

Chronic Disease Action Plan for South Australia

2009–2018



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SA Health

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1. Foreword



South Australia is facing an increased demand for hospital care, projected workforce shortages, changing demographics and escalating costs in the health system. This is a national challenge affecting all Australian health systems.

South Australia's Health Care Plan was developed by the State Government in 2007 to meet these future challenges. The plan outlines the most significant single investment in health care in South Australia's history.

The Chronic Disease Action Plan addresses key recommendations arising from the Health Care Plan. It outlines what is needed to address the rising burden of chronic disease in the long term in South Australia. It is one of a series of plans that progress the health reform agenda, led by South Australia's Health Care Plan.

The statistics are sobering. Currently, about 46% of the South Australian population has at least one chronic disease and disease rates rise rapidly with age. The treatment of chronic diseases already accounts for more than two thirds of all health expenditure.

Chronic diseases cannot be cured, but can be prevented from developing in the first place. Our hospitals are very effective in treating the acute symptoms, but the best way to fight chronic disease is to prevent it by maintaining a healthy lifestyle. We must turn our efforts to early intervention, illness prevention and disease management strategies that link with care in the community.

Effective disease management means keeping people healthier for longer, and enabling the system to respond appropriately to periods of illness.

The health system needs to provide the right care, at the right time, in the right place, for all South Australians with chronic disease.

The Chronic Disease Action Plan for South Australia is an essential step in ensuring a sustainable health system for all South Australians into the future.

The responsibility for health is shared by individuals, the health system, and many other organisations. A partnership approach, with health professionals, the Australian Government, aged care and the non government sector, will ensure that the challenge of chronic disease is addressed into the future.

As we embark on a new era of integrated health care, I look forward to the next stage of health reform initiatives and to developing collaborations across the sector for a healthier South Australia.

Hon John Hill MP
Minister for Health

2. Executive Summary

The Chronic Disease Action Plan outlines SA Health's ten year plan to address chronic disease. It provides evidence and actions to support the prioritisation of secondary prevention, early intervention and disease management strategies to address the increasing burden of preventable chronic disease in South Australia.

The Chronic Disease Action Plan (the Plan) is a part of the health sector reform process led by South Australia's Health Care Plan. Upcoming challenges, including an ageing population; the increasing prevalence of lifestyle and behavioural risk factors; increasing community expectations about access to health care; enhanced life expectancy; an ageing health workforce; a national and international shortage of health staff; and an increased prevalence of many chronic diseases; have created the impetus for health sector reform.

The overarching vision of the Plan is to use evidence based strategies to:

- > prevent chronic disease, by reducing risk associated with biomedical and lifestyle factors
- > detect disease and risk of disease early and intervene effectively
- > manage existing disease effectively and proactively.

The approach to chronic care presented in the Plan is applicable to all chronic conditions. However, the Plan prioritises preventable chronic diseases that 'cluster' around common behavioural, environmental and biomedical risk factors. These chronic diseases and associated risk factors were chosen as priorities because they have the greatest burden of disease; are largely preventable, through lifestyle and behavioural modification; can be modified through policy and environmental changes; and are able to be managed to improve health outcomes.

The largest burden of preventable chronic diseases includes cardiovascular disease, diabetes, chronic respiratory disease, and musculoskeletal disease groups. Other chronic diseases including chronic renal disease are acknowledged as a large and growing burden in some population groups. The shared behavioural and biomedical risk factors for chronic diseases include:

- > smoking
- > poor nutrition
- > alcohol misuse
- > physical inactivity
- > stress & psychological factors influencing health
- > excess body weight
- > high blood pressure
- > high blood cholesterol
- > impaired glucose tolerance

The Plan encourages a targeted population health approach to address health inequities. This approach involves the promotion of good health and wellbeing for the population as a whole, with a particular focus on the needs of groups at risk of, or with, established chronic disease. Some population groups within the South Australian population are more likely to be at risk of chronic disease, due to various economic, social and environmental influences. Targeted strategies are needed to combat higher risk for these populations.

The Plan outlines the ideal approach to chronic care management through its strategies and actions. This details a whole of system approach to support the services and strategies needed to ensure the right care, at the right time, in the right place, at all stages of disease progression. This approach can be applied to all chronic conditions, including genetic conditions, neurological conditions, and all chronic diseases.

The chronic care journey involves lifelong planned and proactive:

- > goal setting and self management support
- > monitoring at determined intervals
- > recall and review
- > referral and team based care
- > web-based information sharing.

The Plan outlines system level actions and supporting evidence for effective secondary prevention and management of chronic disease in South Australia, in line with the overarching direction of the National Chronic Disease Strategy. The 'Framework for Actions' (2.1) provides a summary of the system level outcomes and actions described in Chapter 5. Implementation of the actions in this plan will be carried out through the Regional Health Service Implementation Plans, which will integrate the actions in this Plan with other statewide plans.

While this is an SA Health plan, the responsibility for the secondary prevention and management of chronic disease is shared across the entire health system. Implementation of these actions requires SA Health to work in partnership with health professionals, the Australian Government, aged care and the non government sector. This is vital to the success of the Plan over the next ten years.

2.1 Framework for Actions

| Outcome | Actions | Responsibility | Timeframe |
|--|---|---|-----------|
| 1. Reduce the risk profile of at risk populations | 1.1. Improve access to risk factor reduction information for both health professionals and at risk populations. | DH | Ongoing |
| | 1.2. Monitor the evidence base for emerging risk factors for chronic disease. | DH | Ongoing |
| | 1.3. Use Health Improvement Plans to profile the risk characteristics of targeted populations for local communities. | RHS & GP Plus Health Networks | Short |
| 2. Improve the early detection of risk factors in at risk populations | 2.1. Develop or adopt validated risk assessment tools and evidence based guidelines for prioritised risk factors for chronic disease. Use these tools at a statewide level to provide consistent self or clinician administered screening and management. | DH | Short |
| | 2.2. Use existing tools such as the Clinical Audit Tool to identify those at risk of chronic disease. | DH & General Practice | Short |
| 3. Reduce progression to chronic disease for at risk populations | 3.1. Support and expand the implementation of the "Do It For Life" risk factor reduction program. | DH & RHS | Short |
| | 3.2. Improve regional referral pathways to harm minimisation programs such as Quit services and alcohol risk reduction programs. | RHS & DASSA | Short |
| | 3.3. Support the development of strategies to target people with risk factors for chronic disease and refer them to appropriate Lifestyle Management Programs. | DH & RHS | Ongoing |
| 4. Improve self management support | 4.1. Develop and implement education and training strategies that enable and encourage health professionals to provide self management support. | DH & RHS | Medium |
| | 4.2. Support referral to peer support self management programs to promote participation in care planning and chronic disease management where appropriate. | RHS | Medium |
| | 4.3. Increase the availability and uptake of evidence based culturally appropriate self management programs. | RHS | Medium |
| 5. Improve disease management in primary health care settings through partnerships | 5.1. Support consumers, NGOs and key clinical service providers to participate in regional and local Health Improvement Plans. | RHS & GP Plus Health Networks | Medium |
| | 5.2. Build partnerships with chronic disease Peak Bodies in South Australia to ensure that individuals receive consistent, evidence based information, support, training and services. | DH & RHS | Short |
| | 5.3. Incorporate relevant evidence based clinical decision support guidelines into care planning systems in primary and acute health care settings. | DH | Long |
| 6. Improve monitoring of risk factors and chronic disease | 6.1. Explore the use of registers for targeted risk factors and chronic diseases to recall people with moderate to high-risk of disease, and re-screen at regular intervals. | DH, GPSA, RHS & GP Plus Health Networks | Long |
| | 6.2. Explore the use of registers for population monitoring of targeted risk factors and chronic diseases, including through the use of data linkage strategies. | DH, GPSA, RHS & GP Plus Health Networks | Long |
| 7. Improve care planning and information sharing across the health system | 7.1. Aim for all individuals diagnosed with a chronic disease to have a care plan developed using consistent templates as appropriate to individual need. | RHS | Medium |
| | 7.2. Introduce web-based secure messaging and web-based care plans to enable universal shared care between public and private sector primary and acute health care. | DH | Long |
| | 7.3. Provide case management to those identified as being at high-risk of hospitalisation or requiring complex care. | DH & RHS | Short |

| Outcome | Actions | Responsibility | Timeframe |
|--|--|-------------------------------|-----------|
| 8. Improve team based care | 8.1. Provide evidence based multidisciplinary management of chronic disease as appropriate to the level of care required. | RHS | Short |
| | 8.2. Support knowledge sharing between health providers across the acute and primary care interface, including medical specialists, nursing and allied health workers, and general practitioners. | RHS | Short |
| | 8.3. Support systematic training and education of all health professionals in care planning and self management, and support the use of enabling information technology systems. | DH & RHS | Ongoing |
| 9. Improve management of complex conditions and co-morbidity | 9.1. For planned hospital admissions for procedures, provide pre-admission clinical assessment of the interactions of multiple co-morbidities and therapies to both identify and reduce risk. | RHS & GP Plus Health Networks | Medium |
| | 9.2. Maximise use of electronic systems to assist with admission and discharge care planning processes for wards, outpatients and emergency departments for individuals with chronic disease. | RHS | Short |
| | 9.3. Develop and implement statewide evidence based protocols to reduce risk of deterioration of function and independence during stay in an acute setting. | DH & RHS | Medium |
| | 9.4. Increase the availability of evidence based disease specific physical therapies and rehabilitation services to manage symptoms and disability arising from chronic disease. | RHS | Short |
| | 9.5. Increase the accessibility and availability of home care coordination and community programs that provide systematic chronic disease care including tele-monitoring, restorative care, promotion of independent functioning, carer support. | DH & RHS | Short |
| | 9.6. Promote the incorporation of Advanced Care Directives in care planning with carer/family involvement for all people with an end stage chronic disease. | RHS | Short |

Framework Key

Responsibility

| | |
|-------|--|
| DH | Department of Health (Central Office), SA Health |
| RHS | Regional Health Services, SA Health |
| DASSA | Drug and Alcohol Services South Australia |
| GPSA | General Practice South Australia |

Timeframe

| | |
|---------|----------------------------|
| Short | 1–3 years |
| Medium | 3–5 years |
| Long | 5–10 years |
| Ongoing | Continuous action required |

2.2 Snapshot of Chronic Disease in South Australia

| Cardiovascular Disease | Diabetes | Chronic Obstructive Pulmonary Disease (COPD) |
|---|---|---|
| What is it? Group of diseases of the heart and blood vessels Includes Ischemic heart disease, heart failure and stroke | 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 body cells to properly use insulin | 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 coupled with bronchitis |
| Incidence 5.6 new cases per 1000 adults per year | Incidence 6.8 new cases per 1000 adults per year | Incidence 6.1 new cases per 1000 adults per year |
| Prevalence Self-reported in 7.6% of people aged 16+ years | Prevalence Self-reported in 6.8% of people aged 16+ years | Prevalence Self-reported in 4.9% of people aged 16+ years |
| Mortality 4507 deaths in 2003–2004 | Mortality 293 deaths in 2003–2004 | Mortality 460 deaths in 2003–2004 |
| Morbidity 22 113 hospital separations in 2006–2007 Males accounted for 56% of the hospital separations | Morbidity 18 450 hospital separations in 2006–2007 99% of hospital separations were for people aged 35+ years | Morbidity 7715 hospital separations in 2006–2007 73% of hospital separations were for people aged 65+ years |
| Inequalities No significant differences were observed in the prevalence of cardiovascular disease by health region Mortality significantly higher for Indigenous Australians | Inequalities Prevalence significantly greater for Wakefield, South East, Northern and Far Western health regions and significantly lower for the Southern Adelaide health region Prevalence and mortality significantly higher for Indigenous Australians | Inequalities No significant differences were observed in the prevalence of COPD by health region Mortality significantly higher for Indigenous Australians |
| Associated Risk Factors High blood pressure (18.1% of people aged 16+ years) High cholesterol (14.3% of people aged 16+ years) Overweight or obese (56.7% of people aged 18+ years reported being overweight or obese) Smoking (16.8% of people aged 16+ years are current smokers) Insufficient physical activity (47.1% of people aged 16+ years) Long term risky/high risk alcohol consumption (3.7% of people aged 16+ years) Poor diet (58.1% of people aged 19+ years have inadequate fruit consumption, and 90.7% have inadequate vegetable consumption) | Associated Risk Factors Overweight or obese (56.7% of people aged 18+ years reported being overweight or obese) Insufficient physical activity (47.1% of people aged 16+ years) Poor diet (58.1% of people aged 19+ years have inadequate fruit consumption, and 90.7% have inadequate vegetable consumption) | Associated Risk Factors Smoking (16.8% of people aged 16+ years are current smokers) Other risk factors include air quality and sleep apnoea |

| Asthma | Musculoskeletal Conditions |
|---|---|
| <p>What is it?</p> <p>Disease involving inflammation of the air passages, causing episodes of wheezing, chest tightness and shortness of breath</p> <p>The inflammation can be triggered by exercise, infection, allergens, smoke and some medications</p> | <p>What is it?</p> <p>Group of diseases that includes osteoarthritis and osteoporosis</p> <p>Osteoarthritis is a form of arthritis characterised by gradual loss of cartilage of the joints, usually affecting people after middle age</p> <p>Osteoporosis is a condition in which the bones become fragile and brittle, leading to a higher risk of fractures than in normal bone. This occurs when bones lose minerals, such as calcium, more quickly than the body can replace them, leading to a loss of bone thickness.</p> |
| <p>Incidence</p> <p>24.6 new cases per 1000 adults per year</p> | <p>Incidence</p> <p>No data available to suggest the incidence of either osteoarthritis or osteoporosis</p> |
| <p>Prevalence</p> <p>Self-reported in 13.4% of people aged 16+ years</p> <p>Higher among children (2–15 years)</p> | <p>Prevalence</p> <p>Osteoporosis self-reported in 3.9% of people aged 16+ years</p> <p>Arthritis self-reported in 20.0% of people aged 16+ years</p> <p>Higher rates occur for people aged 65+ years</p> |
| <p>Mortality</p> <p>30 deaths in 2003–2004</p> | <p>Mortality</p> <p>70 deaths in 2003–2004</p> |
| <p>Morbidity</p> <p>4242 hospital separations for 2006–2007</p> <p>61% of hospital separations were for children (2–15 years)</p> | <p>Morbidity</p> <p>17 878 hospital separations for 2006–2007</p> <p>88% of hospital separations were for people aged 35+ years</p> |
| <p>Inequalities</p> <p>Prevalence significantly greater for Southern Adelaide health region</p> | <p>Inequalities</p> <p>No significant differences were observed in the prevalence of osteoporosis between regions</p> <p>Arthritis prevalence was significantly higher in the Wakefield, Mid North and Riverland health regions, and significantly lower in the Southern Adelaide health region</p> |
| <p>Associated Risk Factors</p> <p>Overweight or obese (56.7% of people aged 18+ years reported being overweight or obese)</p> <p>Smoking (16.8% of people aged 16+ years are current smokers)</p> | <p>Associated Risk Factors</p> <p>Overweight or obese (56.7% of people aged 18+ years reported being overweight or obese)</p> <p>Insufficient physical activity (47.1% of people aged 16+ years)</p> <p>Long term risky/high risk alcohol consumption (3.7% of people aged 16+ years)</p> <p>Poor diet (58.1% of people aged 19+ years have inadequate fruit consumption, and 90.7% have inadequate vegetable consumption)</p> |

Source: SA Health (2008) *South Australia: Our Health and Health Services*, SA Health, Adelaide & Population Research & Outcomes Studies Unit (2007) *North West Adelaide Health Study: Stage 2 Key Findings*, SA Department of Health, Adelaide.

3. Introduction

The Chronic Disease Action Plan (the Plan) outlines SA Health's ten year plan to address preventable chronic disease. It provides evidence and actions to support the prioritisation of secondary prevention, early intervention and disease management strategies to address the increasing burden of chronic disease in South Australia.

The Chronic Disease Action Plan follows on from the 2004 strategy 'Chronic Disease: Prevention and Management Opportunities for South Australia – the evidence for change to an integrated system of prevention, early intervention and management of key chronic diseases and risk factors'¹. The Chronic Disease Action Plan updates the 2004 plan in the context of South Australia's Strategic Plan 2007–2009², South Australia's Health Care Plan 2007–2016³ and the National Chronic Disease Strategy 2005⁴. Emerging evidence and a new policy context have led to a more sophisticated understanding of chronic disease prevention and management.

