



WA Chronic Health Conditions Framework 2011 - 2016

Prepared in consultation with the Chronic Conditions Health Networks
(Cardiovascular, Diabetes & Endocrine, Musculoskeletal, Renal and Respiratory)

October 2011

This document is considered a draft for discussion, and is in the consultation phase as illustrated in the status bar below



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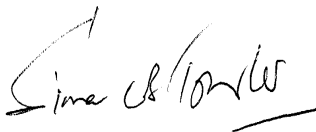
Foreword

Chronic health conditions impose a profound personal and societal burden which is expected to become more pronounced in the future. This issue needs to be urgently addressed in Western Australia. Effective prevention and management of chronic health conditions relies on integration and coordination of services for consumers across the continuum of care. Although WA is fortunate to have a range of services for chronic health conditions delivered by various private, not for profit, and Government organisations, especially in the primary care sector, these services are not always well integrated and linked.

The *WA Chronic Health Conditions Framework 2011-2016*, developed by the WA chronic conditions Health Networks, provides a guide to principles of effective prevention and management of chronic health conditions. The Framework brings together common health service delivery recommendations from the existing WA chronic health conditions Models of Care to provide a foundation for their implementation across chronic health conditions and the continuum of care. It does not replace the condition-specific models of care.

The Framework recommends the establishment of a Chronic Health Conditions Network, responsible for coordination and integration of health services for chronic health conditions, similar to the WA Cancer and Palliative Care Network. Working in parallel, the draft *Chronic Conditions Self-Management Strategic Framework 2011-2015* looks to implement strategies in alignment with this Framework.

Like other networks, success relies on the engagement and establishment of effective partnerships between and across providers, consumers and purchasers of health services. It is essential that the priorities and activities of the proposed Network are developed through consultation with the community. On this basis, the Chronic Conditions Health Networks will undertake a consultation, and I welcome feedback and ideas from primary care providers, non-government providers, and consumers and carers. I hope this Framework will initiate these discussions.



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October 2011

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Executive summary

Chronic health conditions are largely preventable, yet reducing the incidence and burden on health continues to be a significant challenge. A more coordinated and integrated approach to prevention and optimal management is needed to minimise the impact of chronic health conditions. This includes meeting the growing proportion of people living with co-morbid chronic conditions and the impact of workforce shortages in delivering the range and complexity of services needed for optimal healthcare.

To address these challenges, the WA Chronic Health Conditions Framework (the Framework) has been developed as an overarching guide to providing the **right care at the right time by the right team in the right place** for Western Australians with chronic health conditions. According to a set of guiding principles, the Framework describes the priority areas, service delivery components across the continuum of care and system enablers. These will serve as a guide to implementing the condition-specific Models of Care in WA.

The Framework is guided by the following principles:

- 1. Integration and service coordination**
- 2. Interdisciplinary care planning and case management**
- 3. Evidence-based, consumer-centred care**
- 4. Health literacy and self-management for chronic health conditions**

The guiding principles focus the Framework on slowing the progression of chronic conditions and enabling early intervention across the continuum of care - from the well population to end of life including palliation. The Framework is therefore applicable to those at risk of developing a chronic health condition and those with an established chronic health condition. Importantly, the Framework recognises that many consumers are affected by more than one chronic condition. Effective management of more than one chronic condition requires integration and coordination of several health services which are equipped to deal with co-morbidities.

The Framework describes priorities for the prevention and management of chronic conditions; including recommendations from the Models of Care and integration with the draft *WA Chronic Conditions Self-Management Strategic Framework 2011-2015* and the Better Health Improvement Program (BeHIP).

To take the Framework forward, it recommends to:

- Engage with health service providers and key stakeholder groups, especially within primary care, through a consultation process to develop an **Implementation Plan** for the framework.
- Establish a **Chronic Conditions Network** to complement the existing condition-specific networks and drive the Implementation Plan, including:
 - Determine the funding and resource requirements for the delivery of services in the community.
 - The development and management of a purchasing strategy to fund service providers to deliver evidence-based services in a coordinated and integrated

manner across the continuum of care. This will include integration with the draft *WA Chronic Conditions Self-Management Strategic Framework 2011-2015*, BeHIP and the WA Health Promotion Strategic Framework.

- Support the implementation of related strategies such as those within the draft *WA Chronic Conditions Self-Management Strategic Framework 2011-2015*.
- The development of a set measurable quality and performance indicators for service providers.
- The provision of leadership to maximise integration between the Commonwealth and State health funders, private, for profit and not for profit hospital and community service providers.
- Build workforce capacity.
- Support research and quality improvement through effective partnerships with research organisations.

A snapshot of WA chronic conditions epidemiology, health impact and risk factor relationships is provided for diabetes, cardiovascular disease, chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD) and musculoskeletal conditions in the appendices.

Method

The development of the Framework has been informed by the Models of Care for chronic kidney disease (CKD), chronic respiratory disease (COPD and asthma), diabetes, cardiovascular disease (heart failure and stroke) and chronic musculoskeletal conditions (osteoporosis, osteoarthritis, rheumatoid arthritis) and recognises that many consumers are affected by more than one of these diseases. All Models can be viewed at: www.healthnetworks.health.wa.gov.au/modelsofcare.

Each Model of Care was reviewed to determine commonality for consumers with chronic health conditions. A Chronic Conditions Forum, held in November 2010, was used to further define the key condition-specific and common health service components for the prevention and management of chronic health conditions. These collective recommendations have been summarised across the continuum of care to define the Framework. A literature review of international, national and local prevention and management initiatives in chronic conditions was also undertaken.

Key stakeholder consultation included the support and input from the Cardiovascular, Diabetes and Endocrine, Musculoskeletal, Renal, Respiratory and Primary Care Health Networks.

Appendix 1 provides a summary of how the Framework integrates with existing state policy.

1. Introduction

Why a Chronic Health Conditions Framework?

The increasing prevalence and burden of chronic conditions, combined with the ageing population and high community expectations for improved quality of life requires a flexible and responsive health system that can deliver services across the *continuum of care*^{*}. Services need to be delivered in an integrated and coordinated manner that is seamless for the consumer and family/carer(s). While effective prevention and management initiatives are available in the health system for specific conditions (e.g. osteoarthritis, diabetes), there remains a lack of overall coordination and integration of multiple chronic conditions.

The State and Commonwealth health systems are undergoing significant reform to optimise health service delivery, particularly in the context of chronic conditions. Therefore, it is important to articulate how optimal management of chronic conditions can be achieved within the context of existing and new policy directions and health services.

The Framework does this by:

1. Identifying priority areas for action to be undertaken by WA Health and its partners.
2. Identifying the commonalities across the Models of Care in chronic conditions.
3. Providing the overarching strategic direction to support the implementation of the Models of Care.
4. Recognising that for the majority of people with chronic conditions their health care is self-managed or provided in the primary health setting² and that services need to accommodate and manage co-morbid health conditions.

The Framework will also facilitate opportunities for:

1. Meaningful partnerships and collaboration between State Health, private and not for profit providers.
2. Greater ease in system navigation for consumers.
3. Research and quality improvement across the health system for prevention and management of chronic health conditions.
4. Coordination and integration of services, funding and workforce to build capacity in the health system.

A detailed rationale for the Framework can be found in section 3 of this document.

1.1 What are chronic conditions?

Many health conditions can be characterised as a 'chronic' condition⁴. Although most chronic conditions lead to a gradual deterioration in health, some chronic conditions are associated with outcomes that are immediately life threatening, such as stroke or heart attack.

^{*} A continuum of care is a concept involving an integrated system of care that guides and tracks patients over time through a comprehensive array of health services spanning all levels of intensity of care and stage of disease¹.

Chronic conditions share the following characteristics ⁴:

- Multiple and complex causes.
- Multiple risk factors.
- A pattern of recurrence or deterioration.
- Permanent.
- Occur across the lifespan with increased prevalence in the aged.
- Can result in functional impairment or residual disability.

The [World Health Organisation](#) states:

- Chronic diseases are a major cost and a profound economic burden to individuals, their families, health systems and societies worldwide.
- These costs will increase without the implementation of effective interventions.
- Investment in interventions to arrest the burden of chronic diseases will bring appreciable economic benefits ⁶.

