



The State of Public and Environmental Health Report for South Australia 2007–08

A report prepared pursuant to Section 44 (3) of
the *Public and Environmental Health Act 1987*



Government
of South Australia

SA Health

National Library of Australia Cataloguing-in-Publication entry

Author: South Australian Department of Health

Title: The State of Public and Environmental Health Report for South Australia 2007–08

Publisher: Adelaide, South Australia: Department of Health, 2008. ISSN: 1835-8241

The State of Public and Environmental Health Report is prepared annually pursuant to Section 44(3) of the *Public and Environmental Health Act 1987*

© Department of Health, Government of South Australia. All rights reserved. December 2008

Contents

Introduction	7
What is public health?	8
Whose responsibility is public health?	9
The state of public health in South Australia	10
Public health activities in South Australia 2007–08	12
Strategic direction 1: promoting healthy people, communities and environments	13
Public health legislation and policy directions	14
Health in All Policies	15
Health impact assessment	17
Planning for health	18
Healthy weight	20
Nutrition	23
Physical activity	25
Reducing the prevalence of smoking	28
Reducing harmful alcohol consumption	30
Cervical cancer screening	31
Breast cancer screening	33
Bowel cancer screening	34
Oral health	36
Children’s oral health	37
Strategic direction 2: protecting the health of the public	40
Food safety programs and auditing	41
Nutritional food labelling	42
Monitoring the food supply—retail fresh chicken and eggs surveys	44
Safe drinking water	45
Protection against lead exposure in Port Pirie	47
Product safety	50
Site contamination	52
Minimising risk—protective public health measures during emergencies	55
Insanitary conditions	56

Health impacts of heatwaves	58
Drought, water recycling and water carting	59
Drought, blue-green algae and public health	60
Strategic direction 3: preventing communicable and other acute and chronic diseases	62
Infection control	63
Mosquito-borne disease prevention	64
Preventing foodborne disease—OzFoodNet	66
Immunisation	68
Communicable disease surveillance and investigation	70
HIV infection	74
Strategic direction 4: improving health equity	76
Improving health equity	77
Aboriginal environmental health	81
Aboriginal oral health	82

List of figures

Figure 1:	Health impact assessments conducted in 2007–08	18
Figure 2:	Overweight or obese preschool children (aged 4–5 years) by gender, 1995–2007	22
Figure 3:	Biennial participation rate in cervix screening for women aged 20–69 years for 2006–07	32
Figure 4:	Age frequency of early childhood caries (ECC) against the cumulative percentage of referrals through the Population Oral Health Project	38
Figure 5:	Example of traffic-light food labelling design.....	43
Figure 6:	Children’s blood lead levels in Port Pirie 2000–01 to 2007–08	49
Figure 7:	The children’s toy implicated in product recall	51
Figure 8:	The types of tagines implicated in the potential risk to health	52
Figure 9:	Case study illustrating past practices of chemical waste disposal at an industrial site in Adelaide	53
Figure 10:	Before and after the implementation of appropriate hand washing facilities	55
Figure 11:	An epidemic curve of <i>Salmonella typhimurium</i> phage type 93 in South Australia, January 2005 to June 2008	68
Figure 12:	HPV immunisation coverage for three doses by year level in 2007	69
Figure 13:	Laboratory and clinical influenza-like illness diagnoses in South Australia, 1 January 2001 to 30 June 2008	72
Figure 14:	Notified cases of shigellosis by isolate type and month of onset of illness, 1 January 2006 to 30 June 2008	74
Figure 15:	Smoking prevalence by Index of Disadvantage quintiles for people over 15 years of age—3-year moving averages, 1994–2007 (source: Tobacco Control Unit October 2008)	79
Figure 16:	Percentage of low birthweight births in SEIFA quintiles by epoch: adult women 1981–2002.....	79
Figure 17:	Percentage of all mothers smoking by SES group in South Australia 1998–2002	80

List of tables

Table 1:	Adult (aged 18+ years) body mass index by gender, January 2007 to June 2008.....	21
Table 2:	Mean serves of vegetables per day, by year of survey, for age groups 4 years and over	24
Table 3:	Mean serves of fruit per day, by year of survey, for age groups 4 years and over	25
Table 4:	Nutrient levels in food (per 100 g whether or not they are sold by volume) by traffic-light labelling	43
Table 5:	Customer tapwater samples free from <i>E. coli</i>	46
Table 6:	Percentage of tapwater samples compliant with ADWG health parameters (microbiological and chemical).....	46
Table 7:	Drinking water incidents reported (before treatment)	47
Table 8:	Drinking water incidents reported (after treatment)	47
Table 9:	Number of complaints related to insanitary conditions received by local government, and notices and expiations issued in recent reporting years.....	57
Table 10:	Location of wastewater treatment plants and purpose of water carters	60
Table 11:	Number of specific foodborne diseases by year of notification in South Australia	66
Table 12:	Summary of outbreaks or clusters of foodborne or suspected foodborne disease according to setting of outbreak in South Australia	67
Table 13:	Percentage of children fully immunised against rotavirus (2 or 3 doses) at 12 months of age by state.....	70

Introduction

The State of Public and Environmental Health Report is prepared annually pursuant to Section 44(3) of the *Public and Environmental Health Act 1987*. This report covers the operation of the Act during the financial year 2007–08, and provides a sense of the scope and diversity of public health action on public and environmental health activities in this state.

Public health, in the broadest sense, involves different segments of society working collectively for the good of all. It is the organised efforts of society to improve health and wellbeing and to reduce health inequalities.

The majority of South Australians enjoy good health and a high standard of living. This is in no small part due to public health initiatives such as smoking cessation, mass immunisation and injury prevention campaigns. We are now healthier and living longer than ever before.

But, despite the overall high health status of the population, health inequalities exist in our community, particularly in the Aboriginal population, who continue to have much poorer health outcomes than the rest of the population.

Reducing health inequalities means tackling the determinants of health, which for the greater part lie outside of the remit of the health system—factors such as employment, education, housing and transport. Traditionally, the focus of public health has been on risk minimisation and management—ensuring clean water, sanitation and a safe food supply; managing environmental health risks; mass immunisation; and communicable disease control. Many of the major public health risks are now well controlled. However, while we need to ensure that this is maintained, we also need to focus our attention on the social, environmental, economic and physical determinants of health.

A further impetus for the focus on health determinants is the increase in chronic disease. This is having and will continue to have an impact on the need for health care services as obesity levels rise and the incidence of lifestyle-related diseases increases. The increased pressure on health services is further exacerbated by the ageing of the South Australian population.

To deal with these issues, what is required is a paradigm shift for both the Health portfolio and other government portfolio areas. While not undermining or diminishing the excellence of the health care system in South Australia, we need to be focusing also on population health and the determinants of health.

Meeting the challenges and maintaining and improving public health is not just the work of South Australia's health care system. It requires the concerted and organised efforts of society, government, the non-government sector, industry and the community working together to ensure that proper standards of health and safety are developed, defended and promoted. The public health activities of SA Health play a central role.

What is public health?

Public health is generally defined as the organised efforts of society to keep people healthy and prevent injury, illness and premature death. It is a diverse collection of programs and services that have a common focus on health protection, promotion and prevention.

The common feature of this diversity is a focus on the determinants of health and the systematic management of these determinants. This, in conjunction with a population approach to health rather than a focus on the health of individuals, clearly delineates public health from clinical health services, which are designed to manage episodes of illness or disease.

The National Public Health Partnership, set up by the Australian Health Ministers' Advisory Council, described public health practice within nine core functions, which are to¹:

- > assess, analyse and communicate population health needs and community expectations
- > prevent and control communicable and non-communicable diseases and injuries through risk factor reduction, education, screening, immunisation and other interventions
- > promote and support healthy lifestyles and behaviours through action with individuals, families, communities and the wider society
- > promote, develop and support healthy public policy, including legislation, regulation and fiscal measures
- > plan, fund, manage and evaluate health gain and capacity building programs designed to achieve measurable improvements in health status, and to strengthen skills, competencies, systems and infrastructure
- > strengthen communities and build social capital through consultation, participation and empowerment
- > promote, develop, support and initiate actions that ensure safe and healthy environments
- > promote, develop and support healthy growth and development throughout all life stages
- > promote, develop and support actions to improve the health status of Aboriginal and Torres Strait Islander peoples and other vulnerable groups.

SA Health organises its work in these core functions under the following four main areas, which are reflected as strategic directions in this report:

- > promoting healthy people communities and environments
- > protecting the health of the public
- > preventing communicable and other acute and chronic disease
- > improving health equity.

¹ National Public Health Partnership. Public health practice in Australia today: a statement of core functions. <http://www.nphp.gov.au/publications/phpractice/phprac.pdf>

Whose responsibility is public health?

Public health is very much a shared responsibility and encompasses a wide variety of activities and structures within health and related services—it is the combined efforts of a variety of sectors, organisations and people within all levels of government and outside of government.

In South Australia these functions are performed by a number of practitioners and agencies, including local government, medical and other health practitioners, university teaching and research activities, and regional health services in metropolitan and country South Australia.

Public health functions are also performed by other government departments and agencies including Department of Environment and Heritage; Environment Protection Authority; Department of Families and Communities; Department for Transport, Energy and Infrastructure; Office of Recreation and Sport; Arts SA; Department of Education and Children's Services; Motor Accident Commission; Primary Industries and Resources SA; SA Water; and Zero Waste SA.

Local government has a particularly strong role in public health, with each local council mandated as a local health authority under the *Public and Environmental Health Act 1987*. Local government provides an extensive range of public and environmental health services, including food safety, school and community immunisation programs, human waste and wastewater control, business inspections and health risk assessments.

Within the Department of Health (the department) the principal focus for the public health effort is in the Public Health and Clinical Coordination Division, specifically the Public Health Directorate and the Communicable Disease Control Branch.

Other components of the Health portfolio which contribute to the public health function include Aboriginal Health Division; Policy and Intergovernmental Relations Division; Statewide Services Strategy Division; Health Promotion Branch; Population Research Outcomes Studies Branch; Epidemiology Branch; Drug and Alcohol Service South Australia; BreastScreen SA; South Australian Dental Services; and community and primary health care services.

The public health effort in South Australia operates under various pieces of legislation, principally the *Public and Environmental Health Act 1987*, *Food Act 2001*, *South Australian Health Commission Act 1976*, *Controlled Substances Act 1984* and *Tobacco Products Regulation Act 1997*. In addition, there are also many dozens of Acts of Parliament that either explicitly or implicitly contribute to preserving, protecting and promoting public health.

Overseeing the work of public health in South Australia is the Public and Environmental Health Council, which is established under the provisions of the *Public and Environmental Health Act 1987*. Functions of the council include initiating and overseeing programs and activities that are designed to improve and promote public and environmental health.

The state of public health in South Australia

Australians enjoy one of the highest average life expectancies, at 81.4 years, in the world, second only to Japan. Death rates continue to fall and life expectancy continues to rise, although, as the fertility rate remains below replacement level, we have an ageing population.² One of the major successes of the 20th century in relation to mortality has been a drop of 95% in infectious disease deaths.

In the 20th and beginning of the 21st centuries it is chronic rather than infectious diseases that have been the major causes of death. At the start of the 21st century it is estimated that chronic disease accounted for approximately 80% of the total burden of disease nationally. Strongly associated with most chronic conditions are a series of risk factors that individually or in combination provide significant causal pathways for our most common conditions. These risk factors include smoking, overweight and obesity, lack of physical activity and poor diet. Together with the social and environmental conditions that give rise to them, they are all amenable to public health intervention.

Improvements in health status are fundamentally underpinned by sound and comprehensive public health measures. For example, it has been determined that 42% of the dramatic decline in deaths from acute myocardial infarction and stroke over the last 30 years has been due to improved medical and surgical treatments, and 58% to the reduction in risk factors, most notably smoking.³

The picture for South Australia mirrors that of the nation as a whole. For example, over the last 20 years South Australia has shown a steady increase in life expectancy at birth, being 78.1 years for males and 83.4 years for females over the 2003–05 period, with the gap between the sexes having narrowed since 1984 to the present.

There are clear differences in disease burden across levels of geographic area grouped by socioeconomic disadvantage. The rate of potentially avoidable mortality is 86% higher in the most disadvantaged areas compared with the least disadvantaged. As area disadvantage increases, so does health loss attributed to risk factors. The largest absolute differences between high and low disadvantaged areas occur in relation to smoking, diabetes and alcohol harm.⁴

A WHO report identified seven risk factors that are associated with much of the burden of disease in developed countries.⁵ These are tobacco smoking, high blood pressure, alcohol use, high cholesterol, low fruit and vegetable intake, and physical inactivity. While these are of course significant, broader physical, social and environmental determinants underpin lifestyle choices and set the basic preconditions for poor health.

² Australian Institute of Health and Welfare. Australia's health 2008.
<http://www.aihw.gov.au/publications/aus/ah08/ah08.pdf>

³ Australian Institute of Health and Welfare. Mortality over the twentieth century in Australia. AIHW, 2006.

⁴ SA Health. South Australia: our health and health services.
<https://www.library.health.sa.gov.au/Portals/0/south-australia-our-health-and-health-services.pdf>

⁵ WHO. World health report 2002: reducing risk factors, promoting healthy life.
http://www.who.int/whr/2002/en/whr02_en.pdf

The South Australian Burden of Disease Study found that cardiovascular disease and malignant neoplasms account for more than 60% of premature mortality in South Australia. In terms of identification of risk factors, the study listed the following conclusions:

- > Tobacco is the leading risk factor and is responsible for 9% of the burden.
- > Physical inactivity is the second most important risk factor overall.
- > Hypertension, alcohol harm and obesity are each responsible for between 4% and 6% of the total burden of disease.

Further information concerning health indicators of the South Australian population can be found at the following web sites:

- > www.publichealth.gov.au/atlas_sa.html
- > www.health.sa.gov.au/burdenofdisease/DesktopDefault.aspx
- > www.health.sa.gov.au/pros/

The picture of health in South Australia is strong and positive, but avoidable and preventable inequalities in health between different groups still remain. While the most dramatic illustration of avoidable and preventable ill health is that of the Aboriginal population, other groups also suffer disproportionately. The relationship between ill health and levels of social disadvantage has been demonstrated in the South Australian context and validated in every comparable jurisdiction. This is not the responsibility of any one level of government, but of all governments and the wider community.

Concerted public health action on the determinants of health, most particularly through the framework of South Australia's Strategic Plan, will continue to contribute to the long-term effort to turn around these health inequalities and work towards health for all.

Public health activities in South Australia 2007–08

The Public Health Directorate Strategic Plan 2007–09 is the strategic focus for the work of Public Health within the department. It also provides a cohesive direction and clear set of strategies and performance measures to advance the public health effort in South Australia. The plan is closely aligned with the Department of Health Strategic Plan 2007–09, and delivers the public health contribution to achievement of the overall vision of SA Health—‘the best health for South Australians’.

The public health activities for South Australia in 2007–08, as presented in this report, are in no sense an exhaustive account. Rather, they are highlights to indicate the range and nature of the public health effort. They are conducted by a range of practitioners working across all areas of public health, and cover a broad spectrum of endeavour. They are presented under each of the four strategic directions of the Public Health Directorate Strategic Plan 2007–09, which are:

- > promoting healthy people communities and environments
- > protecting the health of the public
- > preventing communicable and other acute and chronic disease
- > improving health equity.

Strategic direction 1: promoting healthy people, communities and environments

Public Health takes a population health approach that is focused on whole populations rather than on the treatment of individuals. We promote good health and prevent illness.

SA Health works cooperatively with other agencies and the community to promote and support healthy lifestyles and behaviours through action with individuals, families, communities and the wider society.

Key objectives

The key objectives in promoting healthy people, communities and environments are to:

- > encourage the development of healthy public policy.
- > encourage the development of built environments that support the health and wellbeing of the community.
- > increase the capacity of individuals and communities to make healthy choices.
- > promote screening in population-based programs.

Public health legislation and policy directions

Review of the Public and Environmental Health Act 1987

The review of the *Public and Environmental Health Act 1987* proceeded during 2007–08, with ongoing rounds of consultation with relevant stakeholders. The Minister for Health established a Local Government Reference Group under the terms of the State Local Government Relations Agreement. This group consists of representatives from local government, the Local Government Association of South Australia (LGASA) and the Department of Health (the department). Once a draft Bill is finalised, this group will be the principal point of contact for the department and will assist with consultation between the department and local governments. A further technical group was identified with the assistance of the Australian Institute for Environmental Health, and this will be able to provide public health technical advice on the draft Bill once available.

Drafting instructions were being finalised at the end of the current reporting period, and it is anticipated that a draft Bill may be available for public consultation within the next reporting period.

Associated with this legislative reform, the department is negotiating with LGASA to commence a workforce development project aimed at increasing the public health planning capacity of local government. Systematic and integrated strategic planning is a key feature of modern public health practice, and is incorporated as a legislative requirement in many similar public health Acts.

South Australia—Quebec Public Health Exchange

In February 2008 the President / Director General of the National Institute of Public Health Quebec, Dr Richard Massé, visited South Australia as a guest of the department. He was a keynote speaker at the second Health in All Policies Conference, joining a group of international experts that included: Professor Ilona Kickbusch, a world renowned expert in public health and health promotion; Mr Robert Quigley, an international expert in health impact assessment (HIA) who helped developed United Kingdom and European Union capacity in this area as well as lead the advancement of capacity for HIA in his native New Zealand; Mr Geoff Mulgan, a former advisor to Tony Blair on public policy, social innovation and cross-cutting governance issues; and Professor Fran Baum, from Flinders University, a leader in public health who is a WHO Commissioner on the Commission for the Social Determinants of Health.

In his time in South Australia Dr Massé also gave a range of presentations to the chief executive and executive staff of the department, as well as presentations to senior staff and public health academics.

Dr Massé's visit coincided with a Council of the Australian Federation (CAF) meeting. This is a meeting of Australia's state premiers and chief ministers, and is modelled on the Canadian Council of the Federation. This was a special meeting of CAF as premiers and representatives of Canadian provinces and territories also attended. Minister Mme Monique Gagnon-Tremblay represented Quebec at this meeting.

Both Quebec and South Australia expressed interest in formalising their growing liaison concerning public health matters. In a joint ceremony the South Australian Minister for Health, the Hon John Hill, and the Chief Executive of SA Health, Dr Tony Sherbon, together with Minister Gagnon-Tremblay and Dr Massé, signed a letter of intent regarding cooperation across five areas of interest. These are:

- > the organisation of public health
- > public health policies and health impact assessment
- > the organisation and planning of emergency measures and preparedness in the event of a pandemic
- > primary health care organisation models and their linkage to public health
- > health strategies for Aboriginal, First nation, Inuit and Meti communities.

These five areas were seen as the first proposed for investigation and exploration. As both jurisdictions identify other areas, it may be possible to include them in further cooperative action. The clear aim is to develop strong and mutually beneficial links between our two nations, and to find ways of advancing the cause of public health at both the local and global level.

Health in All Policies

Issues

Health in All Policies (HiAP) is the primary recommendation in the final report of the 2007 Adelaide Thinker in Residence, Professor Kickbusch. HiAP calls for a whole of government commitment to improving the health of South Australians, and has been adapted and applied to the targets of South Australia's Strategic Plan (SASP). It was originally devised in the European context.