The Plan articulates necessary system level changes that can be localised at a region or health service level. It involves developing proactive systems to prevent the development of risk factors and chronic disease, prevent the progression of disease, and improve the management of chronic disease. This requires primary health care and hospital systems that can provide integrated responses and continuity of care to people at risk of developing, or who have a chronic disease.

Actions in this Plan are targeted towards the population already at risk of developing, or diagnosed with, chronic disease, where secondary prevention and management systems can be effective for improving health outcomes. Primary prevention strategies will be addressed in the upcoming statewide Primary Prevention Plan.

3.1 The Challenge Of Chronic Disease

Chronic disease is a major contributor to the burden of disease in Australia. Around 46% of South Australians have been diagnosed with at least one chronic disease. An estimated 15% of South Australians suffer two or more chronic diseases^{3, 5}. However, the burden of chronic disease is shared unequally across the population. People in low socioeconomic circumstances, Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds and people from rural and remote areas have higher levels of disability, morbidity and mortality from chronic disease compared to the rest of the population⁶. The burden of chronic disease is set to increase dramatically in Australia in the near future⁶.

The rising prevalence of chronic disease is one of many new challenges facing South Australia's health care system (see Figure 1). South Australia's Health Care Plan 2007–2016 identified contributing factors that are placing pressures and demands on the health care system. They include:

- > an ageing population⁷
- > the increasing prevalence of lifestyle and behavioural risk factors⁸
- > increasing community expectations about access to health care⁹
- > enhanced life expectancy⁷
- > an ageing health workforce^{10, 11}
- > a national and international shortage of medical, nursing, and allied health staff^{10, 11}
- > an increased prevalence of many chronic diseases⁶.

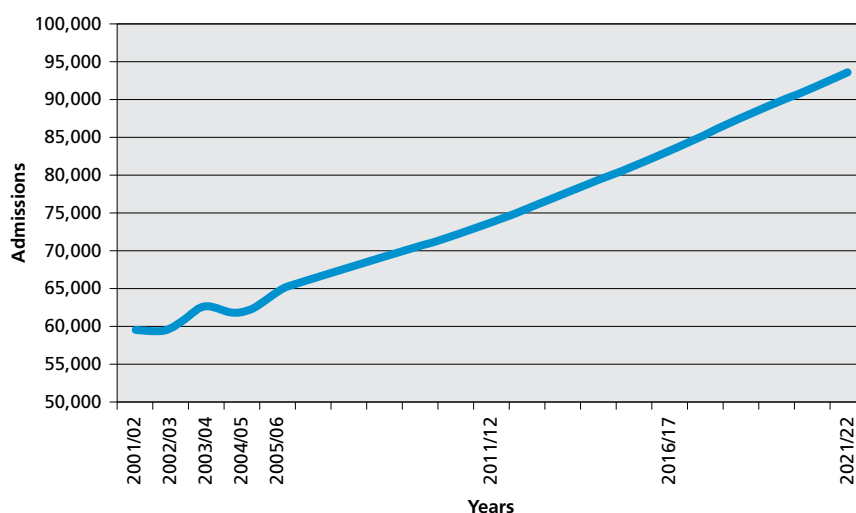
These issues have been identified throughout Australia and internationally¹² and have led to an increase in the demand for hospital and primary health care services. This highlights the need for the South Australian health care system to re-position and re-focus services to effectively handle the increasing burden of chronic disease.

Chronic diseases are among the most prevalent, costly, and preventable of all health problems¹³. While chronic diseases cannot be cured, many can be prevented through interventions that address key behavioural and biomedical risk factors¹⁴. Addressing these risk factors as early as possible can also delay disease progression and improve the health and wellbeing of individuals with chronic disease¹⁵. Through focusing secondary prevention, early intervention and disease management strategies on these risk factors, the burden of chronic disease on the health system can be reduced⁴.

Chronic diseases exert considerable pressure on the health system in both acute and primary health care settings. Currently, too much of the care provided for people with chronic diseases is episodic and involves reactive responses to acute exacerbations of associated illness. However, chronic diseases are ongoing conditions and so require care throughout an individual's lifespan¹⁶. For this goal to be achieved, disease management needs to be supported in and across all health care settings. Health services need to be equipped to manage the ongoing, multidisciplinary care needed for the increasing number of South Australians living with a chronic disease³.

Figure 1

Impact of Chronic Disease on Hospital Separations in South Australia



Source: Department of Health (2007) *South Australia's Health Care Plan 2007–2016*, DoH, Adelaide.

There is good evidence that a range of interventions are effective in preventing chronic disease and in promoting health and wellbeing at different stages of pre-disease and disease⁴. Strategies are needed to better manage the care of people who already have chronic diseases in the short-term; and to reduce prevalence and incidence of chronic disease in the long-term. Different strategies are effective at various stages of disease progression, particularly when individuals are enabled, through education and collaborative care planning, to engage in their own care^{3, 16}. A sophisticated approach to chronic disease management across primary and acute health care settings is needed to address the burden of chronic disease in South Australia¹⁷. This will be achieved through implementation of a number of statewide plans, including the Chronic Disease Action Plan and the upcoming Primary Prevention Plan as part of the health reform agenda led by South Australia's Health Care Plan³.

Responsibility for chronic disease secondary prevention and management is shared by SA Health, health professionals, the Australian Government, other health providers, aged care, peak bodies, other non government organisations and all South Australians. Partnerships with organisations throughout the health system are required to have a measurable impact on reducing the burden of chronic disease in South Australia over the next ten years.

3.2 Objectives

The Chronic Disease Action Plan provides background information and system level actions to improve health care services for people at risk of and diagnosed with chronic disease in South Australia. These actions aim to:

Reduce:

- > the risk profile of the population
- > progression to chronic disease
- > deterioration and/or development of co-morbidity
- > health inequities for the population at risk or with chronic disease.

Improve:

- > the identification and monitoring of risk factors, chronic disease and chronic disease progression
- > the availability and accessibility of self management support
- > disease management in primary care settings through partnerships
- > team based care
- > care planning and information sharing across the health care system
- > integrated treatment and transitions across health care settings
- > management of complex conditions and co-morbidity.

Through these objectives, the overarching vision of the Plan is to:

- > prevent chronic disease, by reducing risk associated with biomedical and lifestyle factors
- > detect disease and risk of disease early and intervene effectively
- > manage existing disease effectively and proactively.

3.3 Scope

The Chronic Disease Action Plan outlines system level actions to address chronic disease and risk factors in South Australia. Actions are targeted towards the population with (or at risk of developing) chronic disease, where secondary prevention and management systems can be effective for improving health outcomes. There is a particular emphasis on vulnerable populations at greater risk of chronic disease to help address health inequities in South Australia.

The Chronic Disease Action Plan is positioned within the context of a group of statewide plans, including the GP Plus Health Care Strategy¹⁸. The actions set out in the Plan are focussed on system level changes that can be localised at a regional and health service delivery level to improve the secondary prevention and proactive management of chronic disease. Actions are designed to target individuals at various stages of disease progression, to ensure holistic responses in settings such as general practice, primary health care, hospitals and acute health care settings.

The approach to chronic care described and the system level actions listed in this Plan are applicable to all chronic conditions and chronic diseases. However, the Plan prioritises the chronic diseases that cause the greatest burden of disease in South Australia. This is achieved through a 'clustered approach', which focuses on chronic diseases that are preventable and share common risk factors, which can be addressed effectively through shared prevention and management strategies.

3.4 Primary Prevention

In 2009, SA Health will develop a Primary Prevention Plan to address statewide primary prevention planning needs. The aim of this strategy is to ensure a consistent approach to primary prevention. The Plan will include actions that address primary prevention of chronic disease at all life stages¹⁹ in a variety of settings, and take into account the broader environmental, economic and social causes of health inequities^{20, 21, 22, 23}. Primary prevention is currently addressed in South Australia through strategies such as the Eat Well Be Active Healthy Weight Strategy, and other strategies as set out in the SA Health Public Health Directorate Strategic Plan 2007–2009²⁴. A whole of government approach to addressing the social determinants of health in South Australia is being developed through the 'Health in All Policies' framework^{23, 25, 26}.

As the Primary Prevention Plan will address risk factors of chronic disease for all South Australians, the Chronic Disease Action Plan focuses on those already at risk of developing, or diagnosed with, chronic disease. Policies, initiatives and programs addressing prevention and the broader causes of chronic disease are a vital part of the overall chronic disease prevention and management strategy in South Australia^{25, 26}.

3.5 Guiding Principles

The principles of the Chronic Disease Action Plan correspond to the principles of South Australia's Health Care Plan 2007–2016. The aim of South Australia's Health Care Plan is to create a health system that is better for patients and the community. To achieve this, the health system needs to be guided by a range of principles that enable the ongoing provision of caring, complete, safe, effective and efficient services. These common principles are reinforced through all SA Health plans and policies.

The guiding principles of the Chronic Disease Action Plan are to:

- > structure the system to deliver person centred care
- > improve the coordination and integration of services to present a complete system of health care to the consumer
- > improve the level of early intervention and illness prevention services
- > improve self management and health literacy
- > reduce the health inequities between the most and least advantaged
- > focus on the needs of Aboriginal and Torres Strait Islander people using the cultural respect framework
- > optimise opportunities across government, with the private sector, non government organisations and the Australian government
- > achieve health productivity benchmarks based on national best practice
- > recognise that this plan is a part of a system with appropriate links
- > use suitable datasets, key performance indicators and reporting mechanisms to enable the monitoring of key outcomes to inform health planning.

3.6 Enablers

The Chronic Disease Action Plan is a part of the health sector reform process led by South Australia's Health Care Plan³, the SA Health Strategic Plan³⁰ and South Australia's Strategic Plan². These statewide plans include a number of key enablers required to meet the upcoming challenges faced by the health care system. These enablers are being addressed throughout SA Health³. The Chronic Disease Action Plan enablers correspond to the key enablers listed in these statewide plans.

The key enablers for the Chronic Disease Action Plan actions are:

- > build workforce capacity
- > improve information technology and information management
- > develop strategic partnerships
- > enhance investment and funding opportunities.

These key enablers reflect the 'Implementation Actions' recommended in the National Chronic Disease Strategy⁴. Details of the enablers for the Chronic Disease Action Plan, which will be facilitated through South Australia's Health Care Plan reform agenda, are described in Chapter 6.

3.7 Planning Context and Policy Drivers

The Chronic Disease Action Plan sits in the context of national and state based policies and strategies concerning chronic disease. The key national policy documents are:

- > National Chronic Disease Strategy 2005⁴
- > National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003–2013²⁷.

The National Chronic Disease Strategy 2005 provides the overarching direction for improving chronic disease prevention and care across Australia. It is a nationally agreed framework to encourage coordinated action in response to the growing impact of chronic disease on the health of Australians and the health care system.

The National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003–2013 complements the National Aboriginal Health Strategy 1989²⁸ and the Cultural Respect Framework for Aboriginal and Torres Strait Islander Health 2004–2009²⁹. It addresses approaches to primary health care and population health within contemporary policy environments and planning structures to ensure that Aboriginal and Torres Strait Islander people enjoy a healthy life, equal to that of the general population, which is enriched by a strong living culture, dignity and justice.

Chronic and complex disease management and preventative health are priorities in the new national health reform agenda, led by the Australian Government and supported through the Council of Australian Governments. This reform agenda will influence the implementation of the Chronic Disease Action Plan over the next ten years.

In addition to these national policies are a series of key state policies:

- > South Australia's Strategic Plan 2007²
- > South Australia's Health Care Plan 2007–2016³
- > SA Health Strategic Plan 2007–2009³⁰
- > SA Health Aboriginal Health Policy 2007³¹
- > SA Health Aboriginal Cultural Respect Framework³²
- > Chronic Disease Prevention and Management Opportunities for South Australia 2004¹
- > GP Plus Health Care Strategy 2007¹⁸
- > Primary Prevention Plan (under development)
- > Other statewide plans, policies and strategies.

South Australia's Strategic Plan 2007 informs the health reform agenda for South Australia and includes goals for our community to stay healthy, with a focus on preventing illness through improving our lifestyles. The SA Health Strategic Plan 2007–2009 outlines the key strategic directions of SA Health over the next three years within the overarching context of South Australia's Strategic Plan and South Australia's Health Care Plan.

South Australia's Health Care Plan 2007–2016 outlines necessary changes in the health system to effectively manage the changing needs of South Australians over the next ten years. These changes aim to ensure that South Australians have access to quality, safe, complete and affordable health care. Through redeveloping hospital and primary health care services, South Australia's Health Care Plan provides a model of care for all South Australians.

The SA Health Aboriginal Health Policy 2007 provides a statement of commitment to improve Aboriginal Health. The SA Health Aboriginal Cultural Respect Framework, following on from the National Aboriginal Cultural Respect Framework 2004²⁹, provides the guiding principles to develop policy and initiatives to lift the cultural competency of mainstream health services. These documents informed the development of the Chronic Disease Action Plan, and will inform the implementation of its actions. A new SA Health Aboriginal Health Strategy is being developed for 2009, which will detail a comprehensive approach to address health inequities in the Aboriginal and Torres Strait Islander population in South Australia.

The GP Plus Health Care Strategy 2007 is the overarching primary health care and out-of-hospital strategy for South Australia²⁸. As the majority of chronic disease management occurs in primary health care settings, this strategy is integral to the Chronic Disease Action Plan and provides the context for many of the early intervention, early detection and disease management strategies described in this Plan.

Regional Health Improvement Plans are under development as a part of the GP Plus Health Care Strategy. They provide a population health and evidence based approach to the planning, management and evaluation of service delivery to meet the priority population health needs at a regional or sub-regional level. The plans address issues of equity, ensuring that the health needs of the most disadvantaged communities are addressed. While initiated by Regional Health Services through GP Plus Health Networks, the plans include partner organisations such as the local General Practice Networks; key non government organisations; Aboriginal Community Controlled Health Services; and consumer advocates³³. Health Improvement Plans will facilitate many of the actions listed in the Chronic Disease Action Plan.

In addition to these statewide policy documents, a series of plans, policies and strategies are under development which will complement the Chronic Disease Action Plan. These include the Health Plan for Older People, the Palliative Care Plan, South Australian Stroke Plan, Primary Prevention Plan, Aboriginal Health Strategy, Child Health Framework, Disability Action Plan, SA Men's Health Framework and the SA Women's Health Action Plan. The topics covered in these plans are intricately related to chronic disease secondary prevention and management. However, the content of these plans will not be duplicated here. Rather, the plans should be seen as complementary and relevant to different aspects of South Australia's health reform agenda. Regional Health Service Implementation Plans will be developed by each Regional Health Service to facilitate the integration of these plans.

4. Approach to Chronic Disease

4.1 Chronic Disease and Risk Factor Priorities

While the Chronic Disease Action Plan puts forward an approach to chronic care that is applicable to all chronic conditions and chronic diseases, the Plan prioritises preventable chronic diseases which 'cluster' around common behavioural, environmental and biomedical risk factors¹³. This 'clustered approach' aligns with the National Chronic Disease Strategy 2005⁴. The following chronic disease groupings have been identified as the focus for targeted action:

- > cardiovascular disease — coronary heart disease, vascular disease and stroke
- > diabetes — particularly type 2, but also type 1 and gestational diabetes
- > chronic respiratory disease — chronic obstructive pulmonary disease and asthma
- > musculoskeletal disease — osteoarthritis and osteoporosis.

Mental illness, particularly depression and anxiety, contributes significantly to the burden of disease in South Australia, and is commonly associated with the prioritised chronic diseases^{5, 34}. Prevention and disease management strategies that consider mental health issues have been found to be effective³⁵. For these reasons, depression and anxiety, as co-morbidities of chronic disease, should also be considered in the implementation of the actions listed in this Plan. Other chronic conditions and chronic diseases, such as chronic renal disease, genetic and developmental conditions, and neurological conditions, have not been detailed in the Plan. However, the chronic care approach and system level actions presented in this Plan are applicable to the management of any conditions with a chronic or complex nature.

The prioritisation of chronic diseases is consistent with the National Health Priority Action Areas³⁴, which identified the key health priorities in Australia. These chronic diseases were chosen as priorities because they:

- > have the greatest burden of disease
- > are largely preventable through lifestyle and behavioural modification
- > can be modified through policy and environmental changes
- > are able to be managed to improve health outcomes³⁴.

