

# **AVOIDABLE ADMISSIONS**

## **Preamble**

## EXECUTIVE SUMMARY

As a result of extensive research and consultations with key clinicians described in this report, the Acute Care Taskforce (ACT) in collaboration with the NSW Health, Health Services Performance Improvement Branch (HSPiB), has developed the avoidable admissions strategy. The strategy identifies twelve medical conditions with specific low complexity DRG categories where treatment may be considered amenable to non-admitted treatment for patients. These conditions, DRG categories and implementation priority are listed below:

### *First Phase:*

- Cellulitis (DRG: J64B)
- Community acquired pneumonia (DRG: E62C)
- COPD (DRG: E65B)
- Bronchitis and asthma (DRG: E69C)
- Red blood cell disorders and Transfusions (DRG: Q61C)
- DVT (DRG: F63B)
- Urinary tract infections (DRG: L67C)
- Acute non-surgical pain (musculotendinous disorders) (DRG: I71C)

### *Second Phase:*

- Chest pain (DRG: F74Z)
- Seizure (DRG: B76B)
- Headache (DRG: B77Z)
- Gastroenteritis (DRG: G67B)

These DRG's have been selected as amenable for non-admitted treatment for patients based on:

- ◆ Clinical justification for treating low complexity, acute medical conditions in alternative care settings other than inpatient hospital beds, by services such as Community Acute Post Acute Care Services (CAPAC), Hospital in the Home (HITH) and other hospital avoidance strategies
- ◆ Diagnostic Related groups with greater than 4,000 admissions per year across NSW requiring a length of stay of 2 days or less.

## **Opportunities for Hospital Avoidance**

A review of an EDIS – HIE Inpatient linked data set, ranks eight of these twelve selected DRG's within the top twenty diagnoses of patients admitted to NSW public hospitals. Based on 2003/2004 admission data and supporting clinical evidence, it is estimated that 25,000 admissions were potentially avoidable during this period. These admissions had an overall ALOS of 3.2 days, representing 220 bed equivalents across the NSW health system. This 2004/2005 data will be considered as a baseline for measuring performance against future avoidable admission targets.

## **NSW Health Direction & Challenges Ahead**

NSW Health is committed to the Avoidable Admission strategy articulated by the Acute Care Taskforce and HSPiB and related targets have been articulated in Area Performance Agreements. This Plan requires a reduction of 30% in avoidable admissions. Avoidance directly relates to admissions against the eight selected DRG's during 2007/08, a reduction of an estimated 8365 admissions across NSW public Hospitals.

There will be a staged approach to the Avoidable Admission strategy. The first group of DRG's listed above, will be the focus of work for 2007/08 and the second group will be included in future strategies when further research has concluded.

## 1. INTRODUCTION

NSW Health, in collaboration with clinicians and Area Health Services has embraced the need to redesign processes within the health system to reflect the changing needs of health care. The ACT has been instrumental in putting clinicians at the forefront in examining processes to improve the acute medical patient journey through the NSW health system, its hospitals and into the community.

The ACT is a multidisciplinary group of clinicians and managers responsible for examining the acute medical patient journey through the health system, articulating process changes and best practice strategies for improving patient experience and ensuring these patients are receiving care that is safe, effective and appropriate.

## 2. BACKGROUND

As part of the process of examining the acute medical patient journey from the community and entering into the health service, senior clinicians and health service managers working with the ACT and its Working Groups, have raised the issue that large numbers of patients with low complexity, low acuity type medical conditions are being unnecessarily admitted to beds for inpatient hospital treatments across NSW public hospitals.

Given the growing pressure on acute hospital beds and clinical teams, reduced standard of care associated with delays in treatment (1), and an acknowledgement that hospitals may not be the best place to treat some of these patients (2,3,4), the ACT considered this work to be a priority. Clinicians and managers shared the view that beds should only be used to treat acute patients, with more complex conditions. Many clinicians believed that many of these patients could be treated in alternative care settings. However, clinicians experienced significant barriers in referring these types of patients. Limited availability of community based acute services and difficulties in organising the logistics for referring patients to alternative services, involving multiple phone calls resulted in clinicians considering it 'easier to admit, than refer'.

Through extensive consultations there was a resounding message, that there are real opportunities for improving the experiences of acute medical patients by resolving disconnects in their journey and investigating alternative models of care for treating these patients.

