 138 patients referred to other services, the largest number of referrals was to post acute care (37, 2.6%) and aged care assessment service (44, 3.1%). Patients receiving care coordination showed a 5% improvement on a quality of life measure compared to a pre-implementation control group (Kennedy et al 2002).
ARMC	Re-representation rates (with the same condition within 28 days) for patients 70 years and over fell from 3.9% before project implementation to 2.8% after implementation.
Barwon Health	338 (49%) of the 688 patients assessed had an averted admission.
Bayside Health	790 patients were assessed with 88% being 65 years and older. 25% of the patients were admitted compared with 35% pre-project implementation. Average ED LOS for those patients discharged fell by 48% post-project implementation.
Box Hill Hospital	Of 1,832 patients assessed, 366 (20%) were admitted to Box Hill Hospital, 48 (0.3%) to private hospitals, 124 (7%) were placed in facilitated/brokered care and 330 (18%) were discharged home with additional supports.
Maroondah Hospital	2,398 patients were assessed. Of these, 1,771 have been referred to other non-acute providers such as allied health and local council services.
Melbourne Health	2,532 patients (5.8% of all ED patient attendances) were referred to the care coordination team. 49% were discharged home. 1,199 of these were referred to community service providers (Moss et al, 2002). The ED admission rate to ward beds fell from 27% to 25% during the study period.
Northern Health	1,555 patients were assessed. Of these, 581 (37%) were discharged with active intervention with 600 referrals made to community service providers.
Peninsula Health	Of 2,820 patients assessed, 508 (18%) admissions were prevented.
Southern Health	Between March and June 2002, 453 patients were assessed by care coordinators at Dandenong Hospital. Of these, 56% were discharged home. During the same period at MMC ED, care coordinators assessed 653 patients, with 50% being discharged home.
Sunshine Hospital	Of the 1,205 patients assessed by the Sunshine Hospital Quick Response Team, 33% were admitted and 50% were discharged home with the remainder being transferred to another care facility.
St Vincent's Health	A total of 2,012 patients were screened between January and July 2002. Of these, 695 (35%) were assessed for case management and 131 (19%) were diverted.

The Angliss Hospital ED care coordination project was the only one to undergo formal evaluation with a pre- and post-implementation comparison. Results from this evaluation revealed a marked increase in the application of allied health interventions and community support services in the post-implementation group, a 5% improvement in quality of life (significant at  $p=0.038$ ) and marked improvement in patient perception of health status, with 41% reporting 'very good' or 'excellent' health post-implementation compared to 29% pre-implementation ( $p<0.001$ ) (Kennedy et al, 2002).

Most projects reported high levels of patient and staff satisfaction. Project reports highlighted the importance of multidisciplinary assessment, risk screening, links and partnerships with other providers, integration with existing services, the skill base of the care coordinators and the availability of brokerage funds as being vital to their success. The Northern Hospital project emphasised the value of brokerage. Seventeen of their patients received a total of 229 days of service (at a cost of approximately \$21 /day) which would not normally have been available as they did not fit into any other funding stream.

However, projects also reported difficulties with staff recruitment, gaps in service provision in the community and the need for more brokerage funds and longer hours of operation.

The interdependence of these projects on other HDM funded projects for their success was also emphasised in some reports. In some cases, the reported data resulted from the simultaneous impact of more than one HDM project and has complicated the reporting of KPIs.

Organisational and practice changes included improved discharge planning processes and continuity of care, enhanced relationships with other providers and increased utilisation of allied health and other services.

All projects were asked to rate their importance to the success of the HDM Strategy, with a rating of 'one' being equivalent to 'no impact on the HDM Strategy' and a rating of 'five' being equivalent to 'critical to the success of the HDM Strategy'. The majority of care coordination projects were rated at the highest rating of 'five'. As the Melbourne Health ED Care Coordination Project report stated 'we highly recommend this model to other institutions'.

### 3.1.2 Disease management and case management projects

The Northern Hospital Disease Management Pilot for CHF and COPD aims to reduce acute health service utilisation through provision of community-based rehabilitation to patients with COPD and home pharmacist visits to patients who have CHF and are on multiple medications. The project emphasises an evidence-based approach and collaboration with other health services. The project staff includes specialist medical staff, nursing staff, pharmacist, physiotherapist, medical records administrator and information technology staff. Since February 2002, 44 patients with COPD have been recruited. None of these patients has re-presented to the ED or experienced an unplanned re-admission compared with an average of 1.5 ED presentations and a 31.3% unplanned re-admission rate for all patients with COPD for 2001–02.

For the CHF component of the Northern Health project, 30 patients with severe disease have been recruited from the 934 patients screened. Due to the severity of their disease, the unplanned re-admission rate is 42% (compared with 14% for all patients with CHF for 2001–02), but the average number of ED re-presentations for the group is 0.6 compared with 1.2 for all CHF patients for the year, a reduction of 51%.

The Eastern Pre-Hospital Prevention Strategy comprises case management by nursing staff for patients with COPD and CHF with provision of patient and family education and support, coordination of care, and collaboration with, and provision of discharge information to, local GPs. One hundred and seventy-four patients with CHF have been managed through this project. This was equivalent to 75% of the previous year's load of patients with CHF. The average number of ED presentations of those managed was zero compared with an average of four per patient prior to project implementation. The average number of unplanned re-admissions over six months fell by 29% (from 1.4 to one). However, average LOS for the case management group was 22% greater than the average LOS for all patients with CHF in 2001–02 (nine days compared with 7.4 days). Outcome data was also collected for CHF patients, with self-management scores improving by 54% (as measured by the Partners in Health scale) and depression scores improving by 6% (as measured by the Cardiac Depression scale) following case management.

Due to staff resignations, only 29 patients with COPD have been managed through the Eastern Health Disease Management project. When compared to the two months prior to project implementation, the average number of admissions for this group of patients has decreased from two to 1.7 (15%), but the average LOS has increased from 6.9 to 7.3 days (6%). Self-efficacy scores have also shown an improvement of 6% following case management. Support from the Executive has been highlighted as vital to the success of the project as has been collaboration and communication between providers and interventions identified as having a strong

evidence base. Organisational and practice changes include increased referrals to cardiac rehabilitation, increased awareness by staff of best practice management, development of clinical pathways for heart failure and COPD and establishment of a Heart Failure Advisory Committee at Eastern Health.

The ARMC Disease Management Project for Patients with Chronic Respiratory Disease provides therapy, education and support to patients and their carers in a home-based setting, with close liaison between hospital staff and patients' GPs. The project has managed 110 patients and, in comparison to pre-implementation data, reports a reduction of 68.8% in the average number of unplanned re-admissions (from 1.6 to 0.5), a reduction of 26% in average inpatient LOS (from 4.6 to 3.4 days) and a reduction of 60% in the average number of ED presentations (from 0.5 to 0.2). Project success has been particularly facilitated by support from both the organisation and from the local Division of General Practice. ARMC has also implemented a Disease Management Project for Patients with CHF, utilising clinical practice guidelines and a multidisciplinary approach, including specialist medical and nursing staff and GPs. The project is currently being evaluated.

The Bayside Disease Management Project for Frequent Attenders enrolls medical inpatients with complex problems into a program of ongoing follow-up, monitoring, education and early medical intervention via specialist outpatient clinical reviews and community care coordination. The project employs part-time physicians, a part-time senior registrar and nursing staff. In the latter half of 2001, 123 patients were enrolled. All patients had two or more co-morbidities and 48% lived alone. Compared to the six months prior to the project, total bed days for this group of patients was reduced from 2,108 to 379 (82% reduction) at an estimated saving of \$1,037,220. Total admissions were reduced from 145 to 122 (16% reduction), average LOS from 14.5 to 3.1 (a reduction of 79%) and ED presentations from 83 to 56 (a reduction of 33%). The factors that have facilitated project implementation have included committed staff, provision of longer clinic times, provision of early medical interventions, immediate liaison with GPs and an adequate database.

At Melbourne Health, disease management projects have recently commenced for patients with COPD and CHF. Clinical practice guidelines will be implemented during the inpatient stay and post-discharge interventions will include a home visit. A home visit program and post-discharge attendance at a multidisciplinary chronic disease clinic will also be provided for patients with chronic illness who are at high risk of re-admission. These projects are yet to be evaluated.

In contrast, Peninsula Health found that the potential impact of their CHF Clinic was not maximised due to lower than anticipated referrals. As a result, the project will be incorporated within a new CHF disease management model in 2002–03.

The following table provides an overview of key findings for disease management projects.

Project	Key data
ARMC	<ul style="list-style-type: none"> <li>110 patients with chronic respiratory disease. Decrease of 68.8% in average number of unplanned re-admissions, decrease of 26% in average inpatient LOS and decrease of 60% in the average number of ED presentations.</li> <li>Data not yet available from CHF project.</li> </ul>
Bayside Health	<ul style="list-style-type: none"> <li>123 patients with complex medical problems enrolled. Total admissions decreased by 16%, ALOS by 79% and total bed days by 82% Average number of ED presentations decreased by 33%.</li> </ul>
Eastern Health	<ul style="list-style-type: none"> <li>29 COPD patients enrolled. Average number of admissions fell 15% and re-admissions 11% Self-efficacy score improved by 6%.</li> <li>174 CHF patients enrolled. Average number of ED presentations have fallen from four per patient to zero, unplanned re-admissions have decreased by 29%, assessment with self-management tool showing 54% improvement and assessment for depression showing 6% improvement.</li> </ul>
Melbourne Health	<ul style="list-style-type: none"> <li>Projects targeting COPD patients, CHF patients and patients with chronic medical illness and multiple admissions. Data not yet available.</li> </ul>
Northern Health	<ul style="list-style-type: none"> <li>44 COPD patients enrolled. Presentations to ED fell from an average of 1.5 to zero. Unplanned re-admission rate of zero compared with 31.3% previously.</li> <li>30 patients with severe CHF enrolled. Average number of ED presentations has fallen by 51%.</li> </ul>
Peninsula Health	<ul style="list-style-type: none"> <li>28 patients with CHF enrolled. Comparative data not yet available.</li> </ul>

### 3.1.3 Acute primary care liaison

The Acute Primary Care Liaison Project at Northern employs a GP (0.5 EFT) and a full-time project officer. The project has focussed on the distribution of outpatient protocols to GPs; planned upskilling sessions for GPs; the introduction of an electronic information system to advise GPs about admissions, discharges and transfers; a shared care obstetric program and the involvement of GPs in HITH.

Western Health's liaison model includes a residential and community care liaison officer, a drug and alcohol nurse liaison officer and a manager of the GP Strategy and Outpatient Redevelopment who aims to enhance the interface between Western Health and other providers.

Acute primary care liaison at Peninsula Health involves increased linkages with local nursing homes, continuation of an existing after-hours GP service at the Frankston Hospital and the development of a memorandum of understanding with the local GP Division to be used as a basis for future liaison and integration activities. These initiatives have played an important part in the development of a joint co-located interim care project with a local nursing home.

The Melbourne Health GP Liaison Project aims to improve links with GPs, to develop a GP database and to improve GP management of patients in aged care facilities. Discharge plans are now forwarded to GPs by fax within 24 hours of discharge, there is liaison with GPs about their nursing home patient needs, and there has been information exchange between Melbourne Health and GPs via a clinical service directory and an intranet-based GP register.