Health has emerged as a key issue for all governments. Ageing of the population and epidemics of chronic disease such as diabetes, depression and obesity are stretching health services. In present government structures, the underlying determinants of chronic disease are largely controlled by the policy decisions of sectors other than health. Major gains in population health, and the anticipated consequent reduction in health service costs, will largely be achieved through influencing the determinants of health and wellbeing through coordinated and integrated cross-sectoral approaches. Government agencies, in particular, need to move beyond traditional vertical boundaries and begin to embrace a joined-up government approach, where broad-based policy solutions can be identified and implemented. HIAP is such an approach.

Aims

HiAP is based on the twin premises that the health of the community is affected significantly by factors outside the health sector, and that a healthy community or workforce contributes significantly to the goals of other sectors (for example to rising productivity).

HiAP is a collaborative approach that combines the skill and expertise of key health personnel with that of staff from participating agencies, jointly assessing options and posing solutions. It is a process that investigates the potential health impacts of particular plans and proposals, and examines the contribution of a healthier population in achieving the SASP targets. The end result is a set of practical recommendations designed to improve health gains and contribute to the achievement of SASP targets.

Programs and initiatives

The Health in All Policies conference, held in November 2007, brought together more than 150 senior state government executives to consider the links between HiAP and the achievement of SASP targets.

The conference helped to gain broad commitment to HiAP from across the whole of the state public sector. It was jointly convened with the Department of the Premier and Cabinet (DPC), which increased its legitimacy with senior executives from other government agencies and ensured their engagement.

Feedback from conference attendees was overwhelmingly positive, with many indicating their support for DPC and the department to continue to build on the conference outcomes. Professor Kickbusch stated that the methodology used to engage agencies in the lead-up to the conference was among the world's best, and places South Australia as an international leader in the development of across-government strategies to achieve healthy public policy.

Following the conference there was agreement on the following proposals:

- > An across-government approach is required to improve the health of South Australians through tackling the social determinants of health and wellbeing.
- > Linking HiAP to SASP was recognised as a sound model on which to develop an across-government approach to improving health and wellbeing.
- > High-level, across-government policy principles would be useful to support the uptake of HiAP.
- > The HiAP case study approach to the SASP targets developed in the lead-up to the conference should continue.
- > DPC should take a lead in coordinating HiAP.
- > The department needs to provide technical support and develop capacity with other government agencies.
- > Government agencies need to identify a single referral point for HiAP.

To continue the momentum and take advantage of Professor Kickbusch's return to South Australia, an HiAP forum was held in February 2008. This was designed to respond to delegate feedback from the conference, specifically to build the capacity of key government policy makers to apply HiAP within their own portfolios and to ensure that an HiAP approach is integrated into the SASP planning process.

Professor Kickbusch finalised her recommendations and formal report in May 2008. The department, as the principal partner throughout her residency, has been nominated to coordinate the whole of government response to her report.

Outcomes

The department has begun to realign staff and financial resources to support the development of HiAP. It has also been developing its capacity, through staff development and training, to ensure that it can deliver the technical expertise and support needed by other government agencies when applying HiAP to their SASP targets.

Future directions

In 2008–09 the department will:

- > complete the whole of government consultation process for Professor Kickbusch's final report
- > develop an agreement with DPC on HiAP governance structures
- > apply the HiAP case study to selected SASP targets.

Health impact assessment

Issues

Health impact assessment (HIA) is increasingly recognised as a key public health measure to create environments conducive to good health.

While HIA is not mandated in South Australia, state and local government agencies informally refer a number of development proposals to the department for assessment of their health impact.

Aims

Health and development are inextricably linked, and the integration of health considerations into planning processes provides a vital means of improving the quality of life of all South Australians. HIA provides the means of identifying the positive and negative health impacts of developments at the proposal stage to ensure that positive health impacts are optimised and negative impacts mitigated.

Programs and initiatives

Internationally recognised HIA experts were engaged to provide training to both departmental staff and a number of representatives from key government agencies to build capacity to conduct HIAs.

Outcomes

In 2007–08, as indicated in Figure 1, 237 HIAs were conducted by the department. This included 178 development applications, 31 development plan amendments, 16 statements of investigation, 8 major projects and 4 mining applications.

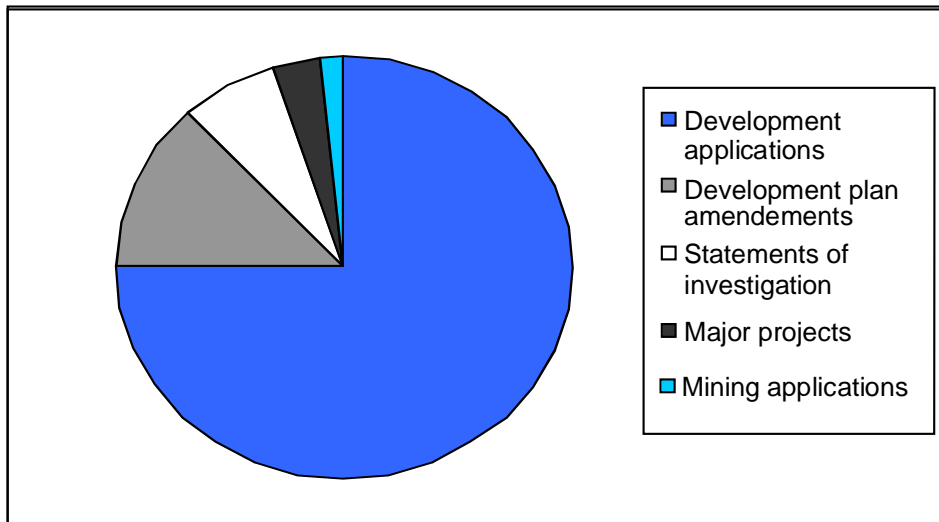


Figure 1: Health impact assessments conducted in 2007-08

Major projects assessed included:

- > the Olympic Dam expansion
- > the North Adelaide LeCornu site development
- > the Bradken Foundry.

Future directions

The department will continue working with key agencies such as Planning SA and the Department of Transport, Energy and Infrastructure for the joint assessment of policy initiatives and the development of strategic frameworks. This work will ensure that projects and policy reform contribute to sustainable development and the improvement of wellbeing for all South Australians.

The implementation of the Health in All Policies approach will be supported through the development of HIA tools that are relevant to the South Australian situation, and continuing staff development and training.

Planning for health

Issues

The built environment and physical infrastructure can subtly influence health promoting behaviours, for example by increasing people's levels of physical activity. Town planning and health researchers have identified factors—having a destination close by, a pleasant and stimulating environment, perceptions of safety, and convenience—that influence people to choose active forms of transport like walking and cycling. Well-planned neighbourhoods can increase the number of people who have a genuine convenient choice to walk or cycle to schools, shops, parks, services, facilities and public transport.

There are a range of programs that encourage people to eat better, be active, take public transport and look after their health into their senior years. But how can we ensure that a supportive environment is built to promote these outcomes?

Aims

The SA Active Living Coalition is a collaborative venture between government and selected non-government organisations, including:

- > SA Health
- > Land Management Corporation
- > Planning SA
- > Department for Transport, Energy and Infrastructure
- > Office for Cycling and Walking
- > TravelSmart
- > Office of Recreation and Sport
- > Heart Foundation
- > Planning Institute of Australia (SA Division)
- > Cancer Council of South Australia
- > Local Government Recreation Forum
- > available specialist expertise when necessary.

The role of the coalition is to provide:

- > a collaborative forum for the planning and coordination of active living in South Australia
- > advice and strategic direction in relation to active living.

Responsibility for the design and creation of the built environment lies with a range of partners including health, urban planners, transport planners, local government, open space planners, developers, landscape designers and others.

Programs and initiatives

The coalition is currently progressing two projects:

- > an analysis of the South Australian Planning System to identify the issues and opportunities that impact on the adoption of active living in this state
- > a collaboration with the property development industry to integrate 'active living principles' into new residential developments and urban regeneration projects in South Australia.

Outcomes

The coalition works together to raise awareness and engage with projects to encourage active living through the planning and design of the built environment. The coalition is currently working with the Land Management Corporation and Canberra Investment Corporation joint venture at Northgate Stage 3 (Lightsvue), which is in the detailed design phase. It is anticipated that residents of this development will have access to local shopping, quality parks within close walking distances of all homes, a shared walking/cycling path linking the major destinations within the development, and a range of street designs that are pedestrian and cycle friendly. Both parks and streets will have plenty of building frontage for passive surveillance and active streetscapes.

Future directions

Linkages to and from the development, incorporating surrounding residential areas, have been examined, and upgrades to relevant pedestrian and bike crossings have been scheduled for 2008–09. Residents of Northgate Stage 3 will receive customised bike maps and public transport information when they move in. The aim is to provide residents with a quality living environment incorporating built form outcomes that have been shown to support a healthy lifestyle.

Healthy weight

Issues

Over half of South Australian adults and one-quarter of South Australian children are overweight or obese. Overweight is associated with a range of chronic diseases such as diabetes, hypertension, cardiovascular disease and some cancers. It can also contribute to poor mental health through social isolation, loss of self esteem, discrimination and depression.

Evidence shows that the rate of increase in the number of overweight and obese children is increasing. This acceleration in the trend occurred in the late 1980s and 1990s, and is particularly concerning because of evidence suggesting that excess weight in childhood continues into adulthood. Studies indicate that 55% of obese 4-year-olds and 79% of obese 10-year-olds remain obese in adulthood. South Australian data also suggest that there is an upward trend in the number of young children moving from a healthy weight range to overweight or obese ranges.

Research has shown that single interventions to promote healthy weight are unlikely to be successful. A comprehensive public health response is essential to achieve sustained behavioural and social change. Promoting healthy weight at a population level therefore requires multiple strategies to address the myriad of complex factors that contribute to overweight. Strategies need to address behaviour, knowledge and attitudes as well as environments, policies and program delivery.

Aim

South Australia's Strategic Plan (SASP) has targets for healthy weight and physical activity under Objective 2 'Improving Wellbeing'. Target 2.2 Healthy Weight aims to increase the proportion of South Australians aged 18 years and over with a healthy weight by 10 percentage points by 2014.

Programs and initiatives

While intervention is required across the whole community in order to achieve the target, the population of South Australian children is prioritised to prevent long-term exacerbation of the current problems.

The *eat well **be active** Healthy Weight Strategy for South Australia 2006–2010* is the framework for action across multiple settings and environments. This approach actively fosters partnerships across agencies and the community in order to achieve the healthy weight target. Initiatives currently being implemented in schools and communities across South Australia to promote eating well and being active include the following:

- > The *eat well be active* community programs are whole of community partnerships that promote healthy eating and physical activity across a range of settings (including health, education, community services, local government and food suppliers) by addressing both structural and individual barriers; they are currently being implemented in two locations—Murray Bridge and Morphett Vale.
- > A healthy eating and physical activity in the early years program will provide, through professional development, support for early years educators to develop confidence and capacities to advance the healthy eating habits and health-related physical activity patterns of children and their families.
- > Crunch&Sip® provides a set break to eat fruit and drink water in the classroom.
- > The Premier's *be active* challenge is a 10-week program in which students (to year 9) accumulate at least 60 minutes of moderate to vigorous activity on at least 5 days a week.

The nutrition and physical activity strategies and initiatives in the following sections are integral to the implementation of *eat well be active Healthy Weight Strategy for South Australia 2006–2010*.

Outcomes

In the period between January 2007 and June 2008, 56.8% of the adult population in South Australia were classified as overweight or obese using the body mass index (BMI) scaling system (Table 1). Males are classified as overweight at higher rates than females, but the rates of obesity are similar between the two sexes. Only 41.1% of the adult population is at normal weight and a very small number (2.1%) are classified as underweight. In preschool children aged 4–5 years the rate of overweight or obesity has increased since 1995 (Figure 2). The rate of overweight and obese female preschoolers is significantly higher than that of males.

Table 1: Adult (aged 18+ years) body mass index by gender, January 2007 to June 2008

BMI	<18.5		≥18.5 & < 25		≥25 & <30		≥30		Total	
	Underweight		Normal		Overweight		Obese			
	Count	%	Count	%	Count	%	Count	%	Count	%
Females	125	3.2	1 796	44.9	1 137	29.4	805	20.8	3 863	100
Males	39	1.0	1 400	35.8	1 676	42.9	796	20.4	3 911	100
All adults	164	2.1	3 196	41.1	2 813	36.2	1 601	20.6	7 774	100

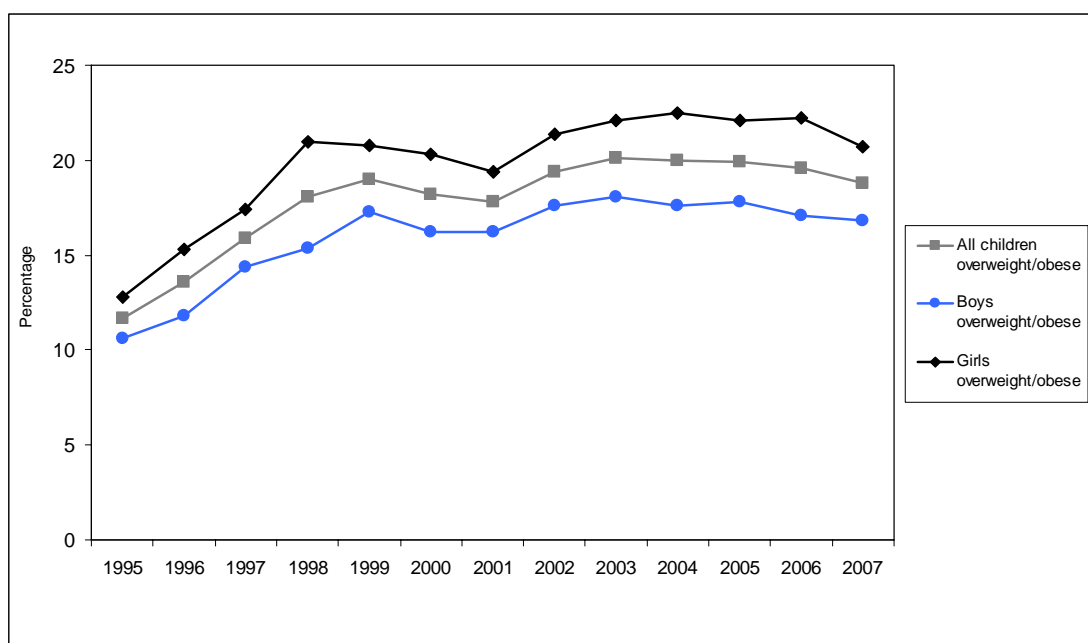


Figure 2: Overweight or obese preschool children (aged 4–5 years) by gender, 1995–2007

Source: Children, Youth and Women's Health Service, March 2008

Future directions

The department will continue to implement a set of policy, program and infrastructure prevention strategies as outlined in the *eat well **be active** Healthy Weight Strategy for South Australia 2006–2010* framework. This approach is consistent with international experience and evidence-based practice. The department is leading the implementation, with advice from the health regions, an across-government taskforce, the non-government sector and other key stakeholders.

Highlights of actions targeting children and their families as a priority for 2008–09 will include the following programs:

- > EPODE is a community-based obesity prevention program involving a variety of programs and activities to support healthy eating and physical activity throughout schools, local government, health services and community organisations. There will be five EPODE communities implemented in the 2008–09 financial year, with an additional five added each year. In total, 20 communities will be selected as EPODE sites through to the 2012–13 financial years.
- > PEACH, a weight management program for overweight 4–9-year-olds that takes a family approach to achieving a healthy lifestyle, will be rolled out in at least one region.
- > The *eat well **be active*** under 5's strategy will provide a strategic overview and set future directions for new and existing programs to eat well and be active for children under the age of 5 years and their parents and carers. The strategy aims to raise awareness about the importance of the early childhood years in establishing foundations for positive health and learning throughout life; and promote positive parenting behaviours matched to developmental milestones that support healthy eating and active play.

Nutrition

Issues

Good nutrition is essential throughout life as it assists in learning, wellbeing and prevention of disease, including chronic diseases. A healthy diet that starts early in life enables appropriate growth and development in children, starting with breastfeeding and continuing throughout early childhood and adolescence. Nutritional dietary advice and modification is also required as part of the management of many diseases.

Aim

The aim is for all South Australians to consume a diet consistent with the Dietary Guidelines for Australians of the National Health and Medical Research Council (NHMRC). Priorities are set out in the *Eat Well South Australia* Public Health Nutrition Action Plan 2006–2008, many of which are the same nutrition priorities as in the *eat well **be active** Healthy Weight Strategy for SA 2006–2010*.

Programs and initiatives

The *SA Breastfeeding Strategic and Action Plan 2008–2012* aims to increase the number of children who are breastfed in line with the NHMRC guidelines. The *Breastfeeding—Every month counts* social marketing campaign was run in 2007–08 to assist in increasing the acceptance of breastfeeding in the community. Evaluation of the program found that 9 out of 10 women interviewed agreed that it is important to breastfeed for as long as possible. The most significant shift in attitude was in greater recognition of why breastfeeding is important.

The *SA Breastfeeding Strategic and Action Plan 2008–2012* also aims to increase the number of children born in a hospital accredited under the Baby Friendly Hospital Initiative (BFHI) program. There are currently 11 BFHI-accredited maternity hospital services in South Australia, with no new hospitals accredited in 2007–08 and two hospitals re-accredited.

A discussion paper, *Healthy Food in SA Health Facilities*, was released for consultation in January 2008. The proposal aims to make healthy alternatives easier to obtain by ensuring that the nutritional quality of food and drinks supplied and promoted to staff, visitors and the general public in South Australian health facilities is in line with the NHMRC's guidelines. Extensive consultation and liaison with key stakeholders has been completed, with an excellent response to an online survey (over 2000 respondents) from staff.

During 2007 the department funded the Australian Red Cross (ARC) SA Branch to improve the sustainability of the *Good Start Breakfast Clubs* program in South Australia, and to develop appropriate resources to support the program's implementation. The ARC's national breakfast program is implemented in areas of high need, and primarily strives to provide a healthy meal and address the needs of those children and communities who experience food insecurity.

Start Right Eat Right is an award program that recognises long-day child care centres that provide and promote healthy food. The program includes training for staff, healthy food policies, menu review and parent information. As of 30 June 2008, staff in 185 of South Australia's 262 eligible child care centres have been trained and 138 have received the award.

In collaboration with Department of Education and Children's Services (DECS), the *right bite Healthy Food and Drink Supply Strategy* for South Australian schools and preschools aims to ensure that government schools and preschools provide and promote healthy food in school canteens. In 2007–08, 43 workshops (engaging 1450 participants from schools and local health services) were conducted to support strategy implementation.

Re-run in February 2008, the *Go for 2&5®* fruit and vegetable social marketing campaign specifically targets families with children under 12 years of age. It incorporates television, radio, outdoor billboards and written media and has engaged more than 370 000 South Australians in activities promoting the 2&5® message. Initial evaluation shows a high recognition of the message and its intent.

Community Foodies is a peer nutritional program that involves training volunteer 'Foodies' to deliver nutritional information and engage with disadvantaged people. The benefits for the 'Foodies' themselves are positive and have included recognition of prior learning for future ongoing studies. The program now runs in 12 South Australian locations and involves 94 trained volunteer 'Foodies'.

Thinker in Residence, Professor Andrew Fearne, whose residency was supported by the department, has increased links with other government departments, particularly Department of Primary Industries and Resources SA. Professor Fearne's final report is expected to make recommendations for collaborative initiatives between the health and food industry sectors.