To further explore these issues, the ACT in collaboration with the HSPIB reviewed 2004/2005 trends in medical admissions across public hospitals. This review resulted in identifying a high volume of patients with low complexity; low acuity medical conditions had been admitted for inpatient hospital treatments.

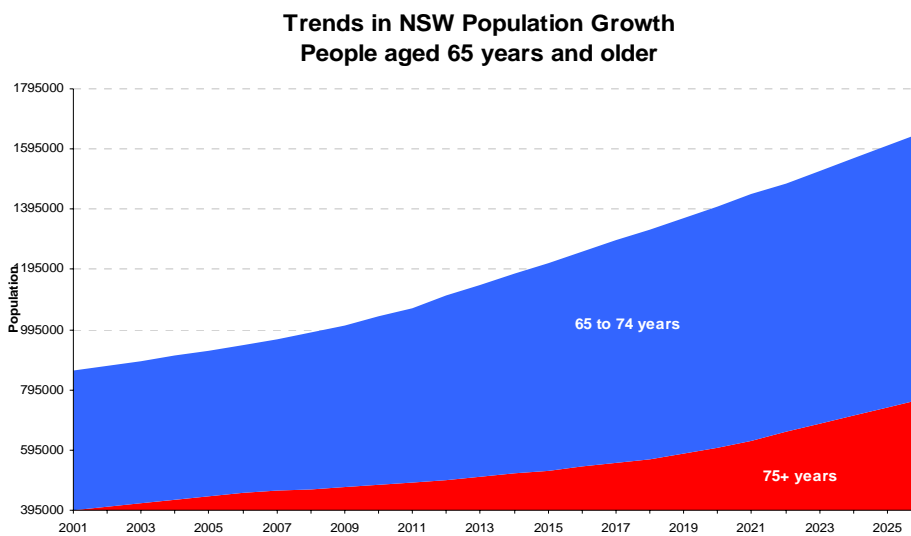
National and international literature was researched to determine the robustness of clinical evidence for treating acute, low complexity medical patients in alternative care settings other than inpatient hospital beds. A range of acute medical conditions was identified as amenable to non-inpatient hospital treatments. Clinical evidence demonstrated that selected groups of medical conditions could be effectively and safely treated by services such as CAPAC, HITH and ambulatory care settings (5,6).

### 3. REASONS FOR CHANGE

#### Pressures on the Health System

The predicted increase in the number of people aged 65 years and over (*Figure 1*) will impact on NSW health services. Inpatient populations are getting older, requiring a longer length of stay (*Figure 2*) than other age groups. This increasing aged inpatient population is a challenge for all health systems (7,9). This is influencing health systems to review the way in which services are delivered to improve the aged patients journey and ensure services are effective and appropriate, treating the right patient, at the right time, in the right place.

Figure 1.