1.2 Relationship to WA Health Networks chronic conditions Models of Care

The WA Health Networks, established in 2005, have engaged with a broad and diverse range of interested people and organisations to plan, develop and facilitate implementation of health policy across WA. The Models of Care, by health condition or population group, describe consumer and carer-focused, evidence-based policy and practice frameworks across the *continuum of care*. They describe how health services should be delivered in the context of chronic health conditions so that the **right care is delivered at the right time, in the right place and by the right team** ³. The focus is on disease prevention, early detection and screening of at risk populations to reduce the progression of disease(s) and to improve the health of the population. The Models of Care focus on shifting health service provision from acute care to the management of chronic conditions in the community where possible.

Although the Models of Care are specific to particular conditions, many commonalities exist in service delivery principles. The Framework has been developed to assist in the implementation of common core service components, particularly for those tasked with planning and implementing health service delivery for chronic health conditions in WA. For implementation of service components specific to a particular condition or population group, refer to the specific Models of Care. All Models of Care are available from the WA Health Networks website www.healthnetworks.health.wa.gov.au/modelsofcare/.

1.3 Scope

The Framework proposes an approach to health service delivery and care that is applicable to all chronic health conditions. However, priority is given to those health conditions that:

- Impose the greatest burden of disease.
- Are largely preventable through lifestyle and behavioural modification, environmental adaptation, and health and social policy changes.
- Share common risk factors.
- Have an existing Model of Care that describes integrated and coordinated health service delivery across the continuum of care.

The chronic conditions relevant to the Framework include, but are not limited to, chronic kidney disease (CKD), chronic respiratory disease (COPD and asthma), diabetes, cardiovascular disease (heart failure and stroke) and chronic musculoskeletal conditions (osteoporosis, osteoarthritis, rheumatoid arthritis). A snapshot of the epidemiology and health impact of these chronic conditions is provided in Appendix 2.

2. The Chronic Conditions Framework

The Framework is underpinned by four guiding principles which have been identified through evidence provided in Models of Care. The principles include:

1. **Integration and service coordination**
2. **Interdisciplinary care planning and case management**
3. **Evidence-based, consumer-centred care**
4. **Health literacy and self-management for chronic health conditions**

A consumer experience with the WA health system

When things work well (post hospital discharge)

At age 48 I spent two months in hospital, half in ICU on a ventilator. Before discharge I was told that the infection and complications had damaged my lungs, giving me chronic lung disease. I would get somewhat better, then stay about the same. I needed plenty of rehabilitation although I had no idea what this really meant. I'd had no experience with the hospital system, public or private, and few expectations about how I would get better at home.

By the time I got home, an oxygen concentrator had been delivered and my carer was told how I should use it. An occupational therapist had been and gone advising on home modification and equipment I'd need in the short term. A hand rail was fitted at the front steps and various bits of furniture to assist me were delivered on free loan. I was amazed. A home visiting physiotherapist came and worked with me on some exercises I could do. Walking near my home was difficult because I live on a hill. She drove me and my carer in her car to a flatter location nearby. It was glorious to be outdoors, though still very difficult to walk. Someone rang to invite me to a pulmonary rehabilitation program which I started five or six months after I left hospital. This two month program led to exercise maintenance classes in the community. Everything seemed to link well together.

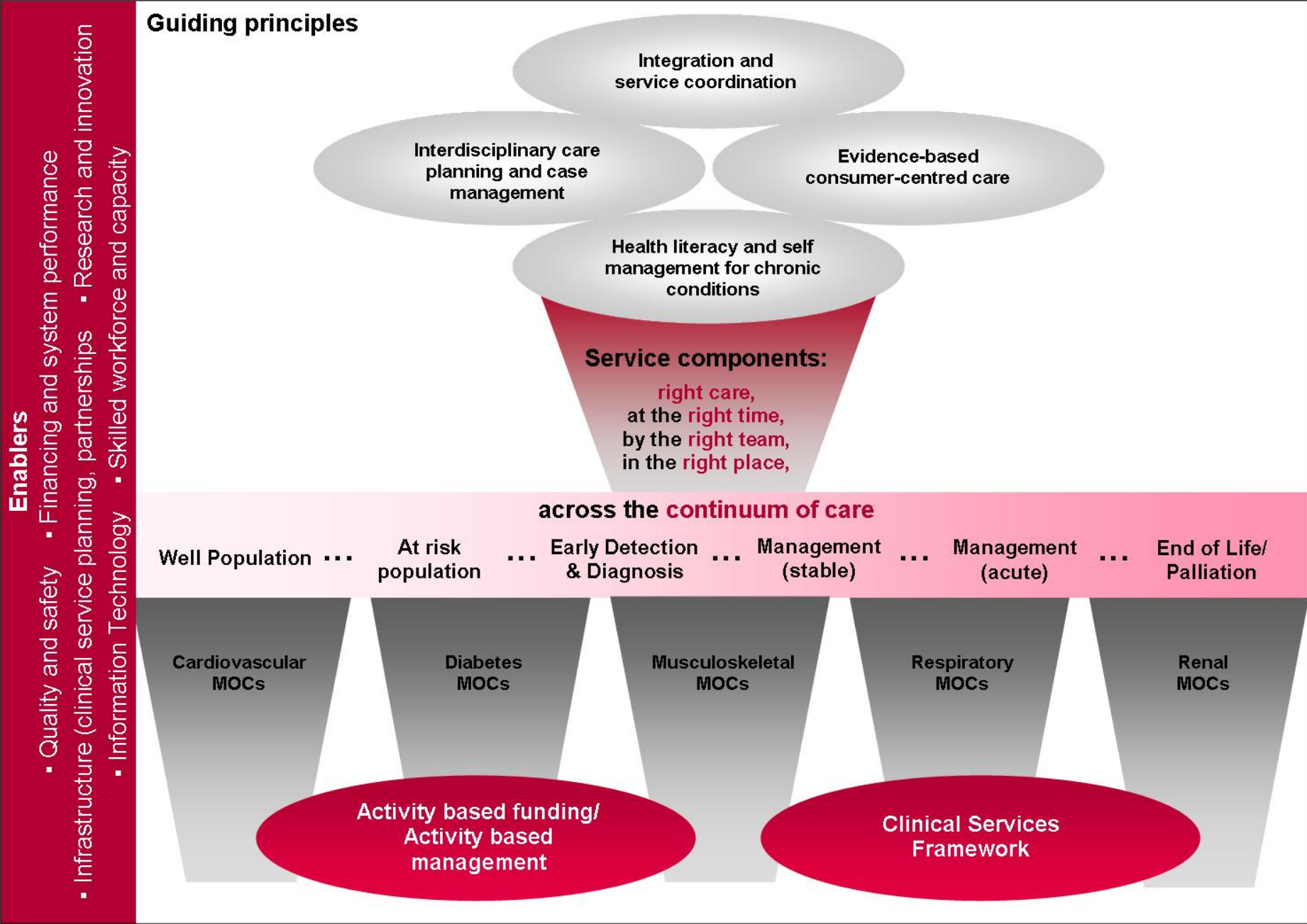
Based on these guiding principles, the Framework describes:

1. **Priority areas**
2. **Service delivery components across the continuum of care**
3. **Recommendations**
4. **System enablers**

These elements are informed by the relevant Models of Care, within the context of contemporary State and Commonwealth health policy. Figure 1 illustrates the relationship between the guiding principles for the optimal management of chronic health conditions, service components across the continuum of care and enablers as set out in the Models of Care. At a system level, service delivery is supported by key policy directions (refer to Appendix 1).

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Figure 1. Relationships between policy and service delivery for chronic health conditions



2.1 Priority areas

The priorities for action have been identified from the guiding principles, Models of Care and key national and state strategies to meet the demand and impact of people with chronic conditions on the health system. They focus on prevention, consumer-focussed care workforce and system requirements to reduce the risk and rate of progression of disease, improving access, and overcoming the fragmented, duplicated and high cost service models.^{11, 24} The Table below sets out priority areas and implementation strategies to meet [WA Health Priorities for 2011/12](#). Importantly, the manner in which these priorities and strategies are addressed will be informed through stakeholder consultation.