At the ARMC, the Primary Care Liaison Unit aims to provide strategic direction and coordination of work across the service, with a focus on building stronger links with primary care providers. In particular, the Unit has worked closely with local GP Divisions in promoting 'safer referral home' of inpatients. The unit is staffed by a GP (0.5 EFT) and a full-time project officer. It will focus on communication processes, collaborative projects with the primary care sector and linkages between the acute/sub-acute sector and the primary care sector.

### 3.1.4 Other prevention projects

The Southern Health projects extend psychiatric liaison and drug and alcohol capabilities at both Clayton and Dandenong campuses. They provide assessment, brief intervention and referral, secondary consultation and staff training with the aim of decreasing presentations to the ED of patients with drug and alcohol problems. Staff comprise both nursing and allied health disciplines. Four hundred and sixteen patients have been assessed to date and a shared care approach to patient management with other units, including psychiatric services, HITH, the pain management teams and discharge support services, has been developed.

Western Health has operated an After Hours Telephone Hospital Access Advice Unit over the past year. The service runs daily between 3 pm and 11 pm and is staffed by experienced ED nurses who provide telephone advice to clients regarding the most appropriate health service to access for their particular problems. The unit now receives over 800 calls per month resulting in a decreased number of phone calls to the ED triage nurse. Of the calls received over the past year, 28.2% were referred to a GP for ongoing care and 23.2% resulted in 'no referrals'. A survey of 130 callers between January and February 2002 found that 96% of callers would 'recommend the service to others' and 81% 'followed the advice given'. Improved links with community providers and protocol driven practice have been cited as positive aspects of the project. However, there is a need for further protocol development and up-to-date telecommunications infrastructure. There has also been some difficulty with maintaining adequate levels of experienced staff to cover service operating hours.

The Alfred Mobile Assessment and Treatment Service (MATS) provides on-site assessment and management of residential care clients by hospital nursing and medical staff. Bayside Health has developed Heads of Agreement with a number of local residential care facilities to facilitate referrals to MATS. Between July 2001 and June 2002, MATS had 172 referrals and prevented 52 presentations to the ED and 24 admissions to hospital.

In partnership with the Metropolitan Ambulance Service (MAS), Peninsula Health has piloted a trial of allied health outreach to patients whom the MAS has assessed as not requiring transport to hospital if additional support could be provided at home. Thirty patients were referred by MAS and presentation to the ED was prevented in 21 cases. The program will now be extended with broadened guidelines. Peninsula Health has also trialed case management for a small number of patients with multiple hospital admissions, reporting decreased admissions and LOS for six of the 10 patients involved.

## 3.2 Substitution

### 3.2.1 Ambulatory care centres

Three ambulatory care centres were established in 2001–02 at Southern Health, Bayside Health and ARMC, with the aim of substituting day treatment for inpatient stays. Although the centres have not yet been formally evaluated, they have been rated as ‘four’ or ‘five’ in their importance to the success of the HDM Strategy. The centres are predominantly staffed by nurses and clerical staff and are generally supported by allied health staff and medical staff from parent units. Patients with a range of conditions are treated in these centres. Examples of the types of procedures undertaken include lumbar punctures, transfusions, intravenous antibiotic administration and abdominal paracentesis.

The Bayside Medical Ambulatory Day Unit is co-located with the Medihotel (see below) and patients can be managed in both facilities, maximising their utilisation. The unit has grown from a 12-bed ward in September 2001 to 28 beds in February 2002. Since its establishment, there has been an increase in the average number of same day elective admissions per month from 364 to 549 (an increase of 51%) and a saving of 4,800 multi-day bed days.

At the ARMC Day Treatment Centre other services are also provided, including review and intervention for patients with chronic conditions and ‘next day review’ for patients previously discharged from the ED. Since September 2001, the centre has treated 1,700 patients.

The Monash Day Treatment Centre has now expanded to 15 beds and will provide a ‘one-stop shop’ for pre-admission management, day of surgery admissions (DOSAs), day medical and surgical area and HITH assessment and review. A total of 1,089 patients have been admitted to the centre since September 2001.

All three services have nominated the availability of an appropriate physical space as important to future success. Bayside has also commented on the value of funded and dedicated appointments in radiology for CT and MRI services as contributing to improved services for their patients.

Both Bayside and ARMC have commented on the need for additional resources in allied health and Monash has reported that a lack of ‘accountability or responsibility given to any one medical staff member’ has hindered project implementation.

### 3.2.2 The Bayside Medihotel

The Medihotel, which opened as a 15-bed, seven-day per week facility in December 2001, provides accommodation with limited nursing support overnight (from 9pm to 7am) to patients who would otherwise use an inpatient bed. Thus, patients are ‘guests’ rather than inpatients. The Medihotel is co-located with the Medical Ambulatory Day Unit and this has maximised utilisation of both facilities. It has provided an alternative option for placing both elective and emergency patients and has facilitated investigations and treatment occurring in a set timeframe.

The Medihotel has developed ‘conservative’ criteria for admission which will require ongoing review to maximise opportunities for substitution while continuing to provide safe and effective patient care.

A total of 2,600 patients have utilised the Medihotel between August 2001 and August 2002. The initiative has been well utilised by specialty groups such as respiratory, neurology and rheumatology. If guests require medical attention during their stay, they are transferred to the ED, although this has occurred on only eight occasions in the last 12 months.

The Medihotel has been rated ‘five’ in terms of its importance to Bayside’s HDM Strategy.

### 3.2.3 Post Acute Care

Both Northern and Eastern Health Services have implemented projects that augment PAC services. At Northern, existing initiatives have been enhanced and integrated with an increased capacity for PAC and, at Eastern, an on-site PAC coordinator was established on weekends to promote referrals to the service. The Eastern project recruited an occupational therapist as coordinator while Northern recruited both nursing and allied health staff.

For 2001–02, the Northern project provided 47 patients with purchased services out of hours at an average cost of \$264/client. The project has led to the development of more formal protocols for identifying and referring suitable patients, particularly to the aged care assessment service. The project rated ‘five’ in terms of its importance to the HDM Strategy but has reported difficulties with recruitment of allied health staff and access to appropriate equipment.

In contrast, Eastern Health has found that a phone referral service will be adequate to cover their needs and have discontinued their weekend on-site PAC coordinator.

### 3.2.4 Pre-admission clinics

Southern Health has developed community-based pre-admission management across all sites in collaboration with local Divisions of General Practice. The appointment of a pre-admission coordinator provides a central point of contact.

Nine hundred and eighty patients have attended the Clayton and Moorabbin pre-admission/pre-anaesthetic clinics. Compared to 2000–01, there has been a 72% decrease in 2001–02 in the number of surgery cancellations at MMC (from 85 to 24) due to 'being medically unfit after admission'; a 52% decrease at Dandenong (from 21 to 10); and a 68% decrease at Moorabbin (from 77 to 25). The overall DOSA rate is now greater than 95% and the cancellation rate post-admission is below 1%.

The project has allowed for improved pre-operative education of patients and facilitation of discharge processes by early involvement of the discharge support service when appropriate.

### 3.2.5 Other substitution models

Peninsula Health has found that substitution for inpatient care with ten supported residential service beds has been successful for patients requiring low level care. The service has been operating since June 2001 and has been utilised by 177 patients.

The St Vincent's Assessment, Liaison and Early Referral Team (ALERT), comprising mainly allied health and nursing staff, provides risk assessment and brokerage to coordinate and purchase community services for patients with a history of lengthy and multiple inpatient stays who re-present to the ED. ALERT promotes the use of substitution services including PAC, HITH, Rehabilitation in the Home and Geriatric Evaluation and Management, and also has the capability to purchase short-term bridging services for patients. In addition, ALERT has purchased two beds in a nearby hostel for short-term stays for elderly patients with a saving of 183 acute bed days between January and July 2002. Early evaluation suggests that ALERT has reduced LOS for re-admissions within a month for this patient group from nine days to six days (33%).

A second project at St Vincent's Hospital, the HITH GP Liaison Service, has appointed GPs as associate visiting medical staff with admitting rights to HITH, providing acute care for appropriate patients in the patient's home with the assistance of evidence-based guidelines which have been developed for the treatment of common HITH diagnoses. The 32 affiliated GPs are remunerated by St Vincent's Hospital and have access to education programs and clinical support. Between March and August 2002, 24 HITH patient episodes have been managed by GPs substituting for 114 inpatient bed days. Facilitators for this project have been the support of the local GP Divisions, the Health Service Executive and senior clinicians, and the GP liaison officer. The barriers that have been identified include the inability of many GPs to meet the demand for urgent appointments and a lack of awareness by many GPs of the types of problems that can be effectively managed by HITH. However, this situation should improve with the further development of evidence-based guidelines for affiliated GPs.

### 3.3 Projects that improve patient flows

A range of projects has been designed to improve patient flows, with some based in the ED and others focusing on inpatients. The ED projects include initiatives to improve triage processes and re-configuration of the management of specific patient groups within defined units such as short stay units.

Inpatient-focused projects include care coordination and discharge planning initiatives, reconfigured and new types of units which facilitate rapid assessment and management of patients, establishment of transit lounges and increased utilisation of day procedure centres.

#### 3.3.1 Improving triage in the ED

Eight projects aimed to improve triage processes in the ED. The majority utilised medical staff, usually at senior level, to assist in the rapid screening and management of suitable ED patients and to provide increased supervision of junior medical staff enabling improved decision-making and flows of all ED patients.

The Fast Track project at Box Hill focused on rapid triage and management of patients who have a single, well-defined problem (such as simple wounds, sprains or foreign body in the eye) which can be managed within 60 minutes. This service is available daily between 2 pm and midnight with dedicated cubicles set aside.

St Vincent's Hospital's Increased Medical Triage project utilises senior emergency medical staff to streamline care of patients in the ED and to divert appropriate patients to the Emergency Medical Unit, HITH, private hospitals and sub-acute facilities. In addition, there has been increased general medical staff involvement within the ED.

Maroondah Hospital has improved access and patient satisfaction by also utilising senior medical staff for 16 hours every day to ensure rapid screening, assessment and appropriate management of patients.

At Northern Hospital, an ED-based medical registrar was appointed to streamline medical assessment, facilitate medical admissions and improve relationships between ED and the inpatient medical units. The appointment of the registrar has reduced waiting times for medical patients and has supported the inpatient medical workload, with an increase of 6% in medical separations over the last 12 months. There has also been a marked decrease in interdepartmental conflict and complaints noted and an audit of medical files has shown an increase from 35% to 58% in those with documented clinical management plans.

At Monash Medical Centre, a senior emergency medical officer provides triage seven days per week between 1200 and 2100 hours for patients who are Category 4 and 5 and some who are Category 3. In comparison to the previous year, for those patients in Category 3 who were later admitted, 'time to admission from ED to ward' has decreased by 4% (from 316 to 302 minutes), for Category 4 by 5% (from 334 to 317 mins) and for Category 5 by 25% (from 333 to 251 mins).

For those patients in Category 3 who were not admitted, the ‘doctor to departure’ time decreased by 11% (from 147 to 131 minutes), for Category 4 by 12% (from 107 to 94 minutes) and for Category 5 by 10% (from 63 to 57 minutes).