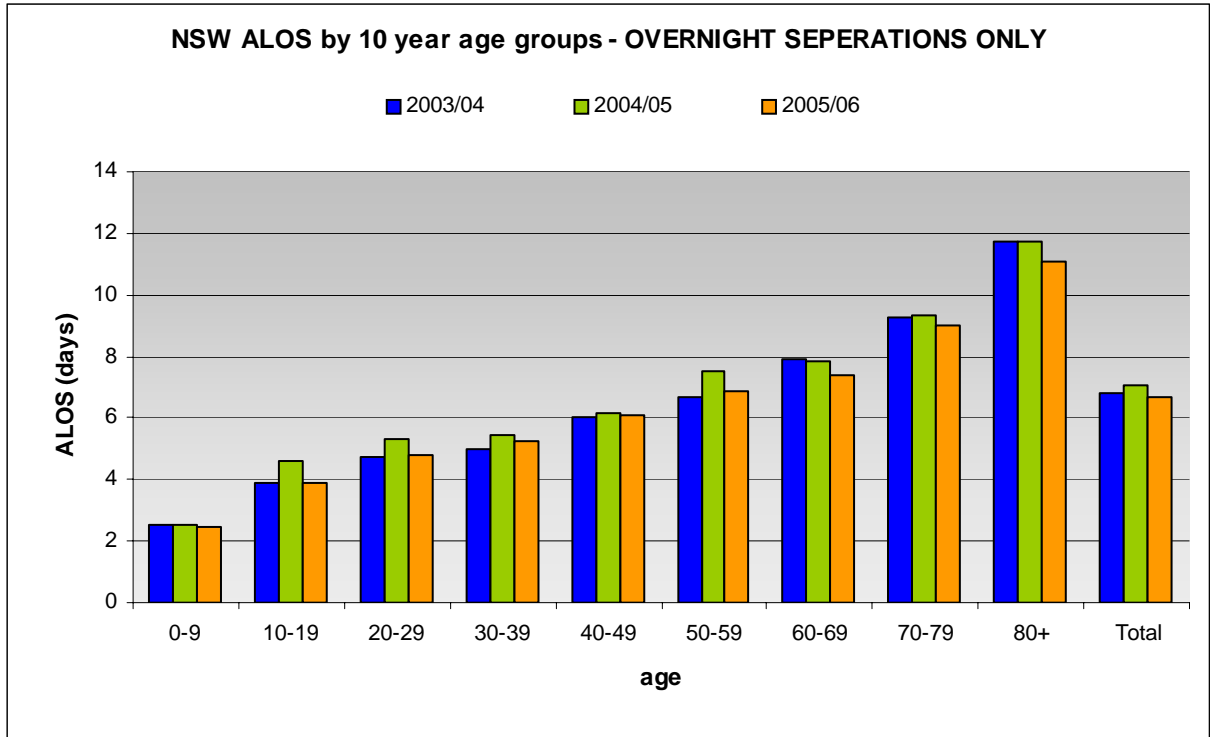


Source: Inpatient Statistical Collection, Sourced & Stored on the NSW Health HIE

The predicted increase in the numbers of people aged 65 years and older in the population over the next 20 years has started to result in increased presentations of older patients to hospitals. These older patients have been presenting to Emergency Departments in increasing numbers in the last five years. The rate of growth in Emergency Department attendances for those under 55 years has been around 8%, for those over 75 years, it is greater than a 25% increase.

Higher rates of overnight admissions and average length of stays associated with these age groups (*Figure 2*) are adversely impacting on elective admissions pushing these patients onto waiting lists.