Outcomes

The mean serves of vegetables per day has increased since 2002 for all age groups (Table 2). In 2005 the *Go for 2&5®* campaign was first run, and resulted in an increase in vegetable consumption in all age groups except those aged 19+ years during 2005 and 2006. The amount of vegetables consumed decreased overall in 2007; however, the campaign was run again at the end of 2007 and the 2008 data will indicate the level of success of this campaign.

Table 2: Mean serves of vegetables per day, by year of survey, for age groups 4 years and over

Age (years)	Recommended serves per day	2002	2003	2004	2005	2006	2007	Total
4–7	2–4	1.67	1.71	1.53	1.78	1.96	1.81	1.75
8–11	3–5	1.84	2.04	2.17	2.19	2.2	1.98	2.09
12–15	4–9	2.34	2.21	2.15	2.39	2.66	2.29	2.35
16–18	4–9	1.94	2.16	2.27	2.37	2.52	2.52	2.35
19+	5 or more	2.4	2.49	2.57	2.8	2.72	2.64	2.63

The mean serves of fruit per day have increased in the 4–7, 8–11 and 16–18 years age groups since 2002, but decreased in the 12–15 and 19+ years age groups despite the *Go for 2&5®* campaign run in 2005 (Table 3).

Table 3: Mean serves of fruit per day, by year of survey, for age groups 4 years and over

Age (years)	Recommended serves per day	2002	2003	2004	2005	2006	2007	Total
4–7	1–2	1.8	1.8	1.72	1.96	1.89	1.9	1.85
8–11	1–2	1.63	1.91	1.84	1.77	1.82	1.84	1.82
12–15	3 or more	1.76	1.63	1.6	1.62	1.65	1.57	1.62
16–18	3 or more	1.52	1.64	1.58	1.67	1.78	1.71	1.67
19+	2 or more	1.61	1.59	1.57	1.59	1.56	1.58	1.58

Future directions

In 2008–09 the department will continue with the following strategies:

Maternal and child health

- > The *SA Breastfeeding Strategic and Action Plan 2008–12* will be implemented to initiate capacity building programs to support maternity hospitals becoming BFHI accredited.
- > The *Breastfeeding—Every month counts* social marketing campaign will be conducted again, incorporating feedback from the evaluation.
- > ARC will investigate the extent and nature of school breakfast programs in South Australia as part of the *Good Start Breakfast* program, and provide an advisory and support service based on sustainable good practice to those implementing or wishing to establish such programs.

Fruit and vegetables

- > The *Healthy Food in SA Health Facilities* policy will be finalised and a nutrition advisory service established that can provide support to health services across South Australia in implementation of the policy.
- > A review will be undertaken of the most appropriate primary health and community-based strategies to support older people to eat well and remain healthy in their own homes for as long as possible.
- > An analysis will be conducted of the South Australian data from the national survey *Kids Eat Kids Play*, to be released in late 2008, and this analysis will be made broadly available.
- > A discussion paper on television advertising and the consumption of unhealthy food and drinks by children will be released for consultation.

Physical activity

Issues

Physical inactivity is now recognised as a significant public health issue and is a major risk factor associated with burden of disease, mortality and morbidity in the Australian population. It is associated with increased risk of cardiovascular disease, some forms of cancer, type 2 diabetes, injury and obesity.

Participation in regular physical activity reduces the likelihood of developing risk factors for disease and enhances individual and community health. Evidence indicates that, for adults, 30 minutes of moderate to vigorous daily physical activity will enhance health and reduce the risk factors associated with chronic disease.

The National Physical Activity Guidelines recommend that adults undertake at least 30 minutes of moderate to vigorous physical activity each day, and define sufficient physical activity as 150 minutes of activity per week.

The guidelines for children aged 5–18 years recommend at least 60 minutes, and up to several hours, of moderate to vigorous activity every day, and limiting screen-based activity for entertainment, for example TV and computer games, to less than 2 hours per day.

Although the health benefits of physical activity are well established, nearly half of all South Australian adults are not sufficiently active to achieve these benefits.

Aims

The department aims to:

- > increase physical activity levels across the South Australian population through improved programs, policies and environments that support active living and wellbeing.
- > increase the proportion of South Australians who achieve the recommended levels of physical activity and who are within a healthy weight range.

Programs and initiatives

Initiatives aimed at achieving South Australia's Strategic Plan Target 2.3 To exceed the Australian average for participation in sport and physical activity by 2014 include the following:

- > A number of intersectoral initiatives continue to strengthen cross-government partnerships established through the Ministerial Physical Activity Forum, which comprises Ministers from the following portfolios: Health, Recreation and Sport, Transport, Education, Planning, Families and Communities, Local Government, and Tourism.
- > The **be active** at work initiative, co-funded by the department, is managed through the Office for Recreation and Sport, which aims to engage with key agencies and peak industry bodies to influence policy and physical and social environments that support physical activity. The initiative supports organisational and individual behaviour change strategies, with a focus on a Health in All Policies approach.
- > The **be active** physical activity campaign, also co-funded by the department, aims to raise awareness about the importance of physical activity and the opportunities for being active as part of daily life. The campaign, which is now in its second year, promotes the physical activity recommendations to both the primary target audience of adults and the secondary target audience of parents and their children. Evaluation of the campaign indicates a raised awareness among South Australian adults in relation to the key messages, and an increase in intention to participate in physical activity.
- > **be active** Playtime is an initiative of the Office for Recreation and Sport, and is also co-funded by the department. Community organisations are being supported to implement a series of playtime sessions with parents and families in disadvantaged South Australian communities. **be active** Playtime raises parental awareness about the importance of physical activity in early childhood. It promotes understanding about the relationships between learning, growth and development, and movement. It also encourages positive parenting attitudes, confidence and skills in relation to active play.

- > Within the department discussions have commenced on the development of a wellbeing plan inclusive of physical activity. As part of wellbeing activities, the department supported staff to participate in the Corporate Cup, Walk to Work and Ride to Work days. A 4-week stair climbing campaign was also implemented within the CitiCentre building to raise awareness about the importance of physical activity and to support the key messages of the statewide **be active** campaign.
- > In partnership with Department for Transport, Energy and Infrastructure (DTEI), the department is working to progress the implementation of active transport initiatives in school communities. The project is funding two project officer positions with DTEI to review existing evidence-based approaches to the promotion of active transport, and identify recommendations for sustainable implementation. Schools will be supported to develop, implement and evaluate active travel plans in partnership with community agencies.

The promotion of physical activity is integral to the *eat well be active Healthy Weight Strategy 2006–2010*.

Outcomes

The 2004 South Australian Physical Activity Survey reported that 53.9% of adults aged 18 years and over achieved the recommended guidelines for sufficient activity, 28.9% were insufficiently active, and the remainder were inactive or sedentary.

South Australian data from the 2007 Australian Children's Nutrition and Physical Activity Survey indicates that 67% of children aged 9–16 years meet the current guidelines for moderate to vigorous physical activity. However, only 26% of children meet current recommendations for screen-based activity. The survey also indicates that younger children are more active than older children and, in particular, adolescent girls achieve much lower levels of physical activity than boys.

Future directions

A program to support physical activity and healthy eating in primary schools will commence in the 2009 school year. As part of this program, the department has appointed a provider panel for a curriculum program in up to 200 South Australian primary schools. The program, which focuses on curriculum and aligns with the physical activity guidelines for children and adolescents, aims to both increase participation in physical activity and decrease time spent in sedentary entertainment.

The department has commissioned a number of literature reviews that will inform future directions, policy and practice in the promotion of physical activity. A review of the relationship between physical activity and disadvantage has been completed by the University of South Australia in partnership with Flinders University. A review describing the links between body image, eating disorders and the promotion of healthy eating and physical activity was also undertaken through Flinders University.

Reducing the prevalence of smoking

Issues

Smoking is the single biggest cause of premature death in South Australia, with 23 South Australians dying each week from illnesses related to tobacco smoking. Smoking imposes substantial economic and social costs on the community. It also contributes to the gap in healthy life expectancy experienced by disadvantaged groups, as well as to the overall burden of chronic disease in the community.

Aim

The South Australian Tobacco Control Strategy aims to improve the health of South Australians by reducing harm caused by tobacco smoking in the overall community. Special effort is focused on three priority groups—Aboriginal people, young people and people living with a mental illness. By 2010 the objective is to have reduced smoking prevalence to 17% among all adults. The strategy has adopted the target in South Australia's Strategic Plan (SASP) to reduce smoking prevalence in young people aged 15–29 years by 10% over 10 years.

Programs and initiatives

A total ban on smoking inside hotels, clubs, bingo venues and the Sky City Adelaide Casino commenced on 1 November 2007. As well as protecting workers and patrons from passive smoking, it is anticipated that this will have the effect of denormalising smoking, and may reduce youth smoking prevalence.

At this time several advertising campaigns went to air to encourage people to quit smoking. These were: *Echo*, *Voice Within*, *Which disease*, and *Sponge and Amputee*. The first three of these campaigns were designed to make smokers think about their smoking behaviour, and to portray the message that quitting is hard but not quitting is harder. The last two were focused on increasing awareness about the damaging health effects of smoking. Consistent with previous years, calls to the Quitline remained high during periods of campaign activity.

Youth

Drug and Alcohol Services SA are working to reduce the desirability of and access to tobacco products, with a specific focus on young people, in line with the SASP target. In November 2007 restrictions commenced that limit the size of retail tobacco display areas and require graphic health warning posters alongside tobacco displays. In April 2008 the display of fruit- and confectionery-flavoured cigarettes was prohibited as these cigarettes are considered to be particularly appealing to youth.

In 2007–08 the Youth Smoking Cessation Project commenced, aiming to develop a youth-friendly program to reduce the prevalence of smoking among this population group. The program will include training and support for health workers and peer support workers to enable them to assist young people seeking help to quit smoking.

Working with the Department of Education and Children's Services (DECS)

The Smarter than Smoking SA project, based at Quit SA, works closely with DECS Drug Strategy to prevent smoking uptake and promote smoking cessation in school children statewide. They have developed resources, including curriculum materials, for senior students that provide learning activities on tobacco in the SACE Stage 1 subjects Australian Studies, Mathematics and English. The project also organises the *Critics Choice* anti-tobacco program that runs annually. In 2007 over 37 000 South Australian school students participated in *Critics Choice* by watching, critiquing and discussing 12 anti-tobacco television commercials sourced from Australia and overseas. The sharing of information and resources ensures an effective integration of policies and programs into the DECS strategy.

Enforcement

In 2007–08, 876 inspections were carried out to ensure compliance with smoke-free workplaces and hospitality venues. Six expiation notices were issued for smoking in an enclosed area.

To achieve a high rate of compliance with legislation prohibiting tobacco sales to minors, controlled purchase operations tested 327 retailers, with 31 expiation notices being issued for non-compliance. In addition, two expiation notices were issued to retailers for selling tobacco without a valid retail tobacco merchant's licence, and six for non-compliance with point of sale requirements.

Outcomes

Smoking rates have remained stable from 2006 to 2007 among all age groups, except the 60 years and over age group, which declined significantly. The smoking prevalence rate in 2007 was 20.6% among all adults.

Smoking prevalence is measured annually for the 15–29-year-old age group. The baseline rate measured in 2004 for the SASP target showed a smoking prevalence of 27.9%; the rate for 2007 was 23%.

Future directions

The use of mass media to encourage quitting is the most effective value for money initiative on a population health basis. Investment in this area will continue in order to achieve the target and will be complemented by a youth-focused social marketing campaign.

The Youth Smoking Cessation project will develop a range of youth-friendly services such as internet-based interventions and mobile phone text messaging.

Support will be intensified for disadvantaged and Aboriginal young people to reduce uptake and encourage cessation of smoking.

Nicotine replacement therapy will be more readily available for low-income people and Aboriginal people.

Smoking cessation programs need to be tailored to be responsive to the needs of low-income people.

Reducing harmful alcohol consumption

Issue

More than 466 000 South Australians aged over 14 years (35%) consume alcohol at medium- or high-risk levels for harm in the short term at least once a year, and 92 000 South Australians (7%) drink at these harmful levels at least once a week.

Aim

Drug and Alcohol Services South Australia (DASSA) aims to reduce the harmful consumption of alcohol within the South Australian community.

Programs and initiatives

DASSA is currently developing a South Australian Alcohol Action Plan in consultation across government and non-government sectors. The plan will support the priorities identified in the SA Drug Strategy 2005–2010 and the National Alcohol Strategy 2006–09.

DASSA recently developed a new social marketing campaign, *Drink Too Much, It Gets Ugly*, around alcohol intoxication, and launched it on 29 May 2008. The aim of the campaign is to reduce community acceptance of public drunkenness, particularly among males aged between 18 and 39 years. The campaign includes two television commercials, with complementary convenience advertising and pamphlets. Further information is also available to the public on the South Australian Drug and Alcohol internet site <www.alcohol.sa.gov.au>.

DASSA's World Health Organization Collaborating Centre for Research in the Treatment of Drug and Alcohol Problems has been central to the development, investigation and implementation of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and associated brief intervention. In 2007–08 DASSA conducted training with workers in the SA Health Lifestyle and Risk Factor Program. These workers will use ASSIST to identify clients with tobacco, alcohol or other drug use that may be contributing to an increased risk of chronic disease. DASSA has also conducted a number of training sessions throughout the year in the use of ASSIST, and more than 150 health and allied health workers have attended these sessions.

DASSA manages the Good Sports Program in South Australia, which assists community sporting clubs to manage alcohol responsibly and create smoke-free environments. In 2007–08 the program increased the number of participating clubs from 245 to 295. Program research indicates that Good Sports club members report drinking significantly less than members of clubs not in the program.

DASSA collaborates with Encounter Youth health and emergency services to implement strategies to minimise binge drinking by school leavers at the annual Schoolies Festival in Victor Harbor. The 2007 festival, held from 23 to 25 November, attracted approximately 10 000 young people. A number of health services, including DASSA, were available to attend to accidents, injuries and other health issues experienced by the young people over the weekend.

Future directions

A list of probable and potential indicators to assess the efficacy of the South Australian Alcohol Policy is currently being developed. The National Drug Research Institute has been contracted to provide a detailed report on key South Australian alcohol indicators for use in evaluating the South Australian Alcohol Action Plan 2009–12, including existing and potential indicators, relevant data collections, identification of current data gaps, and future directions for data collection.

The National Drug Research Institute's interim report, received in August 2008, identifies core, potential and supplementary indicators for monitoring alcohol consumption and related harms throughout South Australia.

Finalisation of these indicators and benchmarks will occur by February 2009.

Cervical cancer screening

Issues

Cancer of the cervix is the 14th most common cancer, and the 18th most common cause of cancer deaths, in Australian women. The national organised approach to cervical screening has reduced the incidence of and mortality from cervical cancer from 4.0 deaths per 100 000 women (a total of 329) in 1991 to 1.9 deaths per 100 000 in 2005 (a total of 216). The Pap smear test has the potential to reduce up to 90% of cervical cancer and is currently the best protection against the disease.

The national policy recognises the importance of improving the health of Aboriginal and Torres Strait Islander women, who still have unacceptable levels of poor health.

Mortality rates for cervical cancer increase with age. The highest mortality rate in the 2002–05 period was in women aged 85 years and over, with 14.3 deaths per 100 000 women.

Aim

The SA Cervix Screening Program (SACSP) is a joint initiative of the state and federal governments. It aims to reduce the incidence of and mortality from invasive cancer of the cervix by increasing the proportion of women who are screened at appropriate intervals, and by promoting a high quality of screening and follow-up.

Programs and initiatives

In 2007–08 SACSP promoted a successful Pap Smear Awareness Week campaign, targeting those women who are underscreened, particularly in the northern suburbs of the Adelaide metropolitan area.

Culturally appropriate Aboriginal 'well women' screening remained a key priority area, with grants being provided to 15 organisations to conduct screening and community promotion and awareness raising projects.

The program has developed a new information and promotional resource, a pictorial story booklet for young women and women with low literacy or learning difficulties.

Outcomes

There are currently 614 796 women registered on the SACSP Backup Record System, which records all Pap smears and follow-up tests; 590 283 of these are South Australian women. Totals of 165 672 and 84 678 smears were recorded in 2007 and during January to June 2008, respectively. Of the smears recorded in 2007:

- > 92.8% were assessed as normal
- > 5.4% were assessed as abnormal—0.82% of high-grade abnormality (including cancer), 0.33% of possible high-grade abnormality and 4.27% of low-grade abnormality
- > 1.8% were recorded as unsatisfactory for assessment and a repeat smear was required.

As indicated in Figure 3, the 2006–07 biennial participation rate for cervix screening for South Australian women in the target population (that is, women aged 20–69 years) was 62.3%. The 2006–07 biennial participation rate for all smears, including females outside the target age, was 63.8%.

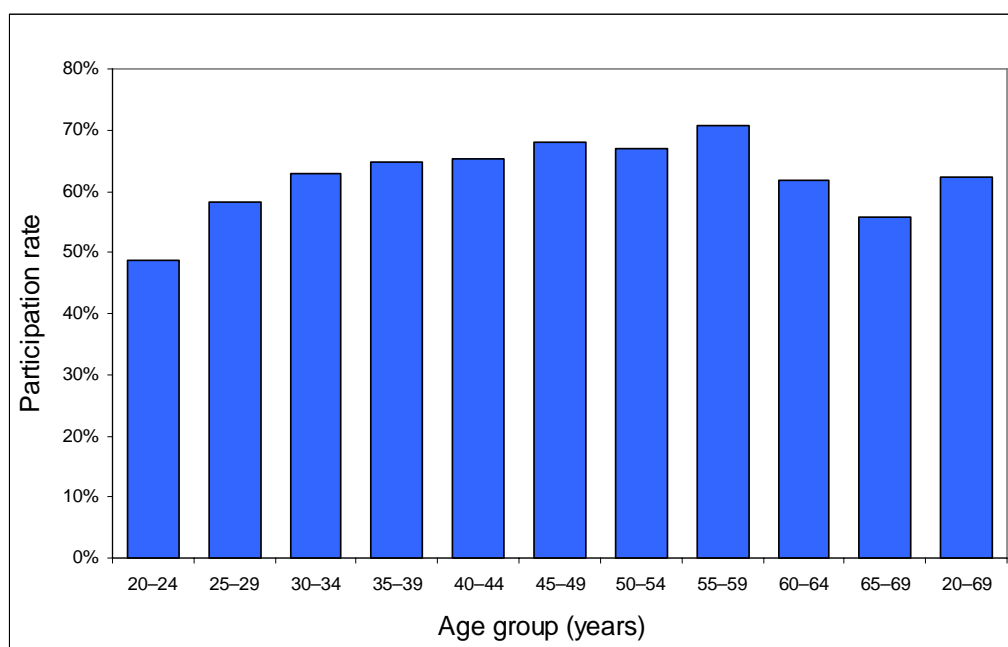


Figure 3: Biennial participation rate in cervix screening for women aged 20–69 years for 2006–07

Future directions

In 2008–09 SACSP will continue to promote the necessity for cervix screening to maintain the current level of participation. Alongside the roll-out of the human papillomavirus (HPV) vaccine program for young women aged 12–26 years, the message that a Pap smear every 2-years is still the best way of preventing cervical cancer will be promoted.

SACSP will participate in the National Cervical Screening Program Renewal Project over the next 2 years. This will examine the impact of new technologies (including the introduction of the HPV vaccine) and how the national program can continue to reduce the incidence of cervical cancer in light of these advancements.