Recent South Australian data demonstrates the high burden of the prioritised chronic diseases. In 2007, the North West Adelaide Health Study reported that 46.4% of South Australians aged 18 and over had at least one chronic disease, a slight increase from the previous study conducted from July 2002 to December 2003. While this increase was not significant, the study also found a significant increase in the number of South Australians who reported three or more chronic diseases, which rose from 3.9 to 4.9% of the population. Arthritis (18.1%), asthma (11.5%) and cardiovascular disease (4.3%) were the diseases reported most often in the study³⁶.

Addressing key risk factors can assist in the prevention and management of chronic diseases. Risk factors are modifiable behaviours and conditions that are directly linked to the development of chronic disease³⁷. The National Public Health Partnership's 'Preventing Chronic Disease: A Strategic Framework', recommends a 'clustered approach', which focuses action on key shared risk factors that are common to all the prioritised chronic diseases:

'The cluster does not include all chronic diseases and conditions, nor all possible risk factors. The intention in the first instance is to improve coordination around a manageable number of related conditions which are known to be preventable, share commonalities in pathogenesis and risk factors, and constitute a significant proportion of the total burden of disease¹³.'

Targeting key shared risk factors can prevent, delay progression and assist in the management of many chronic diseases at the same time^{38, 40}. The shared behavioural risk factors for the prioritised chronic diseases are referred to as the SNAPS risk factors¹⁴. They are:

- > Smoking
- > Nutrition
- > Alcohol misuse
- > Physical inactivity
- > Stress and psychological factors influencing health.

The Royal Australian College of General Practitioners developed the SNAP risk factors framework as a national standard to address the shared risk factors of chronic disease¹⁴, which has been accepted internationally³⁸. In 2001, the Australian Government Department of Health and Ageing released 'Smoking, Nutrition, Alcohol and Physical Activity (SNAP) Framework for General Practice'³⁹. It stated that:

'The SNAP risk factors have been identified as significant contributors to the burden of disease in Australia, including all the National Health Priority Areas. Each of the SNAP risk factors is responsible for large amounts of ill health, suggesting that substantial health gains can be expected from effective public health interventions to address these risk factors'³⁹.

Stress has been added to the SNAP risk factors in many Australian chronic disease plans since 2001 due to its prevalence and association with the National Health Priority Areas^{12, 34, 35, 37, 40, 41}. The SNAPS risk factors contribute significantly to the burden of disease in South Australia^{42, 43, 44, 45}. Data from the South Australian Monitoring and Surveillance System indicates that approximately 41.3% of persons aged 16 and over have a single risk factor, 50.7% have two or more risk factors, while 8.0% have three or more risk factors for chronic disease⁵. A focus on the SNAPS risk factors for chronic disease has been recommended by the World Health Organization¹², and is used in the National Chronic Disease Strategy, as well as the Victorian, Tasmanian, and Queensland chronic disease plans^{4, 12, 35, 37, 40, 41}.

The SNAPS behavioural risk factors are strongly linked to shared biomedical risk factors for the prioritised chronic diseases (see Figure 3)⁶. The key preventable biomedical risk factors identified for South Australia are:

- > excess body weight
- > high blood pressure
- > high blood cholesterol
- > impaired glucose tolerance.

These biomedical risk factors are associated with the significant burden of chronic disease and behavioural risk factors in South Australia⁴⁵. Biomedical risk factor prevalence has remained fairly stable over the last five years in South Australia⁴². However, data from July 2002 to December 2006 indicates that while the number of South Australians identified as being overweight has insignificantly decreased (down 0.3%), the number identified as being obese has significantly increased (up 0.5%)⁴³. This highlights the need to address the biomedical risk factors of chronic disease in the Chronic Disease Action Plan.

The table below demonstrates the relationship between the SNAPS behavioural and biomedical risk factors, and the prioritised chronic diseases.

Figure 2

Relationships between various chronic diseases and risk factors

| Chronic Disease | Risk Factors | | | | | | | | |
|-------------------------------|--------------|----------------|----------------|---------------------|--------|---------------|---------------------|------------------------|----------------------------|
| | Behavioural | | | | | Biomedical | | | |
| | Smoking | Poor nutrition | Alcohol misuse | Physical inactivity | Stress | Excess weight | High blood pressure | High blood cholesterol | Impaired Glucose Tolerance |
| Coronary heart disease | ✓ | ✓ | ✓ | ✓ | + | ✓ | ✓ | ✓ | + |
| Diabetes | ✓ | ✓ | ✓ | ✓ | + | ✓ | + | ✓ | ✓ |
| Asthma & COPD* | ✓ | + | | + | + | ✓ | | | |
| Osteoarthritis & osteoporosis | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| Depression & anxiety | + | + | ✓ | ✓ | + | | | | |

Key: ✓ established risk factor; + co-morbidity/association; *Chronic Obstructive Pulmonary Disease

Source: Adapted from – Australian Institute of Health and Welfare (2008) *Indicators for chronic diseases and their determinants 2008*, AIHW, Canberra: 34; & National Public Health Partnership (2001) *Preventing Chronic Disease: A Strategic Framework*, Australian Health Ministers' Advisory Council, Melbourne: 23

Multiple risk factors are also common in the population with chronic disease, and tend to aggregate in individuals and population groups⁴⁴. There are strong links between risk factors and chronic disease development, which have been found to persist after diagnosis⁴⁴. Australian data indicates that for those diagnosed with at least one chronic disease:

- > 18.2% currently smoke
- > 11.3% are engaging in high-risk alcohol consumption
- > 76.5% are exercising less than the required amount
- > 42.2% eat less than the recommended intake of fruit daily
- > 83.1% eat less than the recommended intake of vegetables daily
- > 54.4% have been identified as being overweight or obese⁴⁵.

These figures tended to aggregate in populations with specific chronic diseases; in particular, there are higher numbers of smokers among those with respiratory disease, and higher numbers of those who are overweight or obese among the population with diabetes, impaired glucose tolerance or hypertension⁴⁵.

This South Australian data illustrates that, while a focus on risk factors is commonly associated with primary prevention⁴⁶, healthy behaviours also play a vital role in the management and treatment of chronic diseases at various stages of disease progression, through secondary and tertiary prevention strategies^{15, 47, 48}. A clustered approach to SNAPS risk factors is an effective approach to the prevention, management and treatment of the prioritised chronic diseases¹³. Addressing the SNAPS risk factors through promoting healthy choices is a key objective of the South Australian health reform process³, as well as nationally agreed health reform programs⁴⁹. This approach is used in many current strategies and initiatives in South Australia, such as the Eat Well Be Active Healthy Weight Strategy⁵⁰, and will be addressed in the upcoming Primary Prevention Plan.

4.2 Targeting Health Inequities

The Chronic Disease Action Plan uses a targeted population health approach to address health inequities. This approach involves the promotion of good health and wellbeing and prevention of illness for the population as a whole, with a particular focus on the needs of groups at risk of developing, or with, established chronic disease¹³.

Population-wide and targeted population strategies are necessary in health initiatives. A dichotomy exists between broad population based approaches where interventions are offered to an entire population, and focused interventions that are tailored to high-risk populations. While universal population based approaches can reduce ill health overall, the inequity in health often persists and the gap in health outcomes can widen. Consequently, these two approaches should be used together to both improve the health of the population while ensuring the inequitable gaps in health outcomes are reduced⁵¹. A targeted approach for at risk populations combined with broader health initiatives that target the whole of the population, such as health promotion initiatives and public health policies, are therefore needed to address health inequities in South Australia^{51, 52, 53, 54, 55, 56}.

Some population groups within South Australia are more likely to be at risk of chronic disease, due to economic, social and environmental influences^{54, 55, 56, 57, 60}. Targeted strategies are needed to combat higher risk for these populations. Key population groups with health inequities that need to be addressed have been identified in the Social Health Atlas of South Australia⁵⁸. The key population groups identified in this Plan are:

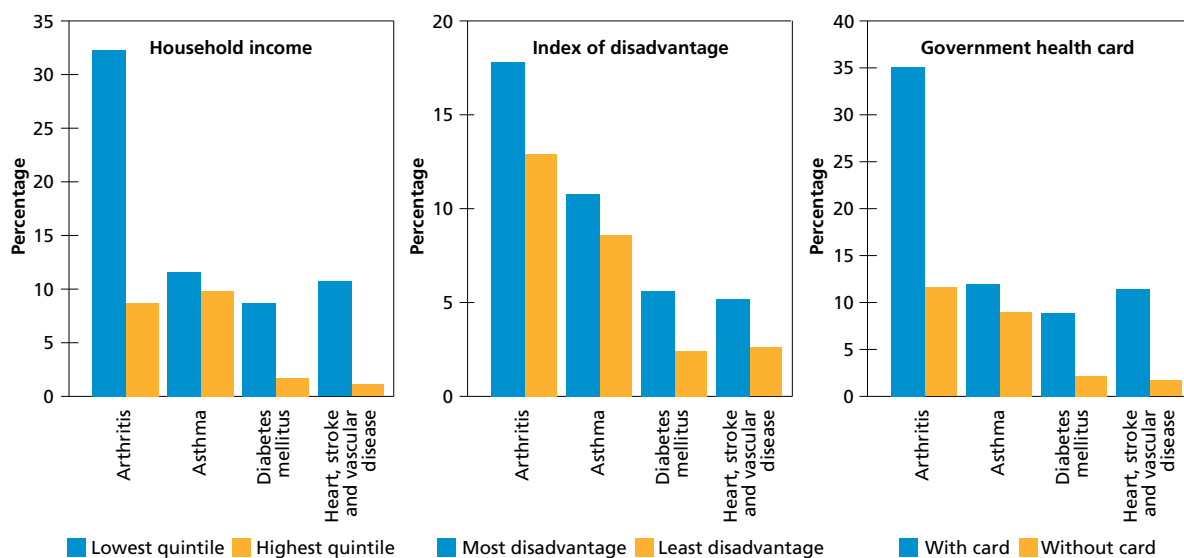
> People in low socioeconomic circumstances

Health status is related to many socioeconomic factors. Access to resources, poor education, low income, unemployment, underemployment and poor job satisfaction, limited access to services, and low health literacy, have all been identified as affecting health and wellbeing⁵⁹. People who are relatively poorer or socioeconomically disadvantaged in other ways generally live shorter lives, and suffer more illness and reduced quality of life than the population on average⁴⁷. Higher rates of risk behaviour, such as smoking and excessive alcohol consumption, higher rates of obesity and high blood pressure, and low self rated health also contribute to greater risk of chronic disease in the population with low socioeconomic status⁴⁷.

Data from the National Health Survey 2004–2005 indicates that the percentage of people with at least one chronic disease is higher for the low socioeconomic population when compared against the population as a whole⁵⁶. Smoking and lower levels of activity were also found to be more prevalent among the lower socioeconomic population⁵². Health service utilisation in South Australia was found to be higher for the population with lower socioeconomic status, including a higher annual rate of hospitalisation of 1.3% compared to 0.7% for the general population; and general practitioner consultation of 33.5% compared to 17.5% for the general population⁴⁸. Figure 3 illustrates the clear relationship between chronic diseases and socioeconomic status.

Figure 3

Relationships between indicators of socioeconomic status and chronic diseases for people over 18 years



Source: Adapted from Australian Bureau of Statistics (2006) *National Health Survey 2004–2005*, ABS, Canberra.

> **Culturally and linguistically diverse populations**

Migrants from non-English speaking backgrounds, particularly refugees and post World War 2 migrants face many limitations to good health. For some, a combination of economic struggle, a new language, and a new cultural setting has been found to affect their ability to access labour markets, develop social networks, become aware of and use various services, and participate in many aspects of Australian society⁵⁸. All of these social and economic influences affect access to health care services, the prevalence of behavioural risk factors, and the overall health and wellbeing of the refugee and non-English speaking population in South Australia⁵⁸.

> **Aboriginal and Torres Strait Islander peoples**

South Australia's Strategic Plan states a need to recognise the social and economic disadvantage and related poorer health and wellbeing overall of the Aboriginal and Torres Strait Islander population in all health initiatives². Data from a number of sources indicate that the Aboriginal and Torres Strait Islander population is disadvantaged across a range of socioeconomic factors that affect health, such as lower than average incomes, higher rates of unemployment, poorer education achievements, and lower rates of home ownership. Social risk factors such as experiencing discrimination, which have also been found to have a negative effect on health and wellbeing, are more prevalent in this population^{5, 36}. In South Australia, a higher prevalence of many chronic diseases; biomedical risk factors such as high cholesterol, obesity and high blood pressure; and behavioural risk factors such as smoking, high-risk alcohol consumption, lack of physical activity and psychological distress; have been reported in the Aboriginal and Torres Strait Islander population^{5, 36}.

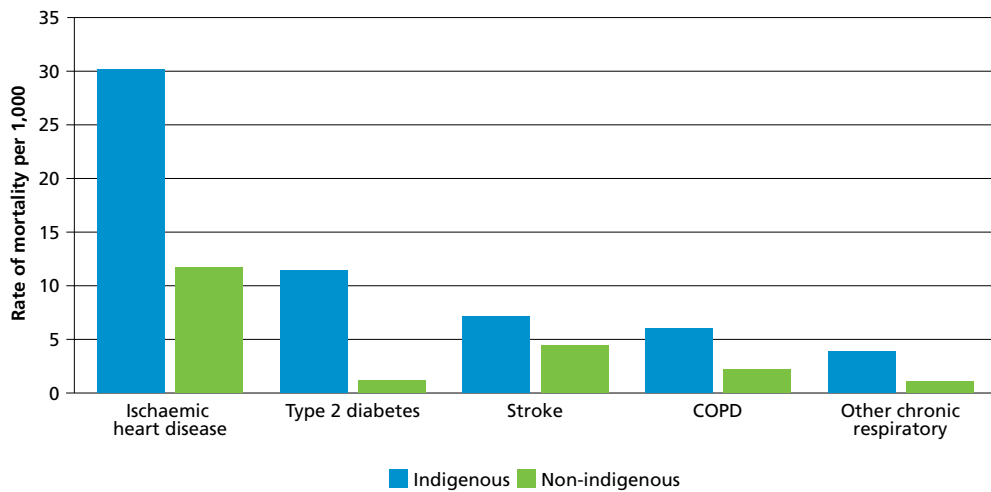
From 2001 to 2004–2005, there was an increase in the number of chronic diseases for which Aboriginal and Torres Strait Islander people reported higher rates than the wider community in South Australia. In 2001, Aboriginal and Torres Strait Islander people reported higher rates of asthma, diabetes, impaired glucose tolerance and renal disease than the wider community. In 2004–2005, Aboriginal and Torres Strait Islander people also reported higher rates of arthritis as well as heart and circulatory diseases⁶¹, and have higher rates of hospitalisation than the wider community for these chronic diseases^{47, 63}.

Chronic renal diseases are strongly associated with Type 2 diabetes, and disproportionately affect the Aboriginal and Torres Strait Islander population in South Australia⁶². The hospitalisation rate for renal disease in South Australia in 2006–2007 was eight times higher for Aboriginal and Torres Strait Islander people, 234.7 per 1000, compared with the wider community, 29.5 per 1000³⁶. Other chronic diseases are also more prevalent in the Aboriginal and Torres Strait Islander population³⁶. The approach to chronic care described in this Plan applies equally to these chronic diseases and the Plan recognises the burden of these conditions, particularly chronic renal diseases, in the Aboriginal and Torres Strait Islander population.

Years of life lost due to premature death estimates indicate that not only are death rates for chronic disease involving Aboriginal and Torres Strait Islander people higher than the rest of the population, but deaths also occur at earlier ages⁴⁷. The report 'Population Health in South Australia: Premature mortality by Indigenous identification 2007'⁴⁷ estimates that three quarters of premature death among Aboriginal and Torres Strait Islander South Australians is 'potentially avoidable'. The mortality rates for the prioritised chronic diseases are significantly higher for Aboriginal and Torres Strait Islanders than that of other South Australians⁶⁵ as seen in Figure 4.

Figure 4

Mortality rates for the leading cause of death amongst Aboriginal and Torres Strait Islander populations compared against non-Aboriginal populations



Source: Adapted from – Burden of Disease Unit (2007) *Population Health in South Australia: Premature mortality by Indigenous identification*, SA Health, Adelaide.