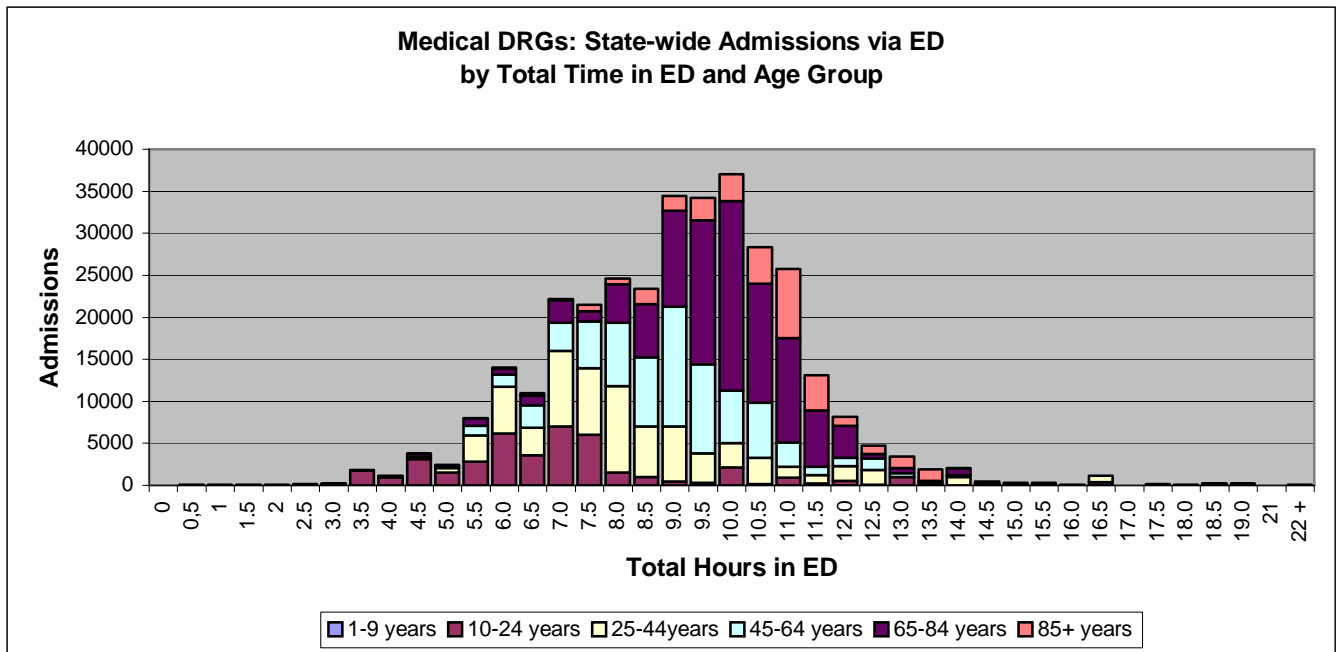
*Figure 2*



Source: Inpatient Statistical Collection, Sourced & Stored on the NSW Health HIE

A review of patients admissions via presentation to Emergency Departments in NSW public hospitals indicate that medical patients 25 years of age and older, experience delays in Emergency Departments (Figure 3) Reduced health outcomes and standard of care and increased mortality associated with overcrowding in Emergency Departments (1).

Figure 3



Source: 2004/2005 Inpatient Statistics Collection & Emergency department Information reported electronically to DOH via the HIE. (HIE-EDIS linked data set)

## 4. REALIGNING HEALTH SERVICES WITH CURRENT CLINICAL EVIDENCE

Hospital admission avoidance programs, generally referred to as CAPAC, are currently provided to a broad range of patients in NSW. Such programs are delivered to improve the efficiency and effectiveness of healthcare services. 'Drivers' supporting change and the development of CAPAC services includes:

- Patient and carer choice has been a key driver for delivery of health care for some conditions in places other than acute hospitals
- Improved patient satisfaction associated with treatments by CAPAC services (4)
- Technological and pharmaceutical advances allowing a broad range of parenteral antibiotic and other therapies to be provided safely outside the hospital walls
- Availability of new anaesthetic drugs and regional block techniques
- Changes in laparoscopic techniques that have increased rates of day-only surgery
- Increasing pressures on the health care system from the ageing population discussed elsewhere in this report
- Evidence of improved health outcomes occurring from reduced time spent in acute hospitals, especially for older people
- Legislative changes supporting acute care in the home (8).

Significant clinical evidence supports that these patients would benefit from care being provided in alternative care locations including CAPAC services, or HITH.

## 5. METHODOLOGY

### 5.1 Comprehensive Review of Inpatient Data and EDIS Reporting Systems

An EDIS – HIE Inpatient linked data set was built to understand admission trends for medical patients across all EDIS reporting hospitals in NSW. The EDIS – HIE Inpatient linked data set enabled the ACT to gather a profile on low complexity DRG's, the acuity with which patients presented in ED and the complexity of their conditions. Through this process high volume, low acuity, low complexity DRG's, with an ALOS of equal to/or less than 2 days, were identified for further investigation as possible target areas for hospital avoidance strategies.

### 5.2 Researching Clinical Evidence

National and international literature was researched to determine the robustness of clinical evidence for treating acute, low complex medical patients in alternative care settings other than inpatient hospital beds. A range of acute medical conditions was identified as being amenable to non-inpatient hospital treatments. Clinical evidence demonstrated that selected groups of medical conditions could be safely and effectively treated by services such as CAPAC, HITH and some ambulatory care settings and many patients had a clear preference for these types of services.

### 5.3 Review of Best Practice Models

Hospitals where hospital avoidance strategies were reviewed by the ACT Working Group consisting of senior clinicians and health service managers. Avoidance strategies, models of care, clinical governance structures, clinical protocols and guidelines were compiled (reviewed for their safety, effectiveness and appropriateness). Extensive consultations were held with physicians and other clinicians involved in delivering these clinical services.