Breast cancer screening

Issues

Breast cancer is one of the most common causes of death from cancer in Australian women. Among Australian women, the lifetime risk of developing breast cancer before the age of 75 years is 1 in 11, but the chance of dying from breast cancer before the same age is much less, at about 1 in every 53.

In South Australia in 2002 there were 1040 new cases of breast cancer diagnosed in women (seven cases in men), and 290 women died from this disease (one man died).

Aims

BreastScreen SA aims to reduce mortality and morbidity attributable to breast cancer in South Australian women through the early detection of the disease by screening mammography.

The program aims to:

- > maximise the proportion of women aged 50–69 years who are screened every 2 years, and ensure equitable access to screening for women in this age group
- > maximise the number of small cancers and cancers detected, while minimising the number of unnecessary recalls and investigations
- > ensure that services are acceptable and appropriate to the needs of the eligible population
- > ensure that services are managed effectively and efficiently.

Programs and initiatives

BreastScreen SA comprises six fixed clinics in the metropolitan area and a State Coordination Unit located in Wayville. One of the fixed clinics, located on the City East Campus of the University of South Australia, provides both a dedicated radiographer training facility and a high-quality screening service to clients. Two country mobile units visit 27 locations across South Australia every 2 years, and a smaller metropolitan mobile unit services seven inner and outer metropolitan locations.

In 2007–08 BreastScreen SA:

- > commenced screening on Saturday mornings at the Marion Clinic, resulting in an extra 964 women screened during the reporting period
- > introduced the Radiographer Assistant role, as a trial, in January 2008 in four of the fixed clinics in the metropolitan area, resulting in an extra 1329 women being screened.

The Radiographer Assistant role was nominated for the South Australian Health Allied, Scientific and Complementary Health Awards, and won the inaugural award for Innovative Model of Care.

Outcomes

From 1 January 1989 to 30 June 2008 there have been 1 003 570 screening mammograms provided to 249 169 individual women across South Australia by BreastScreen SA.

In 2007–08, 71 047 screening mammograms were provided. Of these, 51 673 (72.7%) were provided at the six fixed clinics in the Adelaide metropolitan area, and 19 374 (27.3%) were provided in the three mobile units.

Of the total screening mammograms, 78.2% were provided to women in the target age group of 50–69 years.

BreastScreen SA assessed 1724 women as having a screen-detected abnormality. The total recall to assessment rate for women with screen-detected abnormalities was 2.5%, which is one of the lowest recall rates in Australia but is accompanied by high cancer detection rates.

BreastScreen SA has continued to reduce waiting times from screening to assessment, with 96.1% of women recalled for assessment in 2007–08 attending within 28 calendar days of their screening visit (exceeding national targets). Compared to 2005–06, this was a 32.6% improvement.

Of the women screened, 44.1% were screened in the required time (target $\geq 90\%$), which is a 5% improvement on 2006–07.

New clients represented 11.8% of all women screened in the 2007–08 financial year.

There was a 65% reduction in the number of overdue invitations at 30 June 2008 compared to June 2007.

The cost per woman screened during 2007–08 was \$133.

Future directions

BreastScreen SA will commission two replacement country mobile units in mid 2009.

Work will commence towards the integration of a number of its metropolitan clinics into the GP Plus Health Care Centres across South Australia, including locating the country mobile units on site at the GP Plus centres planned for Ceduna and Port Pirie.

BreastScreen SA will celebrate 20 years of quality screening in South Australia in late 2008.

Bowel cancer screening

Issues

Bowel cancer is a significant health problem in western (or westernised) countries. It has the third highest mortality rate after lung and prostate cancers in men, and lung and breast cancer in women, and accounts for 13.6% of all cancer types in South Australia.

Bowel cancer starts in the bowel and is confined locally for a relatively long period of time before spreading through the bowel wall and into other parts of the body. Few, if any, symptoms are exhibited until the cancer has reached a relatively advanced stage. However, survival rates can be significantly improved in cases where disease is treated early.

Consequently, screening for bowel cancer before symptoms develop has the potential to reduce morbidity and mortality significantly.

Aim

The National Bowel Cancer Screening Program (NBCSP) is a population health initiative aimed at early detection and prevention of bowel cancer. The NBCSP commenced free testing for bowel cancer for older South Australians in January 2007.

Programs and initiatives

The first phase of the NBCSP offered a free faecal occult blood test (FOBT) to:

> people turning 55 or 65 years of age between 1 May 2006 and 30 June 2008

> people involved in the Bowel Cancer Screening Pilot Program, which was conducted between November 2002 and June 2004.

To participate in bowel screens, eligible people are sent an invitation package that includes a free test kit and an information booklet. The test is quick, easy and can be done at home. Once completed, the samples are posted back to the pathology laboratory for testing in the envelope provided in the kit. The laboratory sends the test result to the participant and their doctor.

Medicare Australia is responsible for maintenance of the National Bowel Cancer Screening Program Register, issuing invitation packs about participation in the program and collection of information and test results.

In South Australia NBCSP nurse pathway coordinators have been appointed to assist with assessment, scheduling and support for people with a positive FOBT who need follow-up colonoscopy services in public facilities.

Outcomes

Data for South Australia to the end of June 2008 provides the following results:

- > 76 347 test kits were sent to people turning 55 or 65 years of age between 1 May 2006 and 30 June 2008.
- > 17 984 test kits were sent to those people who, during the pilot screening program, lived in pilot postcode areas.
- > Of the total of 94 331 test kits distributed, 41 460 participants (44.0%) have completed the test, with 3236 (8.2%) positive tests recorded.
- > 2122 colonoscopies have been recorded by the register; 733 were conducted in the public system, 1319 in the private system and 70 were unidentified.

Australia-wide statistics for the program as of 30 June 2008 show that over 1 032 000 people have been invited to participate in bowel cancer screening, over 411 000 (39.8%) have accepted to screen, and over 30 000 (7.7%) participants have recorded a positive result.

Future directions

The second phase of the NBCSP commenced on 1 July 2008 across all regions of South Australia; over the next 3 years people turning 50, 55 or 65 years of age between 1 January 2008 and 31 December 2010 will be offered a free FOBT.

The second phase will encompass an extended role for the nurse pathway coordinators. This will include telephone follow-up of all program participants with a positive FOBT who are not progressing through the screening pathway. This phase will not offer free rescreening to previous program participants or to the current cohort.

The program is being phased in gradually to help ensure that health services, such as colonoscopy and treatment services, are able to meet any increased demand.

Oral health

Issues

Australia's National Oral Health Plan 2004–2013 demonstrated that, compared with the rest of the adult population, concession card holders are twice as likely to have had all their teeth extracted and those with natural teeth have about 40% more untreated dental decay. This major inequality is due to poor access to timely dental care focused on prevention rather than to high underlying rates of dental disease. Relying on occasional emergency dental care rather than having check-ups and a complete course of dental care is a very damaging pattern of care. Long waiting lists and the associated poor access to dental care impact on oral health outcomes, and are the major sources of client dissatisfaction with public dental services in South Australia. Reducing these waiting times is central to strategies to improve oral health outcomes and overall client satisfaction.

In 2001–02 over 70% of the public dental service's clinical resources for eligible adults were consumed in responding to dental emergencies, leaving limited resources available to provide more complete and timely dental care for people on waiting lists.

Aim

The South Australian Dental Service (SADS) aims to work with the community to enable South Australians to achieve better oral health and wellbeing through:

- > health promotion
- > timely dental treatment with a focus on prevention and early intervention
- > support for education and research.

Programs and initiatives

The Relative Needs Index (RNI), a computer-assisted priority triaging tool of dental emergencies, was implemented in all community dental service clinics in November 2006. The RNI project aimed to reduce the level of public dental resources consumed in 'priority' appointments for patients whose needs proved not to require urgent treatment, and increase the more timely complete treatment of people on restorative dentistry waiting lists. It was hoped that this redirection of resources could be achieved without significant reduction in satisfaction from clients seeking to bypass the waiting list to receive priority treatment for an 'emergency'. In the medium to longer term, shorter waiting times for more comprehensive dental care would be expected to improve client satisfaction overall.

Outcomes

The RNI triaging tool has increased the accuracy and triaging of adult patients seeking to bypass waiting lists for emergency dental care.

In 2007–08 this resulted in more than 8000 fewer emergencies (18.4% reduction) being treated, which has freed valuable resources to provide more timely access and comprehensive routine treatment for people on waiting lists.

The number of people on waiting lists fell from 57 969 in June 2006 to a 14-year low of 32 429 by June 2008.

Future directions

The underlying aim of the project is to increase the level of clinical resources directed to the provision of complete, more timely courses of dental care focused on prevention for people on waiting lists. SADS has in place mechanisms to accurately track and report the major reductions in waiting times for this desirable form of care. Continued monitoring of the RNI will occur and adjustments will be made where needed.

Children's oral health

Issues

There is growing and consistent clinical evidence that children's oral health has deteriorated across all age groups since the late 1990s. It is evident that the incidence of early childhood caries (ECC) is increasing throughout Australia. In South Australia 35% of all 4-year-olds have tooth decay, and more than 80% of all decayed teeth in this age group are untreated. Some children with severe decay may require general anaesthetic in hospital to either extract or restore teeth. In 2006–07 in South Australia, 1378 children aged 0–8 years were hospitalised for dental extractions and restorations. Preventive and early intervention strategies can reduce the prevalence of ECC.

Aims

SADS has developed the Population Oral Health Project, which aims to:

- > improve the oral health of children aged 0–5 years, in particular those with risk factors that increase their chance of developing ECC
- > ensure sustainability of improved oral health in children aged 0–5 years by assisting their families or carers to link with dental services
- > establish early identification of, and develop referral pathways by a range of health and education professionals for, preschool children suffering ECC
- > establish early identification of, and develop referral pathways for, Aboriginal and Torres Strait Islander children aged 0–5 years suffering ECC
- > increase the oral health knowledge of pregnant women and access to timely oral health information for new mothers.

Programs and initiatives

Since early 2007 SADS has been working collaboratively with a range of professionals on the Population Oral Health Project, which aims to implement early identification of, and referral pathways for, children experiencing decay.

Training was provided to SADS school dental services staff; Children's, Youth and Women's Health Service (CYWHS) nurses; immunisation nurses; midwives; GPs; GP practice nurses; and staff from the private dental sector.

SADS also developed and distributed a number of resources for oral health in children for parents and health professionals, including: a *Give your child's teeth a healthy start* brochure distributed to all parents of newborn babies; Medical Director information for GPs; and a poster that includes a 'Lift the Lip' character to encourage oral health checks of children.

Outcomes

A total of 342 children aged 0–5 years were assessed and referred for priority dental care at SADS (Figure 4).

From July 2007 to June 2008, 160 eligible children attended appointments after referral at a SADS dental clinic.

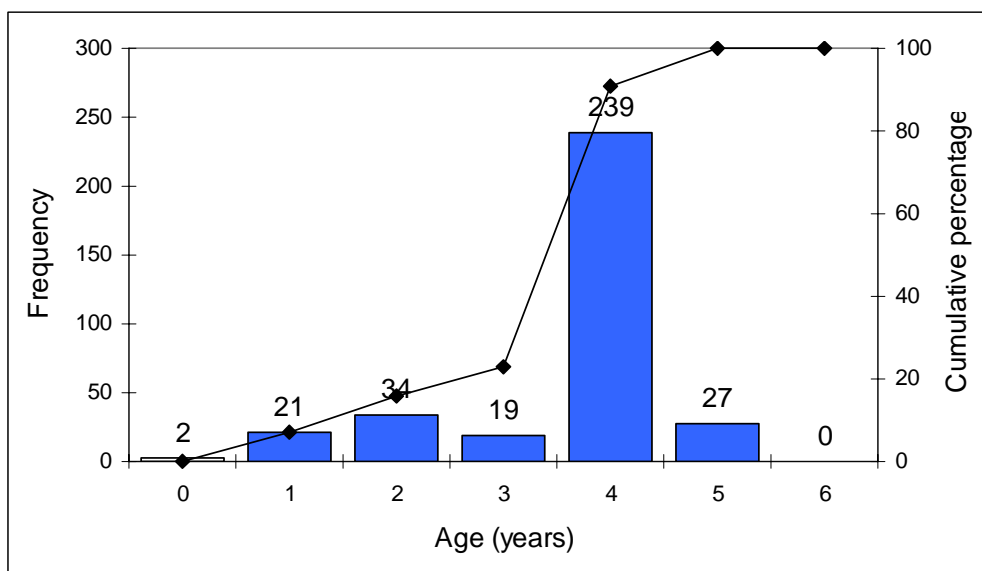


Figure 4: Age frequency of early childhood caries (ECC) against the cumulative percentage of referrals through the Population Oral Health Project

Oral health information in the CYWHS Nursing and Midwifery Standards, which support a minimum level of competency, has been updated to reflect current practice in general dental care for children. This requires nurses to ‘Lift the Lip’ at the 6-month, 18-month, 2-year and 4-year-old health checks. The nurses will record the oral health check and whether the child has been referred to a SADS dental clinic.

‘Lift the Lip’ is a standard part of the CYWHS Sustained Family Home Visiting Program. Each child involved in the program will have an oral health check at approximately 2 years of age and will be referred for a dental check formally or informally as required.

Future directions

In 2008–09 SADS will work to achieve the following aims:

- > The number of referrals received for children aged 18 months to 3 years, which has been much lower than the number for children aged 4 years, will be increased. Strategies to address the lower number of referrals include developing and implementing the Population Oral Health Project within child care centres, playgroups and crèches.
- > An increase in participation in the Population Oral Health Project by GPs and practice nurses will include further consultation with key stakeholders, promotion of the project at various GP and practice nurse events, and targeted information sessions.
- > Structures to engage the child care centre, playgroup and crèche sectors will be developed.

- > The number of referrals for Aboriginal and Torres Strait Islander children aged 0–5 years will also be increased. Strategies to address the lower number of referrals of these children include further consultation with key stakeholders; promotion of the project at various community events; targeted information sessions; and developing and implementing the Population Oral Health Project with agencies that work with Aboriginal and Torres Strait Islander children (see page 82 for details on Aboriginal oral health).

Strategic direction 2: protecting the health of the public

SA Health is committed to protecting the health of South Australians by preventing, minimising and containing adverse health effects from unsafe food and water, other environmental hazards and risky behaviours.

Key objectives

The key objectives in protecting the health of the public are to:

- > develop and administer public health legislation and policy which prevent, minimise or contain a range of environmental hazards
- > assist local government to achieve their public health legislative and policy responsibilities
- > ensure safety and suitability of the food supply
- > prevent public harm from physical, chemical and microbial hazards in the environment.

Food safety programs and auditing

Issues

In 2003 the Australian New Zealand Food Regulation Ministerial Council's Policy Guidelines on Food Safety Management in Australia: Food Safety Programs identified the food business sectors for which mandatory food safety programs (FSPs) should be introduced. These included catering operations and businesses that serve food to vulnerable populations.

In October 2006 a new national Food Safety Standard, 3.3.1 *Food safety programs for food service to vulnerable populations*, was gazetted into the Australian New Zealand Food Standards Code, effectively mandating FSPs in hospitals, aged care, child care and delivered meals organisations. The new standard has a 2-year transition period before becoming enforceable in October 2008. The standard will apply to approximately 710 food businesses in South Australia.

Aim

The introduction of mandatory FSPs in the identified sectors aims to improve food safety outcomes, contribute to the prevention of foodborne illness, and minimise pressures on the health system from foodborne illness.

Programs and initiatives

During 2007–08 the department has:

- > commenced food safety audits in public hospitals and not-for-profit delivered meal organisations
- > worked with industry, businesses and local government to develop and communicate the framework within which FSPs and food safety auditing will be implemented and managed
- > assisted Meals on Wheels SA to refine their food safety program for their 40 fresh-cook volunteer kitchens, and provided information at Meals on Wheels SA cook-of-the-day conferences.

Outcomes

The department is well advanced with development of the systems required to implement Food Safety Standard 3.3.1 in South Australia, including:

- > developing a food safety auditor approval and management system
- > developing a workforce of department-approved food safety auditors
- > conducting food safety audits in public hospitals and not-for-profit delivered meals organisations
- > providing advice and guidelines for industry and local government
- > facilitating auditing of vulnerable population businesses by department-approved auditors.

Local government involvement will continue to be critical in providing assistance to businesses. The department will continue to provide assistance and support through the management and review of the audit system. The number of local government officers who have been approved as auditors indicates a strong interest and willingness by the sector to be part of the new regulatory system.

Future directions

The department has communicated and consulted extensively with stakeholders on the new requirements during the past 4 years. Further communication is planned during the next 12 months following Food Safety Standard 3.3.1 becoming enforceable for the vulnerable population sector from October 2008, and the possible gazettal of Standard 3.3.2. *Food safety programs for catering operations.*

The department must ensure that adequate information and resources are available to achieve the following desired outcomes:

- > businesses covered by Food Safety Standard 3.3.1 have implemented an FSP by 5 October 2008 and been audited by a department-approved auditor within 6 months
- > public hospitals have been audited by department auditors once by 5 October 2008
- > catering businesses covered by Food Safety Standard 3.3.2 have implemented a food safety management system in line with the standard (expected circa 2011–12)
- > the introduction of any other nationally agreed food safety management systems.

Nutritional food labelling

Issues

In 2006 the UK Food Standards Agency (UK FSA) introduced a voluntary front-of-pack labelling scheme. In October 2006 the South Australian Minister for Health, the Hon John Hill, proposed that the Australia New Zealand Food Regulation Ministerial Council consider the introduction of a front-of-pack nutrition labelling scheme in Australia and New Zealand. The Minister proposed that the Ministerial Council examine schemes such as the traffic-light labelling system being used in the United Kingdom.

Currently, all packaged food sold in Australia must be labelled with a nutrition information panel. However, factors such as unrealistic portion sizes or claims that a product is 'low in fat' when it may be high in sugar or salt can make it difficult for consumers to make informed decisions about healthy eating.

Aim

The aim is to provide nutrition information on the front of packaged foods that enables consumers, at a glance, to identify which foods can make a positive contribution to a healthy diet and which are recommended to be eaten only in moderation or sparingly.

Programs and initiatives

The department participated in the working group established to advise the Ministerial Council. Key industry, consumer and public health bodies have been contacted and asked to provide any relevant information that the working group should take into account. An independent expert has also been engaged by the working group to compile a report on the different front-of-pack labelling schemes currently in use nationally and internationally, and to examine new and emerging concepts to assess their suitability and effectiveness. These include:

- > health marks, logos and symbols

- > interpretive colour-coded schemes that interpret information on key nutrients using colour as a guide to high, medium and low levels, for example the UK FSA multiple 'traffic-light labelling'. Figure 5 provides an example of designs that comply with the scheme and Table 4 shows criteria used to determine which traffic-light colour applies.