At Dandenong Hospital, a doctor works with the triage nurse for nine hours every afternoon shift. On average, 30% of the patients in an afternoon shift have been seen by medical triage resulting in a 55% reduction in ‘time to assessment’ for Category 4 patients (from 103 to 46 minutes) and a 44% reduction in ‘time to admission from ED to ward’ for Category 5 patients (from 2 hrs and 54 mins to 1 hr and 38 mins) compared to the previous year.

The percentage of patients seen by the ARMC Multidisciplinary Triage Project ranged between 13% and 22% of patients attending the ED. Between 2000–01 and 2001–02, the project has demonstrated an average improvement in ‘time to assessment’ for patients in Categories 3, 4 and 5 of 40% and an average improvement of 20% in ‘time to admission from ED to ward’. When comparing Category 3 patients in 2000 and 2001, the improvement from 67% to 78% in ‘the chance of being seen in less than 30 minutes’ was statistically significant ( $p < 0.0001$ ) as was the improvement from 53% to 73% in the ‘chance of being seen in less than 60 minutes’ for patients in Category 4 ( $p < 0.0001$ ). In addition, the mean rate at which people ‘left without waiting to be seen’ dropped from 6.3 people/24 hours in 2000 to 5.1 people/24 hours in 2001 at times when multidisciplinary triage was rostered. The rate ratio (rate in 2001 / rate in 2000) for the indicator ‘people leaving without waiting to be seen’ was also statistically significant at 0.81 ( $p = 0.024$ ). On average, multidisciplinary triage reduced LOS in the ED for ambulance patients by 51 minutes and for walk-in patients by 35 minutes. Staff satisfaction was also high with 80% of staff surveyed stating that ‘multidisciplinary triage made their job easier’.

Peninsula Health has utilised a ‘fast tack’ concept, employing a clinical support nurse (CSN) rather than a senior doctor. The CSN undertakes initial patient assessment, orders appropriate investigations and instigates first-line treatment in liaison with medical staff. For patients in Category 3, ‘time to admission from ED to ward’ fell from 6.3 hrs in 2000–01 to 5.6 hrs in 2001–02 (a decrease of 11%); for Category 4 from 6.4 to 5.6 hrs (12.5%) and for Category 5 from 6.1 to 4.2 hrs (31%). The project has given senior nurses increased autonomy and early concerns expressed by other staff about changes in professional boundaries have been addressed, so that there is now enthusiasm about this cultural change.

The following table summarises the quantitative data available from the triage projects at Southern Health, ARMC and Peninsula Health.

Project	Summary of impact data
ARMC	<ul style="list-style-type: none"> <li>• 40% average improvement in time to assessment for patients in Categories 3, 4 and 5.</li> <li>• 20% average improvement in ‘time to admission from ED to ward’ for patients in Categories 3, 4 and 5.</li> <li>• For Category 3 patients, improvement in the ‘chance of being seen in less than 30 minutes’ showed a statistically significant difference from the previous year at <math>p &lt; 0.0001</math>.</li> <li>• For Category 4 patients, improvement in ‘chance of being seen in less than 60 minutes’ showed a statistically significant difference from the previous year at <math>p &lt; 0.0001</math>.</li> <li>• The rate ratio (rate in 2001 / rate in 2000) for ‘people leaving without waiting to be seen’ was statistically significant at 0.81 (<math>p = 0.024</math>).</li> <li>• ED LOS for ambulance patients reduced by 51 mins.</li> <li>• ED LOS for walk-in patients reduced by 35 mins.</li> </ul>
Peninsula Health	<ul style="list-style-type: none"> <li>• For Category 3 patients ‘time to admission from ED to ward’ decreased from 6.3 hrs to 5.6 hrs (11%).</li> <li>• For Category 4 patients ‘time to admission from ED to ward’ decreased from 6.4 hrs to 5.6 hrs (12.5%).</li> <li>• For Category 5 patients ‘time to admission from ED to ward’ decreased from 6.1 hrs to 4.2 hrs (31%).</li> </ul>
Southern Health – Dandenong	<ul style="list-style-type: none"> <li>• For Category 4 patients ‘time to assessment’ decreased from 103 to 46 mins (55%).</li> <li>• For Category 5 patients ‘time to admission from ED to ward’ decreased from 2 hrs 54 mins to 1 hr 38 mins (44%).</li> </ul>
Southern Health – MMC	<p>For Category 3 patients:</p> <ul style="list-style-type: none"> <li>• ‘time to admission from ED to ward’ decreased from 316 to 302 mins (4%)</li> <li>• ‘doctor to departure time’ for those not admitted decreased from 147 to 131 mins (11%).</li> </ul> <p>For Category 4 patients:</p> <ul style="list-style-type: none"> <li>• ‘time to admission from ED to ward’ decreased from 334 to 317 mins (5%)</li> <li>• ‘doctor’ to departure time’ for those not admitted decreased from 107 to 94 mins (12%).</li> </ul> <p>For Category 5 patients:</p> <ul style="list-style-type: none"> <li>• ‘time to admission from ED to ward’ decreased from 333 to 251 mins (25%)</li> <li>• ‘doctor’ to departure time’ for those not admitted decreased from 63 to 57 mins (10%).</li> </ul>

Projects have reported on the benefits of these approaches in making workload more manageable and in improving staff satisfaction. Early evidence suggests that waiting times have improved as has patient satisfaction. The majority of projects have been rated as 'five' in terms of their importance to the HDM Strategy.

Problems with recruitment of senior medical staff have been emphasised by a number of projects, as have difficulties due to physical space limitations. Dandenong Hospital has also reported that the scope of practice of their triage nurse needed clarification and they have sought advice from the Nurses' Council.

### **3.3.2 Short stay units and emergency medical units**

Short Stay (SSUs) and Emergency Medical Units (EMUs) have been established to manage patients who require a short inpatient stay for a defined and limited time period, usually for up to 24 hours but in some cases up to 48 hours. Common diagnoses include chest pain, poisoning and toxic effects of drugs, oesophagitis, urinary stones, asthma and syncope. Clear admission guidelines and clinical pathways are a key aspect of these units. SSUs can comprise a discrete area within an ED or can be physically separate. They are staffed primarily by medical and nursing staff with allied health input as required.

These projects have been rated as 'five' in terms of their importance to the HDM Strategy with project staff reporting satisfaction with the more efficient use of emergency beds. Patients have also reported improved satisfaction with care that is seen to be more prompt, provides continuity and is undertaken in a 'quieter' area. However, problems have been highlighted, including the need to maintain staff education and awareness of the SSU as an alternative management option, the need to 'protect' the SSU beds from being used as inpatient beds and the need for greater numbers of trained nurses to manage monitored beds.

The following table presents some of the quantitative data available from the annual reports. The data is not necessarily comparable as the different units vary in size and have been established for different periods of time.

<b>Unit</b>	<b>Total number of patients admitted</b>	<b>Destination data</b>	<b>Other data</b>
Angliss Hospital SSU	693 (from July 01 to June 02)	88% discharged home 12% admitted to ward	Decrease in bed utilisation for the top 20 matched DRGs of approx. 5.6 hrs/patient resulting in a total decrease of 9% in LOS across the hospital between 1999–00 and 2000–01
ARMC SSU	1,566 (from 1/12/01 to 30/6/02)	79% returned home 10% admitted to ward 9% transferred to other hospital	
Box Hill Hospital SSU	1,305 (from Sep 01 to June 02)	91% of patients in the top 4 high volume DRGs were discharged home	Saved 1,040 bed days for patients in the top five high volume DRGs admitted since September 2001
Maroondah Hospital EMU	2,643 (from Sep 01 to June 02)	92.5% discharged home	
Peninsula Health EDMU	1,105 (from July 01 to June 02)	82% discharged home	35% average decrease in LOS for top five high volume DRGs admitted between 2001–02 and 2000–01
Royal Melbourne Hospital SSU	2,710 (from 25/7/01 to 25/7/02)		

### 3.3.3 Care coordination and discharge planning for inpatients

Inpatient care coordination and discharge planning projects comprised a significant component of projects that ‘improved patient flows’.

At the ARMC, the multidisciplinary Aged Care Continuum Team facilitates discharge planning for patients with complex care requirements, including the frail elderly and younger disabled patients, and provides clients and families with community care options as an alternative to residential care. Of the 343 patients assessed by the team since July 2001, 39% have been discharged home with appropriate services where required and 20% have been referred to rehabilitation services.

Northern Health has implemented two projects to improve inpatient flows. The Additional Allied Health Staff for Complex Discharge Management Project targets elderly patients with complex care needs and patients waiting for rehabilitation, and the Weekend Discharge Service facilitates weekend discharge for appropriate patients by ensuring that effective discharge plans are in place each Friday.

The Additional Allied Health Staff for Complex Discharge Management Project has contributed to a reduction in LOS in the Aged Care Medical Unit from 23.4 to 10.5 days (55%) between 2000–01 to 2001–02; a 23% improvement in the number of patients admitted to Broadmeadows Health Service within five days of receipt of referral; and an 18% improvement in the number of patients admitted to Bundoora Extended Care Centre within five days of receipt of referral. The Weekend Discharge Service improved the number of Saturday discharges by 9% and Sunday discharges by 16% between 2000–01 and 2001–02.

Staff recruitment was again reported as a problem for these projects. In particular, recruiting staff members for a purely weekend job proved to be difficult but was resolved by integrating the position with another service. The Additional Allied Health Staff for Complex Discharge Management project has been facilitated by moving an identified group of patients into the Aged Care Medical Unit.

Northern Hospital’s inpatient care coordination service works with complex patients in general inpatient units, rehabilitation, palliative care and aged care. The number of patients seen has increased from 769 in 2000–01 to 2,913 in 2001–02 (279%). For those patients awaiting rehabilitation, the project has led to a decrease in average waiting time from nine days in 2000–01 to seven days in 2001–02 (22%).

Weekend Discharge Initiatives have also been implemented at Bayside Health with the provision of allied health services seven days per week to facilitate discharges over the weekend. In addition, a weekly ward round has been established in all multi-day wards by senior medical, nursing and allied health staff who identify obstacles to discharge and provide assistance in facilitating discharge. Of the 800 patients seen by a physiotherapist since the project began in November 2001, 41% were discharged at the weekend or an earlier discharge was facilitated due to the intervention. The analogous figures for occupational therapy were 395 and 47%.

The unavailability of community services on weekends has been cited as a hindrance to some aspects of weekend discharge but the participation of senior staff in the weekly ward round has been an important facilitator for its success.

Bayside Health also established surgical care coordinators for the Burns, Plastics and Orthopaedic Unit. Their role is to coordinate the care of patients during their inpatient stay and to facilitate discharge planning. Significant improvements in average LOS in the Orthopaedic Unit between September 2000 and May 2002 are demonstrated by a 17% reduction (from 8.9 to 7.6 days) for emergency orthopaedic patients and a 35% reduction (from 11.4 to 9.2 days) for orthopaedic patients over 65 years of age. In the Burns Unit, average LOS has decreased by 59% (from 31.8 to 13 days). Contributors to the success of the project have been the experience of the care coordinators and their close working relationship with medical staff.

The Bayside Assessment Team (part of the Rapid Assessment Service) provides comprehensive assessment and discharge planning for frail aged and chronically ill patients. Of the 553 referrals received in 2001–02, 86 (15.6%) have had prevented admissions and 26 (4.7%) had averted ED presentations, with early discharges achieved for 196 patients.