Priority Areas	Strategies	WA Health Priorities 2011/12
Prevention of chronic conditions	<ul style="list-style-type: none"> ■ Implementation of the Health Promotion Strategic Framework, and primary, secondary and tertiary prevention strategies to prevent or reduce the impact of chronic conditions. 	1.4 Progressing implementation in WA of the COAG National Partnership Agreement on Preventive Health. 1.5 Development & implementation of the Health Promotion Strategic Framework 2012-2016.
Priority populations: Aboriginal people and people with culturally and linguistically diverse backgrounds	<ul style="list-style-type: none"> ■ Ensure COAG Closing the Gap programs are evidence-based and aligned with the service components set out in the Framework. ■ Work with COAG National Partnership Agreement partners to identify priorities, advocate for sustainable change and influence national health policy. ■ Statewide coordination of the COAG Tackling Smoking initiative. 	2.6 Including Aboriginal aspirations and voices in WA Health planning and programs via regional planning forums and other key bodies. 2.11 Monitoring the Commonwealth Aboriginal health agenda and maximising opportunities for Aboriginal health locally.
Consumer information and education	<ul style="list-style-type: none"> ■ Implementation of the draft <i>WA Chronic Conditions Self-Management Strategic Framework 2011-2015</i>. ■ Develop and disseminate consumer and carer resources. ■ Partner with consumers, their families and carers to ensure a person-centred focus and improved health outcomes and quality of life. ■ Encourage collaboration and partnership with communities to identify and address local community needs to prevent and manage chronic health conditions. ■ Implementation of BeHIP programs and supporting service providers to achieve sustainability. 	
Service coordination,	<ul style="list-style-type: none"> ■ Create positions and recruit complex care coordinators to facilitate care 	3.5 Implementing agreed initiatives from

Priority Areas	Strategies	WA Health Priorities 2011/12
case management and multidisciplinary care planning	<p>transition between hospital and community-based providers.</p> <ul style="list-style-type: none"> ■ Develop and disseminate care plans for all people with chronic conditions. ■ Facilitate and promote ehealth records and information sharing between health providers. 	the WA Health ICT Strategy 2010-2020.
Access to integrated and coordinated primary and community based care	<ul style="list-style-type: none"> ■ Area Health Services build partnerships with the Medicare Locals and non-government organisations to develop referral pathways and care plans. ■ Forge partnerships between community organisations and support groups to facilitate co-ordination and integration of community resources and services (e.g. through local government). ■ Strengthen linkages at all levels and settings across the primary, secondary and tertiary care providers to reduce duplication, resulting in more efficient resource utilisation. 	3.2 Implementing service configurations in line with the Clinical Services Framework (CSF).
Services are based on evidence based models of care/guidelines	<ul style="list-style-type: none"> ■ Promote and facilitate the use of Advanced Health Directives in end of life planning for people with chronic conditions. ■ Work in collaboration with community services and non-government organisations to ensure services are accessible and are evidence based best practice and aligned to the Models of Care. ■ Implement the WA Paediatric Chronic Diseases Transition Framework. ■ Promote high quality research to inform evidence based practice and clinical decision making particularly those that involve the application of research tools and designs into service delivery and practices. ■ Develop opportunities to work in collaboration with research providers within and outside of WA Health, in particular the State Health Research Advisory Council (SHRAC) and the WA Health Quality Improvement Program (QUIP). 	<p>1.8 Implementing and evaluating priority Model of Care to ensure evidence based practice and quality.</p> <p>2.8 Implementing phase one of the WACHS Renal Dialysis Services Plan.</p>
Building the capacity of the workforce	<ul style="list-style-type: none"> ■ Facilitate and support education institutions and training organisations to ensure the curriculum for all health undergraduate and postgraduate programs meet national competencies and standards. ■ Support the accreditation and monitoring of standards for health care organisations where appropriate. ■ Ensure all students and staff are trained in cultural security. 	<p>4.3 Designing and delivering leadership development initiatives and talent management strategies that assist WA Health to support and retain world class health leaders.</p> <p>4.4 Developing a whole of health workforce retention framework.</p> <p>4.6 Developing and embedding a cultural</p>

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Priority Areas	Strategies	WA Health Priorities 2011/12
		learning approach for WA Health.

2.2 Service components across the continuum of care

The Models of Care identify the need for programs and services to be delivered across the *continuum of care* at every stage of chronic conditions. The emphasis is on self management and joint responsibility of the consumer and health care providers to minimise the need for more complex or specialist level care and the rate of progression of the condition(s). Implementation of the draft WA *Chronic Conditions Self-Management Strategic Framework 2011-2015* is therefore critical to meet this vision.

To optimise health outcomes, it is necessary that prevention of chronic conditions through health promotion activities reflects the needs of people of all ages in all communities whether they be urban, rural or remote.

Critical to the success of improving the management of people with chronic conditions, particularly the increasing number of people with co-morbid conditions, is integrated and coordinated care. This requires a seamless interface between primary care, community care providers, emergency departments and inpatient hospital services that can be achieved through shared understanding and clear pathways for referral, self management education, planning and management of health care, end of life planning and palliation.

The following table sets out the key service components of the **right care, at the right time, by the right team, in the right place, across the continuum of care** for chronic health conditions. The table should be read as cumulative in terms of service provision. For example, the service components listed in the well population are also applicable to at risk and early detection phases.

Table 1 Service components across the continuum of care

Chronic Conditions Models of Care	Continuum of Care					
	Well Population	At risk population	Early Detection & Diagnosis	Chronic Condition Management Stable	Chronic Conditions Management Acute	End of Life/Palliation
Objective	Prevent movement to the 'at risk' stage	Prevent progression to established chronic condition	Prevent or delay progression of disease & minimise complications & co-morbidities	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Ensure informed planning & decision making & safe & high quality palliative care
Right care	<ul style="list-style-type: none"> Population-based health awareness and promotion campaigns & social marketing to address established modifiable risk factors (e.g. smoking, physical inactivity, poor nutrition). Health promotion across the lifespan from early childhood to adulthood. 	<ul style="list-style-type: none"> Systematic use of evidence-based measurements, e.g. spirometry for COPD, blood pressure screening for cardiovascular and renal disease, bone density testing for osteoporosis and blood glucose monitoring for diabetes. 	<ul style="list-style-type: none"> Systematic use of evidence-based measurement, especially of at-risk populations for early diagnosis. Access to evidence-based health information/education and resources. Promotion and education about self management and access to support organisations. Medication management. Patient care and action plans. 	<ul style="list-style-type: none"> Self management resources (e.g. education, multidisciplinary care planning) and support. Social and psychological support. Care coordination. Risk factor and management plans initiated. Access to ongoing rehabilitation and health maintenance programs. 	<ul style="list-style-type: none"> Referral guidelines for access to appropriate health professionals. Secondary and tertiary prevention programs to maintain optimal health. Clinical interventions are delivered according to the complexity of the situation. 	<ul style="list-style-type: none"> Evidence-based pathways and care plans for end of life and palliation are implemented e.g. Liverpool Care Pathway ⁷ Support for families and carers.

Chronic Conditions Models of Care	Continuum of Care					
	Well Population	At risk population	Early Detection & Diagnosis	Chronic Condition Management Stable	Chronic Conditions Management Acute	End of Life/Palliation
Objective	Prevent movement to the 'at risk' stage	Prevent progression to established chronic condition	Prevent or delay progression of disease & minimise complications & co-morbidities	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Ensure informed planning & decision making & safe & high quality palliative care
Right Time		<ul style="list-style-type: none"> Timely access to assessment and screening by primary health care providers. Self management programs will be accessible to all people diagnosed with a chronic condition. Self management support for those identified at risk. 	<ul style="list-style-type: none"> Timely access to assessment and screening by primary health care providers. Timely access and referral to self management programs. Monitor and recall for follow up, supported by ICT systems. 	<ul style="list-style-type: none"> Improved access to medical management and symptom review to improve health outcomes and quality of life. Monitor and recall for follow up supported by ICT systems. 	<ul style="list-style-type: none"> Planning for end stage and palliation. Direct hospital admission of "known" patients (avoid ED). 	<ul style="list-style-type: none"> Appropriate high quality and safe care is delivered in a timely manner.
Right team	<ul style="list-style-type: none"> Health promotion teams. Cross sector engagement, e.g. local government through recreation facilities. 	<ul style="list-style-type: none"> Development of appropriate resources and guides to ensure evidence based care is delivered and received. Primary health care providers take the lead role in provision of health care in community settings, supported by local services. 	<ul style="list-style-type: none"> Primary health care teams with clear referral pathways and access to specialist services. Multidisciplinary teams across primary, secondary and tertiary health providers. 	<ul style="list-style-type: none"> Primary health providers will have access to specialist services. All health providers in a coordinated interdisciplinary team. Local government engaged for support services e.g. transport, support groups. 	<ul style="list-style-type: none"> The hospital team provides timely discharge planning to primary and community care providers. All health providers in a coordinated interdisciplinary team. 	<ul style="list-style-type: none"> Consumers and carers actively participate in the decision making process. Promotion of Advanced Care Directives. Coordinated interdisciplinary Palliative Care Team.