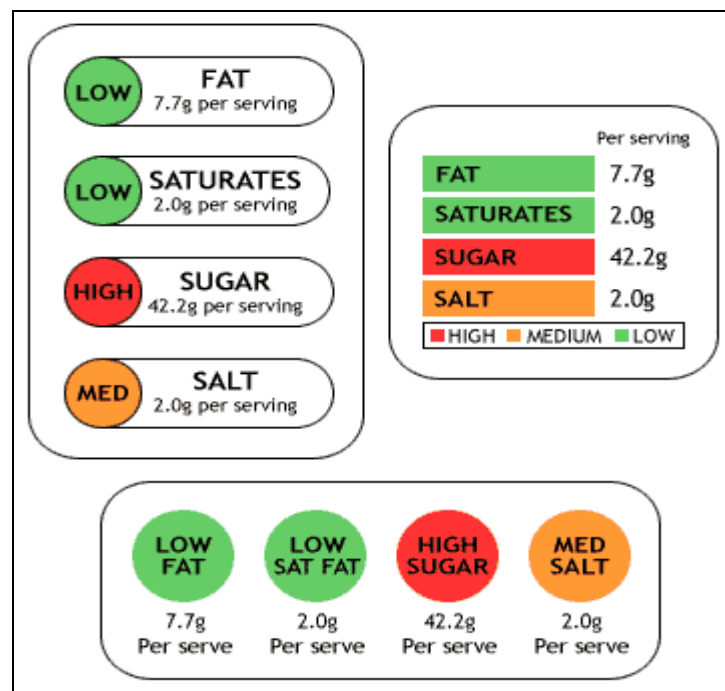


Figure 5: Example of traffic-light food labelling design

Table 4: Nutrient levels in food (per 100 g whether or not they are sold by volume) by traffic-light labelling

Nutrient	Green (low)	Amber (medium)	Red (high)	Red (high) if portion >250 g ^a
Fat	≤3.0g	>3.0 to ≤20.0g	>20.0g	>21.0g/portion
Saturates	≤1.5g	<1.5 to ≤ 5.0g	>5.0g	>6.0g/portion
Total sugars	≤5.0g	>5.0 to ≤15.0g	>15.0g	>18.0g/portion
Salt	≤0.3g	>0.30 to ≤1.5g	>1.5g	>2.4g/portion

^a By 2008 this will be 'if portion >100g'

Note: different criteria are assigned for drinks.

Outcomes

Ministerial Council members agreed to ask the Food Regulation Standing Committee to explore and report to the council regarding whether a uniform front-of-pack food labelling system would be an effective health strategy; and to advise on the efficacy of a range of options for such a system, which may include the traffic-light labelling system, the behavioural labelling system and any other options.

Future directions and emerging issues

The final report will be presented to the Ministerial Council in October 2008.

Research will be undertaken by the department regarding the preference and understanding of South Australians in relation to different types of front-of-pack labelling schemes.

Monitoring the food supply—retail fresh chicken and eggs surveys

Issues

The department conducts sampling surveys of various foods that are of public health concern or to confirm compliance with the compositional and labelling requirements of the Food Standards Code. The surveys undertaken in 2007–08 included microbiological testing of retail fresh chicken and eggs.

Aims

The food surveys aimed to:

- > compare results obtained with data gathered from previous surveys
- > establish the rigour of the current produce labelling and traceability systems in place
- > assess the effectiveness of the standards for poultry and egg products to manage food safety risks associated with *Salmonella* species (spp.) and *Campylobacter* spp.
- > determine if survey results may be used to support negotiations in the development of new national primary production standards.

Programs and initiatives

For the period 1 January to 30 June 2008, 355 samples of fresh chicken meat and 206 samples of 1 dozen eggs were purchased from retail outlets across the metropolitan area of Adelaide and submitted for analysis.

Analysis involved microbiological testing of retail chicken meat for *Salmonella* spp. and *Campylobacter* spp. and of retail eggs for *Salmonella* spp. The surveys provided a period of continued surveillance to identify the prevalence and type of these micro-organisms in poultry meat and eggs sold at retail to consumers in South Australia.

Outcomes

Overview of results

The overall incidence of *Salmonella* from the content of eggs from all laying sources (cage, barn and free range) was 0%, and on the shell of eggs from all laying sources was 0–3%. A recent survey conducted by Food Standards Australia New Zealand as part of a national risk assessment of eggs and egg products identified that the international incidence of *Salmonella* on the shell of whole eggs is in the range 0–9.4%.

Salmonella was detected on 38.5% of samples of skin-on poultry meat and 37.2% of skin-off poultry meat, giving a combined total of 37.8% of samples. *Campylobacter* was detected on 89.7% of samples of skin-on poultry meat and 90.5% of samples of skin-off poultry meat, giving a combined total of 90.1% of samples.

Discussion

When compared with national and international surveys, the results obtained for these surveys are not unexpected, and provide a valuable and timely reference source. The findings demonstrate the need for government to continue industry initiatives relating both to egg production and the handling of raw poultry. The results particularly reinforce the value of continued promotion of safe food messages to consumers and food handlers relating to thorough cooking and prevention of cross-contamination. These results will also be of assistance in informing the development of national primary production standards for eggs and poultry meat.

In both poultry meat and egg products, identification of *Salmonella typhimurium* phage types provided opportunity to trace product from the market place back through the supply chain. Results also provided a useful reference source for likely foods implicated in foodborne illnesses reported to the department, but did not always provide conclusive proof of infection sources.

Future directions and emerging issues

In 2008–09 the department will continue to work with industry and other regulatory agencies on food supply monitoring. It will also maintain its close involvement in the development of national standards for poultry and eggs.

Safe drinking water

Issues

In South Australia, drinking water is currently regulated under the *Food Act 2001*. While the provisions of this Act broadly define a requirement to produce drinking water that is fit for purpose and handled in a safe manner, no direction is given to water providers on how this requirement should be achieved or measured. The department is currently seeking approval to draft a Bill for a Safe Drinking Water Act that will provide a description of the actions required by providers to assure drinking water quality and to verify compliance with the Australian Drinking Water Guidelines (ADWG).

Over 90% of the South Australian population is supplied with drinking water by SA Water, with whom the department has a long-standing collaborative relationship that is reflected in a cooperative arrangement agreement signed by the chief executives of both departments.

The number of drinking water providers throughout the state is likely to increase in response to the challenges associated with climate variations and growing populations. The introduction of a Safe Drinking Water Act will codify existing arrangements between SA Water and the department, and provide clear direction to other drinking water providers, both current and those wanting to enter the South Australian drinking water market in the future.

Aims

The department aims to ensure that:

- > mechanisms for assuring and measuring the safety of drinking water supplies are defined within a Safe Drinking Water Act

- > SA Water provides the South Australian population with good quality water on a day-to-day basis, and appropriate remedial action is undertaken to limit the health risk to the community in the event of elevated source water contamination, treatment failure or non-compliance of drinking water quality with health guidelines.

Programs and initiatives

A submission incorporating drafting instructions for a Safe Drinking Water Act has been distributed to primary stakeholders, including SA Water, for comment. Approval will be sought in 2008–09 to draft and release for public consultation a Bill for a Safe Drinking Water Act.

Initial feedback on the development and drafting of the Bill has been positive. Stakeholders, including SA Water, have indicated strong support for more prescriptive legislative measures to assure drinking water quality and thus protection of public health.

Communication and reporting was maintained between SA Water and the department in accord with the cooperative arrangement agreement. Routine and incident reports were provided by SA Water.

Outcomes

Water quality in drinking water supplies is monitored through two mechanisms—regular reporting and incident reporting. SA Water provides routine monthly reports summarising compliance data for all supplies measured against guideline values provided in the ADWG. Incident reporting is required in accord with criteria established through the *Water/Wastewater Incident Notification and Communication Protocol*. The protocol, initially developed in 1998–99, provides the basis for interagency communication of incidents, and includes a process for ministerial and public communication where necessary. Type 1 incidents represent serious incidents that could cause risks to human health, and cause or threaten serious environmental harm. Type 2 incidents represent a low risk to human health, and could cause low impact or restricted environmental harm.

The data presented in Tables 5 and 6 indicate that a high quality of drinking water was provided to the South Australian population in 2007–08, similarly to previous years. In the metropolitan area 100%, and in rural areas 99.8%, of samples of water from customers' taps were free of *E. coli*. There were similar results for the percentages of samples compliant with the ADWG health parameters (microbiological and chemical).

Table 5: Customer tapwater samples free from *E. coli*

	2004–05	2005–06	2006–07	2007–08
Metropolitan	100%	100%	100%	100%
Country	99.9%	99.9%	99.9%	99.8%

Table 6: Percentage of tapwater samples compliant with ADWG health parameters (microbiological and chemical)

	2004–05	2005–06	2006–07	2007–08
Metropolitan	100%	100%	100%	100%
Country	99.6%	99.8%	99.9%	99.6%

Tables 7 and 8 provide a summary of reported water incidents in 2007–08 and previous years, Table 7 for source water (before treatment) and Table 8 for drinking water (after treatment). An increase in the number of Type 1 incidents is attributed to the impacts of ongoing drought conditions and algal bloom events in source water. SA Water has implemented numerous mitigation strategies in response to these events, including new treatment plants to deliver filtered water to a number of communities that are currently supplied with chlorinated unfiltered water from the River Murray. Appropriate remedial action was instituted for all Type 1 events, and none of the incidents were considered to represent a significant health risk or require public notification.

Table 7: Drinking water incidents reported (before treatment)

Year	Type 1	Type 2
2004–05	15	49
2005–06	9	67
2006–07	14	26
2007–08	43	48

Table 8: Drinking water incidents reported (after treatment)

Year	Type 1	Type 2
2004–05	44	16
2005–06	31	23
2006–07	28	9
2007–08	39	11

Future directions

The department will seek approval to develop a Bill for a Safe Drinking Water Act.

Collaboration between the department and SA Water will proceed to assure drinking water quality, and to ensure that appropriate and timely remedial action is instituted following incidents to minimise risks to public health.

Ongoing revision of the incident protocol will continue, to ensure that criteria are appropriate and understood by the primary agencies involved. A new version of the protocol was implemented during the reporting period and a further version will come into effect in 2008–09.

Protection against lead exposure in Port Pirie

Issues

The Port Pirie community is exposed to high levels of lead resulting from emissions produced from over 100 years of smelting activities in the city. Children are most vulnerable to adverse effects from lead exposure. Currently, 39% of children under the age of 5 years have blood lead levels above the worldwide maximum target level of 10 micrograms per decilitre ($\mu\text{g/dL}$).

Aims

The department aims to assist, direct and advise all stakeholders to protect children from the harmful effects of lead in their environment. The ultimate goal is to achieve an acceptable balance between the health and wellbeing of the community and the economic benefits derived from smelting that will ensure the future sustainability of the world's largest lead smelter and, consequently, the city of Port Pirie.

The department is involved in the *Tenby10* strategy, a partnership established in 2006 with Environment Protection Authority (EPA), Port Pirie Regional Council and the Nyrstar smelter.

The primary focus of the *Tenby10* strategy is to reduce fugitive smelter emissions and the subsequent lead exposure in the community. The department is committed to supporting the strategy's goal of having at least 95% of children aged 0–4 years living in Port Pirie with a blood lead level of less than 10 µg/dL by the end of 2010.

Programs and initiatives

The department conducts research to develop, prioritise and evaluate evidence-based strategies and community education campaigns to minimise lead exposure. These campaigns are delivered by the Port Pirie Lead Implementation Program (primarily the Port Pirie Environmental Health Service), the *Tenby10* strategy and the *Tenby10* Strategy Whole-of-Government Case Management Team (established in 2007).

The department analyses blood lead level data collected by the community blood screening program, and lead-in-air data from monitoring stations maintained by EPA and the Nyrstar smelter. This analysis enables evaluation and reporting on the performance of these systems, and on the progress of exposure-reduction strategies, to ensure that necessary modifications are made if smelter emissions continue to reduce as anticipated. Blood lead level reporting has been extensively investigated to develop an agreed method that meets all stakeholder requirements.

The department is conducting an ongoing assessment to report on the impact of meteorology (weather patterns, climate change, drought) and geographical location of residents (relative to the smelter) on children's blood lead levels and lead levels in air. This assessment will assist with targeting exposure-reduction strategies to the districts and families in most need.

Investigation of the benefits and risks associated with decontaminating homes and remediating the environment is ongoing in the context of reduced smelter emissions. Continuing review of international practices, including advice from an international practitioner, has been sought.

Outcomes

As indicated in Figure 6, there has been a continuing improvement in children's blood lead levels since 2004–05, with an increasing proportion of children having levels below 10 µg/dL. It is estimated that, at the end of June 2008, 61% of children tested in 2007–08 had blood lead levels below 10 µg/dL. Approximately 266 children had levels equal to or above 10 µg/dL. Based on ABS population estimates, this figure will need to be reduced to at least 38 children by the end of 2010 in order to achieve the *Tenby10* goal.

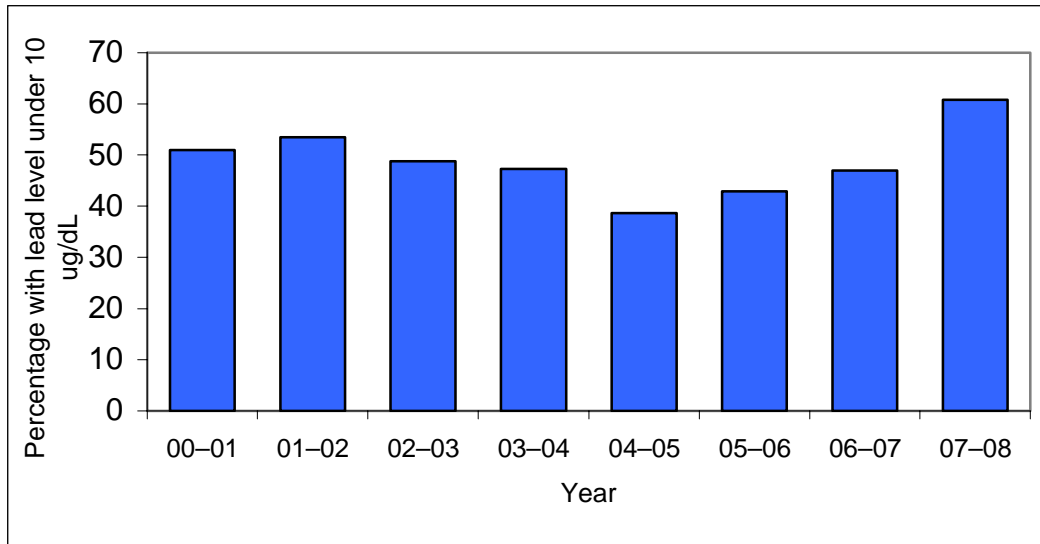


Figure 6: Children's blood lead levels^a in Port Pirie 2000-01 to 2007-08

^a Data used for this graph is children's *maximum* blood lead level test result, which represents the worst outcome a child may suffer and does not include surrogate maternal lead level test results. Therefore, this graph cannot be compared to data in reports prepared specifically for the *Tenby10* strategy, which use agreed methods based on the *most recent* blood lead level test results and where surrogate tests are included.

Of particular significance is the reduction in the number of children tested in 2007-08 with blood lead levels equal to or greater than 20 µg/dL. At the end of June 2008 it is estimated that this number had fallen from 87 in the previous reporting period to 64 children. Similarly, blood lead levels of mothers have also reduced to the extent that, at the end of 2007, the geometric mean of 2.2 µg/dL for maternal blood lead level tests was the lowest it has ever been in the history of the blood screening program. This result is an important determinant of the future blood lead levels of children because the maternal level is the same as the child's at birth.

The improvements in blood lead levels are most likely due to the combined efforts of the Nyrstar smelter carrying out capital works projects specifically aimed at reducing emissions and the ongoing exposure-reduction strategies delivered by *Tenby10* stakeholders and the Port Pirie Lead Implementation Program.

Following a pilot study conducted in 2006-07, Phase 1 (sampling of outdoor surfaces) of a new research project investigating the risk of children exceeding tolerable daily intakes of metals other than lead (including arsenic, cadmium and antimony) in Port Pirie has now been completed.

Phase 1 of this study has provided estimates of contemporary outdoor heavy metal ratios, and enabled mapping of comparative levels across the community. These results will be used in conjunction with Phase 2 of the research project, which will study indoor heavy metal ratios, to inform a health risk assessment for exposure of children to metals other than lead.

Future directions

Scientific evaluation of exposure-reduction strategies for all stakeholders and analysis and reporting of blood lead levels and lead-in-air data will continue in 2008-09.

Advice will be provided to inform agencies such as SA Water, EPA, Port Pirie Regional Council and Planning SA in order that the implications of living in a contaminated community can be taken into consideration in future developments and planning in Port Pirie.

Phase 2 of the research project investigating the risk of children exceeding tolerable daily intakes of metals other than lead in Port Pirie is planned to be completed in 2008–09. The indoor surfaces of homes where children have the highest blood lead levels, and therefore the greatest risk of exposure to heavy metals, will be sampled as part of individual case management plans. Examination of the bioavailability of, and subsequent potential for adverse health effects from, metals other than lead in Port Pirie will then be needed to interpret the results of Phase 1 and Phase 2.

Observational and statistical investigations of potential protective housing and environmental characteristics are planned to examine anomalies where children have low blood lead levels but live in locations deemed to be high-risk areas.

A new research project is planned to investigate the rate of recontamination of the environment as a result of ongoing smelter emissions. Soil sampling will be performed on sites where clean fill has been laid previously to map the contribution of changing lead-in-air levels to soil lead levels over time and by geographical location.

A follow-up photographic study in conjunction with the Nyrstar smelter is planned to record on-site emission points and evaluate site hygiene strategies 10 years after a similar photographic analysis was performed.

Product safety

Issues

Chemicals present in consumer products can pose risks to public health. Controlled substances legislation and regulation and the scheduling of chemicals underpins the management of poisoning risks for some chemicals found in consumer products by restricting supply and use, and by appropriate labelling and packaging standards. However, there are instances where unanticipated or unregulated risks arise, requiring immediate action to protect the public from potential harm.

Aims

The department is the central point for notification of emerging poisoning risks by Poisons Information Centres, enabling public health warnings to be made. There is also a significant role for the department in assessing potential chemical exposures reported by the public and other agencies from products such as clothing, toys, cookware, appliances, furniture, household cleaners and pesticides; and assisting to coordinate risk responses through collaboration with the Office of Consumer and Business Affairs (OCBA).

The department has an ongoing involvement in raising issues of concern relating to chemicals and contributing to the national chemical scheduling process. It also has increasing participation at both state and national levels in the current chemical regulation reform environment.

Programs and initiatives

Product 1

In November 2007 the department was notified by the NSW Poisons Information Centre that a children's toy and educational device (Figure 7) had been found to contain the chemical 1,4 butanediol, which can cause a range of side effects including unconsciousness and seizures if ingested. The chemical is converted to gamma hydroxybutyraldehyde and gamma hydroxybutyrate (GHB or 'fantasy'), both of which are central nervous system depressants. Four children had been hospitalised during the previous week in Australia and New Zealand, some in a state of coma after ingesting the product.



Figure 7: The children's toy implicated in product recall

Further sales of the product were prohibited by OCBA, declaring the product as 'dangerous'. The department participated in delivering the public health alert concerning the product to GPs, emergency departments and the public. It then coordinated the subsequent investigation by Forensic Science SA of reported exposures and toxicological analysis of the product sold in South Australia, and assisted OCBA with the large-scale product recall. The department established a public and health professional information service to collect data about potential exposures and contribute them to a national database, locate and sample any product that may have caused clinical effects, and initiate appropriate responses. It also contributed to the determination that most, if not all, of the product sold in Australia may contain 1,4 butanediol, and subsequently advised the national operation to prohibit this chemical in its unbound form in domestic products.

Product 2

The department responded to a complaint raised in February 2008 concerning the safety of a Moroccan tagine (stewing pot), sold by a South Australian trader, that produced a silvery residue after it was used to cook a meal (Figure 8). As a result, the department instigated and coordinated a large-scale investigation into the possible leaching of heavy metals from imported tagines when used for food preparation.