Best practice models of care and supporting clinical protocols and guidelines have been gathered as a resource to build a Clinicians Toolkit. These resources are available on ARCHI to assist AHS's develop hospital avoidance strategies. *Link to Best Practice Models of Care-ARCHI*

### 5.4 Selected DRG's Targeted For Hospital Avoidance

As a result of extensive research and consultations with key clinicians, the ACT developed a list of twelve medical conditions considered amenable to hospital avoidance. The list includes:

- Cellulitis (DRG: J64B)
- Community acquired pneumonia (DRG: E62C)
- COPD (DRG: E65B)
- Bronchitis and asthma (DRG: E69C)
- Red blood cell disorders and Transfusions (DRG: Q61C)
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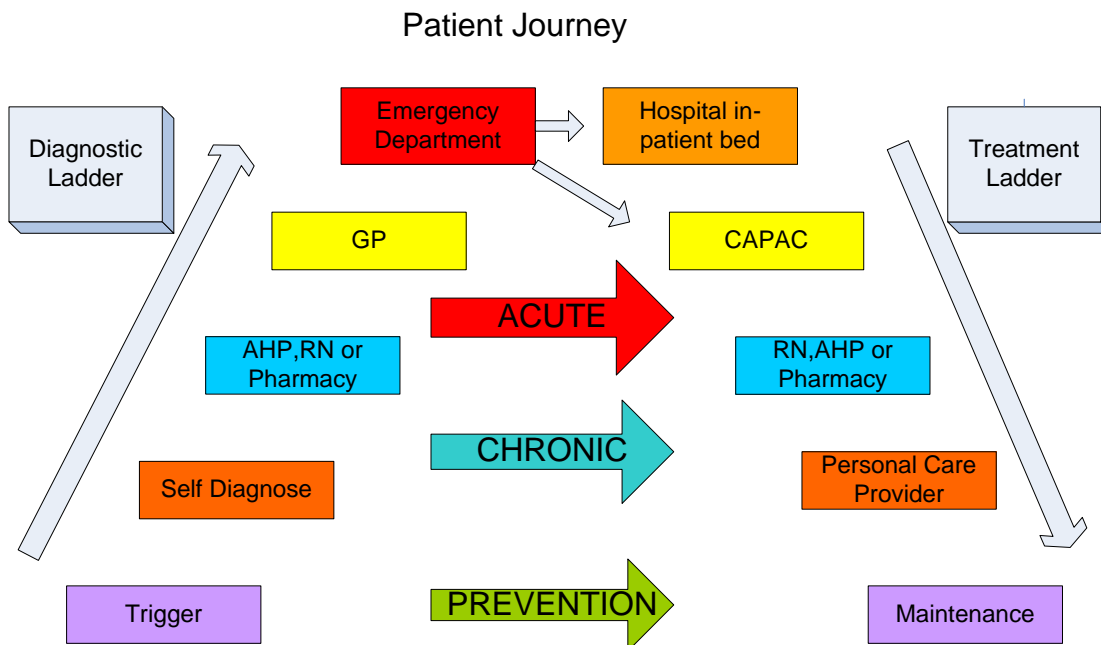
These DRG's have been selected for hospital avoidance based on:

- Clinical justification for treating low complexity, acute medical conditions in alternative care settings other than inpatient hospital beds, by services such as CAPAC, HITH and other hospital avoidance strategies and
- Diagnostic groups with greater than 4,000 admissions per year across NSW requiring a length of stay of 2 days or less.

A review of diagnoses presenting to ED in NSW during 2004/2005 ranks five of these eight selected DRG's within the top twenty diagnoses of patients waiting for admission to a hospital bed and indicates that during 2004/2005 there were 25,000 potentially avoidable admissions across NSW public hospitals with an ALOS of 3.2 days, representing 220 bed equivalents.