Chronic Conditions Models of Care	Continuum of Care					
	Well Population	At risk population	Early Detection & Diagnosis	Chronic Condition Management Stable	Chronic Conditions Management Acute	End of Life/Palliation
Objective	Prevent movement to the 'at risk' stage	Prevent progression to established chronic condition	Prevent or delay progression of disease & minimise complications & co-morbidities	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Support self management, minimise acute episodes & hospitalisation, prevent deterioration in health	Ensure informed planning & decision making & safe & high quality palliative care
Right Place	<ul style="list-style-type: none"> Home and community based services. 	<ul style="list-style-type: none"> Home and community based service delivery. 	<ul style="list-style-type: none"> Services will be provided in the community. Access to Telehealth for rural and remote consumers to reduce travel to regional and metropolitan centres. 	<ul style="list-style-type: none"> Services will be provided in the community. Access to Telehealth for rural and remote consumers to reduce travel to regional and metropolitan centres. 	<ul style="list-style-type: none"> Where possible services will be delivered in the community by primary care providers. Hospital in the Home. Home Hospital Secondary or tertiary hospitals based on clinical need. 	<ul style="list-style-type: none"> Where possible services will be delivered in the community or home environment. Unless clinically required end of life care and palliation will not be in tertiary settings.
Enablers	<ul style="list-style-type: none"> Information Communication Systems <ul style="list-style-type: none"> Competent skilled workforce Financing models 					

2.3 Recommendations

HOW CAN WE MEET THE CHALLENGE?

Improving the quality of life and health outcomes for people with chronic health conditions, along with their families and carers requires solutions to deliver more connected and coordinated services.

The “network approach” to health reform is an approach that works. The network approach is neutral and objective. It provides the opportunity to **connect** all stakeholders across the State to **share** ideas and develop solutions to **improve** service delivery across the continuum of care.

Bringing together stakeholders will help create the right partnerships and better connect different levels and types of care. This approach places consumers and carers first. It results in seamless service delivery across all phases of care and fewer complexities in system navigation. Through collaboration and a shared understanding of roles and responsibilities, patient outcomes can be improved more efficiently and sustainably.

1. Engage with health service providers and key stakeholder groups, especially within primary care, through a consultation process to develop an **Implementation Plan** for the framework.
2. Establish a Chronic Health Conditions Network to complement the existing condition-specific networks and drive the Implementation Plan,, including:
 - Determine the funding and resource requirements for the delivery of services in the community.
 - The development and management of a purchasing strategy to fund service providers to deliver evidence-based services in a coordinated and integrated manner across the continuum of care. This will include integration with the draft *WA Chronic Conditions Self-Management Strategic Framework 2011-2015*, BeHIP and the WA Health Promotion Strategic Framework.
 - Support the implementation of related strategies such as those within the draft *WA Chronic Conditions Self-Management Strategic Framework 2011-2015*.
 - The development of a set measurable quality and performance indicators for service providers.
 - The provision of leadership to maximise integration between the Commonwealth and State health funders, private, for profit and not for profit hospital and community service providers.
 - Building workforce capacity.
 - Support research and quality improvement through effective partnerships with research organisations.

More than primary care – the benefits of partnerships in asthma management using a network approach.

University of Western Australia (UWA) pharmacy research into community pharmacist practices in dispensing over the counter asthma medications, coupled with the Asthma Action Plan developed by the Respiratory Health Network, has resulted in an initiative to improve asthma self management. Community pharmacists, as the initial point of contact for many people with asthma, now have a new role in educating people with asthma using the Asthma Action Plan. This self management tool aims to improve poor asthma control through education and monitoring by the person with asthma, the pharmacist, and referral to the GP as necessary.

The network approach and establishment of partnerships and collaboration between UWA, Pharmaceutical Society of WA, Asthma Foundation of WA and WA Department of Health (Respiratory Health Network) has implemented an innovative approach to changing clinical practice and improving health outcomes for people with asthma.

Expansion of health education services to regional WA using a network and partnership model.

The [WA Spinal Pain Model of Care](#) recommends upskilling health professionals with best practice management information on spinal pain and providing consumers with active pain management strategies. A partnership between the Musculoskeletal Health Network, Fremantle Hospital Pain Medicine Unit, Arthritis and Osteoporosis WA, Curtin University, and Rural Health West was established to deliver educational forums to health professionals and consumers in regional WA over 2010-11. The forums deliver evidence based knowledge from the Model of Care and State Health Research Advisory Council (SHRAC)-supported research projects.

Preliminary analysis of evaluation data highlights the benefit of the group-based education on spinal pain to health professionals and consumers in regional WA.

2.4 System enablers

Addressing the priority areas and implementing services components effectively across the continuum of care requires a number of system enablers to ensure the systems, infrastructure, workforce and funding can be oriented to meet the demand for service provision.

2.4.1 Quality and safety

Quality and safety are driven by two drivers: i) leadership and ii) governance structures and processes. Leadership seeks to improve the safety and quality by identifying and supporting leaders who value safety and quality in health care. Governance seeks to enhance accountability for safety and quality by strengthening governance structures and processes. This is augmented by the participation of health services in external accreditation and peer review programs.

These drivers support the [WA Strategic Plan for Safety and Quality in Health Care 2008-2013](#) which defines a series of interdependent concepts that have been developed to foster a shared and unified approach to promoting and assuring the delivery of safe, high quality health care in WA.⁸

2.4.2 Financing and system performance

In WA Health the delivery of high quality, safe and cost-effective services is assessed and funded according to the WA Activity Based Framework. This is aligned with the national reform to introduce a national activity based funding model.

Activity includes everything that we do for, with and to patients, residents, clients and their families and carers. It includes hospital inpatient and emergency care, non-inpatient care, ambulatory, community and public health services.

Activity Based Management (ABM) is the management approach used by WA Health to plan, budget, allocate and manage activity and financial resources to ensure delivery of safe, high quality health services to the WA community. ABF supports ABM to enhance public accountability and drive technical efficiency in the delivery of health services.

2.4.3 Infrastructure including clinical service planning and strategic partnerships

The key policy drivers determining where WA Health should provide care and the level of care is set out in the Statewide **Clinical Services Framework 2010-2020** (CSF). It provides detailed modelling for inpatient services, non-admitted and emergency department services and role delineation of services provided by the metropolitan Area Health Services (AHSs) and WA Country Health Service (WACHS). The modelling is informed by demographic information based on the results of the 2006 Population Census, the development and implementation of Models of Care, updated demand and capacity projections and developments in infrastructure, workforce, and information communication technology (ICT). While it is an over-arching medium to long-term planning document, it also provides a foundation for more extensive and detailed planning to be undertaken by AHSs.

Partnerships and collaboration are required across jurisdictional and inter-sectoral levels of government (national, state and local), non-government, private sectors and industry/workplaces to meet the increasing demand for health services due to the

incidence and prevalence of chronic conditions, the ageing population and workforce shortages. In particular, partnerships are important between State services (e.g. hospitals) and community-based care providers. The WA Primary Care Strategy contains recommendations to further strengthen these relationships.

2.4.4 Information technology including eHealth

The Commonwealth and State governments are investing significant funds to develop and implement information technology and management solutions to improve the access to health information for consumers across and between health service providers. This is supported by federal and state legislation and regulation to protect individual privacy and to ensure compatibility across all jurisdictions and health care providers in Australia. The [eHealthWA](#) program is designed to provide a modern, integrated and user-friendly technology platform to facilitate health service delivery in WA.

In addition WA Health is developing and implementing a clinical information system:

- To provide an integrated and complete view of patient health information at the point of care.
- Share information electronically in a timely and secure manner across different locations and all parts of the health sector.
- Enable access to data to more effectively monitor and evaluate service delivery outcomes.
- To electronically order tests, prescribe medications and refer individuals to other providers.
- Provide access to appropriate information sources and decision support tools at the point of care.
- Collaborate with other professionals to share expertise and evidence.
- Have easy access to clinical knowledge and evidence sources to assist with skill development <http://www.health.wa.gov.au/ehealthwa/home/cis.cfm>.