Figure 8: The types of tagines implicated in the potential risk to health

The department arranged for analysis of the release of lead, cadmium, nickel and chromium from a selection of imported tagines obtained from various traders and manufacturing sources. Excessive levels of lead were identified in some tagines that were deemed to pose a potential health risk, particularly to children and pregnant women. Glazed ceramic cookware containing levels of lead and cadmium higher than the limits set by Australian Customs regulations were declared as dangerous, thereby prohibiting further sales. The department notified national and international authorities of the results of this investigation, and raised the regulation of substances released from ceramic cookware with the national scheduling body in order to improve current mechanisms to protect the public from this threat.

Future directions

Collaboration with national Poisons Information Centres and OCBA will continue to ensure that vigilance is maintained to detect poisoning risks and protect public health.

Consultation at state and national levels on chemical regulation reforms and chemical scheduling decisions will be ongoing.

Site contamination

Issues

A chemical or biological substance in soil, water or air at a residential, commercial or public site may be considered a contaminant, in the context of public health, if short- or long-term exposure to the substance poses a potential risk to the health of residents, workers or the public.

Leaching of pollution into groundwater over a wide area typically occurs in urban areas via extensively disturbed surface soils, for example roads, sewers and managed lawns. Pollutants may also leach into groundwater over a defined localised area; for example, the past practice of using former clay and sand mining sites (pug holes) as landfills in Adelaide has resulted in significant groundwater contamination in several areas around the metropolitan area. Pollutants have also found their way into Adelaide aquifers from either deliberate waste disposal via bores (Figure 9a) or discharge over the ground (Figure 9b), practices which are now illegal.



Figure 9: Case study illustrating past practices of chemical waste disposal at an industrial site in Adelaide

Human exposure to contaminants present in groundwater occurs either directly when groundwater is extracted and used for drinking, cooking, swimming or domestic irrigation; or indirectly through consumption of home-grown produce irrigated with contaminated groundwater. The pathways of exposure to pollutants present in groundwater will depend upon factors such as the presence or absence of a domestic bore, potability of the groundwater, nature of contaminants, geology of the site and depth to the contamination. The magnitude of exposure will depend upon the mode of groundwater use and the concentration of any contaminant.

Aim

Site contamination scientists within the department aim to prevent or minimise the potential for the general public to be exposed to the contaminants present within or migrating outside the boundaries of affected sites. Their ultimate aim is to reduce the risks to public health associated with exposure to site contamination.

To achieve this, human health risk assessment is performed and, when required, risk management strategies are developed for each contaminated site that comes to the attention of the department.

Programs and initiatives

In order to better manage the potential risks to public health from site contamination, the department and EPA have signed an Interim Memorandum of Understanding (MOU) for the Management and Health Risk Assessment of Site Contamination in South Australia.

A joint approach to the investigation and management of site contamination has been developed by establishing an intergovernmental working group, whose tasks include:

- > review of site contamination assessment and management issues
- > coordination of management of specific contaminated sites and areas
- > determination of priority substances for the development of health-based investigation levels
- > review of the appropriateness of health risk assessments undertaken by Environmental Auditors (Contaminated Land) to ensure that they adequately assess public health risks in the conduct of the audit.

The department regularly conducts risk assessments relating to the extraction and domestic use of shallow groundwater by the public in urban areas.

During 2008 the department participated in an extensive investigation of groundwater contaminated with trichloroethene (TCE) in Beverley and surrounding suburbs, where there is a mixture of residential and industrial land uses. TCE is commonly used for vapour degreasing and cleaning of metal parts; it is also used in the manufacture of adhesives, in chemical synthesis and as a solvent. Exposure to TCE can result in toxic effects on a number of organs and systems, including the liver, kidney, and the nervous, immune, reproductive and cardiovascular systems.

TCE was detected in shallow groundwater in a mixed residential–industrial part of Beverley in December 2007 at a concentration significantly exceeding the WHO Provisional Drinking Water Guideline value. The inferred flow of the contaminated groundwater was in the direction of Woodville South—an area with a large number of domestic groundwater bores.

This triggered an investigation by the department and EPA to determine the extent of the contamination and to assess the risks to local residents.

Outcomes

The Beverley groundwater investigation provided a clear example of just how vulnerable unconfined aquifers are to impacts from urban and industrial pollution. It follows that the use of groundwater from unconfined aquifers in urban areas of South Australia without appropriate testing for contaminants of public health concern poses a risk to public health. It is sensible, on this basis, to assume that groundwater extracted from a shallow aquifer in an urban area is contaminated unless shown to be otherwise. This forms the basis for the department's consistent advice to residents not to use their bore water unless it has been tested and shown to be safe for its intended use. Additional measures to protect public health may need to be considered, including: a more comprehensive information campaign to alert the public to the risks of using unconfined aquifers; imposition of mandatory chemical and biological testing of groundwater from domestic bores; and a ban on domestic use of unconfined aquifers in urban areas.

The Beverley investigation revealed significant levels of TCE in several domestic bores. Of most concern was direct human exposure via inhalation and dermal contact where the groundwater was extracted and used for irrigation or in swimming pools. This conclusion was based on knowledge of the depth to contamination and the use of the groundwater in the community.

The investigation delineated the area of groundwater contamination, an area containing 2177 residences and located within five suburbs. To account for the possible presence of unregistered bores, all residents in the affected area were informed of the contamination and advised to cease extracting groundwater.

Future directions

The new Environment Protection (Site Contamination) Amendment Bill 2007 adds provisions to the *Environment Protection Act 1993* in relation to site contamination. It assigns responsibility for site contamination, establishes a statutory audit system for South Australia and gives powers to EPA to deal directly with site contamination. This legislation and the MOU agreed between EPA and the department will facilitate the management of potential risks to public health from contamination present at sites throughout South Australia.

Minimising risk—protective public health measures during emergencies

Issues

In December 2007 Kangaroo Island suffered severe bushfires over a number of days. This resulted in the influx of large numbers of emergency service personnel being housed in temporary camp conditions, which had the potential for risks to public health. Large numbers of personnel in very close living arrangements, under stressful circumstances and perhaps not overly concerned with hygiene, gave rise to the risk of gastrointestinal illnesses. Following a number of personnel presenting with cases of gastroenteritis, the need for a departmental response focusing on camp hygiene was identified.

Aim

The aim of the response was to undertake a risk assessment of the living quarters where over 600 emergency personnel were based, and put hygiene measures in place to prevent a possible gastroenteritis outbreak.

Programs and initiatives

Working with the local government environmental health officer, the first risk identified was the hand washing facilities, comprising a bucket of water and reusable hand towels for hundreds of people (Figure 10a). This was replaced by alcohol hand wash gel in all public areas including dining areas, emergency control centres, toilets and fire fighting vehicles (Figure 10b). Supplies of the alcohol hand wash gel were checked every day and refreshed.



a



b

Figure 10: Before and after the implementation of appropriate hand washing facilities

Food for the emergency camp was supplied by the Salvation Army, who prepared around 2000 meals per day using a mobile food van. Inspection of the facility revealed an immaculate kitchen with hot and cold running water and working fridges. The Salvation Army also took advantage of the local sports club kitchen facilities and, again, their food handling and cleaning procedures were impressive, which is very important when there is the responsibility of feeding hundreds of people. The only issue identified was in food choices for meals provided for those in the emergency vehicles. Because these vehicles lacked refrigeration, advice was provided on a daily basis on appropriate food choices for lunches.

A recovery centre, managed by the Red Cross, was set up at the Kingscote Recreation Centre in case people became misplaced. The need for more toilets and hand washing facilities was identified, and the Red Cross sourced these from the neighbouring primary school.

Individual portable hot water showers were brought in 5 days after emergency personnel were first present on the Island. The long time delay was due to the difficult logistical situation, in which all supplies had to be ferried over from Adelaide; even though the showers were ordered on day one, they did not arrive until day five.

Outcomes

During the course of the 4 days that the health and medical team were present, the medical response had a supporting role as clinical cases were minimal, whereas the department's public health response played a primary role in ensuring that no further gastroenteritis cases presented. This was achieved by: maintaining a presence at the camp site and the evacuation centre, communicating with other agencies involved in the emergency response; maintaining involvement with the catering and food preparation personnel; and ensuring the continued supply of the hand wash gel and offering constant reminders to personnel to use it at every opportunity.

Insanitary conditions

Issues

The *Public and Environmental Health Act 1987* (the Act) defines a premise as insanitary if it:

- > is in a condition that gives rise to a risk to health
- > is so filthy or neglected that there is a risk of infestation by rodents or other pests
- > causes offence to the owner of any land in the vicinity
- > emits offensive materials or odours
- > is for some other reason justifiably declared as insanitary.

Under this definition a broad range of activities relating to insanitary conditions was reported in 2007–08. These activities include (but are not limited to) the storage or disposal of refuse, the presence of vermin, the discharge of wastes, excessive vegetation or undergrowth, and the inappropriate keeping of animals.

Constructive intervention is required to deal with insanitary conditions involving a person occupying a premise who is elderly or has mental health or substance abuse issues. Here, the development of strategies and identification of organisations to help individuals who are unwilling to accept assistance is of key importance.

The department provides support to local government in administering the Act as it relates to insanitary conditions. The Public and Environmental Health Council (P&EHC) hears appeals of notices served under the Act.

Aims

Rapid building development and increased population density in urban and regional areas in recent years has contributed to an increased number of complaints to local government, and an increased number of notices and expiations issued. The aims and challenges for local government and the department are to:

- > respond efficiently to the complaints received
- > coordinate and/or facilitate the remediation of the insanitary condition
- > develop programs and partnerships to improve the health and quality of life of individuals living within or adjacent to the insanitary condition.

Programs and initiatives

The department recognises the need for increased integration and collaboration between various government and non-government agencies to ensure that individuals faced with hoarding-related insanitary conditions receive appropriate support services. To this end, the department and P&EHC contributed to the development and conduct of a forum convened in April 2008 by the Southern Housing Round Table: *Hoarding—whose problem is it?*

P&EHC approved the establishment of a subcommittee with the task of furthering interagency collaboration to address this issue.

A review of other states' responses to the issue of hoarding-related insanitary conditions is being carried out to develop appropriate actions. This review, in collaboration with Environmental Health Australia (SA Branch), will assist local government in determining what conditions associated with excessive hoarding may constitute an insanitary condition, and provide information regarding intervention options.

Outcomes

In the 2007–08 period local government reported the following activities related to insanitary conditions under the Act (Table 9):

- > 2321 complaints received by 43 of the 68 councils
- > 81 notices served by 21 councils requiring remediation of the insanitary condition
- > 11 expiation notices issued.

Local government has reported an increase in the proportion of insanitary conditions involving a premise occupied by a person who is elderly or has mental health (for example obsessive–compulsive hoarding) or substance abuse issues. Health officers report that they can only achieve a temporary remediation of the insanitary condition arising in these circumstances, and the condition tends to reoccur as the occupier does not have the capacity to maintain their property on an ongoing basis.

Table 9: Number of complaints related to insanitary conditions received by local government, and notices and expiations issued in recent reporting years

	Complaints	Notices	Expiations
2005–06	1671	70	5
2006–07	2315	91	8
2007–08	2321	81	11

Future directions

The scope of interpretation of existing insanitary condition legislation continues to be matter of debate by practitioners. Insanitary condition provisions are being proposed as a method of dealing with environmental and development matters. Although these issues do not fit the circumstances for which the legislation was originally contemplated, the provisions may have application as these circumstances have the potential to present a risk to public health.

The matters surrounding the wider application of insanitary condition legislation are being considered as part of the review of the *Public and Environmental Health Act 1987*.

The department and P&EHC continue to investigate provisions under alternative legislation (for example *Development Act 1993*, *Environment Protection Act 1993* and *Fire and Emergency Services Act 2005*) to determine efficient response protocols to instances whereby an insanitary condition may not be deemed to exist but has the potential to develop, or where the situation may pose a safety risk.

Health impacts of heatwaves

Issues

The latest CSIRO projections for South Australia indicate mean annual temperature increases between 0.8 °C and 5.5 °C by the year 2070. This means that summer temperatures are likely to increase, including an increase in the numbers of heatwaves, necessitating adaptation of the population to temperature extremes not yet experienced. In South Australia we have regular annual heatwaves, defined by three or more days of maximum temperature above 35° C.

Health surveillance data from some of the recent European extreme heatwaves suggest that they are associated with an increase in acute morbidity and mortality, particularly in the elderly age group.

Aims

One of the goals of *South Australia's Greenhouse Strategy Government Action Plan to 2012* is to tackle climate change. One of the objectives is to develop adaptive strategies that will equip the state to cope with the inevitable changes to the climate. The department is investigating a number of actions that support future management of health risks associated with climate change.

Programs and initiatives

The department, together with other government agencies, is supporting and collaborating in research that looks at local evidence of the acute health effects of heatwaves in metropolitan Adelaide. The research compares daily ambulance, hospital admission and mortality data between heatwave and non-heatwave periods during 13 recent summers. The research has been documented in three peer-reviewed journals.⁶

⁶ Nitschke M, Tucker G, Bi P. Morbidity and mortality during heatwaves in metropolitan Adelaide. *Med J Aust* 2007; 187[11/12]:662–665.

Hansen AL, Bi P, Nitschke M, Ryan P, Pisaniello DL, Tucker G. The effect of heatwaves on mental health in a temperate Australian city. *Environ Health Perspect* 2008;116:1369–1375.
doi:10.1289/ehp.11339. <http://dx.doi.org/>.

Hansen AL, Bi P, Ryan P, Nitschke M, Pisaniello D, Tucker G. The effect of heat waves on hospital admissions for renal disease in a temperate city of Australia. *Int J Epidemiol* 2008.
<http://ije.oxfordjournals.org/cgi/content/abstract/dyn165v1>.

Outcomes

During the 31 observed heatwaves over the last 13 years, total ambulance transport increased by 4%. This included assault-related increases in the 15–64 years age group and call-outs related to work injuries, which were particularly high in suburbs where major industries are located. Spatial and population weighted analysis indicated that suburbs east of the city generally had low rates of call-outs, while the city centre, western and outer suburbs had much higher rates, suggesting that suburbs with relative socioeconomic deprivation were more at risk. Reductions of ambulance call-outs during heatwaves were observed in relation to cardiac, sports and falls categories.

Average daily hospital admissions rose by 7% during the heatwaves. In particular, mental health related admissions were significantly increased by 7.3%. Diagnosis-specific analysis showed increases in organic mental disorders including dementia, mood affective disorders, neurotic disorders, stress-related disorders, psychological development disorders and senility.

Total renal admissions increased by 13%, with the highest effect seen in admissions for acute renal disease (25.5%). Ischemic heart disease admissions increased by 8% in the 65–74 years age group.

Mortality was generally not increased during heatwave compared with non-heatwave periods. However, mortality related to mental health was increased 2.4-fold during heatwaves in the 65–74 years age group, with the majority being associated with dementia, disorders due to the use of psychoactive substances (females) and delusional disorders.

Cardiovascular-related mortality was generally not increased during heatwaves, and significant decreases were observed in the older age groups.

In contrast to evidence from extreme heatwaves, adaptive behaviour to regular hot weather spells has prevented excess mortality in metropolitan Adelaide. Projected temperature rises and evidence of morbidity during heatwaves in relation to mental and renal health indicate the need for heatwave-specific health plans for Adelaide.

Future directions

Further collaborative research with the University of Adelaide is planned. Its aim is to investigate current knowledge and responses in relation to heatwaves in the emergency and health care sector, based on interviews with various stakeholders. The focus is on the vulnerable population, the elderly, the socioeconomically deprived, people from diverse ethnic backgrounds and people living in remote areas.

Drought, water recycling and water carting

Issues

Ongoing drought conditions and water restrictions have provided increased pressure to find suitable alternative water sources to replace conventional mains water for appropriate (non-drinking) domestic and industrial uses. Private and commercial requests for information have also increased.

Aim

The aim of this activity is to support the increased use of recycled wastewater while ensuring that public health is protected.

Programs and initiatives

In response to the increased interest in alternative water sources, the department developed:

- > *Application for Approval of Commercial Cartage and Use of Recycled Water*—which outlines approval conditions for carters of recycled water and purposes for use of the water from the different sources
- > public health information to promote the safe use of recycled water—*Water Quality Guidelines for the Use of Alternative Water Supplies (Private Users)*—which focuses on any potential health concerns with the use of alternative water supplies.

Outcomes

The department has granted approval for 15 businesses and councils to cart recycled water from wastewater treatment plants; 11 of these applications were approved in 2007–08. Most approvals are for irrigation use, while others are for dust suppression, construction, vehicle washing and industrial wash-down. One carter is approved to take water from Victor Harbor Wastewater Treatment Plant, and the others from Mawson Lakes and/or Glenelg Wastewater Treatment Plant (Table 10).

Table 10: Location of wastewater treatment plants and purpose of water carters

	Irrigation/ watering	Dust suppression/ construction	Car and truck washing	Building/ industrial wash water
Mawson Lakes	7	4	3	3
Glenelg	4	1	–	2
Victor Harbor	–	1	–	–

Future directions

While water restrictions remain and the drought continues, the number of recycled water carters seeking department approval will continue to rise. Auditing of water carters will commence to ensure compliance with approval conditions.

Drought, blue-green algae and public health

Issues

Blue-green algae are naturally occurring organisms that grow in surface waters. Growth is promoted by the warm, still conditions typically prevalent in South Australian summers. A number of species found in South Australia produce hepatotoxins, which can cause damage to the liver; or neurotoxins, which cause adverse effects to the nervous system.

While toxic algal blooms have been reported since the late 19th century in the River Murray and wetlands, the ongoing drought has led to conditions that favour growth of these organisms. *Cylindrospermopsis raciborskii*, previously considered a tropical and subtropical species, has been increasing in prevalence in South Australia.

Aim

The aim of this activity is to ensure that mechanisms are in place to detect and respond to blue-green algal blooms. Where necessary, this includes issuing of public advice and warnings.

Programs and initiatives

Enhanced monitoring was implemented by SA Water to enable early detection of algal blooms. Reporting to the department was also enhanced.

Rapid responses to reports of algal blooms are provided by a taskforce made up of the department; EPA; Department of Water, Land and Biodiversity Conservation; SA Water; Primary Industries and Resources SA (PIRSA); and natural resource management boards. The taskforce met on a number of occasions in 2007–08.

Notification and health alert criteria for blue-green algae were upgraded for 2007–08. This included establishing new criteria for *C. raciborskii* and its toxin, cylindrospermopsin.

Outcomes

There were twice as many *C. raciborskii* detections in 2007–08 than in 2006–07, and recorded concentrations were higher than previously. However, neither the organism nor its toxin were detected in drinking water supplies, indicating that water treatment plants were operating effectively, even when challenged with reasonably high concentrations of *C. raciborskii*.

On 4 January 2008 a media release was issued advising the public to avoid contact with visibly affected blue-green water or surface scum in Lakes Alexandrina and Albert due to the presence of the toxic species *Nodularia*.

Aerial surveys of the River Murray and wetlands conducted by SA Water detected visible evidence of blue-green algal blooms in backwaters and creeks that were disconnected from the main channel as a result of drought conditions. Samples collected from one of these water bodies contained high numbers of toxic *Microcystis aeruginosa* and *Cylindrospermopsis*. A public warning was issued by the department and PIRSA on 29 February 2008, warning landholders to avoid use of discoloured water for domestic and recreational purposes, and preventing use by livestock. Additional water sampling was arranged.

