

Ambulatory and community-based care: A Framework for non-inpatient care



Health Reform Implementation Taskforce

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Delivering a Healthy WA

Table of contents

Executive Summary	3
1. Introduction	7
2. Managing Demand For Health Services	9
2.1 Inpatient service demand	9
2.2 Emergency department demand	10
2.3 Workforce demand	11
2.4 Consumer preference	11
3. Guiding Principles	13
4. Expansion Of Non-inpatient Services	14
4.1 Five high impact changes for expansion of non-inpatient care	14
4.2 Ambulatory care sensitive conditions	16
4.3 Reduce the use of hospital beds	18
4.3.1 Strategies to reduce the use of hospital beds	18
4.4 Reduce the need for emergency department services	20
4.4.1 Strategies to reduce the need for emergency department services	21
4.5 Work practice change	23
4.6 Supporting consumer participation	24
5. Improving Integration	25
5.1 Models of care	26
5.2 Outpatient reform	27
5.3 Needs of particular population groups	29
5.3.1 Children and adolescents	29
5.3.2 Mental health	30
5.3.3 Rural communities	32
5.3.4 Indigenous communities	34
6. Governance	36
7. Key Actions	37
8. Summary	39

Executive Summary

The WA Health Clinical Services Framework 2005-2015¹ provides principles about how the future health system could best respond to the demand for health services. WA Health aims to deliver safe and sustainable, patient focused health care that will respond to demand whilst meeting the needs of the community. This will be achieved through the further expansion of ambulatory and community-based care across WA Health.

This Framework provides the strategic direction for ambulatory and community care from which specific models of care and service delivery will be developed and implemented as part of statewide policy and Area Health Service (AHS) clinical planning.

Definition

'Ambulatory care' and 'community-based care' are broad terms that can be used interchangeably to describe care that takes place as a day attendance at a health care facility or at the patient's home. The terms cover a broad range of care delivery from preventative and primary care, through to specialist services and tertiary level care, and are collectively referred to as non-inpatient care.

Current situation

WA is experiencing a disproportionate increase in the demand for health services relative to the growth and ageing of the population. The current over-reliance on hospital-based health care is unsustainable from a workforce, financial and consumer perspective. The consequences of this approach are a limited suite of options for care, which has resulted in:

- *Increasing tertiary access block to over 50% on most days year round*
- *Increasing emergency department demand at 6-8% each year*
- *Long emergency department, outpatient and surgical waiting times.*

Additionally, current health care delivery is organised and deployed with inherent inefficiencies. A focus on innovation and the development of a broader range of services will address the following:

- *Poor admission and discharge processes*
- *Fragmented, adhoc care for people with chronic and long-term care needs*
- *Multiple models of care*
- *Unnecessary referrals and visits to outpatient clinics*
- *Multi-day stay as the default for surgical and medical care*
- *Workforce that is tertiary-centric with narrow clinical roles.*

The WA Health strategic intent and agreed performance indicators will be achievable by the AHS addressing the above.

The current situation is compounded by an ageing and diminishing health workforce. Significant workforce shortages are expected to be at their worst in 5 years time. Current clinical practices are not sustainable and direct patient care will be affected, therefore alternative and flexible models of care delivery are required.

Operational targets

To ensure sustainable care delivery non-inpatient initiatives will be implemented to avoid the need for hospital admissions equating to a minimum of 560 beds saved across the metropolitan system by the year 2016/17.

In addition, with ED presentations currently increasing at a rate of 6-8% per annum, initiatives that provide alternatives to traditional ED care need to be implemented.

An innovative range of non-inpatient services will provide an appropriate use of workforce, in cost-effective settings, focussed on meeting consumer needs closer to home.

High impact changes

Initial efforts to improve the management of demand and achieve operational targets should be focussed on current best practice high impact changes that deliver results through a non-inpatient approach to care delivery.

1. **Improve patient flow by better managing admission and discharge processes** eg. care coordinators in ED, ambulatory emergency care, pre-admission clinics, hospital in the home, post-acute care.
2. **Provide coordinated care for people with chronic conditions and long-term needs** eg. asthma kids program, contracting care.
3. **Redesign and extend healthcare roles to maximise patient engagement and access through patient centred pathways** eg. physiotherapist triage in outpatients for patients with back pain.
4. **Reduce unnecessary referrals and visits to outpatients** eg. clinical priority access criteria for GPs to refer patients to outpatients clinics.
5. **Treat day surgery and day medical procedures as the norm for elective patients to prevent unnecessary overnight hospital stays.**

Key actions to be undertaken

This Framework provides context and direction for the development of non-inpatient services. These services will be developed in alignment with current and future priorities as well as community needs. The immediate priority areas are divided into three levels of accountability:

Governance:

- Establish suitable clinical governance structures to support the expansion of non-inpatient care
- Undertake consumer consultation to ensure services developed meet the needs of the community
- Develop partnerships and increase the use of private and non-government community-based services where appropriate
- Improve the integration of existing non-inpatient services to identify further gaps and opportunities for cost savings.

Operational:


- Implement the high impact changes to assist in meeting the targets for expansion of non-inpatient care and effect immediate improvement in managing demand on our health system.

Policy and Planning:

- Develop information management and communication technology, and a central point of contact for the coordination of non-inpatient services
- Develop models of care that support best practice through a set of services principles across the continuum with an emphasis on a shift to non-inpatient care
- Plan for the current and future workforce required to deliver expanded non-inpatient services.

Consultation and collaboration

The Health Reform Implementation Taskforce (HRIT) has conducted extensive consultation and has collaborated with the AHS and external stakeholders. This has led to an increase in the use of the Hospital in the Home and Rehabilitation in the Home programs, and the establishment of Chronic Disease Management Teams, Disease Management Units and a range of other disease management programs.



Each AHS has been planning for a broader range of non-inpatient services. Demand modelling for future service provision has involved AHS Chief Executives and other key stakeholders to estimate the size of the required expansion of non-inpatient care. This activity is vital to ensure that WA Health manages the demand for services into the future.

Where to from here?

Providing additional non-inpatient services alone will not achieve the aim of delivering an integrated, patient focused health care system. New models of care delivery, clinical service and workforce redesign, and consumer engagement are required together with ongoing consultation with clinicians and other key stakeholders.

This Framework is integral to:

- service planning by AHS health service planning units; and
- central policy planning and development of models of care through the Division of Health Policy and Clinical Reform.

This Framework should be used as the strategic direction for the expansion of non-inpatient care and help shape best practice care to provide safe and sustainable, patient focused health care for WA.

1. Introduction

The Framework provides a strategic direction for ambulatory and community-based care from which specific models of care and service delivery can be developed and implemented as part of statewide policy and Area Health Service (AHS) planning. The outcome will be an integrated, patient focused health care system, responding proactively to demand and meeting the needs of the community.

Ambulatory and community-based care are terms used interchangeably to describe care that takes place as a day attendance at a health care facility or at the patients home. It covers a large area of care delivery from preventative and primary care, through to specialist services and tertiary level care and is collectively referred to as non-inpatient care.

Any care that does not involve an overnight stay or multi-day stay in hospital can be described as non-inpatient care. For the purpose of this document it excludes residential care services, however outreach services provided to patients of residential care facilities are included.

This document is therefore applicable to a broad range of WA Health services including but not limited to:

- Emergency department care
- Hospital and community based outpatient services
- Ambulance services
- Community based cancer services
- Community based palliative care services
- Dental services
- Post-acute care
- Sub-acute care
- Hospital in the home
- Rehabilitation
- Chronic disease management
- Alcohol and drug services
- Home and community care services (HACC)
- Community mental health services
- Child and adolescent community health services
- General Practice after-hours clinics
- Same day surgery.

This Framework does not imply that all these services will be delivered outside of hospitals, some services will and should continue to be delivered in hospitals for reasons of patient safety, quality and efficiency. However many services currently delivered in the hospital settings can be provided safely and effectively in the community setting.