2.4.5 Skilled workforce and capacity including education and professional development

The impact of workforce shortages, the ageing workforce and the increasing incidence and prevalence of chronic conditions creates challenges for the delivery of health services now and in the future.

The workforce capacity will be improved by:

- Providing opportunities for community-based clinical training for all disciplines.
- Collaborating with educational institutions to develop opportunities for clinical training in chronic conditions across the continuum of care.
- Promoting specialist and generalist outreach training programs statewide.
- Developing employment contracts which include service delivery at metropolitan and rural areas and/or across different settings.
- Supporting the development of changes to the scope of practice for various health professionals such as nurse practitioners and specialist physiotherapists.
- Developing and implementing chronic conditions self-management competencies and cultural safety competencies for staff working in all healthcare sectors.
- Expanding telehealth and telemetry services to facilitate team-based management of people with complex and chronic conditions.

2.4.6 Research and innovation

Supporting and developing capacity in research and innovation in WA is critical to ensuring the best possible care is delivered to Western Australians with chronic health conditions. In particular, it is important to support:

- high quality research to inform evidence-based practice and clinical decision making.
- opportunities to work in collaboration with research providers within and outside of WA Health, in particular the State Health Research Advisory Council (SHRAC) and the WA Health Quality Improvement Programme (QUIP).

3. Rationale supporting the Framework

3.1 The significance of chronic conditions

The provision of health services to a population where the prevalence and burden of chronic health conditions continues to increase presents one of the most significant challenges to Australia's health system, both in terms of economic impact and population health and wellbeing. However, the impact of chronic health conditions can be minimised through coordinated and integrated prevention and optimal management strategies.¹¹

It is also recognised that many chronic conditions detected in childhood will require life long care and access to services. Further, children are now surviving into adult life with conditions which previously would have been lethal in childhood. The planned transition from paediatric to adult services is critical to the optimal long term health outcomes of this population.

A snapshot of the Western Australian epidemiology and health impact of five key chronic conditions, namely diabetes, cardiovascular disease, chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD) and musculoskeletal conditions can be reviewed in Appendix 2.

Figure 2 below, adapted from the WA Health Chief Health Officer's report, illustrates that chronic health conditions represent a major disease burden in WA. Furthermore the 2007-08 National Health Survey indicates that 75% of respondents had one or more long-term health conditions.¹² Total national healthcare expenditure related to chronic conditions in 2004-05 is represented in Figure 3, along with the proportion of Disability Adjusted Life Years (DALYs) lost, by condition. Compared to the previous report for the period of 2000-01, allocated health expenditure per person, adjusted for inflation, increased by 13%.¹³ The National Health Priority Areas (cardiovascular, mental disorders, musculoskeletal, cancer, injuries, diabetes mellitus and asthma) accounted for \$AU22.5 billion (43%) of the total allocated health expenditure in 2004-05. An increased expenditure is predicted as the population ages and expectations for achieving an improved quality of life increase.¹³ While it is recognised that mental health and oral health issues are a significant burden on the individual and community, these are beyond the scope of this Framework. It is acknowledged that mental health issues and chronic health conditions coexist.

Figure 2. Leading causes of disease burden across all ages in WA in 2003. Adapted from the [Chief Health Officer's Report \(2010\)](#).

* lung, colorectal, breast and prostate cancer

chronic obstructive pulmonary disease, asthma, other chronic respiratory diseases

^ osteoarthritis and back pain

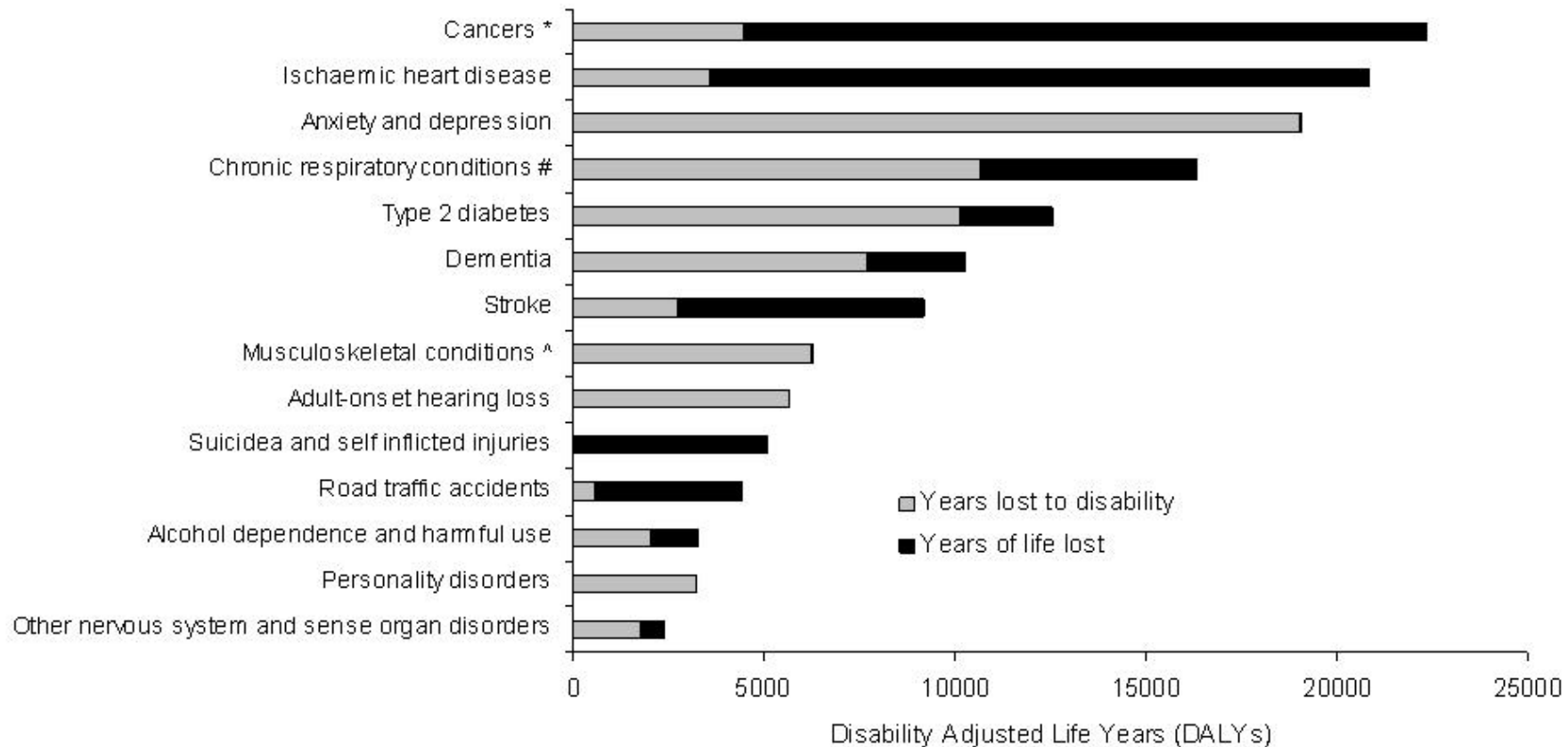
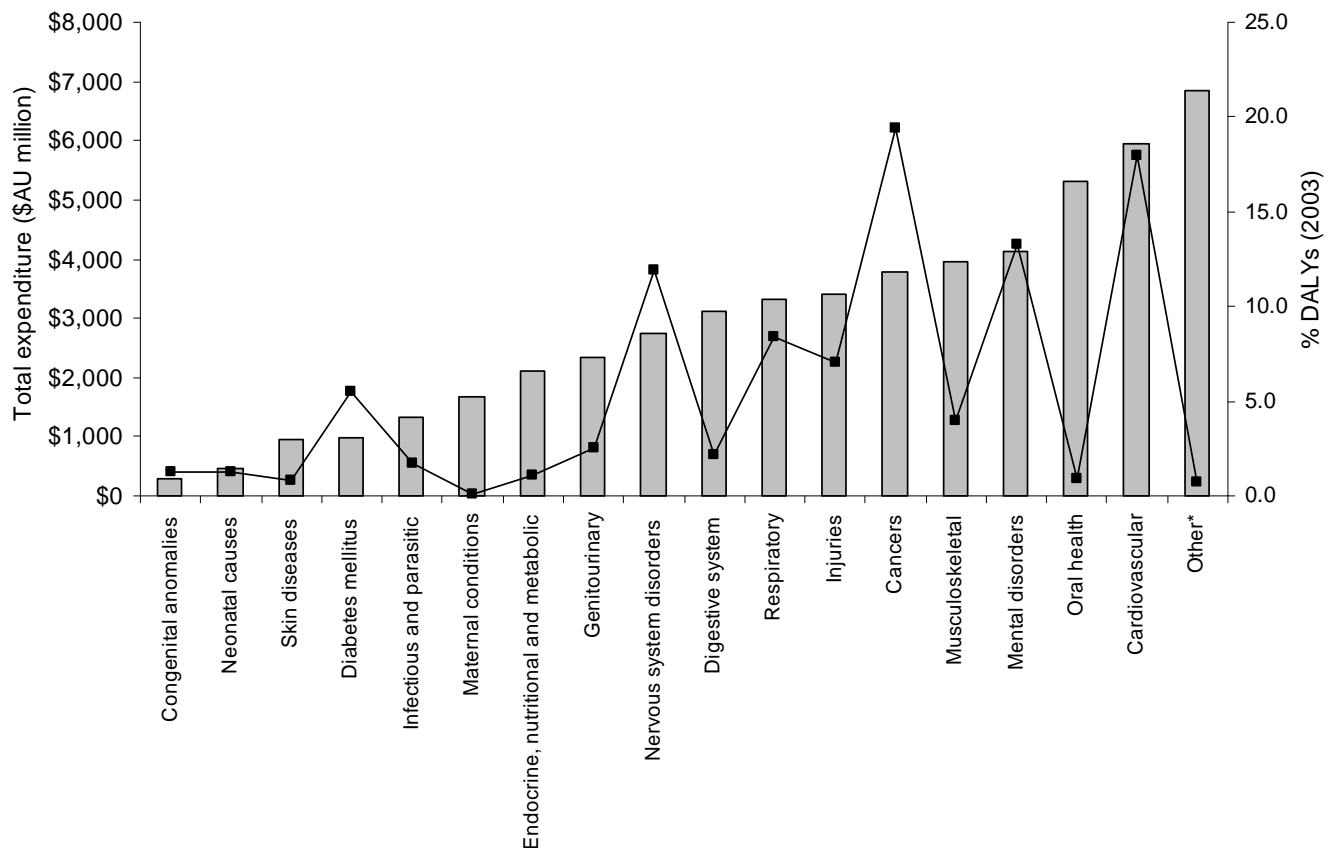