Additional allied health cover has also been implemented at the Dandenong and Clayton campuses of Southern Health with the aim of improving access to services on weekends and improving residential care placements. The number of patients managed by allied health staff on weekends has increased from 172 to 3,675 in the last year and the project has impacted on the number of unplanned re-admissions which have fallen from 1,561 in 2001 to 1,139 in 2002 (27%). The average LOS for those patients awaiting residential care at Dandenong Hospital has decreased from 22.9 days in 1999–2000 to 16 days in 2001–02 (30%); and from 16 days in 2000–01 to 12 days in 2001–02 (25%) at Monash Medical Centre, releasing a total of 828 bed days.

At ARMC, the residential care team identifies potential residential care placements early in the admission and ensures timely discharge. The average LOS for those patients has decreased from 74.1 days in the first half of 2001 to 39.4 days in the first half of 2002 (47%). The development of a residential care database, close links with community providers and a single point of contact for residential care managers have been effective in facilitating project implementation. ‘Inflexible’ residential care admission criteria for patients with complex or ‘special’ conditions have made placement difficult for some patients.

Peninsula Health has established a care coordination team that has multiple functions, including a referral point for aged care assessment. Since January 2001, the team has managed 1,438 patients. The ‘time from aged care/rehabilitation assessment to transfer to a sub-acute bed’ has improved from 57% of patients transferred within three days in July 2001 to 90% in June 2002.

Care coordination at Sunshine Hospital focuses on the interfaces between inpatient units and the ED, the ICU/CCU and aged care and rehabilitation units.

The quantitative data available from these projects is presented in the table below.

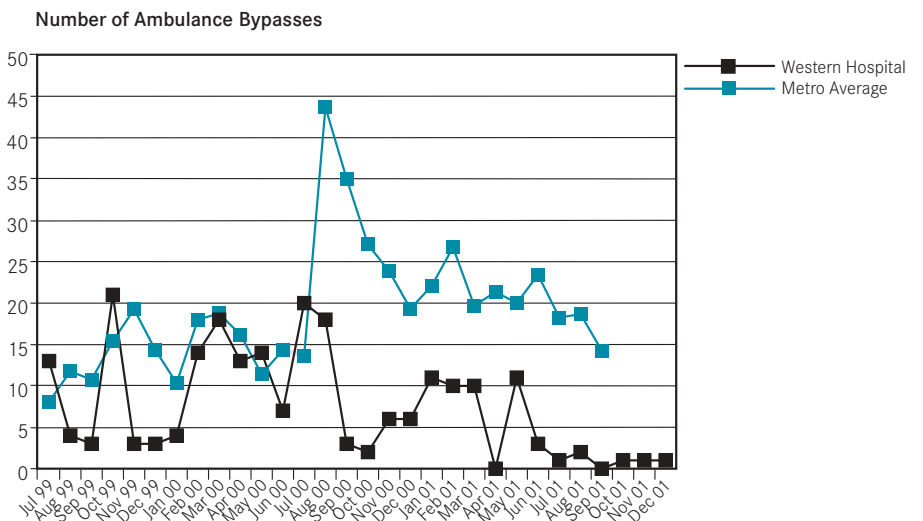
Project	Results
ARMC Aged Care Continuum Team	<ul style="list-style-type: none"> <li>• 343 patients assessed</li> <li>• 39% discharged home and 20% referred for rehabilitation</li> </ul>
ARMC Residential Care Team	<ul style="list-style-type: none"> <li>• LOS for potential residential care patients decreased 47% (from 74.1 to 39.4 days)</li> </ul>
Bayside Health Assessment Team	<ul style="list-style-type: none"> <li>• 553 referrals</li> <li>• 86 (15.6%) prevented admissions</li> <li>• 26 (4.7%) prevented ED presentations</li> </ul>
Bayside Health Care Coordinators for Burns and Orthopaedic Units	<ul style="list-style-type: none"> <li>• 17% decrease in LOS for emergency orthopaedic patients</li> <li>• 35% decrease in LOS for orthopaedic patients &gt;65 yrs</li> <li>• 59% decrease in LOS in Burns Unit</li> </ul>
Bayside Health Weekend Discharge Initiatives	<ul style="list-style-type: none"> <li>• Physiotherapist assessed 800 patients with 41% discharges facilitated</li> <li>• OT assessed 395 patients with 47% having discharges facilitated</li> </ul>
Northern Health Additional Allied Health Staff	<ul style="list-style-type: none"> <li>• Decreased LOS in the Aged Care Medical Unit from 23.4 days to 10.5 days (55%)</li> <li>• 23% improvement in the number of patients admitted to Broadmeadows Health Service within five days of receipt of referral</li> <li>• 18% improvement in the number of patients admitted to Bundoora Extended Care within five days of receipt of referral</li> </ul>
Northern Health Inpatient Care Coordination Service	<ul style="list-style-type: none"> <li>• 279% increase in the number of patients assessed (from 769 to 2,913)</li> <li>• Waiting time for rehabilitation decreased from nine days to seven days (22%)</li> </ul>
Northern Health Weekend Discharge Service	<ul style="list-style-type: none"> <li>• Increase of 9% in Saturday discharges</li> <li>• Increase of 16% in Sunday discharges</li> </ul>
Peninsula Health Care Coordination Team	<ul style="list-style-type: none"> <li>• 1438 patients assessed</li> <li>• 'Time from aged care/rehab assessment to transfer to sub-acute bed' within three days improved from 57% of patients to 90% of patients</li> </ul>
Southern Health Additional Allied Health	<ul style="list-style-type: none"> <li>• The number of patients assessed increased from 127 to 3,675</li> <li>• Unplanned re-admissions decreased from 1,561 to 1,139 (27%)</li> <li>• ALOS for patients awaiting residential care at MMC decreased 25% (from 16 days to 12 days)</li> <li>• ALOS for patients awaiting residential care at Dandenong Hospital decreased 30% (from 22.9 days to 16 days)</li> <li>• 828 bed days released</li> </ul>

### 3.3.4 New units that assist the flow of patients from the ED to inpatient wards and to discharge

The Medical Assessment and Planning Unit (MAPU) at ARMC and the Rapid Assessment Medical Unit (RAMU) at Western Hospital provide comprehensive and timely assessment of all general medical patients who are admitted via the ED, with the development of a management and discharge plan within 24 hours of admission. At the Alfred Hospital, the Rapid Assessment Unit (RAU) comprises four beds within the Professorial General Medical Unit, which are allocated to patients who could potentially be discharged within 48 hours following observation and/or discharge planning. These units have been rated as ‘crucial to the success of the HDM Strategy’.

The ARMC MAPU is multidisciplinary and has facilitated rapid aged care evaluation, heart failure management and cardiac monitoring. A total of 2,389 patients have been admitted to the MAPU since May 2000. Of these, 40% have been discharged home and 57% have been transferred to other wards. The average LOS for the top five high volume DRGs has decreased from 3.9 days in 2000–01 to 3.4 days in 2001–02 (13%). The number of bed days for patients in the top five high volume DRGs has shown significant decreases. For example, for patients in the highest volume DRG, total bed days have decreased from 666 in 2000–01 to 444 in 2001–02 (33%) and for patients in the second highest DRG, total bed days have decreased 48%, from 651 to 339, in the same period. The unit has improved the quality of patient care, contributed to professional development and improved staff morale.

Western Hospital’s RAMU model includes implementation of disease management guidelines and the establishment of a single rather than multiple medical units. This has contributed to a significant effect on ED performance data as shown in the following graph.



### 3.3.5 Re-configuration of inpatient units

Eastern Health has used funding to add a fourth medical unit at Maroondah Hospital which has resulted in a more equitable workload for interns and reduced average LOS for medical inpatients from 9.49 to 8.68 days (9%) in the last year. Eastern Health has also recruited an additional physician to the Angliss Hospital and additional medical staff to Box Hill and Maroondah hospitals.

Northern Health has utilised HDM funding to establish a specific Aged Care Unit which provides total management for elderly patients waiting for residential care or rehabilitation. The average LOS in the Northern Aged Care Unit has decreased from 23 to 13.5 days (41%) between July 2000 and June 2001 and from 13.5 to 11.2 days (17%) between December 2001 and July 2002. The unit has also assessed 246 patients as requiring residential care in the year 2001–02, a 34% increase from the previous year. The project has provided increased expertise in the management of elderly patients with complex needs, allowed for direct admission of residential care patients which has improved continuity of care and improved communication with residential care service providers.

### 3.3.6 Day surgery and day of surgery initiatives

The Day Procedure Unit at Northern Health has extended its hours of operation to include weekday evenings and an eight hour shift on Saturdays, allowing some patients who were previously treated as overnight patients to be treated as day patients, thus freeing up beds. This has resulted in a 17% increase in the number of same day patients admitted from the waiting list (from 2,283 to 2,671 per year) between 2000–01 and 2001–02 and an increase of 73% (from 448 to 777 per year) in same day patients admitted from other sources such as the ED. Patient satisfaction has also improved as the extended hours have allowed them a longer recovery time.

The ARMC has redeveloped its DOSA and day surgery facilities and has streamlined its processes through the coordination of waiting list management and the appointment of surgical liaison nurses who provide a single point of contact for patients and staff. These changes have resulted in the DOSA rate increasing to greater than 90% in 2002, a decrease in the number of cancellations for ‘patient unfit’ or ‘further investigation needed’, and a refinement of pre-operative protocols.

### 3.3.7 Transit lounges

Eastern Health was funded to establish transit lounges at Box Hill, Maroondah and Angliss hospitals. These have been variously used to provide flexibility at the time of admission, at discharge, for patients awaiting transport after an outpatient visit, and even for ED patients awaiting the results of diagnostic investigations and procedures.

As an example, the Box Hill Hospital Transit Lounge has had a 65% increase in the number of patients/month utilising the facility from 163 in December 2001 to 269 in July 2002. Transit lounge staff also make follow-up appointments for patients and can provide discharge medication education. Project ownership by staff is an important contributor to project success.

### 3.3.8 Other projects to improve patient flows

The Clinical Leadership Program at ARMC has recruited medical and surgical clinical leaders to promote clinical practice change and the effective use of data, and to improve day surgery rates. Recruitment was initially a problem, as was the culture change required of staff. Day surgery rates for targeted DRGs have shown an improvement since the project commenced. For example, laparoscopic cholecystectomy rates have increased from zero in 1999–2000 to 8% in the period July to December 2002, and for inguinal and femoral hernia repair from 20% to 36% in the same period. New treatment plans, clinical pathways, discharge criteria and patient education materials are also being developed.

Melbourne Health will utilise control chart methodology to provide managers with information that identifies whether critical admission and discharge processes are in control and whether the number of beds open is sufficient for projected needs. A simulation model of patient movements through the hospital will be developed and an activity resource matrix will be used to determine bed day requirements for particular types of hospital activity and the key resourcing issues which affect capacity and throughput. The work has already contributed to daily reporting mechanisms and changes in clinical practice in some areas. Initially there has been a need to develop software for simulation monitoring and to engage specialist information technology staff.