An increased focus on prevention will also serve to meet patient needs before they become seriously ill, however the development and implementation of health promotion and public health campaigns are not addressed in this document. Health Promotion is specifically addressed in the WA Health Promotion Strategic Framework 2006-2011.

There are many benefits to providing non-inpatient care including the following examples:

- Care is often more accessible to a greater number of health consumers^{2, 3, 4}
- Recovery and rehabilitation times can be reduced when a patient receives care in a familiar environment^{1,3}
- Receiving care outside of hospital walls reduces the risk of acquiring hospital-based infections^{3,5}
- Community-based care will improve the overall efficient flow of patients through the system as fewer admissions or shorter hospital stays will reduce delays in necessary admissions, and result in fewer outpatient clinic referrals^{4, 6}
- Community-based care alleviates pressure on hospital space and facilities as well as improving patient flow within the emergency department^{7, 8}
- Patient is seen in the context of the environment in which they live and therefore can be assessed and treated more holistically^{9, 10}
- Community care offers new models of care that require a different mix of clinicians and carers than the traditional model of hospital care providing increased staff satisfaction and supporting necessary workforce practice changes^{11, 12, 13}
- Non-inpatient care, with the use of technology, will enable the workforce to be more mobile and responsive to health consumers' needs.^{14, 15, 16}

2. Managing Demand For Health Services

Managing the demand pressures on our health system is key to ensuring the sustainability of the sector. 'A Healthy Future for Western Australians'¹⁷, the Health Reform Committee's report produced a blueprint for reform in WA health. The WA Health Clinical Services Framework 2005-2015¹⁸ released in late 2005 provides principles about how the future health system could best respond to the demand for health services.

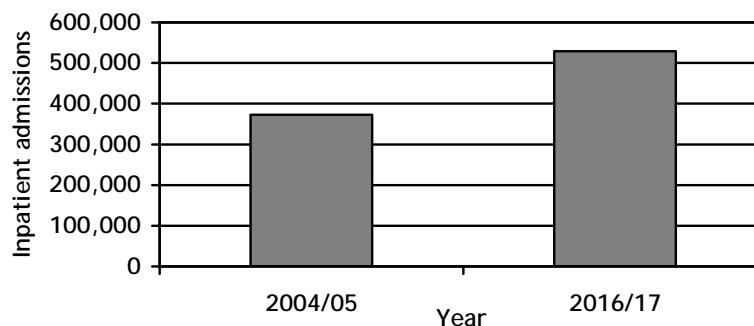
Recent health service demand modelling has highlighted that the demand for WA public hospital services could be managed through a range of strategies, some new and some that have been implemented elsewhere in Australia and overseas.

WA is experiencing disproportionate growth in the demand for health services relative to the growth in population. WA Health recognises that to meet an increase in demand there must be an increase in services. However, what is imperative for a sustainable health system is determining the 'right mix' of inpatient and non-inpatient services to meet this demand.

2.1 Inpatient service demand

The need for alternatives to hospital-based treatment is most evident in the inpatient sector. The results of inpatient activity modelling indicates that these inpatient numbers will rise to unsustainable levels if current service delivery practices are maintained as illustrated in graph 1, due primarily to a growing and ageing population with increasing consumer expectations. This demand for care will not be met by simply building more acute inpatient beds.^{19, 20}

Graph 1: Inpatient activity without new non-inpatient services



Notes

Source: Department of Health Inpatient Demand Projections

Key issues affecting inpatient demand:

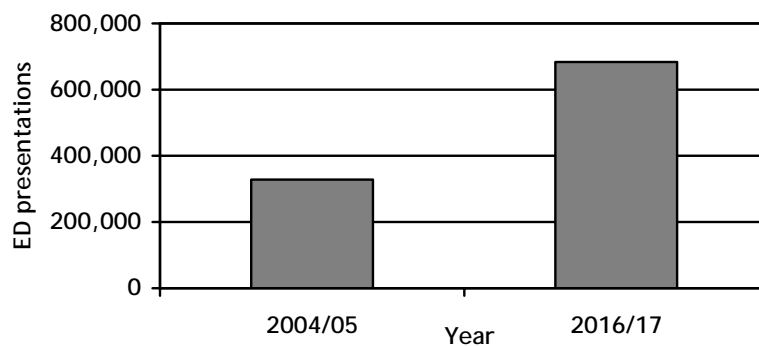
- Limited access to community-based care particularly hospital bed-substitution services and disease management programs
- Insufficient emphasis on discharge planning, early discharge programs and inadequate communication between primary care practitioners and the hospitals
- Private health insurance incentives that increase the community's appetite for hospital based care while not doing enough to address the demand on the public hospital system.

2.2 Emergency department demand

An analysis of demand and utilisation of metropolitan emergency departments (ED)²¹ suggests that there are an increasing number of presentations that do not require traditional ED type treatment. Between 2001/02 and 2004/05 for example, the number of ED presentations at metropolitan public hospitals increased by more than three times the population growth. This growth is predicted to continue as illustrated in graph 2.

There is mounting evidence that limitations in access to primary and community based health services^{22, 23} has an impact on the demand for specialist hospital services as demonstrated in the increased numbers of primary care type presentations in emergency departments and increased waiting time for community health services.

Graph 2: Expected number of ED presentations without new non-inpatient services



Notes: Presentation estimates are based on population growth, ageing population and historical trends.

Key issues affecting emergency department demand:

- Limited access to primary care, a shortage of general practitioners (GPs) and after hours GP services including those provided to nursing homes
- Limited availability of, and access to, alternative care options and programs for community based care
- Community expectations of ED as an appropriate primary care facility.

2.3 Workforce demand

It has been well recognised that the size of health workforce in Western Australia, as in other western health services, is diminishing in real terms, as it is not keeping pace with population and demand growth. Despite the increasing number of training places for medical, nursing and allied health students, it is unlikely that there will be enough health care professionals to meet demand.²⁴

Along with the workforce supply and demand pressures is the increasing importance attached to flexibility and efficiency in the way in which the health workforce is organised and deployed. This is particularly driven by changes arising from advancing clinical treatments and technologies, an ageing population and escalating consumer demand.²³

Key issues affecting workforce demand:

- Changing models of care delivery
- Increasing demand for services resulting from an ageing and growing population
- An ageing workforce
- Declining participation rates of health care professionals (in terms of average hours worked) due to work-life balance issues
- Increasing global competition for trained health personnel.

2.4 Consumer preference

Current literature^{1,2,5,25,26} demonstrates a consumer preference for non-inpatient care over hospital based care. Increasingly consumers are becoming more involved in the planning and development of health services and this preference will influence the future of health care. In WA, consumer satisfaction with ambulatory services such as Hospital In The Home is extremely high with many patients demonstrating a preference for care at home.

The benefits of avoiding hospital based care are clear and include:

- Less disruption to routines of daily living ^{1,2,5}
- Less disorientation and loss of function, in particular for elderly and the young patient ^{1,4}
- Less risk of nosocomial infections. ^{1,4}

Consumers should be able to exercise choice about the type of services they receive. However the limited number of services available, particularly in regional areas of WA, has resulted in consumers being unaware of and perhaps timorous in the uptake of the new services. Therefore, WA Health needs to work closely with the community and the Health Consumers' Council to identify and address any community concerns on providing more care in an ambulatory or community setting.

3. Guiding Principles

This Framework is aligned with the six strategic directions for WA Health detailed in the Delivering a Healthy WA Strategic Intent 2005-2010²⁷ and adopts some of the long term reform objectives addressed in the WA Health Clinical Services Framework (CSF) 2005 - 2015.¹⁷ This includes:

- Improved access to services
- Provide safe, high quality health care
- Promote a patient centred continuum of care
- Optimise public and private services
- Improve the balance of preventative, primary and acute care
- Be financially sustainable as an integrated system
- Support a highly skilled and dedicated workforce.

The *guiding principles* in the development and delivery of non-inpatient care are:

- Care should be provided in a community or ambulatory setting unless considered inappropriate for safety, quality of care and efficiency reasons
- Models of care delivery and management processes should enhance integration across all providers of care
- Services should ensure equity of access, timely and appropriate access to services
- Non-inpatient services should be co-located and / or integrated where there is service or patient synergy
- Services should be planned to meet the population health needs of the area, with a view to responding to and encouraging change in service demand.