Figure 3. Total healthcare expenditure in 2004-05 (in \$AU million) and proportion (%) of Disability Adjusted Life Years (DALYs) in 2003 by disease group.

Total expenditure relates to hospital services, out of hospital services, optometric and dental services, pharmaceuticals, community and public health services and research.¹³



* other: includes diagnostic and other services where the cause of the problem is unknown. Also includes other contact with the health system (fertility control, reproduction and development, elective cosmetic surgery), general prevention, screening and health examination, and treatment and aftercare for unspecified disease.

3.1.1 Social determinants of health

Many chronic health conditions share common, modifiable risk factors, some of which include physical inactivity, overweight and obesity, smoking, excessive alcohol intake and hypertension. Many of the underlying causes of poor health develop from the social, environmental, economic and cultural contexts in which people live, work and play – often referred to as the *Social Determinants of Health*. These issues impact significantly on the health of Aboriginal people, those from low socioeconomic backgrounds and culturally and linguistically diverse (CALD) communities. The World Health Organization has identified these factors as the basis of much of the inequality in world health.¹⁴ In 2008 the Council of Australian Governments (COAG) invested significant funds over a six year period to the Closing the Gap (CTG) initiative which aims to increase life expectancy and improve the health, education and economic outcomes for Aboriginal people. The WA Health Strategic Intent and the guiding principles and goal of the Framework to provide appropriate services across the continuum of care for people at risk or living with chronic conditions supports the CTG initiative.

3.1.2 Common risk factors and co-morbidities

The burden of chronic health conditions is compounded by the prevalence of co-morbidity. Co-morbid conditions are usually caused by the complex relationships between specific diseases and shared risk factors. Co-morbidity contributes to increased mortality, a decline in health outcomes and increased use of health care resources.¹⁵ The impact of co-morbidities is generally most pronounced among the aged.

An important relationship between chronic health conditions and mental health is now recognised.¹⁶⁻¹⁸ For example, some studies have shown that after a heart attack, 1 in 3 patients exhibit depressive symptoms and nearly 1 in 6 are formally diagnosed with depression.¹⁹ The [Duty to Care Report, School of Population Health, University of Western Australia](#), shows that relative to those without mental illness, people with mental illness suffer higher rates of chronic health conditions related to behavioural factors such as smoking, alcohol and drug abuse, obesity, poor diet and other lifestyle factors.²⁰ Furthermore, people with mental illness had consistently higher mortality and hospitalisation rates for all major diseases compared to individuals without mental illness.²⁰

3.1.3 Chronic health conditions and Aboriginal people

Aboriginal people are the oldest continuing culture in human history but unfortunately have the poorest health outcomes and the greatest health and welfare needs of any group, with a life expectancy being 11.5 and 9.7 years lower for males and females, respectively, than for non-Aboriginal Australians.²¹ The life expectancy for Aboriginal people who live in Western Australia is even shorter than their national average.²¹ Closing the gap in life expectancy is both a State and National priority which requires a whole of Government commitment to influence action on social and health determinants of Aboriginal welfare, while being cognisant that 'one size does not fit all'. Currently, Aboriginal people are under serviced across the health continuum. Access for Aboriginal people to primary health care services, which are culturally sensitive and wellness-orientated, remains a fundamental area for reform.²²

Much of the health and lifespan disparity between Aboriginal people and other Australians is related to the higher prevalence of risk factors which contribute to the early onset of chronic conditions such heart disease, stroke, diabetes, chronic respiratory disease and kidney disease.¹

The [2008 National Aboriginal and Torres Strait Islander Social Survey](#) (NATSISS) self reported measures of health, found that Aboriginal people with a disability or long term health condition were more than twice as likely as those without a disability to report high/very high levels of distress (43% compared with 19%).²³ Hospitalisation rates were higher than for other Australians for many diagnoses, for example, hospital care involving dialysis is 14 times the rate, and for endocrine, nutritional and metabolic diseases, which includes diabetes, is three times the rate for other Australians. Ischaemic heart disease was the leading specific cause of disease burden experienced by Aboriginal males, accounting for 12% of the total burden for Aboriginal males. Type 2 diabetes, anxiety, depression and suicide were the next three leading specific causes, together accounting for another 18% of the burden of disease for Indigenous males. For Aboriginal females, the leading specific cause of disease burden was anxiety and depression, accounting for 10% of the burden. Type 2 diabetes, ischaemic heart disease

and asthma were the next three leading specific causes, accounting for a further 23% of the disease burden for Aboriginal females.

The COAG **Closing the Gap**, National Partnership Agreement 2008-2013 has 5 key priority areas to close the gap for Aboriginal health outcomes. They are:

1. Tackling smoking
2. Healthy transition to adulthood
3. Making Aboriginal health everyone's business
4. Primary care services that can deliver
5. Fixing the gaps and improving the patient journey.

WA Health has invested \$122 million over four years for programs to improve health outcomes, identified by 7 regional Aboriginal health planning forums. Investment in collaboration and partnerships, building and expanding the capacity of the Aboriginal workforce and improving access to services identified by Aboriginal people is critical to the success of this strategy.

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Appendices

Appendix 1: Relationship with WA Health Strategic Intent 2010 - 2015 and policy directions

The WA Health Chronic Conditions Framework (the Framework) aims to support the vision of the WA Health Strategic Intent of a healthier, longer and better quality of life for all Western Australians through:

- Caring for individuals and the community.
- Caring for those who need it most.
- Making the best use of funds and resources.
- Supporting our team.