The ARMC Functional Maintenance Program provides a daily exercise program for acute general medical ward patients over 65 years of age. Functional independence is promoted with the aim of shortening LOS and increasing the number of patients who are discharged to their pre-admission environment. Nursing staff support and understanding of the need to enhance mobility has been vital for project implementation.

The Barwon Home Buddy Volunteer Service matches volunteers with patients who are ready for discharge but who have no family or friends available to take them home. They can spend up to one hour in the patient's home providing a drink and/or doing some essential shopping. Forty referrals have been made and 34 patients assisted since the project commenced in November 2001.

Changes to the ED environment at Monash Medical Centre, such as increased clerical support, increased security staff presence, upgrading of the physical facilities and provision of debriefing and counselling to staff, have facilitated the throughput of ED patients. The recruitment of weekend interpreters at both Monash Medical Centre and Dandenong Hospital has also assisted ED staff.

The Southern Health Discharge Support Service provides a single point of contact and a telephone advice and referral service for Southern Health staff for both acute inpatients and ED patients. A total of 1,720 patients have used the service since its inception.

### **3.4 The acute/sub-acute interface**

Southern Health has implemented a range of initiatives to increase the capacity of their sub-acute service with earlier referrals from acute inpatient wards, referrals directly from the ED and the capacity to manage patients with greater illness acuity within the sub-acute service. These include the extension of medical cover in sub-acute services at Kingston Centre to 24 hours per day, 365 days per year, extra allied health staffing and provision of skills training to sub-acute nursing staff in the management of acutely ill patients. Dandenong Hospital has also commissioned four additional sub-acute beds to manage patients with orthopaedic and neurological disorders. As a result of these initiatives, weekend admissions to Kingston Centre have increased by 33% with an overall increase of 2% in transfers from acute Southern Health services to Kingston between 2001 and 2002. There has also been greater throughput at Dandenong Hospital with an additional 199 separations in 2002. Staff morale and satisfaction with the initiative are also high.

At Northern Health, an Intake Unit has been established at Broadmeadows Health Service to provide a single point of entry for sub-acute services. This has resulted in efficiencies with waiting list management, triage and referrals. Home therapy services at Broadmeadows provided multidisciplinary sub-acute care within the patient's home to 122 patients. The service has contributed to a decrease in LOS for GEM patients of 45% (from 44 to 24.3 days) between 2000–01 and 2001–02. Of the patients surveyed in October 2001, 90% were satisfied with the level of follow-up. Workforce shortages have impacted on the provision of the service as has the concept of 'bed day rate' based funding as staff are strongly resistant to providing care for more people than the bed days funded.

### 3.5 Miscellaneous

This section includes a brief overview of the emergency access clusters and of Melbourne Health's Patient Access Taskforce.

Three emergency access clusters were established in mid-2001, incorporating the MAS and the 13 major metropolitan hospitals with 24-hour EDs. The south of Yarra, north-eastern and western-central clusters aim to work collaboratively on emergency access strategies. Their objectives include articulation of a common framework for pre-bypass identification and internal bypass event management, development of coordinated policies about pre-bypass processes and promotion of improved communication with MAS.

In 2001, the five hospitals in the north-eastern cluster developed the Hospital Early Warning System (HEWS), a standardised approach to communication with the MAS and to the rapid creation of internal capacity in response to increasing ED pressure. A six-month trial of HEWS was successful, demonstrating a significant decrease in ambulance bypass despite an increase in emergency activity. In addition, the internal escalation process resulted in a significant decrease in ED LOS for admitted patients. Since September 2002, HEWS has been implemented in all 13 major metropolitan hospitals, with more than 70% of HEWS not progressing to bypass.

Melbourne Health established its own clinician-led Patient Access Taskforce in response to the HDM Strategy. Over three months, the taskforce developed 51 interventions to improve access for patients within Melbourne Health and oversaw the establishment of initiatives described elsewhere in this report. The interventions were grouped under the following headings: emergency demand management, elective surgery, capacity management and subacute processes. The taskforce comprised a chair seconded from clinical duties, two project officers and an advisory group of senior doctors, nurses and financial personnel. Most of the interventions have been implemented. Important factors contributing to the success of the taskforce were the involvement of senior clinicians in driving collaborative change, the utilisation of data and patient flow modelling to inform the change and the availability of specific funding which allowed for the development of new models of care.

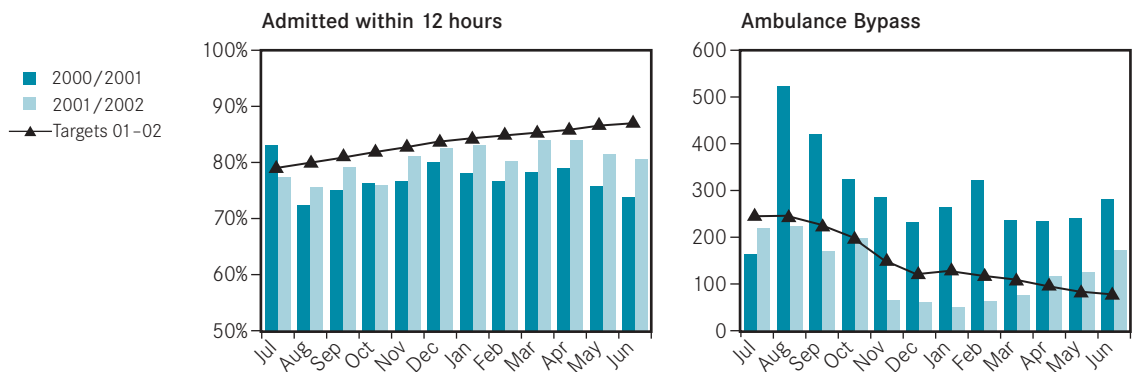
## 4. Evaluation by health service

This section of the report presents key hospital demand indicators by hospital. For each hospital there are two graphs. The graphs show performance for the HDM KPIs ‘admissions within 12 hours’ and ‘ambulance bypass’ monthly for the financial years 2000-01 and 2001-02. The 2001-02 targets for these indicators are also displayed.

Where a health service has more than one acute campus, data has been reported for each hospital. ‘Admissions within 12 hours’ data has been extracted from the Victorian Emergency Minimum Dataset. Ambulance bypass data is supplied by the MAS. All health services achieved the 100% target for the other HDM KPIs (Triage category 1 seen within target and Elective category 1 admitted within target) across both time periods, so they have not been separately depicted under each service.

The table following the graphs lists each of the HDM initiatives for the health service and the rating allocated to each in the annual report. The rating is the score allocated by the health service for each project’s importance to the success of the HDM Strategy, with a rating of ‘one’ being equivalent to ‘no impact on the HDM Strategy’ and a rating of ‘five’ being equivalent to ‘critical to the success of the HDM Strategy’.

### 4.1 Overall system performance



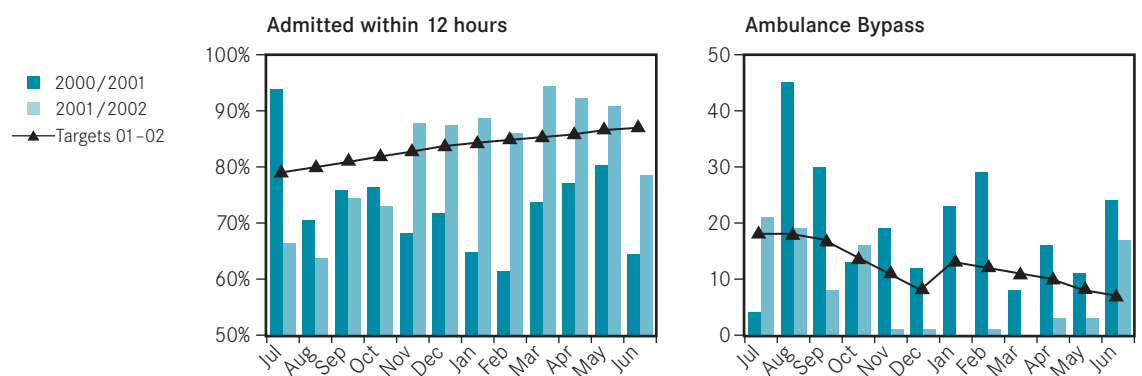
At a system wide level, the HDM Strategy has achieved marked improvement in the key indicators from 2000-01 to 2001-02.

Ambulance bypass has improved – the number of bypasses has fallen from 3,529 in 2000-01 to 1,541 in 2001-02. Waiting times to admission have also improved – both the number and proportion of patients admitted within 12 hours have increased from 105,146 (74%) in 2000-01 to 126,055 (80%) in 2001-02. These improvements have been achieved in the context of 7.3% growth in ED presentations and 11% growth in admissions from EDs.

As demonstrated in the above graphs, for the 2001-02 financial year, targets for bypass and the percentage of patients admitted within 12 hours have been met across the system for most months. The slight deteriorations in May and June 2002 for ‘% admitted within 12 hours’ and April to June 2002 for ‘ambulance bypass’ coincide with the peak in winter demand.

## 4.2 ARMC

### HDM KPIs



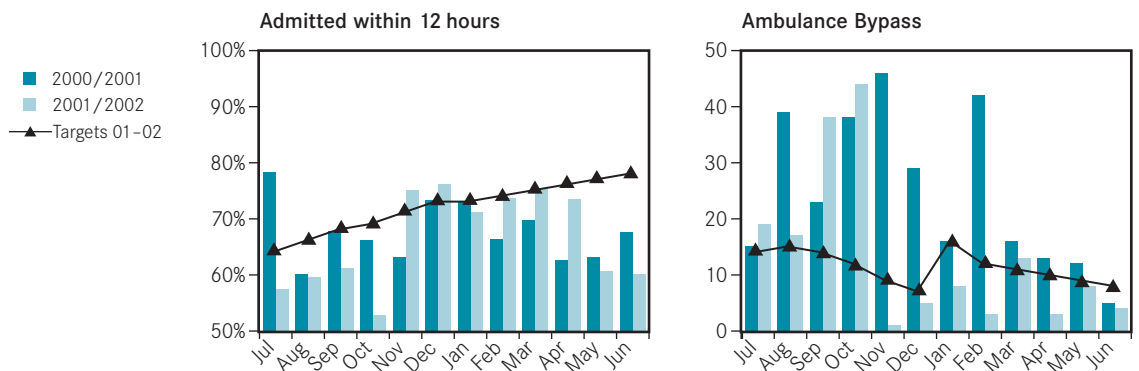
ARMC has not only met, but has exceeded its targets in the months of November 2001 to May 2002 for '% admitted within 12 hours'. Ambulance bypass rates have been substantially reduced and are well below the target from November 2001, with the exception of June 2002.

### HDM initiatives

Initiative	Grading
Assessment and Management of Older Patients within ED	5
Short Stay Observation Unit within ED (incorporating telemetry beds)	5
ED Triage Project	5
Day Treatment Centre (Medical only)	4
Care Coordinators: Aged Care Continuum Team Inpatient Service	3
Upgrade DOSA and Day Surgery Facilities	4
Hospital-Primary Care Liaison	3
Clinical Leadership Program (Medical and Surgery)	5
Medical Assessment and Planning Unit (MAPU)	4
Disease Management Program for Patients with Chronic Heart Failure	2 (due to late commencement)
Disease Management Program for Patients with Chronic Respiratory Disease	4
Residential Care Placement Team	4
Functional Maintenance Program	3

### 4.3 Bayside

#### HDM KPIs



Bayside Health has met its targets for ‘% admitted within 12 hours’ for the months from November 2001 to March 2002 and has exceeded the target for the months of November and December 2001. However, Bayside Health’s performance has deteriorated over April, May and June. Monthly ambulance bypasses have been consistently below target since November 2001 with the exception of the March 2002.