4. Expansion Of Non-inpatient Services

In 2004, the Health Reform Committee's final report 'A Healthy Future for Western Australians,'²⁸ recommended significant changes to the health system to reduce tertiary hospital activities and promote greater utilisation of secondary hospitals, community-based care and ambulatory care programs.

International and national trends demonstrate an increased range of services in the community to address the growing demand for health services. There is evidence of better outcomes from providing the right care in the right place at the right time. This is about developing models of care that demonstrate that this care does not need to be provided in an acute inpatient setting.

A robust model for projecting demand for ambulatory services does not exist currently but is planned for development. In the absence of more detailed projections, estimates of ambulatory activity based on three key areas have been developed for the next ten years.

Three key areas: bed substitution (eg. HITH, RITH), disease management (eg. Chronic Disease Management Teams, phone coaching) and other outpatient type activities (eg. chest pain clinics, nurse practitioner) are expected to reduce both elective and emergency admissions to hospital, reduce length of stay and encourage the management of chronic conditions in the community.

To ensure sustainable care delivery non-inpatient initiatives will be implemented to avoid the need for hospital admissions equating to a minimum of 560 beds saved across the metropolitan system by 2016/17.

In addition, with ED presentations currently increasing at a rate of 6-8% per annum, initiatives that provide alternatives to traditional ED care will be implemented.

An innovative range of non-inpatient services will provide an appropriate use of workforce, in cost-effective settings, focussed on meeting consumer needs closer to home.

4.1 Five high impact changes for expansion of non-inpatient care

Initial efforts to improve the management of demand and achieve operational targets should be focussed on current best practice high impact changes that deliver results through a non-inpatient approach to care delivery.

1. **Improve patient flow by better managing admission and discharge processes** eg. care coordinators in ED, ambulatory emergency care, pre-admission clinics, hospital in the home, post-acute care.

2. Provide coordinated care for people with chronic conditions and long-term needs eg. asthma kids program, contracting care.
3. Redesign and extend healthcare roles to maximise patient engagement and access through patient centred pathways eg. physiotherapist triage in outpatients for patients with back pain.
4. Reduce unnecessary referrals and visits to outpatients eg. clinical priority access criteria for GPs to refer patients to outpatients clinics.
5. Treat day surgery and day medical procedures as the norm for elective patients to prevent unnecessary overnight hospital stays.

Innovation boxes are highlighted throughout this Framework that give further examples of non-inpatient care initiatives that have been implemented successfully in Australia or internationally.

Phone Coaching - preventing hospital presentations

WA Health has recently established a leading edge disease management program that provides telephone-based support to patients with chronic conditions such as heart failure, diabetes and pulmonary disease. Based on best practice evidence for the management of these conditions patients together with their GPs, specialist and registered nurse from the WA Health Call Centre develop an action plan. The nurses then make scheduled telephone calls to patients at a time that most suits them.

Patients are coached on medication use, exercise and diet, as well as the management of their condition to prevent an acute episode and to optimise their current health status. Nurses are trained in motivational interview techniques and are able to help patients maintain self-care over the longer term. Patients are also able to make unplanned calls should they need additional advice and support. While still in the early stages of implementation, patients in the program are reporting an increase in immunisation rates (influenza and pneumococcal vaccine), better compliance with medication and increased confidence in managing their own care and treatment at home.

4.2 Ambulatory care sensitive conditions

To expand the reform it has been critical to look at benchmarking specific conditions to identify the target groups and tailor services. A Victorian study of Ambulatory Care Sensitive Conditions²⁹ (ACSC) provides us with a useful tool to plan our expansion of non-inpatient services.

One of the first priorities is to reduce the hospitalisation rate of conditions that are thought to be avoidable if timely and adequate non-hospital care is provided. These conditions are collectively called ambulatory care sensitive conditions (ACSC). The rate of admission of ACSC in Western Australia is the highest in the country with age-standardised rates 40% higher than the national average.³⁰

International evidence suggests that as much as 28% of hospital admissions are inappropriate. Further, 38%-55% of inappropriate admissions could have been treated by a GP, minor injury clinic, ambulatory program or even self-care (after advice).^{20, 22, 31}

Three broad categories for ACSC have been identified:²⁸

1. **Vaccine-preventable.** Diseases that can be prevented with proper vaccination and include influenza, bacterial pneumonia, tetanus, measles, mumps, rubella, pertussis and polio.
2. **Acute.** These conditions may not be preventable, but should not result in hospitalisation if adequate and timely care (usually non-hospital) had been received. These include dehydration/gastroenteritis, pyelonephritis, cellulitis, pelvic inflammatory disease, ear nose and throat infections and dental conditions.
3. **Chronic.** These conditions may be preventable through behaviour modification and lifestyle change, but they can also be managed effectively through timely care (usually non-hospital care) to prevent deterioration and hospitalisation. These conditions include diabetes, asthma, angina, hypertension, congestive heart failure and chronic obstructive pulmonary disease.

The data illustrated in Tables 1 and 2 show a significant number of admissions to WA hospitals in 2005 (4% of total hospital separations) were for ACSC equating to a large number of bed days and significant cost. Providing alternatives non-inpatient care options for these conditions would reduce the inpatient bed demand.

Table 1: WA Hospital separations by ACSC Category (2005)

ACSC Category	Condition	Separations
Vaccine-preventable conditions	Influenza and pneumonia	610
	Other vaccine preventable	204
	Sub-total	814
Acute conditions	Dental conditions	4819
	Pyelonephritis	2944
	Dehydration and gastroenteritis	2769
	ENT infections	2146
	Cellulitis	1912
	Convulsions and epilepsy	1642
	Perforated/bleeding ulcer	417
	Pelvic inflammatory disease	394
	Appendicitis and generalised peritonitis	275
	Gangrene	169
	Sub-total	17487
Chronic conditions	Diabetes complications	27476
	Chronic obstructive disorders	3476
	Congestive cardiac failure	2474
	Asthma	2257
	Angina	2105
	Iron deficiency anaemia	2092
	Hypertension	198
	Rheumatic heart disease	112
	Nutritional deficiencies	19
	Sub-total	40209

Note: 1. ACSC-related separations account for just over 4% of all hospital separations
 2. Some of these conditions may require a component of hospital-based care.

Table 2: Annual beddays and approximate hospital costs for Metropolitan area residents by Ambulatory Care Sensitive Condition Category (2005).

Condition	N	Beddays	ALOS	Cost (\$)
Vaccine preventable conditions	899	8,064	9	6,065,652
Acute conditions	17,350	51,603	3	47,367,281
Chronic conditions	41,563	121,677	2.9	98,108,234
Total	59,812	181,344		151,541,167

Note:
 Costs are based on ANDRG National Public cost weights as published by Commonwealth Dept Health and Ageing

Source: Department of Health WA, Hospital Morbidity Data System (2005)

4.3 Reduce the use of hospital beds

Given the demands on the WA Health system and the anticipated increase in demand, developing strategies to reduce the demand for inpatient services is a priority. WA has the second fastest growing population in the country (next to Queensland), and also has the second highest proportion of public patients (60%, next to the Northern Territory's 84%) among Australian jurisdictions.¹⁸ This combination of factors makes the need for alternatives to inpatient care a significant priority for health system reform.