The Framework builds on the Chronic Disease Framework for Western Australia 2005-2010, and aligns with recent evidence and strategic policy directions adopted by WA Health, including:

- The WA Health, Health Activity Purchasing Intentions 2010-2011. **Activity Based Funding and Management** describes the WA Health management framework that integrates clinical services planning, funding, resource allocation, resource utilisation, service delivery and quality management. It will deliver the best use of funds and resources ensuring high quality, patient-focused and safe care.
- The **WA Health Clinical Services Framework 2010-2020** - (CSF 2010) sets out the planned structure of public health service provision in Western Australia over the next 10 years. It is an important tool for strategic statewide planning and will assist Area Health Services in developing localised clinical service plans.
- The **WA Primary Care Strategy – consultation document (April 2011)** describes the role of WA Health within Primary Health Care (PHC) in Western Australia. It provides a policy framework for WA Health to undertake statewide reform initiatives, in partnership with all PHC stakeholders.
- The **draft WA Health Chronic Conditions Self-Management Strategic Framework 2011-2015** describes a statewide approach to referral pathways, workforce capacity and programs for chronic conditions self-management consistent with this framework.
- The Health Promotion Strategic Framework, developed by the **Public Health Division, Chronic Disease Prevention Directorate**. The new Health Promotion Strategic Framework will focus on common risk factors for chronic conditions. It will inform and guide chronic conditions prevention strategies and service delivery across the continuum of care.

The WA Chronic Health Conditions Framework is further informed by the broader context of health policy and reform in the state and nationally including:

- WA Subacute Care Plan 2009–2013
- Putting the Public First: Partnering with the Community and Business to Deliver Outcomes, WA Economic Audit Committee (2009) final report
- WA Health Promotion Strategic Framework 2007-2011, Population Health Division, Department of Health WA
- Western Australian Aboriginal Primary Health Resource Kit 2007, Health Reform Implementation Taskforce, Department of Health WA

- [Western Australian Health Cancer Services Framework, October 2005 and the Palliative Care in Western Australia Final Report December 2005.](#)
- [WA Mental Health Plan 2011 – 2016 \(with Minister\)](#)
- [Australia: The Healthiest Country by 2020, National Preventative Health Strategy – the roadmap for action. 30 June 2009. National Preventative Health Taskforce](#)
- [National Hospital and Health Reform Report 2009](#)
- [Building a 21st Century Primary Health Care System, National Primary Health Care Strategy 2010](#)
- [National Partnership Agreement – Closing the Gap in Indigenous Health Outcomes 2009](#)
- [National Chronic Disease Strategy 2005 – Australian Health Ministers’ Conference](#)

Appendix 2: Chronic Conditions in WA: Epidemiology and health impact – A snapshot and risk factor relationships

Explanatory note

This snapshot was derived from published information sources with priority given to WA-specific, rather than national, information wherever possible. References that compared a number of chronic conditions using consistent data analysis strategies were used in preference to references addressing individual conditions in order to ensure comparison of like with like. A particular challenge encountered was the lack of readily comparable information regarding chronic kidney disease, as most sources of information regarding chronic conditions focus on 'high prevalence' conditions such as cardiovascular, endocrine, and respiratory disease. Every effort has been made to ensure that the information presented regarding chronic kidney disease is comparable to that for the other conditions.

Prevalence information is based on self-reported responses in the adult Health and Well-being Surveillance System, 2009, for diabetes, cardiovascular disease, and respiratory disease; and from the ANZDATA registry report, 2009, for end stage kidney disease.

Updated Burden of Disease calculations and bulletins are currently in preparation by the WA Health Epidemiology Branch. The burden of disease projections in this snapshot are based on actual calculations for 2006.

The National Health Expenditure data is based on the subset of health expenditure that can be allocated to specific disease categories. This accounts for 65% of total health expenditure in Australia.

Table 2 WA chronic conditions snapshot: Epidemiology and health impact of diabetes and cardiovascular disease

Diabetes	Cardiovascular Disease
<p>What is it? A metabolic disease in which high blood glucose levels result from defective insulin secretion or insulin production, or both. The most common form is Type 2, in which there are reduced levels of insulin or the inability of the body cells to properly use insulin.⁴</p>	<p>What is it? Group of disease of the heart and blood vessels – in this snapshot, limited to coronary heart disease, in which the blood vessels supplying the heart muscle itself become blocked, causing episodes of chest pain (angina) and possibly heart attack⁴</p>
<p>Prevalence All types: 5.7%²⁵</p>	<p>Prevalence 5.9%²⁵</p>
<p>Burden of Disease, WA 2009 projections Diabetes Mellitus Years of Life Lost: 3,058²⁶ Years Lost due to Disability: 14,391²⁶</p> <p>Type 2 Diabetes Years of Life Lost: 2,546²⁶ Years Lost due to Disability: 13,926²⁶</p>	<p>Burden of Disease, WA 2009 projections Cardiovascular disease Years of Life Lost: 28,577²⁶ Years Lost due to Disability: 9,332²⁶</p> <p>Ischaemic Heart Disease Years of Life Lost: 16,592²⁶ Years Lost due to Disability: 3,907²⁶</p>
<p>Mortality Diabetes is the 8th most common cause of avoidable mortality (1,239 deaths or 4.0% of total), WA 1997-2006.²⁷</p>	<p>Mortality Ischaemic heart disease is the top cause of avoidable mortality (6,317 deaths or 20.6% of total), WA 1997-2006.²⁷</p>
<p>Morbidity In WA in 2006/07, Diabetes and its complications (excluding renal dialysis) was the top cause of potentially preventable hospitalisations (14,177 separations or 1.9% of the total).²⁷</p> <p>In 2007/08, WA males recorded a separation rate for diabetes of 4.4 per 1,000 persons, while females recorded a hospitalisation rate of 3.6 per 1,000 persons. From 1988/89–2007/08, the hospitalisation rate per 1,000 persons increased significantly for both males (6.6% per year) and females (5.8% per year).²⁸</p>	<p>Morbidity In WA in 2006/07, Congestive Heart Failure was the 6th most common cause of potentially preventable hospitalisations (3,846 separations or 0.5% of the total).²⁷</p> <p>In 2007/08, there were a total of 12, 810 hospital separations (6.1 per 1,000 persons) for ischaemic heart disease, with approximately two-thirds occurring in males.²⁸</p>
<p>Inequalities Indigenous population: In 2004/05, the prevalence on diabetes was 6.1% in the Indigenous Australian population (Australian Bureau of Statistics, 2006), while in the non-Indigenous Australian population the prevalence was 3.8%. The prevalence of diabetes increased in the Indigenous Australian population from 35 years of age onwards, with 32% of Indigenous Australians aged 55 years and over having diabetes (Australian Bureau of Statistics, 2006).²⁸</p> <p>Metropolitan/ non-metropolitan: The hospitalisation rate for diabetes in non-metropolitan areas of WA in 2007/08 was 4.7 separations per 1,000 persons. This was slightly higher than the rate in the metropolitan areas, at 3.6 separations per 1,000 persons. The mortality rate was also higher in the non-metropolitan areas (26 deaths per 100,000 persons) compared to the metropolitan areas (15 deaths per 100,000 persons).²⁸</p>	<p>Inequalities Indigenous population: In 2006, the mortality rate for WA Indigenous population was approximately 1.5 times higher than for the WA non-Indigenous population. In 2007/08, the hospitalisation rate for the WA Indigenous population due to ischaemic heart disease was almost three times higher than for their non-Indigenous counterparts.²⁸</p> <p>Metropolitan/ non-metropolitan: In 2007/08 the hospitalisation rate for ischaemic heart disease was higher in the non-metropolitan areas (15.4 per 1,000 persons) compared to the metropolitan areas (5.4 separations per 1,000 persons). Mortality rates, in 2006, in WA, were similar at 89 deaths per 100,000 persons and 90 deaths per 100,000 persons respectively.²⁸</p>
<p>National Health Expenditure Diabetes mellitus: \$934 million in 2004-05²⁹</p>	<p>National Health Expenditure All cardiovascular diseases: \$5,778 million in 2004-05²⁹</p>

Table 3 Risk factor relationships of diabetes and cardiovascular disease

Risk factor relationships			
Risk Factor	Type 2 diabetes³⁰	Risk Factor	Ischaemic heart disease³⁰
Overweight & Obesity	✓	Overweight & Obesity	✓
Physical inactivity	✓	Physical inactivity	✓
Poor Diet	✓	Poor Diet	✓
Tobacco smoking	✓	Tobacco smoking	✓
Excessive Alcohol		Excessive Alcohol	✓
High blood pressure		High blood pressure	✓
High blood cholesterol	✓	High blood cholesterol	✓
Impaired glucose regulation	✓	Impaired glucose regulation	
Depression		Depression	✓