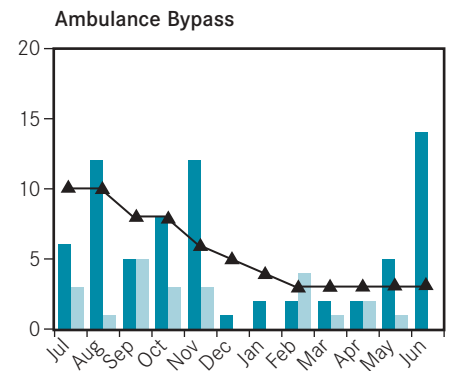
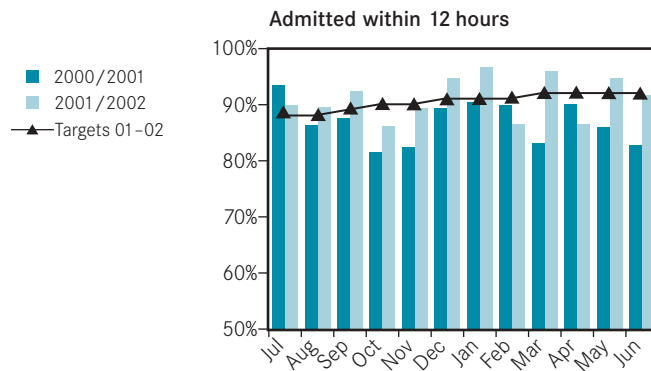
#### HDM initiatives

Initiative	Grading
Emergency Department Allied Health Team	5
Medical Ambulatory Day Unit	5
Medihotel	5
Weekend Discharges Initiatives	5
Care Coordinators – Orthopaedics and Burns/Plastics Units	5
Rapid Assessment Service	5
Emergency Access South of the Yarra	5
Disease Management Program for Medical Frequent Attenders	5

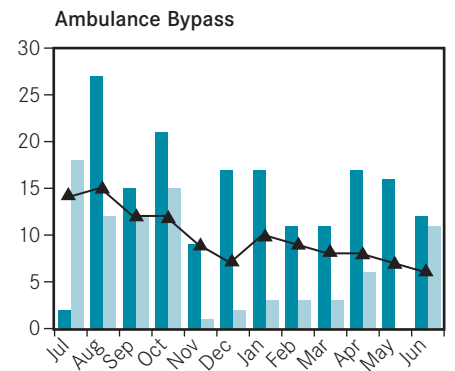
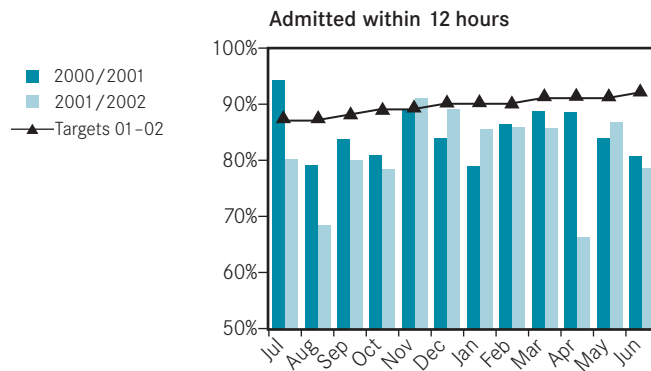
## 4.4 Eastern Health

### HDM KPIs

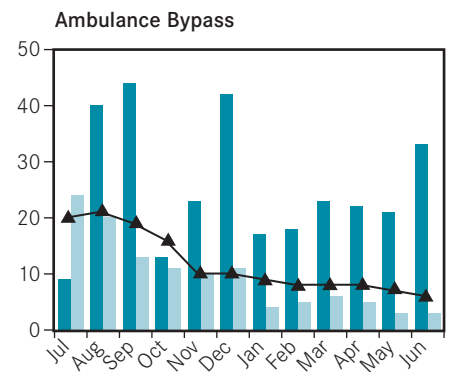
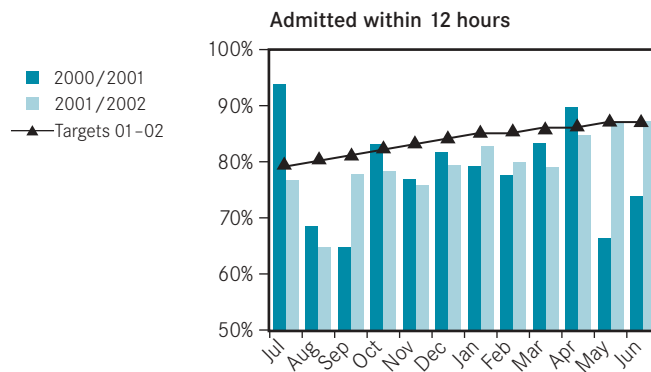
#### Angliss



#### Box Hill



#### Maroondah



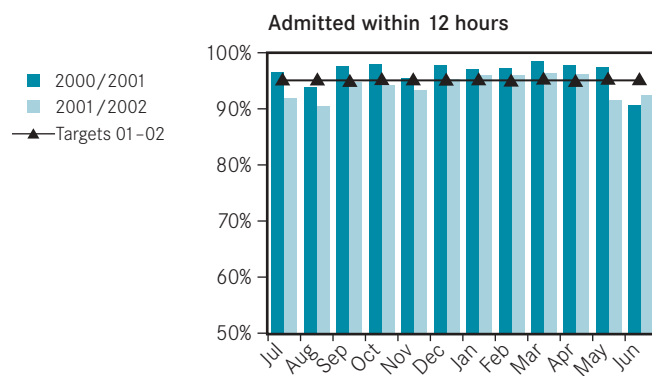
All three campuses of Eastern Health have had ambulance bypasses below target for most months of 2001–02. The ‘% admitted within 12 hours’ have been slightly below target for most months for Box Hill and Maroondah hospitals while Angliss Hospital has met the target for all but two months.

### HDM initiatives

Initiative	Grading
Increase Medical Triage To Fast Track Patients - Box Hill	4
Increase Medical Triage To Fast Track Patients - Maroondah	5
Emergency Medical Unit (15 Beds) - Maroondah	5
Short Stay Units - Box Hill (6 Beds)	5
Short Stay Units - Angliss (4 Beds)	5
Care Substitution - Weekend Support for Discharge (Post Acute Care)	1
Transit Lounges To Clear Beds and Free up Capacity - Box Hill	5
Transit Lounges To Clear Beds and Free up Capacity - Maroondah	3
Transit Lounges To Clear Beds and Free up Capacity - Angliss	3
Clinical Change Managers	4
Care Coordination - Box Hill	5
Care Coordination - Maroondah	5
Care Coordination - Angliss	5
Pre Hospital Prevention Strategy - Case Management for Complex and Chronic Illness	3

## 4.5 Barwon Health

### HDM KPIs



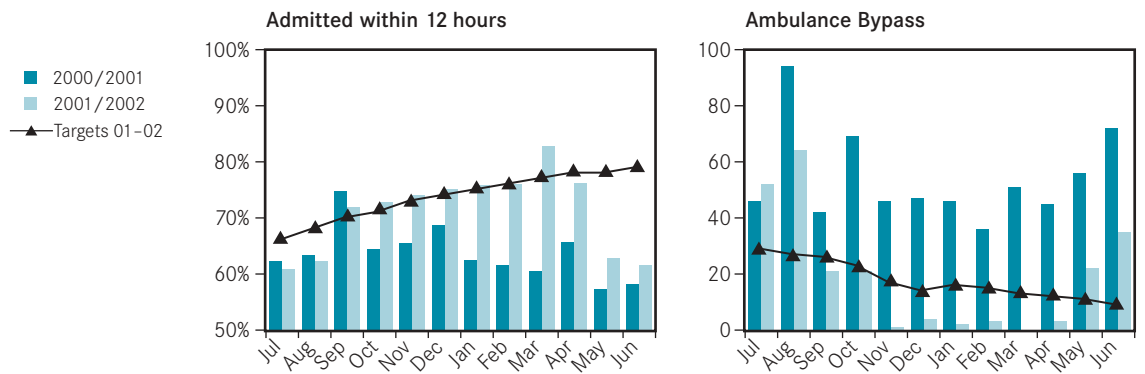
Geelong Hospital only provides data for '% admitted within 12 hours'. The graph shows that the target has been reached between September 2001 and April 2002.

### HDM initiatives

Initiative	Grading
Home Buddy Volunteer Service	4
Care Coordination	4

## 4.6 Melbourne Health

### HDM KPIs



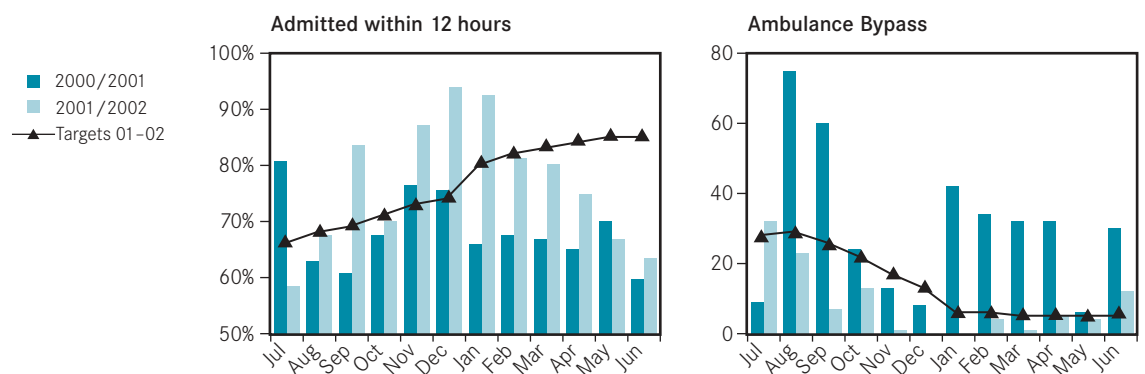
Melbourne Health has met its targets for both KPIs since September 2001, with the exception of May and June 2002.