4.3.1 Strategies to reduce the use of hospital beds

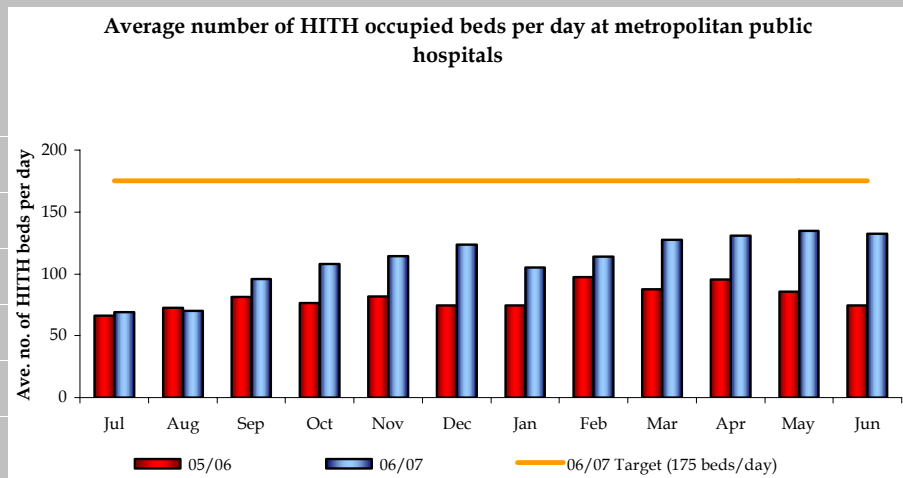
Even a small reduction in length of stay, or readmission rate can have an impact on the timeliness of subsequent admissions³² particularly where there is a shortage of acute hospital beds. Strategies to provide more care in a non-hospital setting are being implemented to ensure that hospital services can meet the future demand for services. These include bed substitution programs such as:

- Acute hospital bed substitution such as Hospital in the Home
- Post or sub-acute hospital bed substitution such as Post Acute Care programs, Rehabilitation in the Home and Residential Care Line.

Hospital in the Home

Hospital In The Home (HITH) is provided by the NMAHS, SMAHS & CAHS as a viable alternative to hospital-based care by managing acute care at home.

Over the last quarter HITH provided home-based acute care equivalent to 115 beds/day across the metropolitan area and are on track to achieve the target of 175 beds/day for 2006/07.



Source: Department of Health WA Hospital Morbidity Data System

Other strategies being implemented include alternatives to admission or length of stay reductions. Managing people better in the community with appropriate support and access to health professionals as required is one way of addressing this.

Disease Management Unit - Royal Perth Hospital (RPH)

A dedicated outpatient clinic for frequently attending patients with chronic and complex conditions has commenced at RPH. The clinic runs twice a week and is attended by a general medicine consultant and a nurse from the chronic disease management team. Patients are recruited via the chronic disease teams and from the wards at RPH. The patients typically have a history of chronic and complex conditions, repeated admissions and/ or frequent attendance to the ED.

A multidisciplinary team including the patient and the patient's GP work together to develop a care plan for ongoing management to prevent acute exacerbation, and admission to hospital. Additional clinics will commence at Bentley and Rockingham Hospitals in 2007.

The further expansion of bed substitution programs will ensure that hospitals can meet the demand for appropriate admission to hospital when required. Initiatives that will assist in managing the demand for hospital beds begin with achieving targets already set for:

- Length of stay reductions
- Admission rate reductions, particularly for ambulatory care sensitive conditions
- Increase in elective same day surgery rates
- Day of surgery admission rates
- Disease management programs for patients with chronic diseases who frequently attend the hospital emergency departments
- Establishment of alternative accommodation options eg. medi-hotels.

Other Innovations

Ambulatory Breast Surgery - discharge on the same day (or within 23hrs) of mastectomy. Reduced infections and complications of surgery with high patient satisfaction and uptake. Marked reduction in LOS and cost of provision of care (UK) www.kch.nhs.uk

Acute Respiratory Assessment Service - providing acute care in the home for uncomplicated exacerbations of COPD. Expert nurses support the patient and GPs to manage the acute episode at home. www.nbt.nhs.uk

Ambulatory Emergency Care - improving access and support for emergency patients to ensure only those patients who really require admission are admitted. Significant reduction in the rate of admission from ED. www.institute.nhs.uk

Community Matron Program - case management & care planning for patient with chronic/long term conditions who frequently attend ED. Reduction in the number of unplanned ED presentations, admissions and LOS. www.dh.gov.uk

4.4 Reduce the need for emergency department services

WA Health reforms must focus on managing Emergency Department (ED) demand by designing suites of health services that discourage the increasingly inappropriate reliance on EDs as well as re-designing the care provided within EDs. This should include some attempt to reduce presentations at emergency departments by providing alternative services as appropriate, for conditions that currently present to an ED (such as acute-on-chronic exacerbations).

In addition, accepting that it may not be possible to significantly curb presentations to ED, services should be configured in ways that use available resources (staff, equipment, infrastructure) in the most effective and efficient manner (eg. diagnosis and treatment by nurse practitioners, streaming and fast-tracking^{7,33} patients).

Residential Care Line

More than half of the patients from Residential Aged Care Facilities (RACF) return to the facility after treatment in the emergency department. The Residential Call Line has been established to provide a 24hr service to RACFs and nursing hostels across metropolitan Perth to help prevent unnecessary presentations to ED.

The line offers telephone support and advice, triages patients for urgency of care and coordinates GPs and nurses from the hospitals to provide outreach services such as wound care, PEG tube management and other acute and sub-acute care.

The service will expand to regional areas with plans to provide the service in rural areas.

4.4.1 Strategies to reduce the need for emergency department services

There is literature to suggest that between one-third to two-thirds of ED presentations could be managed in General Practice^{20,22,30} or elsewhere when alternative services are provided. The *Emergency Medicine Clinical Services Master Plan*³⁴, which was produced through consultations with the Emergency Medicine Metropolitan Clinical Services Group in 2006, has identified a number of initiatives that assist in management of presentations and reduction in demand.

The following programs are currently be implemented or are underway in WA:

- Streaming or fast tracking patients through ED
- After-hours GP clinics
- Development and use of pathways to provide direct admission to HITH or alternative services for patients not requiring admission
- Care plans for frequently attending patients to encourage self-management
- Multidisciplinary teams focused on discharge
- Direct admission to wards or other hospitals.

Initiatives that will assist in managing the demand for ED begin with achieving targets already set for waiting times according to category of patients.

Streaming Emergency Care

Streaming care is a process of defining commonality in groups of patients and developing systems to meet these common needs. Commonality may be found in, outcomes, care needs, clinical problem or resource needs. Streaming will eliminate sequential queues and waits, promote interdisciplinary teams, shared assessment and treatment and bypass unnecessary steps in patient care.

The emergency departments at Sir Charles Gairdner Hospital and Joondalup Health Campus have implemented a streaming process for patients who are likely to be discharged from ED and/or meet a triage category 4 or 5. Both departments have reported a reduction in the total waiting time for all patients, greater staff and patient satisfaction and improved business processes.

Other Innovations

Rapid Access Clinics - chest pain/heart failure outpatient clinics reduce the need for emergency presentations by providing GPs with guaranteed access to specialist care for their patients. www.18weeks.nhs.uk

Mental Health Patient Flow Program - ensures direct admissions from community based mental health services to reduce the number of planned and unplanned ED presentation (Victoria). www.southernhealth.org.au

3-2-1 Process - improves care at every stage of the ED journey to ensure rapid access to tests and decisions, hastening admission /discharge (NSW). www.archi.net.au

Asthma Case Management - care planning and case management of frequently attending patients. Reduction in the number of planned and unplanned ED presentations/admissions and better self- management of signs and symptoms (Victoria). www.rch.org.au

Direct Access To Diagnostics for Allied Health and GPs - ensures direct access to services and diagnostics to prevent a presentation to ED and continued management in the community sector. www.18weeks.nhs.uk

Nurse-Led Community Deep Vein Thrombosis Service - allows GPs to refer patients with a suspected Deep Vein Thrombosis (DVT) to the community walk-in service, following agreed criteria. The next phases of the service include all management of warfarin treatment being transferred to the community anticoagulation service at the treatment centre, and eventually the whole DVT pathway, including definitive diagnosis by ultrasound scan, will take place in the community. Avoids an ED presentation and an admission. www.dh.gov.uk

4.5 Work practice change

Having a sufficient and sustainable workforce to provide equitable, accessible, timely and safe health care is a challenge for jurisdictions across Australia. Issues of workforce shortages, maldistribution, keeping up with changing models of care and maintaining a culture of continuous improvement and flexibility face all states and territories in varying degrees.