Future directions

The low water flows and low turbidity in the River Murray during 2007–08 provided conditions conducive to blue-green algal growth. These conditions are expected to be maintained through 2008–09, requiring enhanced monitoring, reporting and interagency communication.

Strategic direction 3: preventing communicable and other acute and chronic diseases

SA Health is committed to preventing, minimising and containing adverse health effects from communicable diseases and disease outbreaks. We play a role in acute disease prevention; and we contribute to the prevention of chronic disease by identifying factors that contribute to poor health, and modifying, reducing or eliminating them.

Key objective

The key objective in preventing communicable and other acute and chronic diseases is to:

- > maximise the prevention of chronic disease through policy and program initiatives that address the determinants of health.

Infection control

Issues

Infection associated with health care contributes to poor outcomes for patients in our health care system, and is responsible for additional costs to the system through increased length of hospital stay and additional treatment and investigation.

The department monitors the rate of key infections such as those caused by methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE); and the incidence of new and emerging hospital pathogens such as *Clostridium difficile*. The ability to quickly identify patients who are known to be colonised with multiresistant and other significant organisms is one of the key strategies to reduce the incidence of infection associated with health care. This is achieved by enabling the timely application of additional precautions designed to prevent the cross-transmission of these organisms to other patients.

Compliance with established infection control procedures, especially the performance of hand hygiene, remains a challenge. The World Health Organization (WHO) has identified this as a major problem in health care facilities worldwide, and has produced a set of guidelines and recommendations. The department has also identified this as a priority area for action in South Australia. During preparation planning in the event of a pandemic, it was also noted that hand and respiratory hygiene will be a critical factor in slowing the transmission of any novel respiratory virus to which the population has no natural immunity.

Aims

The aims of this activity are to:

- > provide infection control personnel with a tool to enhance their ability to track patients carrying microorganisms of interest through the health system, and to allow the automated production of infection control reports
- > improve the compliance of health care workers and the general public with basic hand and respiratory hygiene measures in order to reduce the risk of transmission of common respiratory and gastrointestinal illnesses.

Programs and initiatives

An important focus during this financial year has been the development of an information management system (careconnect.sa infection control) that automates many of the tasks associated with the collection of surveillance data. It also enables infection control professionals to place electronic alert flags on the medical records of patients found to be carrying microorganisms of significance to infection control.

To address the issue of increasing the awareness of and compliance with basic hand and respiratory hygiene, the department has worked to develop a suite of educational resource materials under the banner *Wash, Wipe, Cover...don't infect another!* The materials include a range of posters, stickers, fact sheets, question and answer sheets; a brochure; a guide for use; and promotional materials such as pens and post-it notes. The materials all carry the same message about the importance of regular and appropriate hand and respiratory hygiene. The posters have been designed in such a manner that they can be readily adapted to particular target audiences such as schools, sports associations, health care workers and Aboriginal communities.

Outcomes

The careconnect.sa infection control system has been made available to all the metropolitan public hospitals that are currently running the careconnect.sa clinical information system. Once completed, there will be a suite of 18 standard reports readily available to the infection control professional. These reports have been designed to provide information to infection control and safety and quality committees in order to track progress in interventions designed to minimise infection risks.

Users of the system have already reported benefits in the early identification of patients with infections of interest, and the ability to access all of the relevant laboratory results in an integrated way. Further enhancements of the system will lead to an improved patient tracking system to identify close contacts of infected patients for further follow-up, leading to the prevention of outbreaks within the hospital setting. Once fully functional, this system is expected to save time in administrative tasks and lead to more consistent infection control practices across the health system.

The *Wash, Wipe, Cover...don't infection another!* campaign materials have been made widely available for download from the department's web site www.health.sa.gov.au/infectioncontrol. Resource kits containing printed examples of all the materials and suggestions for their use have been distributed to all hospitals, doctors' surgeries, pharmacies, primary and secondary schools, and occupational health and safety managers in government departments.

Other states including Queensland and Tasmania have elected to adopt some of these materials for use in their own local hand and respiratory hygiene campaigns.

Future directions

During 2008–09 the department will facilitate the implementation of the National Hand Hygiene Initiative of the Australian Commission on Safety and Quality in Health Care throughout all hospitals in South Australia. This program aims to improve the compliance of all health care workers with hand hygiene requirements during patient care.

The *Wash, Wipe, Cover...don't infection another!* campaign materials will be further developed and distributed to the aged care sector, allied health practitioners, sports associations and the business community.

Mosquito-borne disease prevention

Issues

In the Riverland mosquito-borne disease is considered endemic. The region's climate, coupled with the River Murray's geographical features and flood plains, provides ideal conditions for mosquito breeding habitats.

The Riverland's agricultural, outdoor and aquatic lifestyle prompts visitors and locals to spend time outdoors, where the risk of mosquito bites and subsequent mosquito-borne disease is increased.

There is currently no vaccine or treatment for most mosquito-borne diseases. The only effective strategy to reduce the risk of acquiring a mosquito-borne disease such as Ross River virus or Barmah Forest virus is to adopt personal protection measures.

Aims

In 2007–08 the department worked in partnership with the Riverland Regional Health Service, Riverland Multicultural Forum Inc, Berri Barmera Council, Loxton Waikerie Council and Renmark Paringa Council to:

- > promote messages about the need for personal protection against mosquito bite and mosquito-borne disease
- > plan, develop and implement a series of strategies to reduce the risk of mosquito-borne disease for those visiting or living in the Riverland.

Programs and initiatives

Information was provided about the prevention of mosquito-borne disease for people living in the Riverland who are from culturally and linguistically diverse (CALD) communities.

The initiative was a peer education program with the aim of selecting, training and building a capacity of up to 20 peer educators from 10 communities who could, once skilled, inform their own communities, in their own language, about strategies to prevent mosquito-borne disease.

Funding and in-kind support for the project was provided by Riverland Regional Health Service, Country Health SA, Riverland Multicultural Forum Inc, Ethnic Link, Berri Barmera Council, Loxton Waikerie Council, Renmark Paringa Council and the department.

Outcomes

The peer education program training was completed by representatives of nine CALD communities: Italian, Greek, Turkish, Croatian, Sikh/Indian, Filipino, Afghan, Vietnamese and Thai cultural backgrounds.

Peer educators were provided with information on a range of health and community networks, services, information and support. They developed partnerships with other agencies in the Riverland who could help support and implement the project's aims and objectives. They increased their knowledge, skills and confidence in delivering information about the prevention of mosquito-borne disease to their respective cultural communities. Newspaper articles and radio interviews were conducted in the Riverland's ethnic press about the work of the peer educators and their health promotion messages. Peer educators presented information to TAFE English as second language (ESL) students and to CALD people attending the Riverland's Multicultural Day. Messages about the prevention of mosquito-borne disease were also passed on by peer educators via conversations to neighbours, friends and family.

Future directions

In 2008–09 peer educators will continue to promote health messages about the need to adopt personal protection strategies and reduce the risk of mosquito-borne disease. They will achieve this through dialogue with friends and family, and by presenting this information to more CALD people through community gatherings, community dinners and church services.

Preventing foodborne disease—OzFoodNet

Issues

Notification by doctors and laboratories is mandatory for a number of potential foodborne pathogens and infections under the *Public and Environmental Health Act 1987*. These include *Salmonella* spp., *Campylobacter*, Shiga-toxin producing *Escherichia coli* (STEC), *Listeria*, *Shigella* and *Yersinia*; and typhoid and paratyphoid.

Between July 2007 and June 2008 the department received 3053 notifications of foodborne illness due to these eight pathogens and infections, compared to 3994 and 2848 notified during the same period in 2006–07 and 2005–06, respectively (Table 11).

Table 11: Number of specific foodborne diseases by year of notification in South Australia

Disease	2007–08	2006–07	2005–06
Salmonellosis	684	760	628
Campylobacteriosis	2164	3136	2126
STEC infection	34	46	35
Listeriosis	7	4	6
Shigellosis	135	33	38
Yersiniosis	21	9	9
Typhoid infection	3	5	2
Paratyphoid infection	5	1	6
TOTAL	3053	3994	2848

Aims

OzFoodNet is a national network of epidemiologists who work within state and territory health departments, and is funded by the Commonwealth Department of Health and Ageing to conduct surveillance and investigations of foodborne disease.

In South Australia OzFoodNet works with the department to conduct enhanced surveillance of foodborne disease, and provides expertise in the investigation of foodborne disease outbreaks, particularly multistate outbreaks.

Programs and initiatives

The department conducts epidemiological investigations into foodborne disease outbreaks in conjunction with local government environmental health officers, who provide food and environmental investigation expertise and perform environmental and food premises investigations. PIRSA also assists in trace-back investigations. SA Pathology (Institute of Medical and Veterinary Science) conducts microbiological testing and molecular typing of food and environmental samples.

Epidemiological information, including food history interviews of cases, environmental reports of on-site visits to premises, and laboratory results of stool and food samples, are collated to provide a descriptive analysis of an outbreak. This information assists in determining the appropriate approach for further analytical studies, mostly case control or cohort studies.

During the period July 2007 to June 2008 the department investigated seven outbreaks of gastrointestinal illness that were known or suspected to be foodborne. Two outbreaks occurred in aged care facilities and two in restaurants, one was associated with a private function, and two occurred in community settings. In addition, five clusters (cases linked by a particular causative organism) of illnesses that are commonly, though not exclusively, foodborne were investigated. A summary of these outbreaks and clusters and their settings is presented in Table 12.

Table 12: Summary of outbreaks or clusters of foodborne or suspected foodborne disease according to setting of outbreak in South Australia

Setting	Number of outbreaks or clusters
Aged care facility	2
Private function	1
Restaurant/cafe	2
Community outbreaks	2
Community clusters	5
Total	12

Outcomes

An outbreak of *Salmonella typhimurium* phage type 193 at a private function

Salmonella typhimurium phage type 193 (STM 193) is a rare cause of human infection in South Australia. Until 2005 there were no STM 193 cases recorded by the state's surveillance system. Three sporadic cases were notified in June 2005, August 2005 and April 2006, respectively.

From May 2007 the department observed increased notifications of STM 193, and in July 2007 an outbreak of illness caused by this pathogen in people attending a private function was investigated. Of the 60 attendees, 13 reported gastrointestinal symptoms. Eight people provided faecal specimens that tested positive for STM 193. A cohort study was conducted but did not show association between any particular food item and the illness. Extensive environmental investigation was conducted at the affected residence, with several food and environmental samples tested, but all were negative for *Salmonella*.

This case study shows that the specific food vehicle or source of an outbreak is sometimes very difficult to identify as cross-contamination often occurs in multiple food items. In addition, there may be delays in notification of the outbreak, and the remaining implicated food at the start of the outbreak may no longer be available for analysis.

Cases of STM 193 continue to be notified and investigated in South Australia (Figure 11).

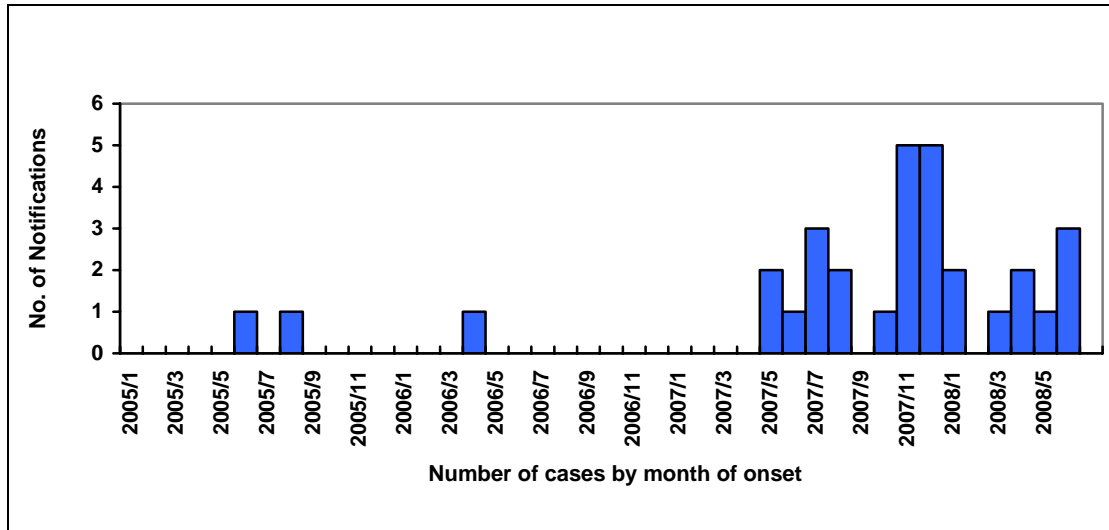


Figure 11: An epidemic curve of *Salmonella typhimurium* phage type 93 in South Australia, January 2005 to June 2008

Future directions

In 2008–09 the department will continue to contribute to the development of outbreak investigation protocols to further streamline communication strategies for both cluster and outbreak investigations. This will enhance surveillance and control of foodborne disease in South Australia.

Immunisation

Issues

The department works collaboratively with divisions of general practice, local government and other immunisation providers to provide a high-quality immunisation program for South Australians. It coordinates the South Australian arm of the National Immunisation Program, distributes Commonwealth-funded vaccine to immunisation providers, and provides leadership in immunisation issues in South Australia in accordance with National Health and Medical Research Council and Communicable Disease Network Australia guidelines.

Aims

The aims of this activity are to achieve maximum vaccine coverage rates, promote immunisation within the South Australian community, and support public and private immunisation providers.

Programs and initiatives

Human Papillomavirus Vaccination Program

In November 2007 the Australian Government announced the introduction of the National Human Papillomavirus (HPV) Vaccination Program. The HPV vaccine is to be included on the National Immunisation Program and offered to girls in the first year of high school through a school-based delivery service managed through local councils. In addition, a catch-up program is available in which females aged 14–26 years can access the free vaccine up until 30 June 2009. South Australia chose to deliver the program to girls attending high school over 1 year rather than 2 years so that all eligible students could access the vaccine in the same year.

Rotavirus vaccination program

Rotavirus is a major cause of severe gastroenteritis in young children. Each year in Australia it is responsible for 10 000 hospitalisations, 22 000 emergency department visits, 115 000 GP visits and 1 death.

From July 2007 the rotavirus vaccine was included in the National Immunisation Program childhood schedule. In South Australia the vaccine is delivered, along with other vaccines, to infants at 2, 4 and 6 months of age.

Outcomes

In 2007–08 the department distributed 860 942 doses of vaccine for the National Immunisation Program.

Approximately 80% of girls in Year 8 and between 60% and 70% of girls in Years 9–12 received a complete course (three doses) of HPV vaccine, as shown in Figure 12.

At 30 June 2008, 77.5% of South Australian children at 12 months of age were fully immunised against rotavirus, which is higher than the national average (Table 13).

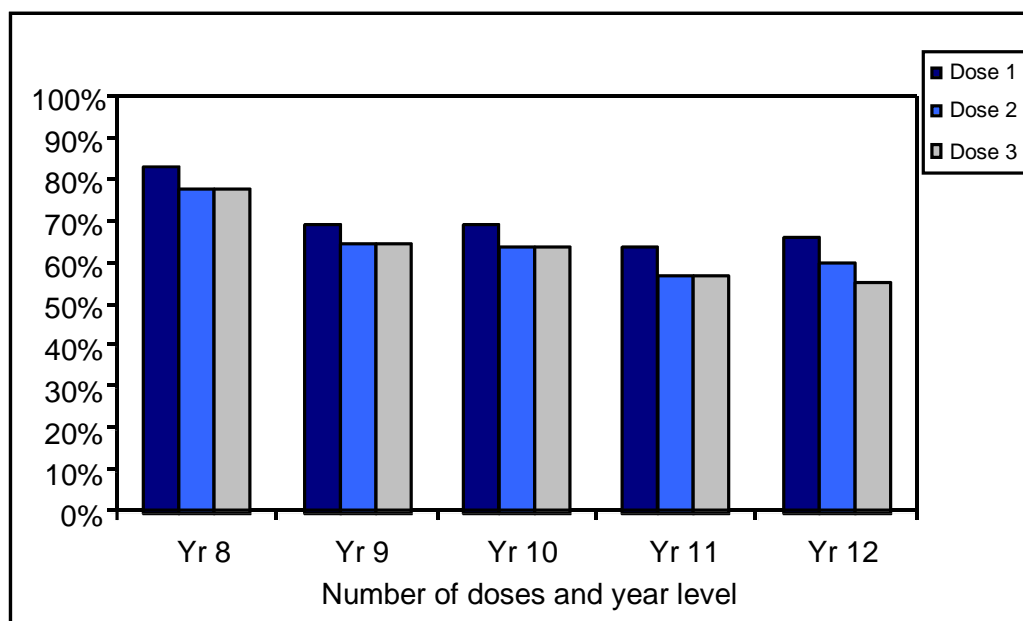


Figure 12: HPV immunisation coverage for three doses by year level in 2007

Table 13: Percentage of children fully immunised against rotavirus (2 or 3 doses) at 12 months of age by state

	ACT	NSW	VIC	QLD	SA	WA	TAS	NT	AUST
May–July 2007 cohort	82.1	77.3	70.4	74.7	77.5	72.3	70.8	80.4	76.1

Childhood immunisation program

In 2007–08 South Australia exceeded targets set by Commonwealth agreements for children at 12 months and 2 years of age, respectively, but is yet to reach the target for children at 6 years of age. This picture is reflected across all other jurisdictions with the exception of Victoria and Northern Territory.

In South Australia 90.98% of children aged 12–15 months, 93.32% of those aged 24–27 months, and 86.05% of those aged 72–75 months are fully immunised.

Influenza vaccination program

In 2007–08 South Australia distributed 234 413 doses of influenza vaccine to general practitioners for those aged 65 years and over. In addition, a further 32 972 doses of influenza vaccine were distributed to public health care facilities for delivery to employees.

Communicable disease surveillance and investigation

Issues

The department operates a statewide surveillance system for notifiable diseases in South Australia, enabling analysis of health data and initiation of specific public health controls to prevent the further spread of disease. Collected data inform state and national services through the provision of specified data to the National Notifiable Diseases Surveillance System. Comparisons of notification data can be complex, and analysis needs interpretation and reporting by skilled surveillance personnel.

Aims

The aims of disease surveillance and investigation are to:

- > monitor and control notifiable communicable diseases in South Australia
- > improve the overall wellbeing of South Australians by describing the burden of disease and informing health promotion initiatives
- > improve links to partner agencies for investigation of disease and collection of specific data.

Programs and initiatives

Programs in 2007–08 included:

- > ongoing activities to monitor, investigate and control notifiable communicable diseases in South Australia
- > conducting statewide surveillance for notifiable diseases through activities enabling the analysis of health data and the initiation of specific departmental actions to prevent further spread of disease

- > partnering with agencies that provide expertise and authorities under other Acts for investigations—including OzFoodNet, Primary Industries and Resources SA, SA Pathology (Institute of Medical and Veterinary Science) and environmental health officers from local government.

Outcomes

Summary

Between 1 July 2007 and 30 June 2008 the department collected a total of 6103 reports of notifiable diseases. Among these notifications were 3125 reports (52%) of disease caused by gastrointestinal infections.