### HDM initiatives

Initiative	Grading
Short Stay Unit	5
GP Liaison	3
Change Management/Patient Access Taskforce	not graded
Review and Re-engineer Admission and Discharge Processes (focus on surgical bed utilisation) to free up capacity	4
Disease Management for CHF	not graded
Disease Management for COPD	not graded
Winter Packages for Chronically Ill Medical Patients	not graded
ED Care Coordination	5

## 4.7 Northern Health

### HDM KPIs



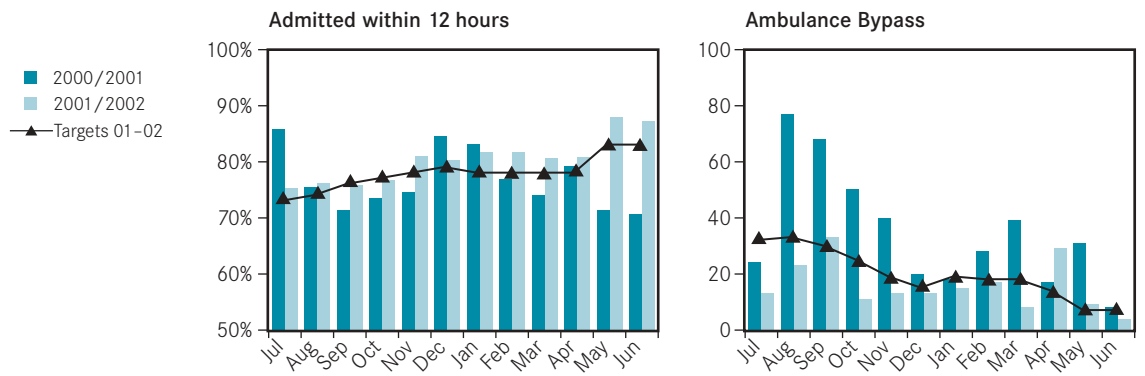
With the exception of a dip in ‘% admitted within 12 hours’ since March 2002 and an increase in ambulance bypass in June 2002, Northern Health has met its targets for both KPIs across 2001–02.

### HDM initiatives

Initiative	Grading
Care Substitution - weekend PAC arrangements	4
BHS Home Therapy Service and Access Unit	4
Increase medical triage in ED	not graded
Care coordination in the ED	5
Aged Care Medical Unit	5
Weekend Discharge Service	5
Additional allied health staff for complex discharge management	5
Acute Primary Care Liaison	4
Improving elective surgery capacity by extending the use of DPU	4
Chronic Disease Management Pilot Congestive Cardiac Failure and Chronic Obstructive Pulmonary Disease	5

## 4.8 Peninsula Health

### HDM KPIs



Peninsula Health has exceeded its targets for both indicators throughout 2001-02, with the exception of ambulance bypass in April 2002.

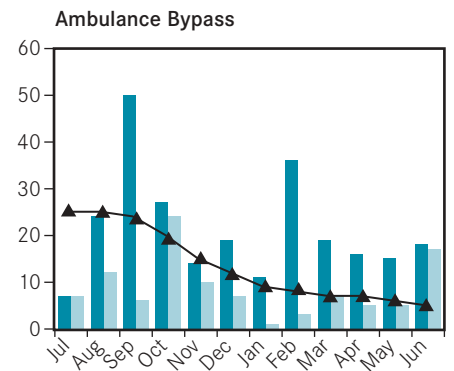
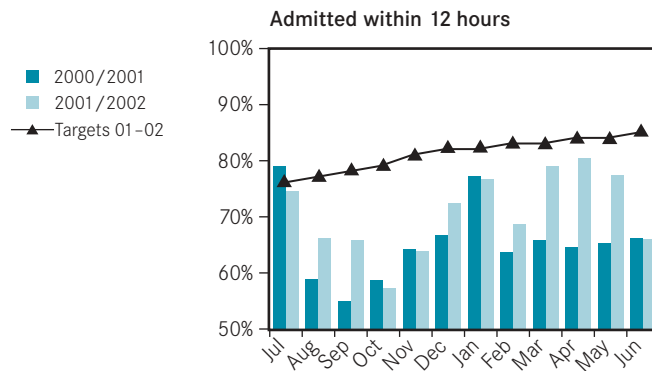
### HDM initiatives

Initiative	Grading
Emergency Demand Medical Unit	5
Fast Track in ED	5
Acute-Primary Care Liaison	3
Chronic Cardiac Failure Clinic	3
Care Coordination and Brokerage	5

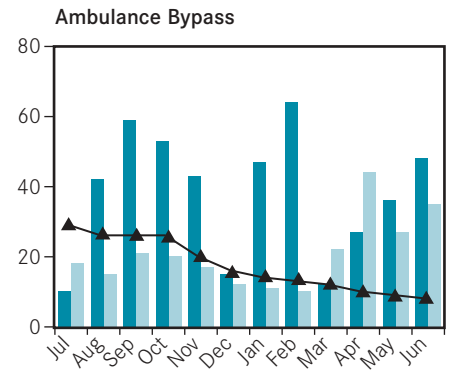
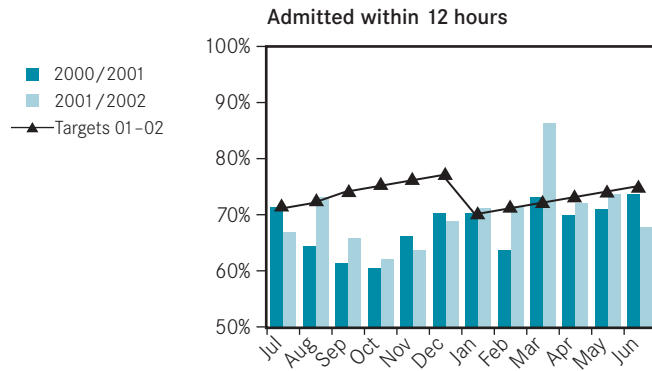
## 4.9 Southern Health

### HDM KPIs

#### Dandenong Hospital



#### Monash Medical Centre



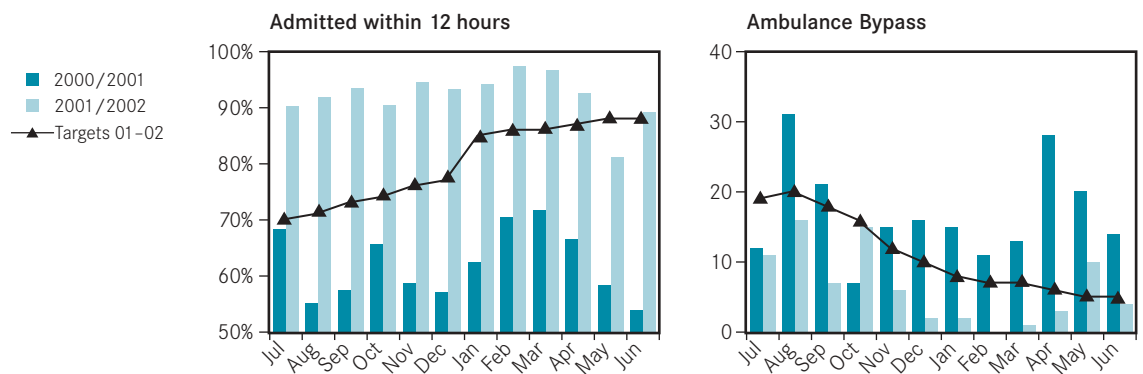
The 'ambulance bypass' KPI has been met by both campuses for most months of the year. The targets for '% admitted within 12 hours' have not been met at Dandenong Hospital but have been met at Monash Medical Centre in six of the 12 months.

## HDM initiatives

Initiative	Grading
Improve triage in EDs at Dandenong	5
Improve triage in EDs at Clayton	4
Address ED environmental issues	3
Expand ambulatory care at Clayton	5
Pre-admission clinic and peri-operative area at Southern Health	4
Change work practices and provide additional allied health cover at Dandenong and Clayton	not graded
Acute primary care drug and alcohol hospital liaison at Clayton and Dandenong	5
Care Coordination at Clayton and Dandenong	4
Acute-Primary Care Liaison at Clayton and Dandenong	4
Early Transfer of Patients from ED to Sub-Acute Care at Kingston	4
Early Transfer of Patients from ED to Sub-Acute Care at Dandenong	4

## 4.10 St Vincent's Health

### HDM KPIs



St Vincent's Health Service has exceeded its targets for '% admitted within 12 hours' for all months in the financial year and has consistently shown ambulance bypass rates below the target, with one exception in May 2002.

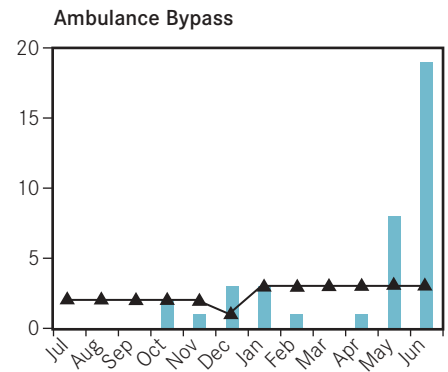
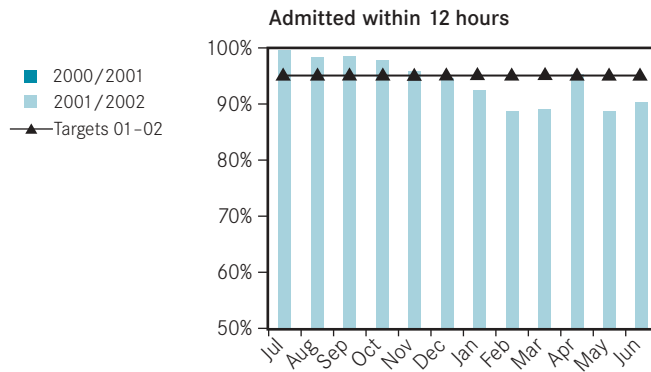
### HDM initiatives

Initiative	Grading
Increased medical triage	5
Care Coordination	4
Hospital in the Home General Practitioner Liaison Service	3
Assessment, Liaison and Early Referral Team	4

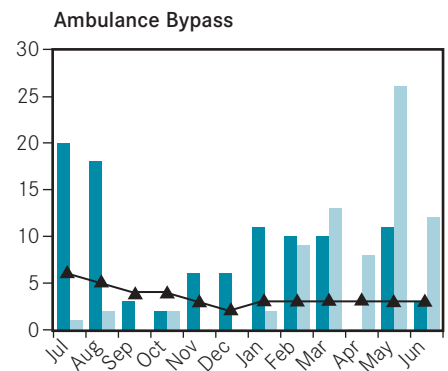
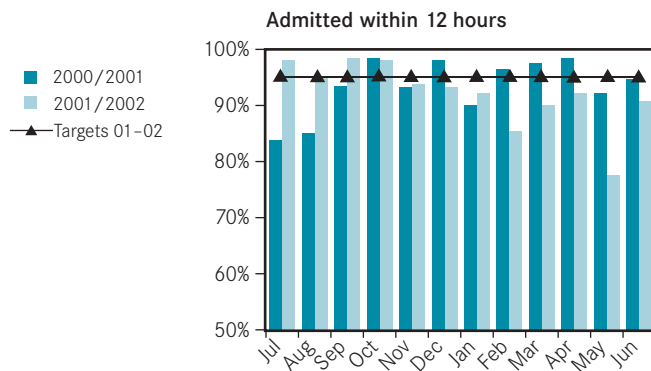
## 4.11 Western Health

### HDM KPIs

#### Sunshine Hospital



#### Western Hospital



While Sunshine and Western hospitals have not quite met their targets for ‘% admitted within 12 hours’ for all months in the last financial year, they are averaging above 90%. The ambulance bypass KPI has been met by Western Hospital for the months July 2001 to January 2002. Ambulance bypass targets have been exceeded by Sunshine Hospital in only three of the eight recorded months.

### HDM initiatives

Initiative	Grading
Sunshine Hospital ED Quick Response Team	4
Change Management/Rapid Assessment Unit	4
Care Coordination - Sunshine Hospital	4
GP Liaison Model for Footscray and Sunshine	4
After Hours Telephone Hospital Access Advice Unit	4

## 5. Conclusion

The HDM Strategy has provided a ‘stretched’ health system with specific funding to develop and implement new initiatives for managing demand. Health services have responded by implementing more than 80 projects within the areas of prevention, substitution, management of patient flows and the acute/sub-acute interface.