WA Health is undertaking a comprehensive reform program to achieve its vision to improve and protect the health of Western Australians. Workforce modelling and analysis has been undertaken against the requirements of the CSF to assess workforce demand and supply issued and their implications for WA Health. It is clear from the analysis that the projected workforce growth rates, supply trends and demand projections point to a growing gap between workforce supply and demand across all health occupations.

To make optimal use of workforce skills and ensure best health outcomes, it is recognised that a complimentary realignment of existing workforce roles or the creation of new roles may be necessary. The accepted limits of profession roles may need to evolve and new knowledge and skills acquired and maintained³⁵.

The expansion of the non-inpatient sector is an obvious way to address some of the workforce issues as:

- the case loads in ambulatory care are generally higher, therefore resource use is less; and
- the partnerships developed with the non-government sector, patients, carers and the community provide access to an under utilised and important voluntary and ancillary workforce.

Some examples of strategies to address workforce shortages that are currently being examined are:

- Expert patient model (use of patients skilled to manage their own conditions and assist/educate others to better manage their own care)
- Therapy assistants to support clinical staff
- Use of advanced practice nurse and nurse practitioners in 'new' environments such as GP practices, Residential Aged Care Facilities
- Expansion of the role of the GP practice nurse to include more assessment and care delivery
- Use of allied health and nursing staff to triage and treat patients (eg. physiotherapy triage and assessment in orthopaedic outpatient clinics)
- Use of guidelines for triage and assessment in outpatients (eg. Clinical Priority Access Criteria)
- Telephone call centre support and advice (phone coaching, assessment

and management of long-term conditions)

- Use of remote monitoring and Telehealth
- Expansion of the role of ambulance officers beyond first aid and treatment to care that will prevent the need for ED presentation.

Other Innovations

Community Support Assistants - additional semi-skilled staff who can undertake some basic nursing care in the home, increasing the reach of the services and ensuring the appropriate nursing skills are utilised where most required.

Generic Support Worker - working alongside health care workers to empower patients. Expands the reach of the chronic disease teams and ensures that skilled staff are employed where they are most needed. (WHO recommendation: Innovative Care for Chronic Conditions).

Dementia Care Development - equipping staff to provide better care to for patients with dementia. Ensure a standard of care for all dementia patients regardless of location.

Care Technician Role - training of health care assistants to perform annual reviews of patients with conditions such as Diabetes. Working with GPs and other community providers, this role ensures compliance with best practice in the management of long-term conditions and assists primary care staff to undertake targeted intervention as required.

Expanded Nurse Roles - training nurses to do endoscopic work and anaesthesia ensuring that patients do not have to wait for extended periods of time to access routine diagnostic and surgical care. This also includes a role for endoscopy assistants and coordinators.

Further information available @ www.healthcareworkforce.nhs.uk

4.6 Supporting consumer participation

In WA consumer satisfaction with ambulatory services such as Hospital In The Home is extremely high with many patients demonstrating a preference for care at home. In addition, research from the US and UK over the last two decades shows that people living with chronic illnesses are often in the best position to know what they need in managing their own condition. Providing them with the necessary 'self-management' skills can make a tangible impact on their disease.

In line with the WA Health Consumer Carer and Community Engagement Framework, a program to build confidence in non-inpatient care will be developed together with the provision of opportunities to engage consumers in the future planning and development of these services.

Chronic Disease Self-management

Self-management groups are being conducted by the Chronic Disease Management Teams across the metropolitan area. The results of these programs can be evidenced in the changes to the client's physical and mental health. Doctors and nurses are recording improvements in HbA1c, BMI, BP, and walk tests. Patients are also reporting improved mood and sleeping patterns and increases in energy levels.

Other Innovations

Cash For Care - gives patients purchasing power and allows them to make decision on type and quantity of social and support services they want. Reduction in the number of services used and feedback to services to change the types of service they provide. www.dh.gov.uk

Patient Opinion -Web site where patients can share their experience of being in hospital. Patient stories are sent automatically to the relevant manager who can then respond to feedback on the site. Information is exchanged and the opinions of the patients are obtained at the strategic and micro level. www.patientopinion.org.

5. Improving Integration

Australian governments, communities and health professionals are looking at new ways of delivering high quality health care services to the Australian public as traditional fragmented models struggle to deliver appropriate accessible care to their communities. One way in which WA will be reformed is by improving the integration of the system.³⁶

Integrated care shifts the focus from care delivered by separate units, such as individual general practices, community health centres or hospital, to care be provided across organisations for a regional community or a group of patients.³⁷ The outcome of this is a patient focussed service that is streamlined and coordinated to ensure access to appropriate services in the most convenient location.

As non-inpatient services expand, a system that allows for a seamless transfer of care between providers and one that allows for the coordination of care across a state as big as Western Australian is required. It is vital to expedite the transition of patients from hospital to home using alternative models of care, including sub-acute rehabilitation and ambulatory care services.

There is a vast array of non-inpatient services managed by different providers, funded from different sources both public and private and delivered across multiple local, state and commonwealth boundaries. Patients, their carers and health care providers find it difficult to navigate the multiple entry points. The lack of coordination not only leads to delays in accessing care, it also means some patients are not receiving any community care.

Delays in service provision lead to increased numbers of patients attending the ED, delays in discharging a patient from hospital, and increase in the number of GP visits. All of this is an additional burden for patients and their carers.

Strategies such as the development of a single point of entry for non-inpatient services will assist in providing an integrated and seamless service for WA. A single point of entry regardless of location or type of services required will improve access, streamline the process, reduce delays and improve patient flow and transition between providers.

Coupled with a single point of entry, the planned expansion of non-inpatient services requires an immediate solution to the issues of access to patient records, test results and ongoing care communications between the hospital and community providers to ensure safe, effective and efficient care. Information and communication systems, if effectively implemented, enable the timely and appropriate management and delivery of patient care and also reduce waste by eliminating unnecessary duplication of service provision and documentation.^{13,14,15}

WA Health is focusing on a number of areas designed to support the goals of an integrated and seamless health care system including:

- The development of models of care
- Outpatient services reform
- A focus on the needs of particular population groups.

5.1 Models of care

A model of care is a multifaceted concept, which broadly defines the way health services are delivered³⁸. A model of care outlines best practice patient care delivery through the application of a set of service principles, across identified clinical streams and patient flow continuums³⁹.

Models of care for disease groups across inpatient and non-inpatient based services are being developed for key target areas. This will ensure:

- A consistent approach to patient care across the state
- The appropriate level of care is provide at the right time and right place
- The workforce can be planned to meet the different levels of care.

The Health Policy and Clinical Reform Branch and AHS are currently developing these models of care through the Health Clinical Networks. Underpinning the new models of care is the shift towards patient centred services and the philosophy of self-management.

The promotion of self-management empowers patients to acquire the skills, knowledge and confidence they need to better manage their health conditions, thereby improving their quality of life. The adoption of self-management principles in delivering health care creates an environment where health consumers are better informed and less anxious about the care they receive and hence, are able to use the system more efficiently.

Self-management can be promoted in a number of ways throughout the health system - from primary care right through to tertiary care. For example, it may come in the form of community-based education programs (such as those conducted by the Chronic Disease Management Teams) or in the form of ward-based patient education and support practices. An individualistic approach is important. A one-size-fits all stratagem will have limited benefit, particularly in relation to people with cultural or linguistically diverse backgrounds, cognitive or mental impairment, or substance abuse problems. The content and mode of delivery of patient education must be tailored to suit the circumstance of the individual to be effective.

For self-management education to be successfully incorporated into clinical practice, a partnership approach is required. This partnership needs to reach across health care providers, particularly in relation to the integration of the primary and acute care sectors. Central to this must be the role of the patient and the patient's family as chief decision makers in the partnership.