Table 4 WA Chronic conditions snapshot: Epidemiology and health impact of COPD and CKD

Chronic Obstructive Pulmonary Disease (COPD)	Chronic Kidney Disease (CKD)
<p>What is it? Progressive disease of the lungs and airways resulting in worsening shortness of breath on exertion. The main underlying disease process is emphysema, in which the lung cells are gradually destroyed and the lungs are less able to move air in and out. In COPD this is coupled with chronic bronchitis – the overproduction of mucus in the upper airways – resulting in excessive phlegm and persistent coughing.⁴</p>	<p>What is it? Disease involving long term loss of kidney function. In severe cases, kidney function may deteriorate to the extent that it is no longer sufficient to sustain life (end-stage kidney disease: ESKD), and the person requires dialysis or a kidney transplant.⁴</p>
<p>Prevalence Respiratory problem for 6 months or more: 3.4% (lifetime/ever); 2.1% (current)²⁵</p>	<p>Prevalence ESKD with transplant, WA:744 (344/million people)³¹ Dialysis dependent ESKD, WA: 978 (452/million people)³¹</p>
<p>Burden of Disease, WA 2009 projections <i>Chronic Respiratory Disease</i> Years of Life Lost: 6,326²⁶ Years Lost due to Disability: 11,601²⁶</p> <p><i>COPD</i> Years of Life Lost: 3,867²⁶ Years Lost due to Disability: 3,032²⁶</p>	<p>Burden of Disease, WA 2009 projections <i>Genitourinary Diseases</i> Years of Life Lost: 2,015²⁶ Years Lost due to Disability: 4,588²⁶</p> <p><i>Nephritis and nephrosis (excluding diabetic, congenital and poisoning related renal failure)</i> Years of Life Lost: 1,544²⁶ Years Lost due to Disability: 196²⁶</p>
<p>Mortality COPD is the 7th most common cause of avoidable mortality (1,366 deaths or 4.5% of total), WA 1997-2006.²⁷</p>	<p>Mortality Nephritis and nephrosis is the 20th most common cause of avoidable mortality (345 or 1.1% of total), WA 1997-2006.²⁷</p>
<p>Morbidity In WA in 2006/07, COPD was the 4th most common cause of potentially preventable hospitalisations (4,549 separations or 0.6% of the total).²⁷</p> <p>In 2007/08, there were 4,783 hospital separations due to Chronic Obstructive Pulmonary Disease (COPD). The hospital separation rate was 2.7 separations per 1,000 persons for males and 2.0 separations per 1,000 persons for females. Between 1988/89 and 2007/08, the separation rate for COPD increased significantly for both males (0.6%) and females (4.9%).²⁸</p>	<p>Morbidity In Australia in 2006–07 there were 933,772 episodes of regular dialysis where CKD was the principal diagnosis, 29,943 other hospitalisations where CKD was the principal diagnosis and 157,633 where CKD was recorded as an additional diagnosis. Admission for regular dialysis and other hospitalisations where CKD was the principal diagnosis equated to 12.7% of all hospitalisations—occupying over 1 million hospital bed days or 4% of all bed days in that year.³²</p> <p>In WA in 2006-07, there were 102,786 hospital separations for care involving dialysis (includes private and public hospitals).³³</p>
<p>Inequalities Indigenous population: In 2006, the mortality rate due to COPD was 4.5 times higher in the WA Indigenous population compared to the WA non-Indigenous population.²⁸</p> <p>Metropolitan/ non-metropolitan: Hospitalisation rates for COPD were higher in the non-metropolitan areas compared to the metropolitan areas. In 2007/08, the hospitalisation separation rate was 2.7 separations per 1,000 persons compared to 1.9 separations per 1,000 persons respectively. In 2006, the mortality rates for COPD were similar in the non-metropolitan areas (20 deaths per 100,000 persons) compared to the metropolitan areas (19 deaths per 100,000 persons).²⁸</p>	<p>Inequalities Indigenous population: As for many other chronic diseases, the rates of CKD are higher among Aboriginal and Torres Strait Islander peoples than for other Australians. In 2004, around 10% of new cases of treated ESKD, and 6.7% of all cases of treated ESKD, were among Indigenous Australians (McDonald et al. 2008). This is despite Indigenous Australians making up only 2.4% of the population. In some Indigenous communities the rates of treated ESKD are up to 30 times the rates among other Australians (Spencer et al. 1998).³⁴</p>
<p>National Health Expenditure Respiratory: \$3,424 million in 2004-05²⁹</p>	<p>National Health Expenditure CKD: \$898.7 million of total expenditure in 2004-05³⁴</p>

Table 5 Risk factor relationships for COPD and CKD

Risk factor relationships			
Risk Factor	COPD ⁴	Risk Factor	Kidney disease ³⁰
Overweight & Obesity		Overweight & Obesity	✓
Physical inactivity		Physical inactivity	✓
Poor Diet		Poor Diet	✓
Tobacco smoking	✓	Tobacco smoking	✓
Excessive Alcohol		Excessive Alcohol	
High blood pressure		High blood pressure	✓
High blood cholesterol		High blood cholesterol	
Impaired glucose regulation		Impaired glucose regulation	
Depression		Depression	

Table 6 WA Chronic conditions snapshot: Epidemiology and health impact of musculoskeletal conditions

Musculoskeletal Conditions
<p>What is it? Musculoskeletal conditions are problems and disorders of the bones and muscles and their attachments to each other. They include osteoarthritis, rheumatoid arthritis, osteoporosis, back pain, slipped disc and others.³⁵</p>
<p>Prevalence Arthritis: 19.9%; Osteoporosis: 4.6%²⁵</p>
<p>Burden of Disease, WA 2009 projections <i>All Musculoskeletal Conditions</i> Years of Life Lost: 841²⁶ Years Lost due to Disability: 11,846²⁶</p> <p><i>Osteoarthritis/Rheumatoid Arthritis</i> Years of Life Lost: 227²⁶ Years Lost due to Disability: 5,493²⁶</p> <p><i>Back Pain/Slipped Disc</i> Years of Life Lost: 92²⁶ Years Lost due to Disability: 4,759²⁶</p>
<p>Mortality Minor cause of death; ~540 (0.3%) of all deaths due to arthritis and 180 (0.1%) due to osteoporosis in Australia in 2004⁴</p>
<p>Morbidity In Australia in 2006/07 there were 406,744 hospitalisations due to musculoskeletal conditions, including osteoarthritis (82,292 – 20.2%), chronic back pain (52,894 – 13.0%), slipped disc (23,985 – 5.9%), osteoporosis (8,035 – 2.0%), rheumatoid arthritis (6,920 – 1.7%) and others.³⁵</p> <p>In WA in 2006/07, there were 50,088 hospital separations where the principal diagnosis was a disease of the musculoskeletal system or connective tissue.³³</p>
<p>Inequalities <i>Indigenous population:</i> Based on 2004/05 Australian prevalence, Indigenous adults are more likely than non-Indigenous adults to report being diagnosed with arthritis (20% vs. 17%). Indigenous men aged over 40 years are 2.5 times more likely to report a diagnosis of osteoporosis than their non-Indigenous counterparts. Conversely, Indigenous women are only 59% as likely to report an osteoporosis diagnosis as non-Indigenous women in this same age group.³⁶</p> <p><i>Metropolitan/ non-metropolitan:</i> Self-reporting of arthritis and osteoporosis is not significantly different among people living outside major cities compared to metropolitan residents (Australia 2004/05). However, in 2006/07, non-metropolitan Australian residents were more likely to have primary total hip and knee replacements than city dwellers.³⁶</p>
<p>National Health Expenditure All musculoskeletal conditions: \$3,864 million in 2004-5 including osteoarthritis (\$1,193M), chronic back pain (\$350M), osteoporosis (\$297M), rheumatoid arthritis (\$171M), slipped disc (\$153M) and others³⁵</p>

Table 7 Risk factor relationships for musculoskeletal conditions

<i>Risk factor relationships</i>	
<i>Risk Factor</i>	<i>Musculoskeletal^a</i>
Overweight & Obesity	✓
Physical inactivity	✓
Poor Diet	✓
Tobacco smoking	✓
Excessive Alcohol	✓
High blood pressure	
High blood cholesterol	
Impaired glucose regulation	
Depression	



Delivering a **Healthy WA**

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