The projects represent a broad range, from simple interventions such as recruitment of a single staff member (for example, additional clerical support in an ED), to those that have undertaken a major change management process (for example the Patient Access Taskforce established at Melbourne Health). Health service providers are working in collaborative and innovative ways to manage demand pressures in the health system and to provide patient care that is more timely and appropriate. While some project models have been utilised by a number of services, most projects have been developed and implemented to suit local conditions.

Although projects are at different stages of implementation, their positive impact on demand management is demonstrated by the improvement in KPIs between 2000–01 and 2001–02. All health services have reached the target of 100% for ‘Triage category 1 patients seen within target’ and ‘Elective Category 1 patients admitted within target’. There have been substantial decreases in ambulance bypasses and increases in the percentage of patients ‘admitted within 12 hours’. Targets for 2001–02 have been met by the health system as a whole for most months, with only a slight deterioration during the peak winter demand months.

The projects have been rated by the health services themselves as being very important to the success of the HDM Strategy with an average rating of four out of five (where ‘one’ is equivalent to ‘no impact on the HDM Strategy’ and ‘five’ is equivalent to ‘critical to the success of the HDM Strategy’).

While the majority of reports have only been able to provide descriptive data, there are early indications that many interventions are decreasing LOS, preventing ED presentations, preventing admission and achieving substitution. Many projects have also reported high levels of patient and staff satisfaction.

Some common themes have emerged regarding project facilitators and barriers. A variety of facilitators were identified, including the utilisation of clear protocols, multidisciplinary teams, staff expertise and willingness to implement change, linkages and collaboration with other providers, and senior clinician and executive support for change. Identified barriers included difficulties with staff recruitment, lack of brokerage funds for care coordination and gaps in community service provision. In some projects, clinician roles and skills and service configuration are being redefined.

These reports provide both the Department of Human Services and health service providers with information that will assist in meeting the ongoing challenges of matching supply of services to growing demand pressures.

## References

Moss JE, Flower CL, Houghton LM et al, A multidisciplinary Care Coordination Team improves emergency department discharge planning practice, *MJA*, 2002, 177 (8): 435–39.

Kennedy M, Osborne R, Korda S and Aceska B, *Evaluation of a collaborative care coordination program in an emergency department*, Interim Summary, 2002.

## Attachment 1 – HDM projects

### ARMC

- Assessment and Management of Older Patients within ED
- Short Stay Observation Unit within ED (incorporating telemetry beds)
- ED Triage Project
- Day Treatment Centre
- Care Coordinators: Aged Care Continuum Team - Inpatient Service
- Upgrade DOSA and Day Surgery Facilities
- Hospital-Primary Care Liaison
- Clinical Leadership Program (Medical and Surgery)
- Medical Assessment and Planning Unit
- Disease Management Program for Patients with Chronic Heart Failure
- Disease Management Program for Patients with Chronic Respiratory Disease
- Residential Care Placement Team
- Functional Maintenance Program

### Bayside Health

- Emergency Department Allied Health Team
- Medical Ambulatory Day Unit
- Medihotel
- Weekend Discharges Initiatives
- Care Coordinators – Orthopaedics and Burns/Plastics Units
- Rapid Assessment Service
- Emergency Access South of the Yarra
- Disease Management Program for Medical Frequent Attenders

### Eastern Health

- Increase Medical Triage To Fast Track Patients - Box Hill
- Increase Medical Triage To Fast Track Patients - Maroondah
- Emergency Medical Unit (15 beds) – Maroondah
- Short Stay Unit - Box Hill (6 beds)
- Short Stay Unit - Angliss (4 beds)
- Care Substitution - Weekend Support for Discharge (Post Acute Care)
- Transit Lounges To Clear Beds and Free up Capacity - Box Hill
- Transit Lounges To Clear Beds and Free up Capacity - Maroondah

- Transit Lounges To Clear Beds and Free up Capacity - Angliss
- Clinical Change Managers
- Care Coordination - Box Hill
- Care Coordination - Maroondah
- Care Coordination - Angliss
- Pre Hospital Prevention Strategy - Case Management for Complex and Chronic Illness

### **Barwon Health**

- Home Buddy Volunteer Service
- Care Coordination

### **Melbourne Health**

- Short Stay Unit
- GP Liaison
- Change Management/Patient Access Taskforce
- Review and Re-engineer Admission and Discharge processes (focus on surgical bed utilisation) to free up capacity
- Disease Management for CHF
- Disease Management for COPD
- Winter Packages for Chronically Ill Medical Patients
- ED Care Coordination

### **Northern Health**

- Care Substitution - weekend PAC arrangements
- BHS Home Therapy Service and Access Unit
- Increase Medical Triage in ED
- Care Coordination in the ED
- Aged Care Medical Unit
- Weekend Discharge Service
- Additional Allied Health Staff for Complex Discharge Management
- Acute Primary Care Liaison
- Improving Elective Surgery Capacity by Extending the Use of DPU
- Chronic Disease Management Pilot Congestive Cardiac Failure and Chronic Obstructive Pulmonary Disease

### **Peninsula Health**

- Emergency Demand Medical Unit
- Fast Track in ED
- Acute-Primary Care Liaison
- Chronic Cardiac Failure Clinic
- Care Coordination and Brokerage

### **Southern Health**

- Improve Triage in ED at Dandenong
- Improve Triage in ED at Clayton
- Address ED Environmental Issues
- Expand Ambulatory Care at Clayton
- Pre-Admission Clinic and Peri-Operative Area at Southern Health
- Change Work Practices and Provide Additional Allied Health Cover at Dandenong and Clayton
- Acute Primary Care Drug and Alcohol Hospital Liaison at Clayton and Dandenong
- Care Coordination at Clayton and Dandenong
- Acute-Primary Care Liaison at Clayton and Dandenong
- Early Transfer of Patients from ED to Sub-Acute Care at Kingston
- Early Transfer of Patients from ED to Sub-Acute Care at Dandenong

### **St Vincent's Health**

- Increased Medical Triage
- Care Coordination
- Hospital in the Home General Practitioner Liaison Service
- Assessment, Liaison and Early Referral Team

### **Western Health**

- Sunshine Hospital ED Quick Response Team
- Change Management/Rapid Assessment Unit
- GP Liaison Model for Footscray and Sunshine
- Care Coordination - Sunshine Hospital
- After Hours Telephone Hospital Access Advice Unit - Western Hospital

## Attachment 2 – Proforma for annual report

### Hospital Demand Management Annual Report

September 2002

1. *Project title.*

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2. *Contact details for the Executive Sponsor for this project.*

Name:

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Title:

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Telephone number:

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Email address:

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Postal address:

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3. *Contact details for the Project Manager of this project.*

Name:

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Title:

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Telephone number:

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Email address:

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Postal address:

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4. *Please provide a brief plain language description of the project, including the project objectives and an outline of how the project has impacted on emergency presentations and/or hospital admissions (approximately 250 words).*

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7. What has been the impact of your project? To assist you in completing this section, the following tables list process and impact indicators applicable to a variety of HDM project categories. Please complete the Table that applies to your project. You are requested to provide current data and comparison data (either pre-implementation or from a comparator group).

**For ED care coordination projects July 2001 to June 2002**

<b>Indicator</b>	<b>Current data</b>	<b>Comparison data (before project implementation or with comparator group)</b>	<b>Variance</b>
No. of patients assessed			
No. of patients managed			
Average LOS in ED			
Time to assessment			
Average no. of ED presentations in the patient group			
Average no. of admissions in the patient group			
No. of patients referred to GPs by the project			
No. of patients referred to other non-acute services (specify services)			
Other impact data if available (please specify)			
Outcome data if available (eg. changes in functional status, Quality of Life)			

**For inpatient care coordination or discharge planning projects July 2001 to June 2002**

<b>Indicator</b>	<b>Current data</b>	<b>Comparison data (before project implementation or with comparator group)</b>	<b>Variance</b>
No. of patients assessed			
No. of patients managed			
Average inpatient LOS			
Average no. of ED presentations in the patient group			
Average no. of unplanned re-admissions over 12 months in the patient group			
No. of patients referred to GPs by the project			
No. of patients referred to other non-acute services by the project (please specify services)			
Other impact data (please specify)			
Outcome data if available (eg. changes in functional status, Quality of Life)			

**For disease management projects July 2001 to June 2002**

<b>Indicator</b>	<b>Current data</b>	<b>Comparison data (before project implementation or with comparator group)</b>	<b>Variance</b>
No. of patients managed			
Average no. of ED presentations in the patient group			
Average no. of unplanned re-admissions over 12 months in the patient group			
Average inpatient LOS for relevant DRGs			
Other impact data (please specify)			
Outcome data if available (eg. changes in functional status, Quality of Life)			

**For projects with new units (eg. MAPUs, SOUs, RAMUs, EMUs, etc) July 2001 to June 2002**

Total no. of patients admitted to the new unit

Top five high volume DRGs managed in the new unit and the no. of patients in each.

Discharge or transfer destination of patients

<b>Indicator for 2000–01</b>	<b>Current data 2001–02 Variance</b>	<b>Comparison data</b>
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Average LOS for patient in each of the top five high volume DRGs:

- 1.
- 2.
- 3.
- 4.
- 5.

Total bed days for each of the top five high volume DRGs:

- 1.
- 2.
- 3.
- 4.
- 5.

Other impact data where available

Outcome data if available (eg. change in functional status, Quality of Life)

**For ED triage projects (eg. fast track, multidisciplinary triage) July 2001 to June 2002**

Total no. of patients assessed for each triage category applicable.	In Triage Category 3 In Triage Category 4 In Triage Category 5
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<b>Indicator</b>	<b>Current data for 2001–02</b>	<b>Comparison data for 2000–01</b>	<b>Variance</b>
Time to assessment (for each triage category applicable).			
Time to admission from ED to ward (for each triage category).			
Other impact data if available.			

**For all other projects July 2001 to June 2002**

Impact data (please consider indicators above where applicable and specify)

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Outcome data (eg. changes in clinical outcomes, Quality of Life)

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*8. Indicate how this project has impacted on staff satisfaction.*

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*9. Indicate how this project has impacted on patient satisfaction.*

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*10. Have there been any organisational or clinical practice changes as a result of this project?*

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*11. What have been the key lessons from this initiative?*

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12. Outline the factors that have either facilitated or hindered project implementation.

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13. Using the following scale, please rate the relative importance of this project to the overall success of the HDM Strategy to date by placing a cross above the number that best describes your project.

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1	2	3	4	5
No impact on the HDM Strategy	Some impact on the HDM Strategy	Average impact on the HDM Strategy	Above average impact on the HDM Strategy	Crucial to the success of the HDM Strategy

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14. Are there any other comments you would like make in relation to this project?

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This report should be returned by email to:  
 Jennifer Phan  
 Email address: [jennifer.phan@dhs.vic.gov.au](mailto:jennifer.phan@dhs.vic.gov.au)

Should you require further information in relation to completing this report please contact Jennifer Phan on 9616 8021 or by email at the above address

**Reports must be submitted by Friday 13 September 2002**