Figure 5

**Avoidable Admission Framework for Alternative Care**



Source: S. Wilson, 2006

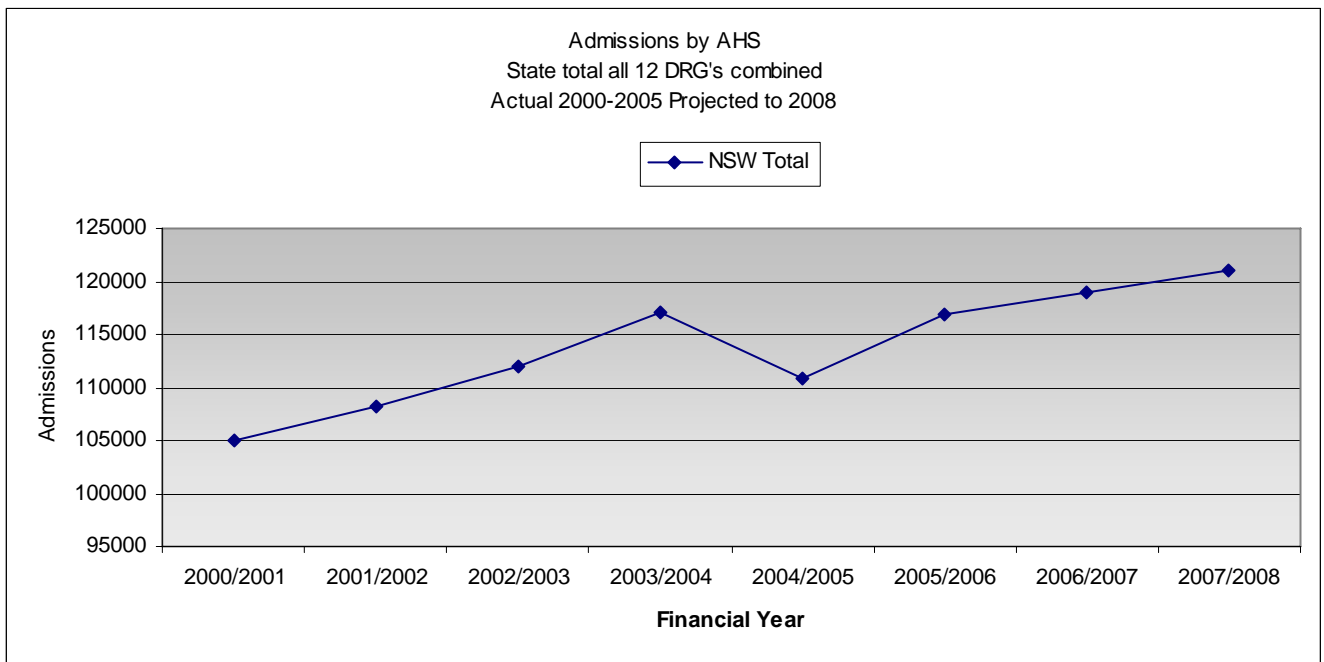
Figure 5 describes a number of stages of a patients' journey commencing with the trigger of illness or injury with the diagnostic ladder ending in ED for a small number of patients. The hospital view of this journey starts from the patients' presentation at ED. However, a number of steps may be appropriately excluded in that pathway. For example a trauma patient is most likely to present directly to ED following the trigger of their traumatic event. Alternatively it may be more appropriate for a patient with a viral illness to seek other advice from a pharmacist or GP prior to such a presentation.

The alternative pathways of care fall broadly into three groups. These groups are firstly prevention, secondly community management and finally acute response services. The trigger of illness may be modified by a person's health status and immune status. Health services may optimise this through a number of interventions such as annual influenza vaccination. These people return to health quickly following exposure to common infectious diseases. This may not be the case for patients with chronic disease where multidisciplinary care provided by the Chronic Care teams and GPs may prevent hospitalisation. The ED community interface has a range of CAPAC options which may provide alternative care to hospital eg outpatient intravenous therapy. These services are proven to also reduce length of stay in acute beds through post-acute care in the home.

The patient pathway may be shortened in two ways. The most common approach is to bypass one or more steps in this journey. The three broad arrows of the diagram suggest exploration of bypass options that may connect diagnosis and management completely excluding ED for many patients and reserving these services for the most needy.

## IMPLEMENTATION STRATEGY

Figure 6 indicates growth in avoidable admissions (related to the twelve selected DRG's) without any intervention will increase to 121,000.



Source:

The NSW State Government Plan and Health Services Plan require a reduction in admissions against selected DRG's discussed in this report by 30% in 2007/2008. A reduction of approximately 8365 admissions across NSW public Hospitals.

The Acute Care Taskforce has undertaken consultation regarding the Avoidable Admission strategy with the AHS. Each AHS has identified a lead implementation officer to guide the ACT Team in consultations and discussions with AHS.

From November 2006, the HSPiB has been giving a series of presentations to key stakeholders in each AHS to articulate NSW Health Departments strategic direction for Avoidable Admissions. Resources to support this reform statewide include clinical evidence summaries and examples of clinical models, protocols and guidelines that are available on the ARCHI web site.

AHS's will be expected to engage clinicians and managers at the local level, operationalise models of care and develop alternative services to support hospital avoidance, such as CAPAC

## 7. REFERENCES

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