5.2 Outpatient reform

The outpatient services have the highest number of attendees to any service within a hospital. Given the projected increased pressure on inpatient beds and ED presentations it is imperative that the outpatient services align with the Non-inpatient Framework as a strategy to manage the demand. AHS have commenced a reform process within outpatients that will see improved access to outpatients and reductions in the waiting times, as well as the expansion of the range of services that can be provided in an outpatient capacity.

There is a need for AHS to plan outpatient services in line with the health needs for the patient populations. Currently the volume of outpatient clinics is highest in the tertiary sector, however access to community-based services is currently limited with long waits for some allied health and specialist services.

Reform in outpatients is well underway with targets to:

- Reduce non-attendance
- Reduce the new to follow up ratio
- Decrease waiting times.

Strategies already underway to assist in meeting these targets include:

- The development of priority guidelines for care (Clinical Priority Access Criteria-CPAC)
- SMS messaging of patients with booking information and reminders
- Implementing partial booking practices to allow for greater flexibility and greater ability to respond to urgent need
- Outpatient Direct, centralised call centre for cancellation and booking
- Expanding telehealth and outreach services.

The role of outpatients in non-inpatient strategies will include broadening in terms of location (more services where people live including at general hospitals) and type of service delivery (eg. daily rapid assessment clinics).

New models of care delivery in outpatients can be achieved and include:

- Rapid referral and assessment clinics (eg. daily chest pain clinics to reduce ED presentations)
- Allied health triage and first assessment (eg. physiotherapist assessment and treatment in orthopaedic clinics)
- Development of pathways/criteria for discharge
- Shared care with primary care providers
- Disease Management Units for the management of frequently attending patients.

SMS Appointment Reminders at Princess Margaret Hospital (PMH)

Up to 1 in 8 patients do not attend booked outpatient appointments at PMH, wasting time and resources and preventing someone else from getting an appointment. A small project team investigated the option of sending a SMS messages to remind patients of their appointments. Messages were sent to patients attending the general medical clinic. The SMS reminder was sent 3 days prior to their booked appointment. After one month there was an 8% drop in the number of patients who did not attend and the patient survey suggested strong support for the initiative. PMH plans to roll this initiative out across all the outpatient clinics.

5.3 Needs of particular population groups

In general, the principles outlined in this documents are to be universally applied with any operational specifics to be determined by the AHS. However in designing non-inpatient care facilities and service models, the needs of some population groups should be considered, in particular:

- Children and adolescents
- Mental health
- Rural communities
- Indigenous populations.

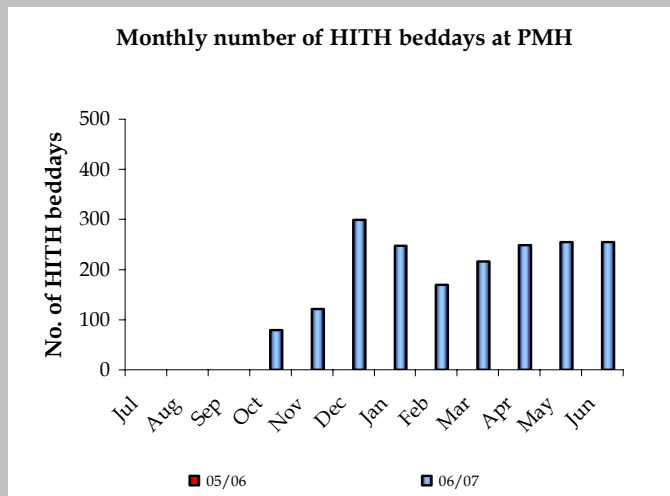
5.3.1 Children and adolescents

The hospitalisation of a child is not only distressing for the family and community, but also potentially traumatic to the child. In the absence of a suite of non-inpatient paediatric services to avoid hospitalisation, children have continually been admitted to hospital, and have endured longer stays, than are clinically necessary. This contravenes the wealth of evidence in child health literature that advocates children should only be admitted and remain in a hospital environment if absolutely necessary.⁴⁰

Child services provided in the community should be aimed at prevention, early intervention and improved management of child health across the full health spectrum. Children have 'natural carers' (usually the parent) who provide a unique opportunity for paediatric non-inpatient services. All services should ensure that these carers are included in the care of the child, especially in the care of long-term conditions.

Hospital in the Home - Child and Adolescent Health Service

The Child and Adolescent Health Service has recently launched a paediatric HITH service which will expand the capacity to deliver acute care to children whilst at home.



Source: Department of Health WA Hospital Morbidity Data System

5.3.2 Mental health

One in five adults, or about 2.3 million Australians, experience a mental disorder each year.⁴¹ Furthermore, three percent of Australian adults experience serious mental illness such as a psychotic disorder.⁴²

The Mental Health Division has completed three annual surveys of mental health inpatient unit's bed use. The most recent survey was completed in December 2004 and collected information from 555 patients in fourteen mental health inpatient units. The key finding was that 53% of patients could have been discharged if appropriate alternative services were available, and, of these patients, 56% required both appropriate intermediate treatment/rehabilitation, support and accommodation services. Furthermore, if community-based treatment and support services were improved, potential crises resulting in the requirement for hospitalisation could be averted.⁴³

Submissions to the Senate Select Committee on Mental Health²⁴ show that consumers and carers are looking for a range of services which assist people with mental illnesses to live stable and fulfilling lives in their homes or in home-like environments within their local community. Themes in the submissions indicate that consumers, carers and service providers perceive community care as:

- Actively managing medical and non-medical treatment for extended periods as required, with a focus on recovery

- Skilling people with mental illness to live independently in the community
- Providing access to accommodation and fulfilling employment opportunities and other activities
- Establishing and maintaining mental health centres or facilities that offer a range of support services and information
- Providing outreach services and home based assistance
- Providing case management that acknowledges the episodic nature of mental illness
- Providing timely access to graduated levels of assistance and intervention
- Providing services that respond quickly when someone is entering an episode of acute illness
- Recognising and offsetting the significant burden on families and carers through respite care.

A range of services, agencies and providers, deliver mental health care in WA. These include public and private mental health services, non-government organisations and primary health care providers. The Office of Mental Health (OMH) is currently in the process of reforming the way in which mental health services are delivered in WA to include a much greater community-based focus.

The OMH has undertaken a comparison of community mental health services in Victoria in order to identify the range of service options they offer which allow them to achieve a lower admission rate and average length of stay than in Western Australia. This process has highlighted gaps in the WA Mental Health system, which will need to be addressed if we are to cater for the mental health needs of the WA community into the future.

Progress toward improving community based mental health services in WA include the:

- Development and expansion of the mental health workforce, including the employment of specialist ED mental health nurses at major metropolitan hospitals
- Expansion of community mental health services for adults and young people
- Increased community options for the homeless
- Development of rural based Community Supported Residential Units

- Increase in the amount and number of Personal Care Subsidies to improve supported community accommodation
- Extension of post natal depression services
- Establishment of a counselling service for children of Parents with a Mental Illness
- Development of a service to assess and treat people with eating disorders
- Increased support for NGO psychosocial programs and supported accommodation
- Enhancement of psychiatric coverage in rural areas
- Expansion of Day Therapy Services
- Expansion of Multisystemic Therapy.

An innovative, community-focused model of service delivery needs to be fully realised for adult mental health. This will provide early access to treatment and more effective treatment options, potentially reducing the burden of illness on individuals and families.

All mental health sector providers must continue to support a community mental health model of care through the development of a comprehensive range of integrated services, and improved coordination of care.

Mental Health Services and the Pathways Home Project

Telepsychiatry: The aim of Telepsychiatry is to improve access for mental health practitioners, clients and family to video conferencing facilities within both metropolitan and rural mental health sites. This will improve the integration of hospital and community based information systems, assisting the mental health client making the transition from the acute hospital setting to home.

Specialist Rehabilitation Teams: The establishment of a Clinical Rehabilitation service to support the Community Options program that will resettle residents from Murchison Ward (Graylands Hospital) into community based homelike accommodation.

Day Therapy Units: The Day Therapy Program provides treatment, rehabilitation and support to mental health consumers at risk of relapse and admission to an inpatient facility. It also provides the capacity to facilitate the early discharge of some clients from inpatient units.