> Rural and remote communities

Rural and remote populations have been found to have poorer health outcomes in relation to chronic disease and associated risk factors than the general population. South Australians in regional and remote areas have higher incidence of behavioural risk factors such as smoking, high-risk alcohol consumption, overweight or obesity, and physical inactivity than their urban counterparts⁶³. Smoking and high-risk alcohol consumption is increasing in regional areas while declining in urban areas⁶³. Obesity and overweight is increasing faster in regional areas than in urban areas. In South Australia in 2005, four of the seven country health regions had the highest burden of mortality and morbidity for the prioritised chronic diseases⁶³.

According to the Australian Institute of Health and Welfare, poorer health outcomes and higher death rates in regional and remote areas are likely to be the result of factors such as higher levels of socioeconomic disadvantage, for example lower incomes and lower levels of education, and higher levels of behavioural and biomedical risk factors⁶³. Less access to specialist medical services and a range of other health services⁶³, poorer access to work, particularly skilled work⁶⁴, and other environmental issues also contribute to poorer health outcomes⁵⁸. There are also a relatively large proportion of Aboriginal people in remote and very remote areas compared with major cities, which contributes to higher rates of death in remote areas⁵⁸. All of these reasons illustrate the need to prioritise rural and remote populations in chronic disease initiatives in South Australia.

> The population identified at high-risk of chronic disease

In addition to targeting health inequities, there is also a need to target those in the wider population at high-risk of chronic disease, regardless of whether they are from targeted population groups. Interventions designed to change at risk behaviour have been found to be most effective for high-risk people⁶⁵. Furthermore, the secondary prevention of progression to chronic disease has health and economic benefits⁶⁶. Targeting strategies for the population at risk of chronic disease is essential for effective chronic disease prevention⁶⁵. This evidence illustrates the need for a targeted population health approach to chronic disease secondary prevention and management in South Australia.

4.3 Chronic Care Approach

The increasing burden of chronic disease is one of the major issues driving planning for the health care needs of the South Australian population^{6, 67, 68}. According to international evidence, two changes are essential for health systems to address the rising prevalence of chronic disease:

1. a shift from an acute care focus to a chronic care focus, and
2. a shift from a disease focus to a person focus in health care¹⁶.

An acute care approach is characterised as disease, symptom or complaint focussed, with services centred on health professionals organised in institutions such as hospitals. Care is usually provided for episodic illness with a focus on treatment and short-to-medium-term management. This is the primary focus of hospital services in South Australia and is an appropriate model to address the acute health needs of the population. However, a large number of people admitted to hospital have co-existing chronic conditions which may or may not be related to the reason for admission. A chronic care approach is needed to maintain continuity of care for those with chronic conditions in and between primary care and acute care settings.

The majority of care required for chronic disease is ongoing and is usually managed outside of an acute setting as the underlying condition itself is permanent and not episodic¹⁷. The health system needs to be equipped to treat and manage chronic disease at all stages of disease progression and provide continuity of care across all settings, including during admission to a hospital setting⁶⁹. A chronic care approach allows for a focus on prevention and ongoing management for all chronic conditions. Figure 5 below illustrates the key differences between an acute and chronic care approach for the management of chronic disease.

Figure 5

Acute and chronic care – key differences

| Acute Care | Chronic Care |
|--|--|
| Disease-centred | Person-centred |
| Doctor-centred | Team-centred |
| Focus on individuals | Focus on individuals and populations |
| Secondary care emphasis | Primary care emphasis |
| Reactive, symptom-driven | Proactive, planned intervention |
| Managed care | Support for self management |
| Episodic care | Ongoing care |
| Treatment focus | Prevention/management focus |
| 1:1 contact through visit by patient | 1:1 or group contact through visit by patient or health professional |
| Single setting: hospital, specialist, general practice | All health care settings |
| Limited external coordination | Coordination among multiple providers |
| Limited integrated care planning | Integrated care planning with goals/objectives |
| Limited information transfer | Person-centred record moves with patient across care providers |

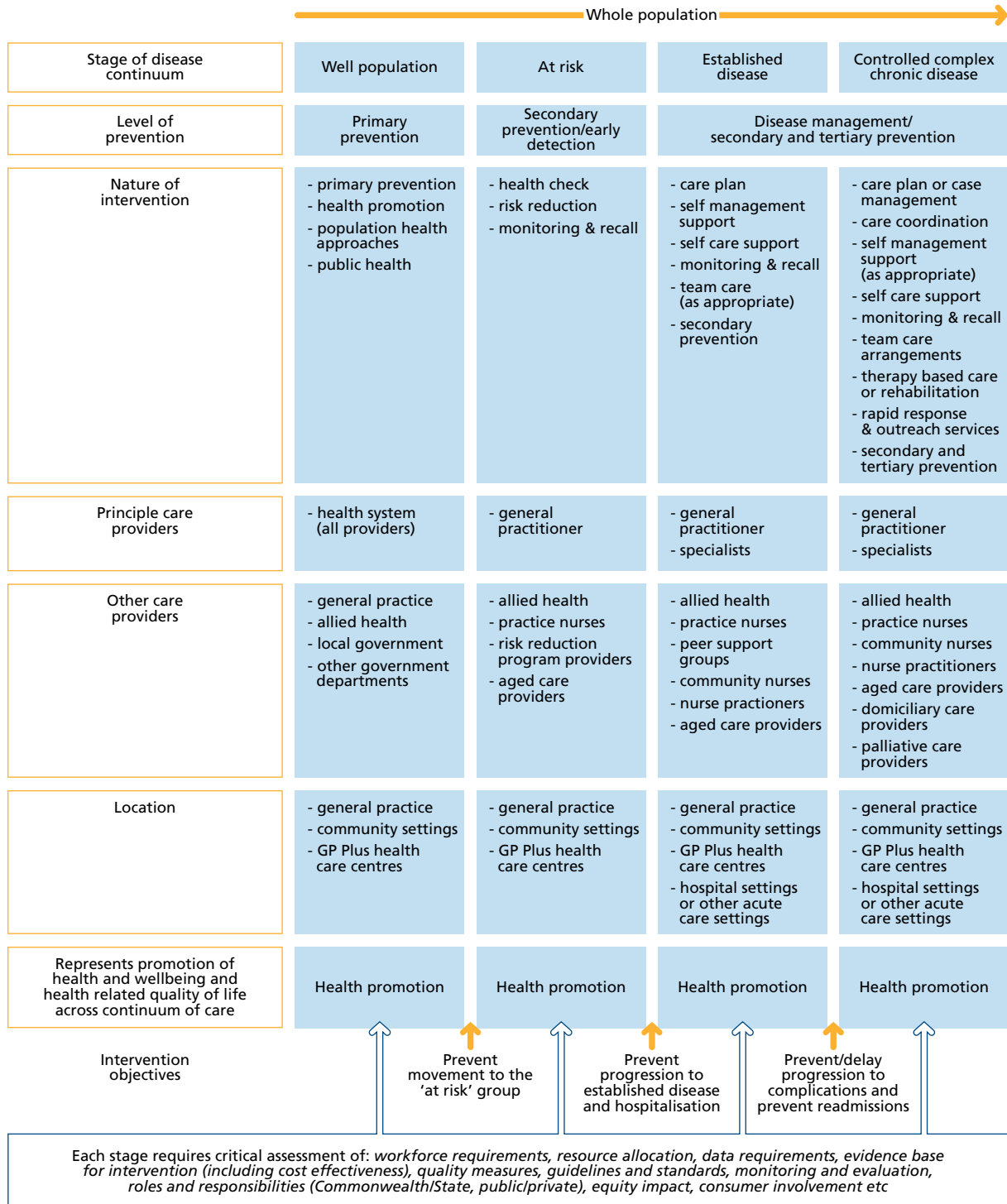
Source: adapted from National Health Committee (2007) *Meeting the Needs of People with Chronic Conditions*, New Zealand: 14.

Chronic care is based on proactive and planned cycles of care, where services and strategies vary at different stages of disease progression according to the level of need⁷⁰. It requires integration of patient care across the entire health system in active partnership with patients to allow continuity of care across different services⁷¹. This approach should be formalised by the consistent use of an agreed evidence base in practice while valuing patient views on treatment options to inform decisions⁷². While all chronic diseases are different and need to be treated and managed using disease specific evidence based practice, care for all chronic conditions should include:

- > goal setting and self management support
- > monitoring at determined intervals
- > recall and review at determined intervals
- > referral and team based care as appropriate
- > web-based information sharing.

Figure 6 illustrates the different service levels for chronic disease prevention and management in South Australia. Through tailoring strategies at each level of the disease continuum and adopting a whole-of-life approach to prevention, appropriate and cost effective strategies can reach all population groups¹³. These strategies can be targeted to prevent or delay the movement of individuals to higher levels of risk, or to more complex conditions.

Figure 6
Chronic disease prevention and management in South Australia



Source: adapted from National Public Health Partnership *Preventing Chronic Disease: a Strategic Framework*, Australian Health Ministers' Advisory Council, Melbourne: 33.

Figure 6 illustrates the range of strategies and services needed to address chronic disease in the whole population at all stages of the disease continuum. Actions in the Chronic Disease Action Plan cover the population with risk factors for developing chronic disease, with established disease, and at all stages of chronic disease progression. The strategies needed to target the 'well population' are addressed through other SA Health strategies such as the Eat Well Be Active Strategy and the Primary Prevention Plan^{1, 2, 18, 50, 73}.

Chronic care requires a whole of system approach to health service provision. The SA Health Care Plan and the GP Plus Health Care Strategy describe a system-wide plan for South Australia, including primary care, specialist care, tertiary services, rehabilitation, and end of life care. This system-wide plan aims to facilitate better transitions between health services by incorporating a chronic care approach to the management of chronic disease, as exemplified by the development of the new Marjorie Jackson-Nelson Hospital.

A shift towards including a chronic care approach in acute health services has been articulated in the Model of Care document prepared for the design phase of the Marjorie Jackson-Nelson Hospital. The Model of Care recognises patients with chronic conditions who are already managed in primary care settings, referred to as 'known patients', and incorporates direct admission and direct access to services according to agreed diagnosis pathways for these patients. A similar approach for the patient journey is advocated for all tertiary and general hospitals in South Australia so that the chronic care pathway developed in the community is continued during a stay in hospital and is strengthened on discharge.

The systematic approach to chronic care outlined in this Plan would provide the right care, at the right time, in the right place, and at all stages of the disease continuum. Continuity of care is maintained through care planning, where transitions between health care providers are facilitated through information technology and communication strategies^{70, 74, 75}. A team based approach allows individual patients to receive coordinated and individualised care in and across settings, through transferable care plans, information sharing and effective communication between providers⁷⁶. This requires coordination and a whole of health system approach which is supported by the actions in this Plan. The patient journey is the focus of health service provision, based on a needs gradient to provide the most appropriate care depending on need and the severity of a patient's condition.

For chronic care to be effective, health services need to provide ongoing support for the management of chronic disease to prevent or delay complications and co-morbidity. This approach applies to all chronic conditions, including genetic conditions such as cystic fibrosis, neurological conditions such as Parkinson's disease, and all chronic diseases. The GP Plus Health Care Strategy and the SA Health Care Plan highlight the necessary shift towards chronic care for South Australians through increased support for primary health care and its expanding role in disease management and self management support^{3, 18}.

5. Effective Actions for Chronic Disease

This chapter outlines system level actions and supporting evidence for effective chronic disease secondary prevention and management in South Australia, in line with the overarching direction of the National Chronic Disease Strategy⁴. These actions are framed in terms of the key outcomes of this ten year plan. For a combined list of the all the actions in this chapter, including the timeframe, responsibility and expected outcomes, see the Framework for Actions in the Executive Summary of this plan.

The actions in this plan will be implemented through a targeted population approach to address health inequities^{52, 53, 54, 55, 56, 77}. People in low socioeconomic circumstances, the Aboriginal and Torres Strait Islander population, culturally and linguistically diverse populations, rural and remote populations, and the population identified at high-risk of chronic disease have been prioritised for targeted action⁵⁶.

Strategies need to recognise the importance of social, economic, environmental and cultural barriers that cause inequity^{50, 54, 55, 56, 60, 57, 78, 79, 80} to effectively address chronic disease secondary prevention and management in South Australia. Some common barriers faced by these at risk populations are listed below.

Common social limitations to chronic disease prevention and management in at risk populations:

- > Low levels of health literacy reflecting poor educational opportunities⁸³
- > Lack of time because of long working hours and family responsibilities⁸²
- > The availability of fast food and sedentary entertainment as a convenient option for managing time pressures⁸²
- > Costs associated with the consumption of fruit and vegetables, engagement in physical activity, disease management and health service access are often considered to be prohibitive^{83, 84, 85, 86, 87}
- > Lack of transportation, restricting access to services⁸⁷
- > Lack of family support, which hinders the implementation of behavioural change⁸²
- > Environmental constraints such as the absence of safe walking paths and recreational facilities^{82, 83}
- > Lack of awareness of the health implications because of insufficient local and national efforts to raise health literacy levels^{84, 87}
- > Low community priority given to chronic diseases because of other significant community issues⁸²
- > Cultural traditions, such as women not being able to walk after dark⁸²
- > Lack of bilingual health professionals to engage with culturally diverse communities⁸³
- > Lack of health professionals that identify as belonging to high-risk communities⁸³
- > Lack of individual knowledge to identify how current health problems influence immediate health issues through to longer term health outcomes^{87, 88, 89}
- > Psychological distress noted among low socioeconomic status and Aboriginal populations, and its association with short-term planning and 'getting-by' on a daily basis^{82, 83, 84, 85, 86, 89}

When targeting health inequities in chronic disease management strategies, research has identified a need for customised programs that take into account the social, economic and environmental barriers to effective self care⁸¹. For example, studies have highlighted a need for frequent follow ups, simpler medication regimes, and clear instructions on the health consequences of non-compliance, to improve self care and self efficacy for non-English speaking individuals, or those with low health literacy⁸¹. This highlights the need for sophisticated strategies that consider the social, environmental, cultural and economic limitations to good health outcomes for targeted populations^{82, 83, 84, 85, 86, 87, 88, 89}.

A whole of government approach to addressing the social determinants of health is being developed through the 'Health in All Policies' framework^{23, 25, 26}. 'Health in all Policies' seeks to integrate health considerations across a wide range of policy areas that affect the social determinants of health to recognise and address the causes of ill-health²³. A new SA Health Aboriginal Health Strategy is also being developed to address health inequities in the Aboriginal and Torres Strait Islander population.

Targeting health inequities is important at all stages of disease progression and needs to be considered in all chronic disease prevention and management strategies, programs and initiatives in South Australia. This includes the actions in this Plan, and in other plans such as the Primary Prevention Plan.

5.1 Secondary Prevention and Early Intervention

Secondary prevention, early detection and early intervention strategies can reduce the prevalence of chronic disease, delay disease progression, and improve the health and wellbeing of the population as a whole¹³. Preventing chronic disease and disease progression can reduce the burden of chronic disease on the health system, particularly limited and costly acute services⁴. Focusing on prevention across the disease continuum has been found to be more cost effective than a focus on treatment alone for chronic diseases, and prevention strategies have a positive effect on the health and wellbeing of the whole population^{12, 13}.

Prevention refers to strategies that aim to reduce risk at all stages of the disease continuum and at all life stages⁹⁰. Primary, secondary and tertiary prevention strategies are needed to prevent the development of risk and chronic disease, and reduce disease progression, complication and co-morbidity in chronic disease⁹¹.

Primary prevention aims to limit the incidence of disease and disability in the population by measures that eliminate or reduce causes or determinants of departures from good health, control exposure to risk, and promote factors that are protective of health. Primary prevention includes widespread changes that reduce the average risk in the whole population, and the reduction of particular exposures among identified higher risk groups or individuals.

Secondary prevention aims to reduce progression of disease through early detection, usually by screening at an asymptomatic stage, and early intervention. Secondary prevention may also refer to measures that aim to prevent the second occurrence of a major event such as a stroke or acute coronary syndrome.

Tertiary prevention aims to improve function and includes minimisation of the impact of established disease, and prevention or delay of complications and subsequent events through effective management and rehabilitation. Tertiary prevention includes effective management of the patient to reduce the progress or complications of established disease and improve patient wellbeing and quality of life⁶⁸.

The Chronic Disease Action Plan actions are aimed at the stages of the disease continuum after individuals have already developed risk factors for chronic disease. Therefore, secondary and tertiary prevention strategies are prioritised in this Plan. Population wide, whole-of-life and targeted primary prevention strategies, such as the Eat Well Be Active Healthy Weight Strategy 2006–2010, and the upcoming Primary Prevention Plan, continue to be relevant at all stages of the chronic disease continuum⁵⁰.

Outcome 1: Reduce the risk profile of at risk populations

Secondary prevention strategies are needed to reduce the risk profile of the South Australian population at risk of chronic disease. This includes strategies to improve individual and health professional access to appropriate, evidence based risk reduction and healthy lifestyle information to improve health literacy and overall health and wellbeing^{12, 48, 50, 51, 52, 56}. Access to up to date information is needed for established and emerging risk factors for chronic disease.

SA Health is committed to combating risk factors and improving health literacy, as stated in the SA Health Strategic Plan 2007–2009³⁰. Prevention strategies are considered vital in the National Chronic Disease Strategy¹³ and the World Health Organization's framework 'Preventing Chronic Disease: a Vital Investment'¹².

According to the World Health Organization, access to appropriate and affordable primary health care as well as healthy living and risk reduction information is essential for the ongoing health and wellbeing of vulnerable populations⁹². The GP Plus Health Care Strategy, through the Health Improvement Plans, aims to understand the risk profile of local communities and improve the access to appropriate primary health care services for the whole population and targeted population groups identified at higher risk of chronic disease^{3, 54}.

Actions to reduce the risk profile of the populations:

- 1.1 Improve access to risk factor reduction information for both health professionals and at risk populations.
- 1.2 Monitor the evidence base for emerging risk factors for chronic disease.
- 1.3 Use Health Improvement Plans to profile the risk characteristics of targeted populations for local communities.

Outcome 2: Improve the early detection of risk factors in at risk populations

Early detection strategies involve the identification of people with behavioural and biomedical risk factors at moderate to high-risk of chronic disease, and people with undiagnosed chronic disease. Early detection enables targeted primary and secondary prevention.

When risk is identified early, appropriate lifestyle-based strategies can have long-term positive effects on health and wellbeing⁹³. Evidence supports the use of evidence based risk assessment tools; settings based screening, risk reduction programs, and the establishment of registers and recall systems for risk factors and chronic disease^{94, 95, 96, 97, 98}.

Evidence based, validated risk assessment tools based on the behavioural and biomedical risk factors for chronic disease are used to identify risk of chronic disease in individuals. Screening through the use of validated risk assessment tools aims to assist health professionals to identify risk, to engage patients in prevention and to assist referral to risk reduction programs⁹⁴. The benefits of screening for chronic disease and chronic disease risk factors have been established in a number of international and Australian studies^{94, 95, 96}. There is currently a wide variety of screening programs in South Australia.

Screening can take place in health care or other familiar settings⁹⁵. According to the World Health Organization, screening for the prioritised risk factors of chronic disease should be undertaken opportunistically during health care encounters to raise awareness of risk, detect disease early, and monitor health status⁹⁶. Opportunistic screening and other settings-based prevention strategies can also be effective in non-health settings^{97, 98}. For example, workplace screening for biomedical risk factors has been found to improve the early detection and prevention of chronic disease^{97, 98}. Self administered screening tools can also assist individuals to recognise their own risk of chronic disease⁹⁵. Identifying risk factors is essential for targeted prevention⁹⁶.

Screening for the prioritised risk factors associated with chronic disease needs to be targeted for specific population groups that are at high-risk of chronic disease, according to evidence based guidelines⁹⁹. This includes vulnerable populations, and those not in vulnerable populations but at higher risk for other reasons⁹⁹. For example, expectant mothers with gestational diabetes and their children are at higher risk of developing type 2 diabetes in later life and are a high-risk population¹⁰⁰, and post-menopausal women are at higher risk of osteoporosis⁹⁵. Targeting of the population at risk of chronic disease is important for both the prevention of chronic disease and the early detection of undiagnosed chronic disease.

The key to identifying people at risk of developing chronic disease is achieving and maintaining accurate and accessible data across all health care settings. There are many information technology initiatives currently being developed in South Australia that will improve data management, decision support, access to evidence based guidelines, and data linkages. For example, one initiative is the 'Clinical Audit Tool', a software tool that allows general practices to audit their existing clinical system to find patients at risk of chronic disease. Another initiative will use secure electronic messaging software to enable health care providers to securely exchange patient clinical information with other health care providers. Such information technology initiatives aim to improve the monitoring and management of risk factors and chronic diseases in South Australia.

By identifying risk through an assessment of risk factors, secondary prevention and health education can be targeted for individual needs⁹⁶. Planned and opportunistic screening and ongoing monitoring by health professionals for the risk factors of chronic disease has been effective in achieving significant reductions in overall risk when screening is followed by risk reduction interventions^{95, 99, 100, 101, 102}.

Actions to improve the identification and monitoring of risk factors in at risk populations:

- 2.1 Develop or adopt validated risk assessment tools and evidence based guidelines for prioritised risk factors for chronic disease. Use these tools at a statewide level to provide consistent self or clinician administered screening and management.
- 2.2 Use existing tools such as the Clinical Audit Tool to identify those at risk of chronic disease.

Outcome 3: Reduce progression to chronic disease for at risk populations

Early intervention strategies are used when risk of chronic disease has been identified. International evidence supports multiple risk reduction strategies to target different populations at different stages of the disease continuum¹².

In South Australia, there are a number of programs running and in development that target risk of chronic disease. Population based primary prevention initiatives such as the Eat Well Be Active Healthy Weight Strategy target the whole population as well as specific high-risk population groups⁵⁰. Lifestyle advice and the provision of educational material, community based programs such as physical activity groups, biomedical intervention such as medications, and risk reduction programs are all within the scope of early intervention. This includes existing government and non-government services such as 'Quit SA' resources and programs for smoking cessation and various alcohol risk reduction programs⁵⁰.

Targeted SNAPS risk reduction programs have been found to significantly reduce risk in high-risk populations^{101, 103}. For example, evaluation of the Finnish Diabetes Prevention Program found that, through encouraging modest lifestyle changes, including weight loss and diet modification, the risk of Type 2 diabetes reduced by 58% in participants with impaired glucose tolerance⁹⁸. A study of participants at high-risk of cardiovascular disease found a significant reduction in risk was achieved using prevention programs based on biomedical and lifestyle risk factor modification¹⁰². Other programs have had similar positive results^{65, 93, 104, 105}.

Screening, programs and strategies targeting the behavioural and biomedical risk factors for chronic disease are not limited to the prioritised risk factors. As new evidence emerges, interventions for other risk factors may be included in the implementation of this Plan. For example, there is strong evidence that low levels of vitamin D are associated with a high risk of musculoskeletal disease and an increased risk of cardiovascular disease. Similarly, biomedical risk factors for renal disease may be linked to higher risk of diabetes and cardiovascular disease, as renal disease is a common co-morbidity of these conditions. Interventions for associated risk factors such as these may be included in the implementation of the Plan where the evidence base is strong.

An example of a risk reduction program in South Australia is the statewide 'Do It For Life' lifestyle modification program, implemented in South Australia in March 2008 and directed towards individuals from targeted populations at high-risk of developing a preventable chronic disease. The program supports lifestyle changes related to the SNAPS risk factors for chronic disease. The Australian Government introduced a Medicare item for assessment of risk of type 2 diabetes and a Lifestyle Management Program for the prevention of type 2 diabetes in July 2008. Both jurisdictional programs are being introduced as part of the Council of Australian Governments (COAG) National Reform Agenda, and include common collaborative elements such as the National Risk Assessment Test for Type 2 diabetes, uniform standards for lifestyle program delivery, and agreed accreditation processes to ensure that Lifestyle Management Programs meet minimum standards.

Actions to reduce progression to chronic disease for at risk populations:

- 3.1 Support and expand the implementation of the "Do It For Life" risk factor reduction program.
- 3.2 Improve regional referral pathways to harm minimisation programs such as Quit services and alcohol risk reduction programs.
- 3.3 Support the development strategies to target people with risk factors for chronic disease and refer them to appropriate Lifestyle Management Programs.

5.2 Disease Management and Self Management Support

Disease management strategies are based on ongoing care as opposed to episodic care to effectively manage chronic disease, enable early treatment, delay disease progression and prevent or reduce the effect of co-morbidities⁶⁸. Effective disease management is person centred, lifelong, involves team based care, and occurs largely in primary health care and community settings¹⁷. It aims to improve self management support and self care, that is, the active participation of individuals in managing the everyday elements of their condition such as medications and lifestyle choices.

Disease management strategies can reduce unnecessary hospital admissions¹⁰⁶, reduce complications and co-morbidities through early treatment⁷¹, delay disease progression¹⁰⁷, increase self efficacy and the ability of individuals to manage their own health¹⁰⁸, and improve quality of life for people with chronic disease¹⁰⁷. While disease management strategies vary at each level of disease progression, the fundamental components of disease management, namely care planning, team based multidisciplinary care, and self management support, are necessary at all stages of disease progression for effective management of all chronic conditions^{16, 71}.

Outcome 4: Improve self management support

Disease management aims to improve the ability of individuals to manage their condition effectively. This is based on the principle of self management support:

'(Self-management support) involves (the person with the chronic disease) engaging in activities that protect and promote health, monitoring and managing the symptoms and signs of illness, managing the impact of illness on functioning, emotions and interpersonal relationships and adhering to treatment regimes¹¹⁰.'

Self management support is a key principle of chronic care¹⁰⁹. It promotes collaborative care planning, goal setting, the provision of health information, and referral to specific programs where appropriate⁶⁷. The principle of self management support, appropriate to an individual's self efficacy and level of need, is incorporated into all aspects of chronic disease management and ongoing care¹¹⁰. This is applicable to all chronic conditions.

The Flinders Chronic Care Management Program, which provides accredited training and assessment tools for health practitioners to help support their patients to self manage¹¹⁰, outlines 'Six Principles of Self Management'. They are characteristics that need to be supported by health professionals to allow individuals to become 'good' self managers.

'The following characteristics could therefore be seen to summarise a "good" self-manager. They are individuals who:

1. Have knowledge of their condition
2. Follow a treatment plan (care plan) agreed with their health professionals
3. Actively share in decision making with health professionals
4. Monitor and manage signs and symptoms of their condition
5. Manage the impact of the condition on their physical, emotional and social life
6. Adopt lifestyles that promote health

These six characteristics could be considered to be the Six Principles of Self-management¹¹⁰.'

As time actually spent with health professionals is typically periodic and of short duration¹¹¹, acknowledging the central role of the person in their own care is vitally important¹¹². Self management support can be used to empower certain individuals to actively participate in the management and treatment of their condition¹¹³. This is particularly important for chronic disease, where treatment is ongoing. The application of self management principles to clinical practice have led to improvements in quality of care, clinical outcomes and reduced costs in the primary health care sector^{107, 114}.

The principles of self management should be used by health professionals in all health care encounters for individuals with a chronic disease. Specific self management programs are also available in South Australia to provide training and education to people with a chronic disease who are judged as potential beneficiaries of a self management program. Self management programs do not educate specifically on one chronic disease, but rather, focus on how to manage chronic disease overall, based on risk factor prevention and everyday management, in addition to regular ongoing care¹⁰⁸.

Various self management programs have been developed in Australia and internationally. A Cochrane meta-analysis found significant improvements in biomedical risk factors for participants in structured self management programs with diabetes, asthma, cardiovascular disease and arthritis¹¹⁵. Self management program evaluations for chronic obstructive pulmonary disease have found significant improvements in health related quality of life, and significant reductions in all-cause hospitalisations and emergency visits over time¹¹⁸.

Successful self management programs have been those that use evidence based guidelines, patient and provider education, collaborative care, shared decision making, and reminder systems^{107, 119}. They have also been found to be more effective when they are culturally appropriate and tailored to a specific population group. For example, a modified self management program in an Aboriginal community controlled health setting was found to increase communication and understanding between health care providers and participants¹²⁰.

Recent international evidence also indicates that some limitations or barriers impact on the effectiveness of self management programs. The most common were:

- > inconsistencies in self management approaches¹²¹
- > difficulty in linking different services across the primary health care sector¹²²
- > health care professionals were of the belief that self management is not sustainable in the current primary health care environment¹²³
- > a lack of infrastructure, staff education and ongoing training to provide support for self management¹²⁴
- > positive results are not sustained over time due to a lack of follow up¹²⁵
- > limited support for those from culturally and linguistically diverse backgrounds¹²⁰.

The Stanford Chronic Disease Self Management Program has been used in South Australia for many years. The Stanford Program is focused on peer group interactions that emphasise health education, goal setting, and empowering participants with the skills necessary to manage their chronic disease effectively¹²⁶. The Stanford Program is most effectively provided by a combined peer and clinician led series of group workshops that educate and train participants in generic self management skills.

'The (Stanford) Chronic Disease Self Management Program is a workshop given two and a half hours, once a week, for six weeks, in community settings...People with different chronic health problems attend together. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals with a chronic disease themselves.

Subjects covered include: 1) techniques to deal with problems such as frustration, fatigue, pain and isolation, 2) appropriate exercise for maintaining and improving strength, flexibility, and endurance, 3) appropriate use of medications, 4) communicating effectively with family, friends, and health professionals, 5) nutrition, and, 6) how to evaluate new treatments¹²⁶.'

The Stanford Program can be modified for at risk and culturally diverse populations. For example, in South Australia the Living Improvements for Everyone (LIFE) program, modified from the Stanford Program and incorporating the Flinders Chronic Care Management Program, has been developed for rural Aboriginal communities^{127, 128, 129, 130}. Stanford Programs have been linked to improved care and reductions in the severity of symptoms for participants¹¹⁹ as well as increased self efficacy and improvements in health related quality of life indicators¹³¹. Evaluation of the Stanford Program has found that when all aspects of the program are implemented the program has resulted in reduced emergency and outpatient visits, reduced health distress, and improved self efficacy for program participants over a two year period¹³². There is strong evidence that group education sessions improve the individual's knowledge and satisfaction, use of medication, and some clinical outcomes^{94, 133}.

The fundamental elements of self management support; namely person centred care, shared decision making and prevention; are present in all disease management approaches at all stages of disease progression. The variety of approaches described in this chapter illustrates the importance of multiple strategies for successful disease management and prevention in South Australia.

Actions to improve self management support:

- 4.1 Develop and implement education and training strategies that enable and encourage health professionals to provide self management support.
- 4.2 Support referral to peer support self management programs to promote participation in care planning and chronic disease management where appropriate.
- 4.3 Increase the availability and uptake of evidence based culturally appropriate self management programs.

Outcome 5: Improve disease management in primary health care settings through partnerships

The majority of health encounters for individuals with a chronic disease occur in primary health care settings. This is where disease management is supported most effectively^{16, 104, 134, 135, 136}. Health encounters include not only visits to general practice and publicly administered primary health care services, but also contact with partner organisations in the community, such as Peak Bodies and other non-government health organisations, pharmacies, specialists, rehabilitation and day therapy services, and other private and public health care providers. Chronic disease management is the shared responsibility of all of these organisations, in partnership with SA Health. Developing effective partnerships throughout these settings is necessary to ensure a systematic approach to chronic disease management in South Australia.

International reviews have found primary health based prevention, management and ongoing treatment for chronic disease to be effective in comparison to episodic acute care, and to also be linked with lower cost of health care, improved health equity, and better health outcomes overall¹³⁷. In South Australia, the GP Plus Health Care Strategy outlines a proactive, multidisciplinary approach to primary health care¹⁸. For example, GP Plus Health Care Centres are being designed to provide care coordination and greater accessibility to a range of services such as disease-specific support groups, self management groups, and regular access to specialists and other clinical services in community settings¹⁸. The planning, management and evaluation of primary health care service delivery is mediated through Health Improvement Plans to ensure that services meet the needs of local populations and vulnerable population groups³³.

Several programs, facilitated through the GP Plus Health Care Strategy, are currently underway in South Australia to support disease management in primary health care settings. One program is the Chronic Disease Community Program, which targets people who are identified either upon hospital discharge or by a general practitioner, as being at risk of re-admission or admission to hospital because of deterioration of their chronic disease. The Chronic Disease Community Program is currently reducing hospital re-admission rates for people with chronic disease by 40% to 67%; in other words, up to 12 hospital admissions are avoided for every 10 patient centred packages of care.