5.3.3 Rural communities

The health care needs of the rural population present particular challenges in a state as geographically dispersed as Western Australia. There are approximately 454,000 people in an area of 2.55 million square kilometres. Close to 60,000 of the residents are aboriginal people⁴⁴.

There is a need to identify more appropriate integrated models of non-inpatient care in rural and remote areas but this is often difficult to implement because of viability and sustainability problems. Models that facilitate a locally planned and delivered range of services, such as the Multipurpose Services, have been particularly successful in small rural communities, providing they effectively link with regional centres for the more complex services.⁴⁵

WA Country Health Services has formulated a comprehensive operational plan to take non-inpatient strategies forward including:

- The development of psychiatric emergency capabilities in each regional hospital
- The development of regional mobile medical and nursing services to address critical gaps at smaller sites
- The development of new types of practitioners to support the introduction of contemporary models of care
- Workforce development
- Measures to increase regional self-sufficiency
- Expansion of HITH services
- The establishment of a tiered integrated emergency care network in each region
- Measures to maximise the appropriate use of country emergency departments
- The development of integrated health service networks within each region and across rural WA
- Measures to improve the coordination of patient transport
- Measures to improve the safety and sustainability of air and road inter-hospital transportation
- Develop new models of primary and community care
- Develop standard service guidelines
- Improve allied health services in acute and/or ambulatory settings
- Work with Drug and Alcohol Office to develop alcohol, smoking and other drug strategies relevant to rural and remote area

- Improve access to specialist mental health advice, support and tertiary services through the development of the mental health clinical network
- Develop the capacity of general health services to provide non-specialist mental healthcare
- Increase the focus on services that maintain the health and independence of older people
- Enhance access to clinical services via telehealth technologies.

5.3.4 Indigenous communities

Improving Aboriginal health is a national priority and a major focus for WA Health and the State Government. The Indigenous population in Western Australia is growing at a rapid rate in comparison to the Non-Aboriginal population. Western Australia has the third largest Aboriginal population among all States and Territories with an overall Aboriginal population of 65,931 persons. Overall WA has 14% of all Indigenous Australians and they represent 3.5% of the total population in the state.⁴⁶

Aboriginal and Torres Strait Islander people have the highest health and welfare needs of any group in our community thus requiring specific attention for health service planning and implementation. In particular services must be delivered in a culturally secure manner with the focus being on greater patient satisfaction, early intervention and improved health outcomes.

Like non-Indigenous Western Australians, the Aboriginal community should expect access to safe, high-quality primary and community-based health care services at all stages of their life. These services should respect and promote Aboriginal culture while delivering the best possible health care in a manner which will continue to grow with the population.

Building access to a balanced set of core services is essential to improving Aboriginal health and probably the single most important action that WA Health can do. Core services must seek to protect and promote Aboriginal wellness, prevent illness and trauma, provide diagnosis, treatment and rehabilitation and be available at any WA government funded health service.

Activities that should make up a core services group include:

- Health assessment and identification of lifestyle risks to health
- Illness prevention, health promotion and early intervention
- Education for self management and care

- Diagnosis and treatment of episodic and chronic illness, injuries, primary reproductive care and primary mental health
- Planned care pathways
- Co-ordination of referral to other services
- Support for in home care.⁴⁷

The Council of Australian Governments (COAG) National Framework of *Principles for Delivering Services to Indigenous Communities* available at www.coag.gov.au provides the underpinning principles and values for primary health and community-based health care service delivery in Western Australia.

Chronic Disease Management - Community Led Groups

The Chronic Disease Management Teams in the South Metropolitan Area Health Service (SMAHS) conduct community led chronic disease self-management groups. The groups have been established by the Aboriginal Health Workers (AHWs) employed in the teams.

Allied health and nursing staff attend the groups together with the AHWs and other community providers. Topics include how to examine and look after your feet, healthy tucker and keeping active. In the SMAHS about 10% of the clients referred to the chronic disease management teams identify themselves as being Aboriginal.

6. Governance

The success of non-inpatient services is dependent upon previously separate institutions, hospitals, general practitioners, community health centres and non-government organisations, developing cooperative management structures and methods of governance that are sustainable and effective.

A number of governance arrangements can be considered by the AHS including the creation of incorporated bodies, with shared responsibility across a given population or region with pooled funding or establishment of formal agreements (memorandum of understanding) with shared resources.

The key challenge for the AHS in expanding ambulatory and community care will be how to manage the different models of governance along with the inherent difficulties in sustaining successful relationships across a number of partnerships, while at the same time managing the service delivery against performance targets.

7. Key Actions

This Framework provides context and direction for the development of non-inpatient services. These services will be developed in alignment with current and future priorities as well as community needs. The immediate priority areas are divided into three levels of accountability:

Governance:

- Establish suitable clinical governance structures to support the expansion of non-inpatient care
- Undertake consumer consultation to ensure services developed meet the needs of the community
- Develop partnerships and increase the use of private and non-government community-based services where appropriate
- Improve the integration of existing non-inpatient services to identify further gaps and opportunities for cost savings.

Operational:

- Implement the high impact changes to assist in meeting the targets for expansion of non-inpatient care and effect immediate improvement in managing demand on our health system.


Policy and Planning:

- Develop information management and communication technology, and a central point of contact for the coordination of non-inpatient services
- Develop models of care that support best practice through a set of services principles across the continuum with an emphasis on a shift to non-inpatient care
- Plan for the current and future workforce required to deliver expanded non-inpatient services.

Where to from here?

Ongoing consultation with clinicians and stakeholders, and collaboration between all parties needs to continue to be a priority to ensure success and sustainability.

Providing additional non-inpatient services alone will not achieve the aim of delivering an integrated, patient focused health care system. New models of care delivery, clinical service and workforce redesign, and consumer engagement are required.



This Framework is now integral to:

- service planning by AHS health service planning units; and
- central policy planning and development of models of care through the Division of Health Policy and Clinical Reform.

8. Summary

This document marks a change in focus for WA, moving towards a continuum of care which is integrated, patient focused, and can respond proactively to increasing demand and meeting the needs of the community.

The Framework provides a strategic direction for ambulatory and community care from which more specific models of care and service delivery responses can be developed and implemented as part of statewide and Area Health Service planning.

This is the beginning of a long-term commitment to providing a better quality health service for all Western Australians.

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- ¹ Department of Health, *Clinical Services Framework 2005-2015*, Department of Health, Government of Western Australia, Perth, viewed 9 January 2007, www.health.wa.gov.au/hrc
- ² G Caplan, J Ward, N Brennan, J Coconis, N Board, A Brown, 'Hospital in the home: a randomised controlled trial', *Medical Journal of Australia*, 1999; 170:156-160.
- ³ N Board, N Brennan, G Caplan 'A randomised controlled trail of the costs of hospital as compared with hospital in the home for acute medical patients' *Aust & New Zealand Public Health*. 2000 June;24(3):305-11.
- ⁴ B Leff, L Burton, S Mader, B Naughton, J Burl, S Inouye, W Greenough, S Guido, C Langston, K Frick, D Steinwachs & J Burton, 'Hospital at Home: Feasibility And Outcomes Of A Program To Provide Hospital-Level Care At Home For Acutely Ill Older Patients' 2005 *Annals of Internal Medicine* 143, 798-808.
- ⁵ G Caplan, A Meller, B Squires, S Chan & W Willett 'Advanced care planning and hospital in the nursing home' *Age and Ageing* 2006;35(6):581-585.
- ⁶ S Sheppard, S Iliffe, 'Hospital in the home verses in-patient hospital care [review]'. *Cochrane Database Systemic Review*, 2005; (3):CD000356.
- ⁷ C Vasilakis & E El-Darzi, 'A simulation stuffy of the winter bed crisis' *Journal Health Care Management Science* 2001; Vol 4(1):31-6.
- ⁸ D O'Brien, A Williams, K Blondell, G Jelinek, 'Impact of streaming "fast track" on emergency department patients'. 2006 *Australian Health Review* 2006;Nov 30(4):525-32.
- ⁹ A Karen, Luker, I Austin, A Caress, E Christine, Hallet, 'The importance of 'knowing the patient': community nurses' constructions of quality in providing palliative care' *Journal of Advanced Nursing*, 2002;31 (4), 775-782.
- ¹⁰ I Rolfe, S Pearson, E Cleary, C Gannon, 'Attitudes towards community medicine: a comparison of students from traditional and community-orientated medical schools.' *Medical Education*, 1999;33(8); 6006-611.
- ¹¹ K Lorig. 'Partnerships between expert patients and physicians'. *Lancet* 2000; 359:814-815.
- ¹² S Duckett, 'Health workforce design for the 21st century, *Australian Health Review*; 2005 29 (2):201-210.
- ¹³ B Beck-Friis, P Strang, P Sjoden. 'Work stress and job satisfaction in hospital-based home care' *Journal of Palliative Care*. 1991 Autum;7(3):15-21.
- ¹⁴ L Rogut, 'Beyond the clinic: redefining hospital ambulatory care'. *Pap Ser united Hospital Fund N.Y.* 1997;July:1-62.
- ¹⁵ B Chaudhry, J Wang, S Wu, M Maglione, W Mojica, E Roth, S Morton, P Shekelle, 'Systematic review: impact of health information technology on quality, efficiency, and costs of medical care' *Ann Internal Medicine* 2006; May 16;144(10):742-52.
- ¹⁶ T Garrido, L Jamieson, Y Zhou, A Wiesenthal, L Liang, 'Effect of electronic health records in ambulatory care: retrospective serial. Cross sectional study, *British Medical Journal*, 2005; 330:581.