Other programs aim to improve care for targeted populations with chronic conditions in primary health care settings, for example the continuous quality improvement tool 'Audit and Best Practice for Chronic Disease' (ABCD)¹²⁷. This tool is used in Aboriginal Controlled Community Health Organisations in Australia to improve health outcomes, through assisting health services to establish effective systems of health care delivery using an audit system of evaluation. Tools such as ABCD enable effective chronic disease management for prioritised high risk populations¹²⁷.

It is universally accepted that the most desirable health care system is one that uses evidence based health care for all treatments in all health encounters^{17, 138}. Evidence based guidelines, referral systems and information need to be integrated into everyday practice for health professionals, to allow for the translation of evidence into practice^{139, 140}.

Electronic clinical decision support systems enable up-to-date evidence and clinical guidelines to be available to health professionals quickly, and be accessed instantly in everyday care^{141, 142}. A recent systematic review found that when information technology systems have a person centred approach and emphasise 'patient preferences, functioning, and quality of life', they improve outcomes and support self management in patients with chronic disease¹⁴³. Another review found that practice systems with computerised decision support that were incorporated into clinician work flow led to significantly improved clinical practice¹⁴⁰. Integrated information technology can improve care planning, evidence based care, referral pathways, registers and recall systems, which are all beneficial for effective chronic disease management¹⁴³.

Several studies have highlighted cost effectiveness, improvement in health outcomes and a reduction in hospitalisation from primary health based disease management initiatives^{16, 104, 135, 136}. An effectively coordinated primary health care system, incorporating disease management support in primary health care settings, and effective partnerships with private and public health care providers and with other key community organisations, is vital to the ongoing management of chronic diseases.

Actions to improve disease management in primary health care settings through partnerships:

- 5.1 Support consumers, NGOs and key clinical service providers to participate in regional and local Health Improvement Plans.
- 5.2 Build partnerships with chronic disease Peak Bodies in South Australia to ensure that individuals receive consistent, evidence based information, support, training and services.
- 5.3 Incorporate relevant evidence based clinical decision support guidelines into care planning systems in primary and acute health care settings.

Outcome 6: Improve monitoring of risk factors, chronic disease and chronic disease progression

Improved monitoring of disease progression to improve health outcomes can be achieved through the development of registers for targeted risk factors and chronic diseases¹⁴⁴. Registers involve localised recording of key risk factors and chronic diseases in health care settings through systems such as electronic health records. Registers can assist in recall and monitoring of patients at risk of or with established chronic disease for prevention and early management of these conditions, to enable timely screening, and to assist, where appropriate, referral to risk reduction or self management programs¹⁰⁴.

The World Health Organization's 'Surveillance of risk factors for non communicable diseases: the WHO STEPwise approach' (2001), argued that there is a need to improve monitoring of risk factors for chronic disease; in order to support population based primary prevention strategies⁹⁶ and to improve recall and referral processes for quality individual care¹⁴⁴. Similarly, the effectiveness of chronic disease management in primary health care settings can be improved when registers are used to assist localised monitoring and recall of patients with chronic disease. There is international evidence that supports the establishment of chronic disease registers as a method of both improving service delivery and improving the quality of care for individual patients^{103, 144, 145}. Effective partnerships with General Practice Networks and other health providers are required to facilitate the use or development of registers.

An example of a successful disease register for the purpose of recalling individuals is the SA Gestational Diabetes Register Trial¹⁰⁰. Women with gestational diabetes in SA were invited to join the register and then sent a letter at 15 months post delivery date to remind participants to get their diabetes status checked by a general practitioner. This increased awareness of the risk of diabetes for participants and has long-term preventative potential¹⁰⁰.

In 2006, the national 'Blueprint for Chronic Disease Surveillance' was published as a part of the National Chronic Disease Strategy. This recommended that a chronic disease surveillance network be established to collect data and manage and monitor chronic disease in Australia⁴. To fulfil this recommendation, chronic disease registers can have a secondary function at a planning level. Registers for chronic diseases and associated risk factors, through the collection of de-identified data on a population level, can also:

- > inform program planning, development and service provision⁹³
- > inform program and policy evaluation¹⁰³
- > assist in the evaluation of interventions, strategies and long term health outcomes⁹³
- > assist in the study of associations between disease, and the study of disease progression¹⁰³
- > evaluate quality of care for South Australians with chronic diseases¹⁴⁶.

By identifying population based risk, registers can help determine the provision of services to areas of greatest need⁹³ and prevention strategies can be developed that will benefit the greatest number of people⁹⁶. All of these functions can improve quality of care for individuals at risk of developing, or diagnosed with chronic disease.

Actions to improve monitoring of chronic disease and chronic disease progression:

- 6.1 Explore the use of registers for targeted risk factors and chronic diseases to recall people with moderate to high-risk of disease, and re-screen at regular intervals.
- 6.2 Explore the use of registers for population monitoring of targeted risk factors and chronic diseases, including through the use of data linkage strategies.

Outcome 7: Improve care planning and information sharing across the health care system

Care planning is essential for effective disease management and self management support. A care plan is defined as a written plan of care, negotiated between an individual and one or more health professional, that aims to improve or maintain health status through regular monitoring, goal setting, referral and planned recall to prevent the development of co-morbidity and deterioration of chronic or complex conditions¹⁰⁷. Chronic conditions and those chronic diseases that are not current National Health Priorities, such as chronic renal disease, genetic and developmental conditions, and neurological conditions, also benefit from care planning processes. Individual care plans differ in complexity according to disease progression¹¹² though generally include:

Care Plans

- > Management targets
- > Symptom action plans
- > Monitoring frequency of visitations
- > Escalation responses
- > Recall and referral to all health providers
- > Advanced care directives (as appropriate)¹⁰⁷
- > Self care education (disease specific)
- > Medications
- > Psychological wellbeing
- > Behavioural/ lifestyle changes and goals
- > Treatment of co-morbidities

Care planning needs differ at various stages of the disease continuum. For example, an individual with asymptomatic or basic care needs may only need self care assistance, that is, disease specific education to allow self management of their chronic condition where limited care planning is required^{113, 147}. Ownership of a personalised care plan throughout the stages of disease progression allows for active participation in the management process and corresponds to the principles of self management support.

'Case Management' is the approach taken to care planning at the later stages of complex chronic disease with multiple co-morbidities. Case management occurs when self management or self care is no longer viable on its own due to incapacitating disease progression⁶⁷. Case management allows a health professional, for example a practice nurse, general practitioner, or specialist, to take on the role of the individual as primary manager of their care plan, including more intense monitoring of individuals to avoid further complications and hospitalisation. Complex conditions require more complicated multidisciplinary care^{67, 145}, and specialist care may be required, as well as rehabilitation services, frequent visits to a general practitioner, and often includes planned hospitalisations. Care planning can assist in the effective management of transitions between these health care providers¹⁴⁸. The role of carers and families need to be recognised in case management and care planning processes, as outlined in the *Carers Recognition Act 2005*.

A care plan can be shared between health care providers to provide structure and consistency in treatment, reduce repetition in health encounters, and identify the responsibilities of different health care providers and the individual^{107, 149}. Care plans have been found to improve patient satisfaction¹⁵⁰, improve multidisciplinary care including transitions between providers¹⁵¹, improve adherence to evidence based standards of care¹⁶, and improve quality of care¹¹². Care planning was found in the 1997–2000 SA Health Plus Coordinated Care Trials to be essential for delivering evidence based care to people with chronic disease¹⁵².

For care planning to effectively improve quality of care, the contents of an individual's care plan need to be shared and updated in all health encounters in response to changes in the condition of the individual¹⁵³. Consistent templates are needed to facilitate transition between health care providers¹⁵⁴. Secure electronic web-based care plans, with an individual's consent, result in consistency in communication, providing all health professionals and the individual with up-to-date information on treatment, management, referral and recall. International evaluation of electronic care planning has found increased multidisciplinary involvement in care for health professionals and an improved sense of ownership of records and enhanced patient experience for individuals with chronic disease¹⁵⁵. In Australia, efforts have been made to develop systematised care planning through Medicare items for GP Management Plans and Team Care Arrangements.

Actions to improve care planning and information sharing across the health care system:

- 7.1 Aim for all individuals diagnosed with a chronic disease to have a care plan developed using consistent templates as appropriate to individual need.
- 7.2 Introduce web-based secure messaging and web-based care plans to enable universal shared care between public and private sector primary and acute health care.
- 7.3 Provide case management to those identified as being at high-risk of hospitalisation or requiring complex care.

Outcome 8: Improve team based care

People with chronic disease have a wide range of medical needs that often require care from many different health professionals¹⁵⁶, including specialists, general practitioners, and allied health professionals. Improving integration of services, maximising allied health support and improving team based care are objectives of the GP Plus Health Care Strategy in South Australia¹⁸.

A team based care approach allows individual patients to receive coordinated and individualised care across settings^{70, 157}. Through transferable care plans, information sharing and effective communication between health care providers, a range of medical needs of individuals with chronic disease can be addressed. For individuals with complex conditions and co-morbidities, team based care is often coordinated by a specific health professional such as a general practitioner or practice nurse to manage the transfer of information between different health care providers¹⁵⁷.

For example, one of the key initiatives in the GP Plus Health Care Strategy is the Practice Nurse initiative¹⁸. Practice nurses have been employed in metropolitan centres to assist in recalling patients for check ups, referral to other health professionals, monitoring medications and overall risk, and running practice based secondary prevention programs that address biomedical and behavioural risk factors⁹⁹. The role of practice nurses has been evaluated in Australia and internationally, and has been found to improve the overall quality of care of individuals with chronic disease^{135, 158}. The Practice Nurse Initiative complements the Department of Health and Ageing's More Allied Health Services Program, which provides funding for allied health professionals, including specialist Registered Nurses, in rural, remote and outer metropolitan areas¹⁵⁹.

Team based care is often essential to chronic disease treatment due to the complexity of co-morbidities associated with chronic diseases, and a team based care approach ensures that the various aspects of care are shared between all necessary health professionals. Effectively managed team based care, particularly in integrated primary health care settings, has been found to reduce the number of missed appointments, decrease hospitalisations, increase adherence to prescriptions, decrease the need for acute specialist care, and reduce overall costs of health care for people with chronic disease^{151, 157}. Health care professionals have reported that multidisciplinary teams increased effectiveness in clinical management, and increase their own knowledge and expertise¹⁵¹. SA Health programs that support team based care include the Chronic Disease Community Program which involves multidisciplinary packages of care centred on a care plan¹⁸.

Central to team based care is the principle of person centred care. A person centred approach empowers those with chronic disease to make healthy life choices and to participate in management of their condition, through shared decision making, jointly shared by patients and their health care provider¹⁶⁰. A focus on improving health literacy and self management support enable person centred care. Recent studies have shown that health system support for team based care and self management can be effective in improving quality of care and health outcomes for individuals with chronic disease^{16, 161}.

Transitions between various health care settings need to be managed effectively in team based care, to ensure a transfer of all important information between health care providers, to enable recall and monitoring of patients and to ensure evidence based care is continued in all settings^{17, 106}. This is important for ongoing disease management and treatment of co-morbidities and rehabilitation, particularly for individuals with complex conditions¹⁰⁶.

Many initiatives to improve connectivity between health professionals are already underway in South Australia, including the statewide installation of secure electronic messaging software. These initiatives will facilitate improved collaboration between primary health care providers and improve data quality to more effectively support individuals with chronic disease and other chronic conditions.

To be effective, team based care needs to be understood by all participating health professionals, have adequate technological support, and be established over a long period of time¹⁶². The capacity of ambulatory care providers needs to be strengthened to enable effective disease management¹⁷. Collaboration between health care providers and SA Health is needed to improve team based care across all health care settings.

Actions to improve team based care:

- 8.1 Provide evidence based multidisciplinary management of chronic disease as appropriate to the level of care required.
- 8.2 Support knowledge sharing between health providers across the acute and primary care interface, including medical specialists, nursing and allied health workers, and general practitioners.
- 8.3 Support systematic training and education of all health professionals in care planning, self management, and support the use of enabling information technology systems.

Outcome 9: Improve the management of complex conditions and co-morbidity

Many South Australians with a chronic disease currently have one or more co-morbidities associated with their condition, and 15% of South Australians have more than one chronic disease^{3, 5}. Disease management interventions on admission, throughout the length of stay, and at discharge from acute health care settings have been found to reduce unplanned hospitalisations, hospital re-admissions, length of stay in hospital, and subsequent hospitalisations for those with complex conditions^{163, 164}. For example, a recent meta-analysis conducted by the Health Services Management Centre in the United Kingdom of 15 602 studies of initiatives found that:

'There is some evidence to suggest that the following initiatives may reduce unplanned hospitalisations and re-admissions:

- | | |
|--------------------------------------|---|
| > self management education | > self-monitoring |
| > group visits to primary care | > broad managed care programs |
| > integrating social and health care | > multidisciplinary teams in hospital |
| > discharge planning | > multidisciplinary teams after discharge |
| > care from specialist nurses | > nurse-led clinics |
| > telecare | > tele-monitoring |

There is some evidence that the following may reduce length of stay in hospital:

- | | |
|---------------------------------------|---------------------------|
| > self-management education | > telecare |
| > multidisciplinary teams in hospital | > discharge planning |
| > home hospitalisation | > educating professionals |

And these interventions may reduce length of subsequent hospital stays:

- | | |
|---|---|
| > targeting people at high-risk | > self management education |
| > tele-monitoring | > multidisciplinary teams in hospital |
| > multidisciplinary teams after discharge | > nurse-led clinics and nurse-led follow-up |
| > assertive case management | > home visits ^{164'} |

In South Australia, trends in hospital admission data illustrate the need for better disease management strategies on admission and discharge from acute health care settings¹⁶⁵. The data for potential avoidable hospital admissions nationally indicates that 63.8% of all avoidable admissions, or 353 000 admissions, are attributed to chronic diseases¹⁶⁶. South Australian and Australian hospital admission data indicates that diabetes related admissions accounted for 25% of the avoidable hospital admissions associated with chronic disease, and hospital admissions for diabetes have significantly increased in the past five years¹⁶⁵. Hospital admissions related to cardiovascular disease were on the decline from 2001–2002 to 2004–2005, but recently have begun to increase, with hospital admissions for 2006–07 being the equivalent of those experienced in 2001–2002¹⁶⁵. There has been a decline in the number of hospital admissions for asthma and chronic respiratory conditions in the past five years, whilst arthritis and musculoskeletal conditions admissions have remained constant¹⁶⁵. Overall, these trends suggest that, while current strategies are having some effect on avoidable hospital admissions, more interventions are needed on admission and discharge from acute care settings to prevent or delay progression to complex conditions.

Home visits and follow up by health professionals, discharge planning, community based rehabilitation, day therapy services, case management, community based nursing and communication between hospital staff and primary health care providers are strategies that have been used effectively in Australia for individuals with chronic and complex conditions^{18, 163, 167, 168}. For example, an Australian systematic review of tele-monitoring found that remote monitoring programs reduced the rates of admission to hospital for chronic heart failure by 21% and all cause mortality by 20%, as well as reduced health care costs, and significant improvements in health related quality of life indicators¹⁶⁷.

Transitions between various health care settings need to be managed effectively to prevent deterioration and improve disease management after an acute episode of illness^{17, 106}. Transitions are managed between health care providers and out of acute care settings through discharge planning, establishing referral pathways, linking hospital discharge to programs such as home check ups, and the systematic transfer of information between acute health providers and a patient's primary health carer¹⁴⁸. Programs designed to facilitate transfers to and from acute health care settings have been shown to be effective through significant reductions in rehospitalisation for patients with chronic disease¹⁰⁶.

In South Australia, the 'Transition Care Program' and 'Metro Home Link Service' are two of many strategies designed to provide tailored in-home or facility based support services for individuals with complex conditions, particularly older people, to avoid admission or at the conclusion of a hospital episode¹⁸. The Metro Home Link service provides flexible packages of care to patients in the Adelaide metropolitan area who are at risk of hospital admission or re-admission. Home supported discharge, hospital avoidance, personal care levels assessment and referrals to ongoing services are provided where required. Domiciliary Care SA also provides ongoing in-home care and services to South Australians with complex health needs, including respite for carers¹⁶⁹.

While acute exacerbations of illness may impede an individual's ability to manage their own health, person centred care is important at all stages of the disease continuum and self management support needs to be continued in all care settings^{148, 171}. Patient, carer and family preferences also need to be supported¹⁷⁰, including the use of Advanced Care Directives for end of life care.

Where appropriate, carer and broader family involvement needs to be supported in the care of individuals with complex care needs¹⁶⁸. A recent Australian based study found that shifts from hospital-to-home often result in an increased burden on unpaid carers and family members¹⁶⁸. Strategies need to recognise and support this burden in all acute health care transitions to out of hospital services, including primary, specialist, aged care and palliative care settings. The South Australian Carers Charter, Section 2(a) (iii) of the *Carers Recognition Act 2005* provides further information.

Recent studies have found that effectively managed hospital-to-home transitions, which included follow up by primary health care providers, showed significant improvements in health related quality of life as well as less use of emergency rooms over time^{148, 171, 172}. A Cochrane registered randomised control study found that well managed transitions out of hospital settings led to significantly lower rates of rehospitalisation and subsequently lower health costs for chronic disease patients with complex care needs¹⁰⁶. These studies demonstrate the benefits of effectively managed out-of-hospital initiatives for those with complex conditions and co-morbidities associated with chronic disease.

Actions to improve the management of complex conditions and co-morbidity:

- 9.1 For planned hospital admissions for procedures, provide pre-admission clinical assessment of the interactions of multiple co-morbidities and therapies to both identify and reduce risk.
- 9.2 Maximise use of electronic systems to assist with admission and discharge care planning processes for wards, outpatients and emergency departments for individuals with chronic disease.
- 9.3 Develop and implement statewide evidence based protocols to reduce risk of deterioration of function and independence during stay in an acute setting.
- 9.4 Increase the availability of evidence based disease specific physical therapies and rehabilitation services to manage symptoms and disability arising from chronic disease.
- 9.5 Increase the accessibility and availability of home care coordination and community programs that provide systematic chronic disease care including tele-monitoring, restorative care, promotion of independent functioning, carer support.
- 9.6 Promote the incorporation of Advanced Care Directives in care planning with carer/family involvement for all people with an end stage chronic disease.

6. Enablers

The Chronic Disease Action Plan actions form a part of the health sector reform process led by South Australia's Health Care Plan 2007–10¹⁶, the SA Health Strategic Plan³⁰, and South Australia's Strategic Plan². These statewide plans include a number of key enablers required to meet the upcoming challenges faced by the health care system.

To maximise the effectiveness of the actions of the Chronic Disease Action Plan, the following enablers also need to be considered. These enablers have been identified in South Australia's Health Care Plan, and are key priorities for SA Health over the next 10 years. They correspond to the recommended implementation actions outlined in the National Chronic Disease Strategy 2007⁴.

6.1 Build Workforce Capacity

South Australia is facing an ageing workforce and workforce shortages across health services in the next 20 years⁷. Training and education is needed for effective disease management¹⁰. Furthermore, specialised roles are required for chronic disease management to reduce the burden on the existing health workforce¹³. The following enablers are currently being addressed throughout SA Health and will be strengthened to support the Chronic Disease Action Plan actions. They are to:

- > establish a multi-faceted approach to address health workforce shortages
- > improve the development and recruitment of staff to new roles that support disease management
- > support systematic training and education of health professionals in care planning, self management, and information technology systems, and facilitate rural and remote health worker access
- > develop a workforce plan which can sustain a systematic approach to chronic care
- > ensure adequate workforce provision to both primary health care and acute care settings
- > provide training and skill development for existing health care professionals to support chronic disease secondary prevention and management strategies
- > focus initiatives and workforce changes towards providing multidisciplinary, integrated care
- > develop the role of care coordinators for people with complex needs
- > ensure current and additional training and education recognises the need to target health inequities
- > establish monitoring and accreditation for training and skill development to ensure best practice in chronic disease prevention and care
- > disseminate change management knowledge and resources
- > support research and evaluation to develop the evidence base for the secondary prevention, detection and management of chronic disease to inform the development of evidence based practice.

6.2 Develop Strategic Partnerships

Developing strategic partnerships is a key focus of the SA Health reform agenda^{2,3}. Many partnerships with government and non-government organisations are well established³. These will be strengthened to support the more specialised focus on chronic disease secondary prevention and management in South Australia⁴ to:

- > develop and create partnerships with the community health sector and community support organisations
- > develop partnerships with peak bodies and national stakeholders to identify priorities and advocate for sustainable change
- > develop linkages among national, state and regional reform agendas and other strategies
- > develop effective communication to the broader community which aims to shift the focus of the community towards care delivered in the most appropriate setting
- > develop partnerships with educational, training accreditation and monitoring organisations to develop competencies, ensure standards, and identify and implement best practice
- > develop partnerships with communities to identify and address local community needs related to chronic disease prevention and care
- > develop partnerships between SA Health and health professionals, particularly general practice, specialists, allied health and the broader primary health care workforce
- > develop partnerships among health, residential aged care and community services and organisations at local and regional levels to create models for formal arrangements and financial agreements to provide integrated chronic disease prevention and care
- > develop partnerships between public, private and non-government provided health, residential aged care and community services through better incentives, flexible funding arrangements and more collaborative planning
- > develop partnerships with patients and their families and carers, to ensure that the focus is on improved patient care and quality of life
- > develop partnerships between health and non-health sectors, services and industries
- > develop change management strategies for cross-sectoral collaboration.

6.3 Improve Information Technology

Upgrading information technology (ICT) to improve the quality of health care is a key priority in South Australia and many initiatives are currently underway or in development as a part of the overall health reform process³. Information technology reform in South Australia is being led through the ICT Steering Committee in line with the SA Health ICT Master Plan. Reforms to improve information technology currently underway include initiatives that:

- > improve the availability of systems that support web-based electronic care planning
- > improve clinical decision support systems and the availability of up-to-date evidence based guidelines
- > develop information technology to allow health service providers to have appropriate access to patient information – with the consent of the patient
- > improve connectivity between different health care providers using secure messaging technologies and web-based care planning systems
- > develop appropriate systems to support localised registers for risk factors and chronic diseases
- > improve the availability of electronic screening tools for risk factors and chronic diseases
- > improve the use of existing primary health care data, including general practice clinical data through the use of assistive technologies such as the Clinical Audit Tool.

6.4 Enhance Investment and Funding Opportunities

South Australia's Health Care Plan states a commitment to funding and investing in chronic disease prevention and management over the next 10 years, through investment in programs, training and education, information technology, research and evaluation, and a commitment to funding out-of-hospital strategies for chronic disease management³. This commitment to investment and funding in chronic disease prevention and management strategies allows for:

- > investment in new positions that support chronic disease management, as well as investment in improving the development of staff to fill new roles
- > investment in primary health care initiatives that support better management of risk factors and chronic disease
- > consideration of mechanisms, including funding incentives, that support access to service arrangements that can provide person centred care that is integrated and multidisciplinary, and that incorporates self management, health promotion and risk reduction
- > investment in adequate information technology infrastructure to enable integrated, effective chronic disease management and evidence based care
- > investment into improving patient records so that they support the 'patient journey' by being person centred and appropriately shared across services
- > investment in research to further the evidence base for health promotion, prevention, early detection and evidence based chronic disease management; and the translation of research into practice.

7. Expected Outcomes and Measures of Success

The Chronic Disease Action Plan sits within the context of South Australia's Health Care Plan³. Expected outcomes are intricately linked to other SA Health indicators, and the indicators of South Australia's Health Care Plan, the SA Health Strategic Plan, and South Australia's Strategic Plan.

Implementation of the actions in the Chronic Disease Action Plan will be carried out through the Regional Health Service Implementation Plans, which will include key performance indicators, evaluation processes and measures of success.

The key outcomes sought from the Chronic Disease Action Plan align to the SA Health Care Plan 2007–2016 and will deliver:

- > consistent mechanisms to establish a population approach in managing chronic disease within regionally based planning catchments
- > a consistent assessment process across health services, supported by information sharing to reduce duplication and support integration across service providers involved in a patient's care
- > adoption of a consistent approach to case management and care coordination
- > practical links and protocols with general practice
- > the establishment of programs for the secondary prevention, early intervention and improved management of chronic disease, which support self management and care arrangements for patients
- > a reduction in the projected number of people expected to be admitted to hospital with an avoidable hospital admission³.

8. Glossary

| | |
|---|---|
| Action Plan | A structured list of patient actions developed by a health care professional for a patient to follow with respect to their health care. The plan includes a normal schedule for medicines, as well as symptom management. |
| Acute Care | Treatment (usually in a hospital) for patients having a short-term or episodic illness, injury, health problem, or recovering from surgery. |
| Burden of Disease | A systematic and comprehensive assessment of the health consequences of diseases and injuries in a population using a single summary measure of population health for each cause. |
| Carer(s) | An unpaid person apart from any 'direct payments', who as a partner, other family member, friend or neighbour is informally looking after or providing a substantial amount of help on a regular basis for a person with a chronic condition (including those with a disability or the elderly) living in their own or in another household. |
| Care Plan | A structured, comprehensive plan developed by the person (and their significant others and/or carers) and health professional(s), defining problems, goals, actions, time frames and accountability of all involved, to prevent complications and deterioration of chronic conditions. |
| Case Management | Assessment, planning, coordination, monitoring, and decision making processes around options and services required to meet the client's health and social needs. It is characterised by collaboration, advocacy, communication, and resource management. |
| Continuing Care | A system of service delivery which includes all of the services provided by long-term care, home care and home support. |
| Chronic Care Approach | A systematic approach to the planning and delivery of services for people with chronic conditions that requires broad systems change. It identifies the essential elements of a health care system that encourage high-quality chronic disease care. These elements are the community, the health system, self-management support, delivery system design, decision support and clinical information systems. It provides a method to describe the relationship that exists between the individual, their community and the broader levels of the health care system. |
| Chronic Conditions | The term chronic condition encompasses disability and disease conditions that people may 'live with' over extended periods of time (more than 6 months). |
| Chronic Disease | A subset of chronic conditions. Diseases which have one or more of the following characteristics: (1) is permanent, leaves residual disability; (2) is caused by non-reversible pathological alteration; (3) requires special training of the individual for rehabilitation, and/or may be expected to require a long period of supervision observation, or care. |
| Chronic disease management | Improving the health of people who already have one or more chronic diseases. It includes strategies designed to: improve health related quality of life for people with chronic diseases, particularly those with more than one condition, improve the use of the health care system by people with chronic diseases, and enhance communication between health professionals, family/carers and people with chronic disease. |
| Chronic obstructive pulmonary disease (COPD) | Diseases of the lung comprising of chronic bronchitis and emphysema (one rarely occurring without a degree of the other). This disorder is characterised by reduced maximal expiratory flow and slow forced emptying of the lungs with features that do not change markedly over several months. This limitation in airflow is only minimally reversible with bronchodilators. |
| Co-morbidity | The coexistence of two or more disease processes or conditions. |

| | |
|--|---|
| Complex needs | Complexity as it relates to chronic disease and chronic conditions typically involves co-morbidities and psychosocial factors (e.g. social disadvantage, mental health). This could include older people who are becoming frailer, carer stress or a reduced ability to function independently |
| Disability adjusted life years (DALY) | The disability adjusted life year, or DALY, is a health gap measure that extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of 'healthy' life lost by virtue of being in states of poor health or disability. The DALY combines in one measure the time lived with disability and the time lost due to premature mortality. One DALY can be thought of as one lost year of 'healthy' life and the burden of disease as a measurement of the gap between current health status and an ideal situation where everyone lives into old age free of disease and disability. |
| Disease Continuum | The progression of chronic disease from 'well' to low risk, high risk, through to established chronic diseases, to co-morbidities and complex conditions. |
| Disease management | A coordinated health care process that seeks to manage and improve the health status of a defined patient population over the entire course of a disease. |
| Episodes of care | A treatment period that begins with initial assessment and includes follow up interventions and reassessment necessary to provide reasonable medical services related to a specific condition. |
| Evidence Based Practice | Clinical decision making based on a systematic review of the scientific evidence of the risks, benefits and costs of alternative forms of diagnosis and treatment. |
| Equity | Equity in health is an ethical principle that implies that everyone should have a fair opportunity to attain his or her full health opportunity, and that no one should be disadvantaged from achieving this irrespective of racial, ethnic, gender, socioeconomic, religious, social disadvantage or any other differences between population groups. |
| Health adjusted life expectancy | Life expectancy estimates adjusted for both mortality and morbidity, or the amount of time spent in less than perfect health. It sheds more meaning on longer life by determining whether an increase in the average lifespan is accompanied by better quality of life. |
| Health Inequities | Health inequities are the differences between actual and optimal health status that are avoidable and unfair. |
| Incidence | The number of new cases of a certain condition in a population within a period of time. |
| Multidisciplinary care | Comprehensive care provided by a team of various health professionals (medical – general and specialist, nursing and allied health), using a care team approach and tailored to decision making regarding diagnosis, treatment planning and other aspects of care for individual patients. |
| Outcome | Outcomes are the results, impacts or consequences of actions by SA Health on the Australian community that that SA Health wishes to achieve. |
| Outputs | The immediate result of implementing surveillance and response activities. |
| Partnership | A voluntary arrangement developed between parties to work cooperatively towards shared and/or compatible goals. It implies sharing of decision making, resources and risks, trust, cooperation and negotiation of shared goals towards interests in a shared future. |
| Patient pathways | The route that a patient with a given pathology can be expected to take from her or his first contact with the health system (for instance, the GP in gate-keeper systems), through referral, to the completion of his or her treatment. |

| | |
|--------------------------------------|---|
| Person Centred Care | Person-centred care places the individual, significant other and/or carer, as the focus of any health care provision. The focus is on the needs of the person rather than the needs of the systems or professionals. The person feels understood, valued and involved in the management of their chronic disease. People are empowered by learning skills and abilities to gain effective control over their lives versus responsibility resting with others. |
| Prevalence | A measure of the number or proportion of people with a certain condition in a population at a given point in time. |
| Primary Health Care | Primary Health Care is essential health care based on practical, scientific and socially acceptable methods and technology. It is made universally accessible to individuals and families in the community through their full participation and at an affordable cost to the community and country. Primary Health Care is the central function and main focus of the health system. |
| Quality of Life | The overall status of a combination of factors: a person's health, symptoms, and level of physical and social functioning. |
| Referral | The transmission (physically or by other means) of personal and/or health information relating to an individual from one service provider(s) to another service provider(s) with the individual's consent and for the purpose of care or treatment. |
| Risk assessment tool | A structured way of identifying clients who are at risk of developing a specific condition. |
| Risk Factors | Risk factors are elements that increase the likelihood that a disorder will develop and possibly exacerbate the impact and/or symptoms of that disorder. This may include genetic, biological, behavioural, sociocultural and demographic conditions or characteristics. |
| Screening | A process that involves the systematic use of a test or investigatory tool to detect individuals at risk of developing a specific disease that is amenable to prevention or treatment. It is a population based health strategy to identify specific conditions in targeted groups prior to any systems appearing. |
| Self Management | Self management is a process that includes a broad set of attitudes, behaviours and skills directed toward managing the impact of the disease or condition on all aspects of living by the person with a chronic condition. It includes, but is not limited to self care and it may also encompass prevention. |
| Self Management Support | Self management support is what health professionals, carers and the health system do to assist the person manage their disease or condition. |
| Self Care | The participation of individuals in managing the disease specific, everyday elements of their condition, such as medications and lifestyle choices. |
| Self Efficacy | Self efficacy is the belief in one's ability to succeed at chosen tasks; to achieve set goals. It is the sense of confidence that one can effect change. |
| SNAPS | Smoking, Nutrition, Alcohol, Physical activity and Stress. |
| Social Determinants of Health | The personal, social, cultural, economic and environmental factors that influence the health status of individuals or populations. |
| Socioeconomic status | A relative position in the community as determined by occupation, income and level of education. |
| Stages of Disease | For chronic, non-communicable disease there is a continuum from a disease-free state, to asymptomatic biological change to clinical illness, impairment and disability, development of complications, and, for many conditions, ultimately death. |
| Targeted Populations | Populations identified as being at higher risk of chronic disease in South Australia. Includes Aboriginal and Torres Strait Islanders, rural and remote communities, culturally and linguistically diverse populations, communities with low socioeconomic status and high-risk population groups. |

9. Appendix 1: Chronic Disease and Associated Risk Factors in South Australia

9.1 Behavioural Risk Factors

> Smoking

There are 6.9 per 1000 South Australians aged 16+ years who are taking up smoking compared with 16.3 per 1000 South Australians aged 16+ years who are quitting³⁶.