-
- ¹⁷ Department of Health, *A Healthy Future for Western Australians: Report of the Health Reform Committee 2004*, Department of Health, Government of Western Australia, Perth, viewed 15 January 2007, www.health.wa.gov.au/HRIT
- ¹⁸ Department of Health, *Clinical Services Framework 2005-2015*, Department of Health, Government of Western Australia, Perth, viewed 9 January 2007, www.health.wa.gov.au/hrc
- ¹⁹ J Cullis, D Foster, C Frost 'Met and unmet demand for hospital beds, some recent evidence. *Rev Epidemiol Sante Publique*; 1981, 29(2): 155-66
- ²⁰ N Edwards, M Hensher 'Managing demand for secondary care services: the changing contest', *British Medical Journal* 1998; 317:135-138
- ²¹ Department of Health June 2006, *Analysis of Demand and Utilisation of Metropolitan Emergency Departments in Western Australia*, Government of Western Australia, Department of Health, Perth.
- ²² S Hopkins, N Speed, 'The decline in 'free' general practitioner care in Australia: reasons and repercussions', *Health Policy*, 2005: 73, 316-329
- ²³ M Harris, C Hobbs, G Powell Davies, S Simpson, D Bernard, A Stubbs, 'Implementation of a SNAP intervention in two divisions of general practice: a feasibility study, *Medical Journal of Australia*. 2005: Vol 183 (10) pp. S54-8
- ²⁴ Health Reform Implementation Taskforce (HRIT), *Healthy Workforce Strategic Framework 2006-2016*, Department of Health, Government of Western Australia, Perth. Viewed December 2006, www.health.wa.gov.au/HRIT
- ²⁵ Senate Select Committee on Mental Health, *A National Approach to Mental Health – From Crisis to Community. First Report*. 2006, Department of Health and Ageing, Commonwealth of Australian, Canberra, viewed December 2006, www.apf.gov.au
- ²⁶ B Ieff, L Burton, S Mader, B Naughton, J Burl, R Clark, W Greenough, S Guido, D Stienwachs, J Burton. 'Satisfaction with hospital at home care'. *Journal of the American Geriatrics Society*, 2006; 54(9):1355-1363.
- ²⁷ Department of Health, *Delivering a Healthy WA Strategic Intent 2005-2010*, Department of Health, Government of Western Australia, Perth, viewed 8 January 2007, www.health.wa.gov.au/HRIT
- ²⁸ Department of Health, *A Healthy Future for Western Australians: Report of the Health Reform Committee 2004*, Department of Health, Government of Western Australia, Perth, viewed 15 January 2007, www.health.wa.gov.au/HRIT
- ²⁹ Department of Human Services, *The Victorian Ambulatory Care Sensitive Conditions Study*, 2003, Department of Human Services, Government of Victoria, Melbourne.
- ³⁰ Australian Institute of Health and Welfare (AIHW), *Australian Hospital Statistics 2004-05* AIHW, 2006, Commonwealth of Australia, Canberra.
- ³¹ C Pileggi, A Bianco, SM Di Stasio, IF Angelillo, 'Inappropriate hospital use by patients needing urgent medical attention in Italy'. [Journal Article] *Public Health*. 118(4): 284-91, 2004 Jun. Medical School, University of Catanzaro 'Magna Graecia', Via Tommaso Campanella, Catanzaro 88100, Italy

-
- ³² S Shepperd, J Parkes, J McClaran, C Phillips. 'Discharge planning from hospital to home' *The Cochrane Database of Systemic Reviews*. 2006: Issue 4.
- ³³ S Combs, R Chapman, A Bushby, 'Fast Track: One hospital's journey' *Accident and Emergency Nursing* 2006, 14:197-203.
- ³⁴ Clinical Services Group, *Emergency Medicine Clinical Services Master Plan*, 2006, Department of Health, Government of Western Australia, Perth. Viewed December 2006, www.health.wa.gov.au
- ³⁵ Australian Health Ministers Conference, *National Health Workforce Strategic Framework 2004-2014*, Department of Health and Ageing, Commonwealth of Australia, Canberra.
- ³⁶ COAG, *National Action Plan on Mental Health 2006-2007*, COAG, 2006, Commonwealth of Australia, Canberra, viewed 16 January 2007, www.coag.gov.au
- ³⁷ C Jackson, C Nicholson, J Doust, J O'Donnell, L Cheung, *Integration, Coordination & Multidisciplinary Care in Australia: Growth Via Optimal Governance Arrangements*, September 2006, The Australian Primary Health Care Research Institute, Australian Primary Health Care Research Institute, University of Queensland, Brisbane.
- ³⁸ Queensland Health, *Changing Models of Care Framework*, 2000, Queensland Health, Government of Queensland, Brisbane.
- ³⁹ Waikato Health Board, *Child & Adolescent Clinical Stream: Proposed Model of Care*, 2004, Waikato Health Board, New Zealand Government, Wellington.
- ⁴⁰ Association For The Welfare of Child Health, *Health Care Policy Relating to Children and their Families*, 1999, New South Wales Department of Health, Sydney, viewed December 2007, www.awch.org.au
- ⁴¹ G Andrews et al 1999, *The Mental Health of Australians*, Commonwealth Department of Health and Aged Care – Mental Health Branch, Table 2-1: page 7
- ⁴² A Jablensky et al 1999, National Survey of Mental Health and Wellbeing. Report 4. People living with psychotic illness: an Australian study 1997-98. Canberra: Commonwealth of Australia
- ⁴³ Mental Health Council of Australia, *Not for Service: Experiences of injustice and despair in mental health care in Australia*. 2005, Department of Health and Ageing, Commonwealth of Australia, Canberra.
- ⁴⁴ WA Country Health Services, *Foundations for Country Health Services 2007-2010*, WA Country Health Services 2006, Department of Health, Government of Western Australia, Perth.
- ⁴⁵ Department of Human Services, *Multi-Purpose Services Program Evaluation*. 2001 Department of Human Service, Government of Victoria, Melbourne.
- ⁴⁶ Health Reform Implementation Taskforce (HRIT), *Summary Regional Health Profile for Aboriginal People in Western Australian - Toolkit*, HRIT 2006, Department of Health, Government of Western Australia, Perth.
- ⁴⁷ Health Reform Implementation Taskforce (HRIT). *WA Aboriginal Primary Care Policy and Action Plan - Draft*. 2007, HRIT, Department of Health, Government of Western Australia, Perth.