The number of South Australians aged 16 years and over who indicated being current smokers has reduced from 20.6% in 2002–2003 to 16.8% for 2006–2007, which is significant⁴².

Whilst there has been a significant reduction in smoking, the Riverland, South East and Northern and Far Western health regions have reported a significant increase⁵.

> Nutrition

The number of South Australians aged 19+ years who reported they were eating less than two serves of fruit has slightly increased from 57.7% in 2002–2003 to 58.1% in 2006–2007³⁶.

The number of South Australians aged 19+ years who reported they were eating less than five serves of vegetables has reduced from 93.0% in 2002–2003 to 90.7% in 2006–2007⁴².

Neither of these changes is significant, but the recommended intake of fruits varied across age groups and the recommended intake of vegetables was significantly lower in Northern Adelaide. There were significant increases in the amount of fried potato, from 22.9% to 34.7%, and preserved meat product consumption, from 48.1% to 51.6%, between 2002–2003 and 2004–2006 for South Australians aged 16+ years⁵.

> Alcohol

There are 9.6 per 1000 South Australians aged 16+ years who are becoming high-risk alcohol consumers compared with 0.7 per 1000 South Australians aged 16+ years who are becoming low risk alcohol consumers³⁶.

The number of South Australians aged 16 years and over who indicated that they were at risk from long-term alcohol consumption has reduced from 4.0% in 2002–2003 to 3.7% for 2006–2007⁴².

The number of South Australians aged 16 years and over who indicated that they were at risk from short-term alcohol consumption has reduced from 29.1% in 2002–2003 to 28.4% for 2006–2007⁴².

Neither of these reductions is significant, but the Eyre Peninsula and Riverland health regions are showing significant increases in risk for both short and long-term alcohol consumption⁵.

> Physical Activity

There are 41.5 per 1000 South Australians aged 16+ years that have reduced their physical activity level from active to sedentary compared with 37.5 per 1000 South Australians aged 16+ years that have increased their physical activity level from sedentary to active³⁶.

The number of South Australians aged 16 years and over who have reported increasing their physical activity from sedentary to active has increased from 49.2 % in 2002–2003 to 52.9% for 2006–2007, which is significant⁴².

Whilst there has been a significant increase in activity levels, Wakefield, Mid North, Eyre and Northern and Far Western health regions are reporting a significant decrease in activity levels⁵.

> Stress

The South Australian Monitoring Surveillance System reports that approximately 10% of South Australians aged 16+ years have high to very high levels of anxiety and depressive disorders (*Kessler Psychological Distress Scale*). This is highest in the Northern Adelaide⁵. The most prevalent causes of stress were:

- > death of someone close (19.2%)
- > new job (11.4%)
- > moved house (7.6%)
- > serious illness (6.4%)
- > relationship/ marriage breakdown (5.3%)⁵.

9.2 Biomedical Risk Factors

> Blood Pressure

There are 33.6 per 1000 South Australians aged 16+ years that are developing high blood pressure compared with 11.3 per 1000 South Australians aged 16+ years that are reducing their blood pressure from high to normal³⁶.

The number of South Australians aged 16 years and over who were shown to have high blood pressure was 18.1% for 2006–2007. This figure has remained fairly constant between 2002–2003 and 2006–2007⁵.

> Cholesterol

There are 45.4 per 1000 South Australians aged 16+ years that are developing high cholesterol compared with 16.5 per 1000 South Australians aged 16+ years that are reducing their cholesterol from high to normal³⁶.

The number of South Australians aged 16 years and over who were shown to have high cholesterol was 14.3% for 2006–07. This figure has shown little variation between 2002–2003 and 2006–2007⁵.

> Overweight and Obese (measured by Body Mass Index, calculated by self reported weight and height)

There are 18.6 per 1000 South Australians aged 18+ years that are becoming overweight/ obese compared with 3.9 per 1000 South Australians aged 16+ years that are reducing their weight to within normal limits³⁶.

The number of South Australians aged 18 years and over shown to be overweight or obese has increased from 54.5% in 2002–2003 to 56.7% in 2006–2007. The number of South Australians shown to a healthy weight has decreased from 43.5% to 41.5%⁴².

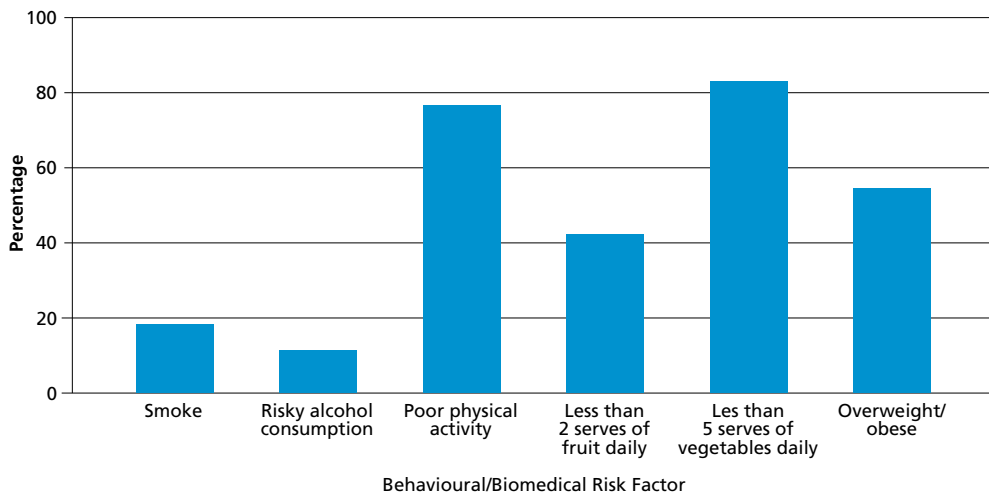
There was a significantly higher prevalence of combined overweight and obesity in Hills Mallee, Wakefield, Mid North, South East, and Northern and Far Western Regions from 2002–2003 to 2006–2007⁵.

9.3 Risk Factors and Chronic Disease

There are strong links between risk factors and chronic disease development – and these appear to persist after diagnosis. This is illustrated in Figure 7 below.

Figure 7

Prevalence of risk factors among people with selected chronic diseases



Source: Adapted from Australian Bureau of Statistics (2006) *The National Health Survey 2004–2005*, ABS, Canberra.

9.4 Burden of Disease

The South Australian Burden of Disease study estimated the number of years of life lost due to premature death and disability (DALY) accruing from the yearly average on new cases of diseases and injury occurring in 2001–2003⁸.

Figure 8

Burden of Disease in South Australia 2001–2003

| Disease Category/ Condition | Number of DALY | Percent |
|-----------------------------|----------------|----------------|
| Cardiovascular Disease | 44 485 | 20.97% |
| COPD | 7 398 | 3.49% |
| Musculoskeletal Conditions | 6 536 | 3.08% |
| Diabetes | 6 449 | 3.04% |
| Asthma | 4 534 | 2.14% |
| Priority Areas sub total | 69 402 | 32.72% |
| Other | 142 720 | 67.28% |
| Total | 212 122 | 100.00% |

Source: Government of South Australia (2008) "SA Results (YLL, YLD & DALY) – 3 Year Averages for 2001–2003", *Results of the South Australian Burden of Disease Study*, <http://www.health.sa.gov.au/BURDENOFDISEASE/DesktopDefault.aspx?tabid=25>, accessed: 14 April 2008.

9.5 Health Service Utilisation

Health service utilisation is expected to vary with availability of services, attitudes and expectations, referral patterns, planned and unplanned care. Increased utilisation of primary health care services and reduction of hospital based services are planned to accompany increases in chronic disease prevalence and reform to health services.

The North West Adelaide Health Study reports that between 94 and 95% of South Australians report using a health service at least once in the last year³⁶.

> Hospital Admissions

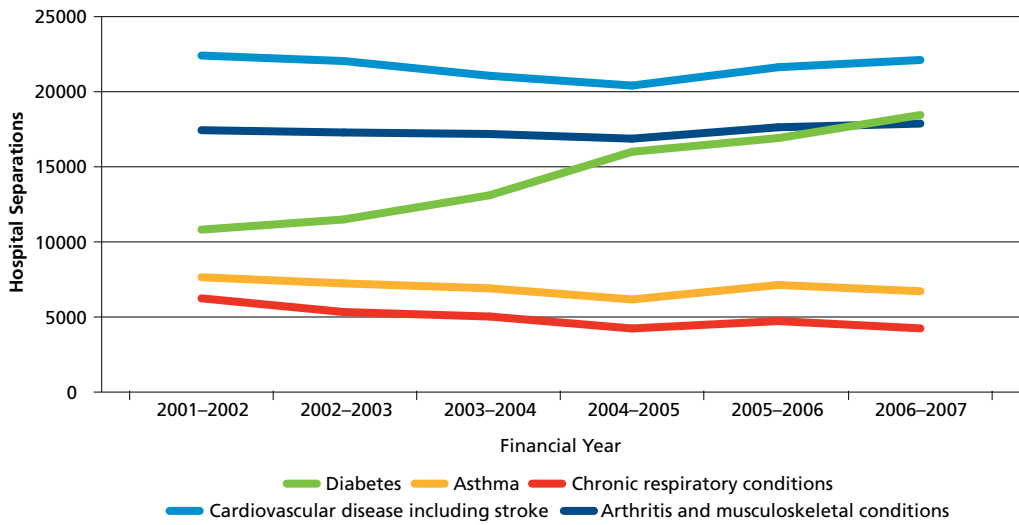
Hospital admission data for South Australia, where a chronic disease is the primary or secondary diagnosis indicates that:

- > diabetes related admissions have significantly increased
- > asthma related admissions have declined slightly
- > chronic respiratory condition related admissions have declined slightly and follow a similar pattern to that of asthma related admissions
- > cardiovascular disease related admissions were declining, but in the past few years have risen to levels similar to those of 2001–2002
- > arthritis and musculoskeletal condition related admissions have been fairly stable³⁶.

This is illustrated in Figure 9.

Figure 9

South Australian hospital separations for selected chronic diseases from 2001–2002 until 2006–2007



Source: Funding and Information Branch (2007) *Health Information Portal (Inpatient Activity)*, SA Health, data extracted: 26 March 2007.

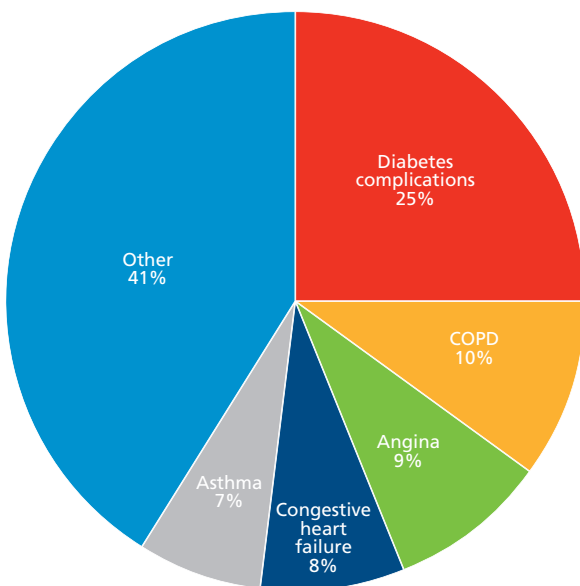
> **Avoidable Hospital Admissions**

Avoidable hospital admissions are for the conditions where hospital admission is considered preventable through immunisation, avoidable disease progression, or through effective chronic disease management.

Rates of ambulatory care-sensitive hospitalisations are considered to be an indicator of the performance of the health system in delivery and accessibility of primary health care. Data for 2001–2002 data suggests that 9% of hospital admissions (552 000 admissions for Australia) were avoidable, more for males (9.5%) than females (7.9%)³⁶. Of the avoidable admissions, 63.8% were attributed to chronic diseases. This is illustrated in Figure 10. The data also indicates that as people age, the number of avoidable admissions increases. This is illustrated in Figure 11.

Figure 10

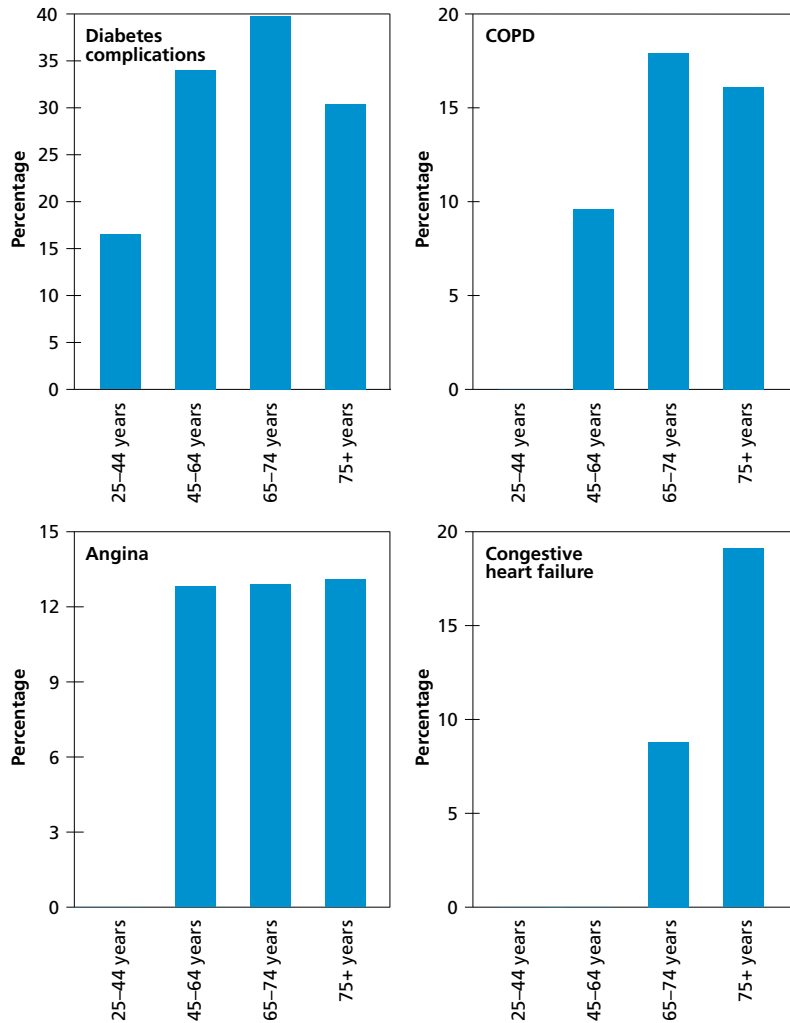
Avoidable hospital admissions by chronic disease



Source: Adapted from Public Health Information Development Unit (2007) *The Atlas of Avoidable Hospitalisations in Australia*, Department of Health and Ageing, Adelaide.

Figure 11

Avoidable hospital admissions for selected chronic diseases by age group



Source: Adapted from Public Health Information Development Unit (2007) *The Atlas of Avoidable Hospitalisations in Australia*, Department of Health and Ageing, Adelaide.

> **Other Health Care Services**

The data from the North West Adelaide Health Study indicated that of the people to take part, more reported utilising health services in the primary sector over the past 12 months than they did in the tertiary sector³⁶. This supports the move away from the hospital setting to the primary health care setting for the prevention and management of chronic disease. The table below provides a summary of the reported usage of health services in the past 12 months.

Figure 12

Health Service Utilisation in South Australia

| Type of Health Service | Reported utilisation in previous 12 months (% of people in NWAHS Cohort, Aged 18+) |
|--|---|
| General Practitioner | 91.0% |
| Alternative Therapist | 73.0% |
| District Nurse | 24.0% |
| Specialists Doctor (not in hospital setting) | 22.1% |
| Physiotherapist | 17.0% |
| Chiropractor | 14.2% |
| Hospital (Clinic) | 12.4% |
| Hospital (Emergency Department) | 10.5% |

Source: Adapted from Population Research and Outcome Studies Unit (2007) *The North West Adelaide Health Study*, SA Health, Adelaide.

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