Investigation and control activities included:

- > 476 pertussis cases
- > 135 shigellosis cases; active surveillance and control of this infection
- > 33 cases of Shiga-toxin producing *E. coli* infection
- > 23 cases of Q fever
- > 18 cases of invasive meningococcal disease
- > 15 hepatitis A cases
- > 24 cases of mumps
- > 3 typhoid cases and 4 paratyphoid cases.

In partnership with OzFoodNet, investigation of foodborne disease found two clusters of illness due to *Salmonella typhimurium* phage type 135—one community cluster and one outbreak.

Selected disease surveillance and investigation activities in 2007–08

Atypical Mycobacterium cluster investigation

The department was notified of a number of cases with unusual skin abscesses in June 2008. Biopsy samples from the abscesses of eight patients showed *Mycobacterium* species, further characterised as *M. chelonae*. An investigation was undertaken into these cases.

All cases were associated with biomesotherapy by an alternative therapies practitioner at a common premise. Single and/or multiple abscesses occurred at injection sites within days to weeks of the biomesotherapy ‘treatments’. As mycobacteria are slow-growing organisms, further cases may arise from any of 16 further people reported with skin lesions.

In response to the cluster, the department conducted an environmental investigation of the premises and the practices undertaken there. Based on the results of the clinical and environmental investigation, a direction was served on the practitioner under the control of notifiable diseases provisions of the *Public and Environmental Health Act 1987*. The direction required the practitioner to cease all injection practices and preparation of products for injection or ingestion, and remains in effect.

Influenza

Influenza is usually an acute viral respiratory disease and is more common in winter. The public health impact can be severe because the influenza virus is spread by airborne droplets from coughs and sneezes from infected people. Seasonal influenza can place extra demands on health care resources for treatment of disease, including hospitalisation for severe cases. Annual vaccination protects against commonly circulating strains of influenza.

Syndromic surveillance collates datasets from both laboratory and clinical sources to describe influenza disease. During periods of increased seasonal influenza activity, specific weekly reports provide timely information to inform the department.

In the winter of 2007 South Australia experienced the biggest outbreak of influenza A for at least 7 years. More than 532 laboratory-confirmed cases were recorded during the months of July, August and September (Figure 13). The extent of disease is illustrated by the difference in diagnoses per week from 2001 to 2008 for laboratory-confirmed cases and clinical diagnoses of influenza.

In May 2008 influenza was designated a notifiable disease under the *Public and Environmental Health Act 1987*. Notification of influenza is consistent with all other Australian jurisdictions; it will meet national and international requirements, improve early identification of seasonal epidemics and facilitate timely public health responses in South Australia.

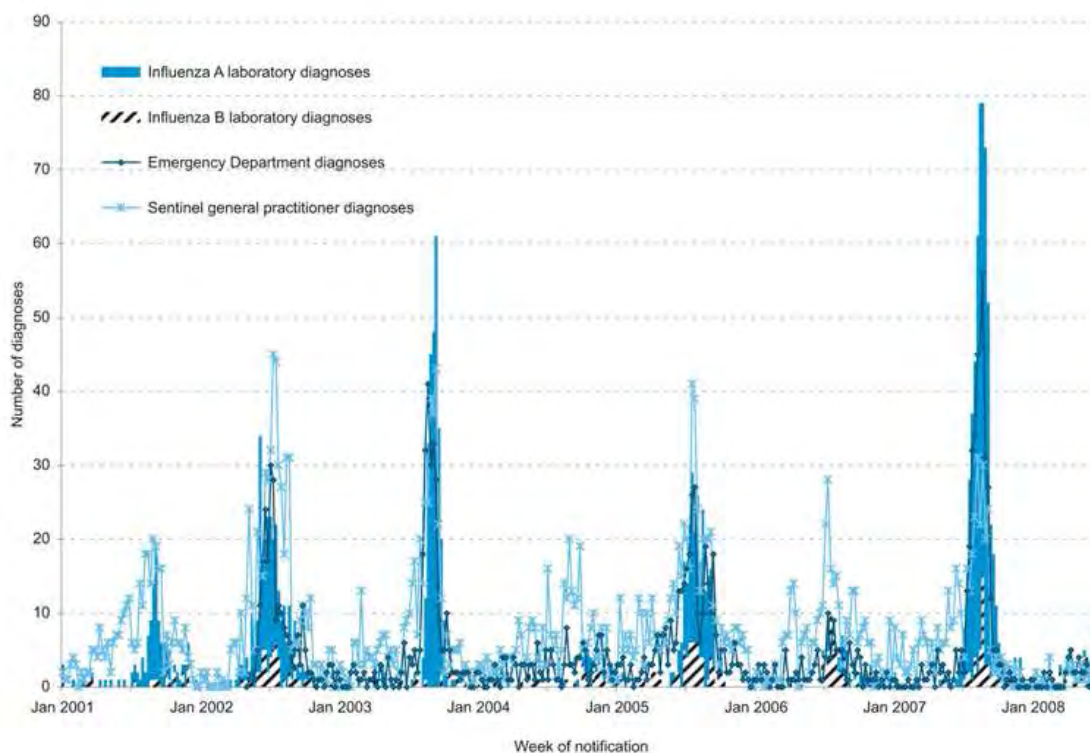


Figure 13: Laboratory and clinical influenza-like illness diagnoses in South Australia, 1 January 2001 to 30 June 2008

Shigellosis in South Australia 1 July 2007 to 30 Jun 2008

Shigella bacteria cause gastrointestinal infections and are generally spread by person-to-person contact when contaminated food or objects are placed in the mouth; few bacteria are required to cause infection. *Shigella* bacteria do not infect animals, nor do they survive long outside the body. Appropriate antibiotic treatment kills *Shigella* bacteria, shortening the illness and reducing the risk of spread to others.

Shigellosis is often associated with overseas travel. Historically, many cases with infections acquired in South Australia were reported to be in Aboriginal people. By contrast, early in 2008 many locally acquired cases occurred in non-Aboriginal people.

In all, 135 shigellosis cases were reported during the 2007–08 period, compared with 34 cases for the same period in 2006–07, where 30% of cases were Aboriginal and 70% of non-Aboriginal cases were acquired overseas. An increase in shigellosis cases was obvious by the second half of 2007, peaking in March 2008.

Cases in 2007–08 comprised 62 males and 73 females, with an age range of <1–77 years. Fifty-five cases were reported as Aboriginal (41%), one as Aboriginal and Torres Strait Islander, and 61 as not Aboriginal. Aboriginal status was not reported for 18 cases. Cases resided in various metropolitan and rural areas of the state, and small clusters of disease were detected throughout the period. At least 31 cases were admitted to hospital with shigellosis.

In response to increased numbers, active surveillance for shigellosis was instigated early in 2008, and all cases were referred to environmental health officers (both local government and departmental) for information and hygiene advice about the infection and its mode of transmission. Implementation of this health promotion activity resulted in a decrease in cases after March 2008.

Overall, *Shigella sonnei* biotype a caused 89 cases, 43 of whom were Aboriginal; in four infections caused by *Shigella flexneri* 6, all cases were reported as non-Aboriginal.

In the unincorporated areas of the state cases comprised equal numbers of males and females (11), with an age range of 1–77 years; 12 cases were ≤15 years of age. Among these notifications were 19 reports of infection in Aboriginal Australians. The most common isolates causing these cases were *Shigella sonnei* biotype a (13 cases) and *Shigella flexneri* 4a (5 cases), the latter being usually confined to residents of remote rural areas of South Australia.

Four cases were reported from the far west of the state; three in November and December were due to *Shigella sonnei* biotype a, consistent with a cluster of cases notified from the major town in the area during December and January. One case reported in May was due to *Shigella flexneri* 4a.

The balance of cases were reported from the far north of South Australia. Cases caused by *Shigella sonnei* biotype a occurred from July to December, while *Shigella flexneri* 4a infections were reported at low numbers throughout the whole period (Figure 14).

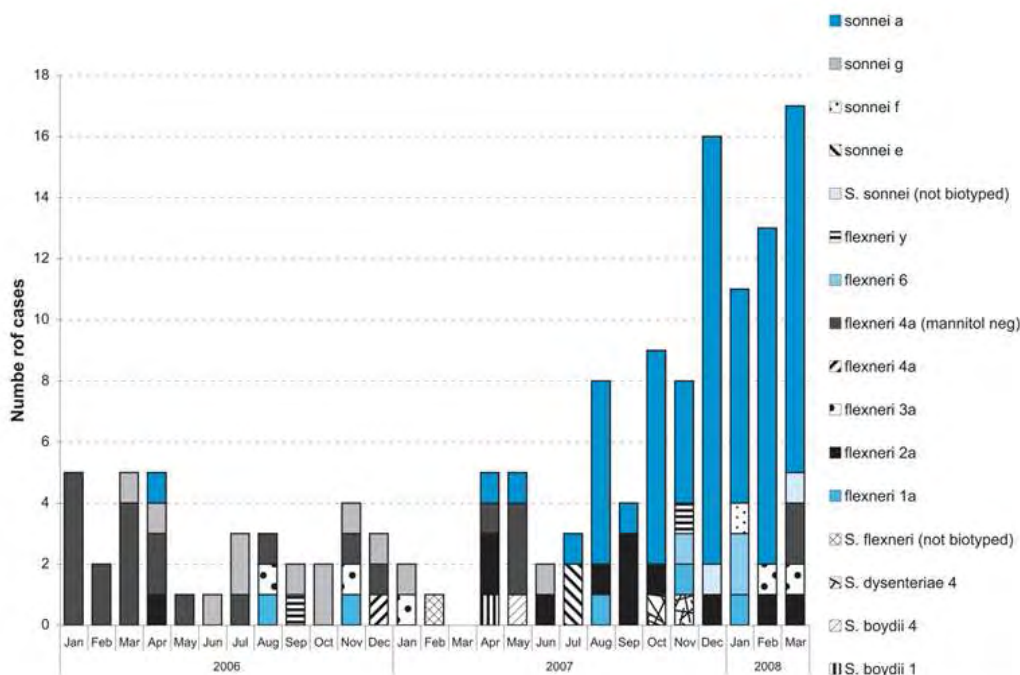


Figure 14: Notified cases of shigellosis by isolate type and month of onset of illness, 1 January 2006 to 30 June 2008

Future directions

Activities in 2008–09 will include continuing to monitor, investigate and control notifiable communicable diseases in South Australia.

The department will also continue to improve communications with partner agencies through formal links that define the nature of information required and the mode of communication in sporadic and outbreak situations.

HIV infection

Issues

South Australia remains a state with a relatively small HIV/AIDS epidemic compared to the eastern states of Australia, but the changes that have occurred interstate have also been seen here. New infections—mainly through male-to-male sex—have increased again since 2002 after reaching a low plateau in the early to mid 1990s. There has been a steady increase in diagnosed HIV infections from 32 in the calendar year 2002 to 61 in the calendar year 2006, of which 85% were males.

Increasing rates of unprotected anal intercourse (especially with casual partners), increasing rates of sexually transmitted infections (for example Chlamydia, gonorrhoea and syphilis), and a person’s unknown HIV status have all contributed to the recent rise in HIV in Australia.

Aim

With the rise in new HIV infections among men who have sex with men, the department aims to develop a revitalised health promotion strategy that ensures that effective HIV prevention messages are reaching those most at risk.

Programs and initiatives

The department has established the action-based Reduce Rising Rates of HIV Infection in SA Working Party, which brings government, non-government and community representatives together to plan, implement and evaluate a coordinated series of statewide, evidence-based health promotion initiatives aimed at reducing the rising rates of new HIV infections in South Australia.

The working party was first convened in May 2008. Its immediate task has been to develop a detailed action plan outlining a series of health promotion strategies that, once implemented, will work toward stemming the rise in HIV infection among men who have sex with men.

In the short term, and as an interim initiative, the working party is hosting a *Queer Thinkers* forum and is also developing a series of targeted health promotion messages to be showcased at the 2008 Feast Festival in Adelaide. Both these initiatives will provide information about the changing nature of HIV transmission and strategies to reduce the risk of HIV infection.

Future directions

The Reduce Rising Rates of HIV Infection in SA Working Party will continue in 2008–09 to develop, implement and evaluate a series of health promotion initiatives aimed at reducing the rates of HIV infection in South Australia among men who have sex with men.

Strategic direction 4: improving health equity

SA Health will support actions for reducing health inequities through a focus on the broad social determinants of health.

Key objectives

The key objectives in improving health equity are to:

- > increase SA Health's capacity to monitor health inequity and promote equitable health outcomes
- > contribute to the improvement of the health of Indigenous and other disadvantaged and vulnerable communities.

Improving health equity

Issues

The social and physical environments in all industrialised nations increasingly create conditions for suboptimal health. Whole of government approaches to building partnerships, developing programs and promoting policy uptake can steadily improve the environments that influence health and health-promoting behaviours in the population, especially among low socioeconomic status (SES) populations. Public health interventions that take an equity approach must ensure that health gain from population health measures is distributed fairly across the population, and that population-wide interventions do not exacerbate already existing inequalities. While many of the determinants of health exist outside the remit of the health system, ensuring that prevention programs reach the people with poorest health outcomes is essential to the work of the health system.

Aims

The department is committed to promoting equity in health to improve programs, policies and environments that influence health and wellbeing. The department's equity-focused actions direct resources towards health system capacity to achieve health equity, and work with government partners for wider policy and environmental change.

Programs and initiatives

During 2006–07 a series of equity actions were identified to enable the South Australian health system to address equity in selected targets of South Australia's Strategic Plan (SASP). The equity actions were based on an extensive review of the literature and consultation with key stakeholders. Five SASP targets for which the department has led agency responsibility in primary prevention were nominated for action, with Aboriginal health and wellbeing an overriding concern in all.

The department is working on the following equity actions against the nominated SASP targets:

Target T2.1 Smoking: reduce the percentage of young cigarette smokers by 10 percentage points between 2004 and 2014

- > develop a youth-friendly QUIT model for 12–18-year-olds that will intensify support for disadvantaged and Aboriginal young people to reduce the uptake, and encourage cessation, of smoking

Target T2.2 Healthy weight: increase the proportion of South Australians 18 and over with healthy weight by 10 percentage points by 2014

- > prioritise disadvantaged children and families in the planning, implementation and evaluation of the Under 5's initiative. The focus will be on settings where disadvantaged children live and play, such as children's centres, preschools and neighbourhoods
- > support policy initiatives that make healthy choices the easier choices for all, but with benefit to disadvantaged communities. In 2007 the department has worked for legislative and policy change to:
 - incorporate, in conjunction with the federal government, front-of-package food labelling such as multiple traffic lights to enable simpler and healthier food choices
 - control unhealthy food advertising during children's television viewing time

- > conduct an equity-focused health impact assessment on the Australian Better Health Initiative school and community program. This will help ensure that funded strategies will assist, in particular, those who are disadvantaged
- > maximise opportunities to support initiatives that focus on assisting disadvantaged communities to eat well and be active.

Target T2.4 Healthy South Australians: increase the healthy life expectancy of South Australians by 5% for males and 3% for females by 2014

- > develop smoking cessation programs tailored to the needs of low-SES people, with particular focus on Aboriginal people, manual workers, unemployed people and those with a mental illness
- > develop models of antenatal and postnatal services to better meet the needs of those families in the lowest SES quintile, with the aim to increase access to services and decrease children's exposure to preventable health and social risk in the early years
- > ensure GP Plus and other primary health care services have a strong equity focus by:
 - o tailoring chronic disease prevention and self-management programs to the needs of low-SES people within their catchment area
 - o actively recruiting men from low SES populations in need of health interventions for secondary prevention
 - o developing a responsive referral process for smoking cessation
- > develop a multilevel approach to improving health literacy that will:
 - o establish a baseline of adult health literacy
 - o factor principles of diversity and understanding of the role of family, social context, culture and education into the development of health literacy messages and proposals
 - o develop simple and practical information
 - o develop a research, networking and workforce capacity agenda.

Target T2.7 Psychological wellbeing: equal or lower than the Australian average for psychological distress by 2014

- > further research the association between psychological distress and socioeconomic status.

Target T6.3 Early childhood—low birthweight babies: reduce the proportion of low birthweight babies

- > enhance access to antenatal services to better meet the needs of those women in the lowest SES quintile who are not currently accessing services, in particular those who are marginalised, living in adverse circumstances or not accessing the appropriate number of antenatal visits
- > ensure, as a priority, statewide rollout of best practice community antenatal care models for Aboriginal women and their babies, and integration into all regional plans/programs
- > introduce subsidised nicotine replacement therapy as an adjunct to the Quit Smoke-free Pregnancy project. This must ensure access to women of low SES and Aboriginal background.

Outcomes

Current tobacco control strategies are reducing the rates of smoking across the population; however, the gap between the much higher rate of smoking among low-SES people and the most advantaged remains stable and significant (Figure 15).

Although progress in reducing smoking rates among young people has been made, nearly half (46%) of current smokers aged 15–29 years are in the most disadvantaged quintile.

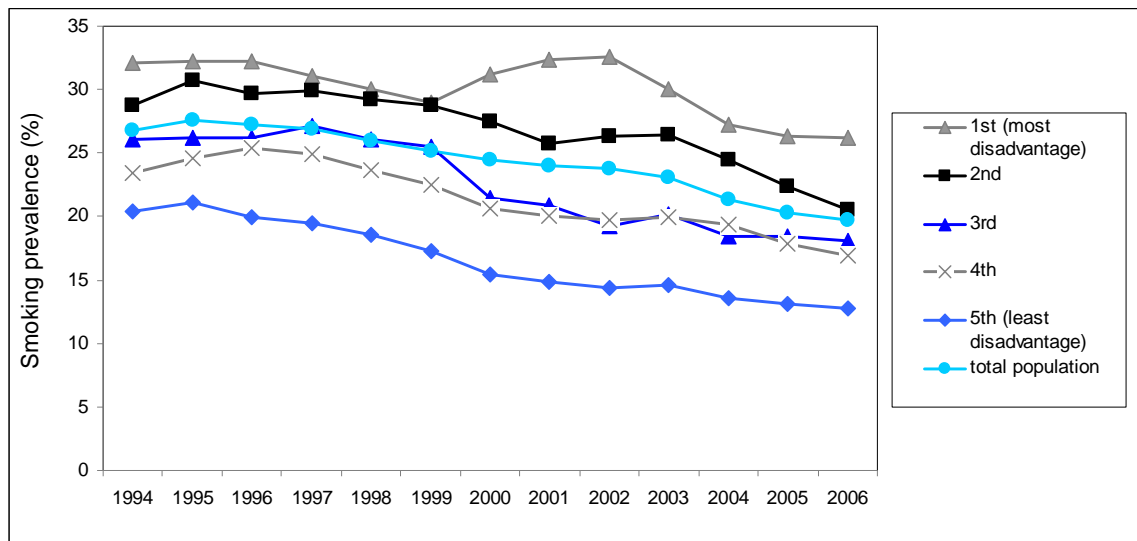


Figure 15: Smoking prevalence by Index of Disadvantage quintiles for people over 15 years of age—3-year moving averages, 1994–2007 (source: Tobacco Control Unit October 2008)

Low birthweight is associated with low SES, with serious implications for poor health outcomes through the child’s life course. The percentage of low-birthweight babies increased marginally over the period 1987–2005 (Figure 16), with women in the lowest SES group having the highest percentage of low-birthweight babies. Smoking in pregnancy is a cause of low birthweight and is linked to increased risk of infant mortality. Available data indicate a significant gap between high- and low-SES women smoking during pregnancy (Figure 17).

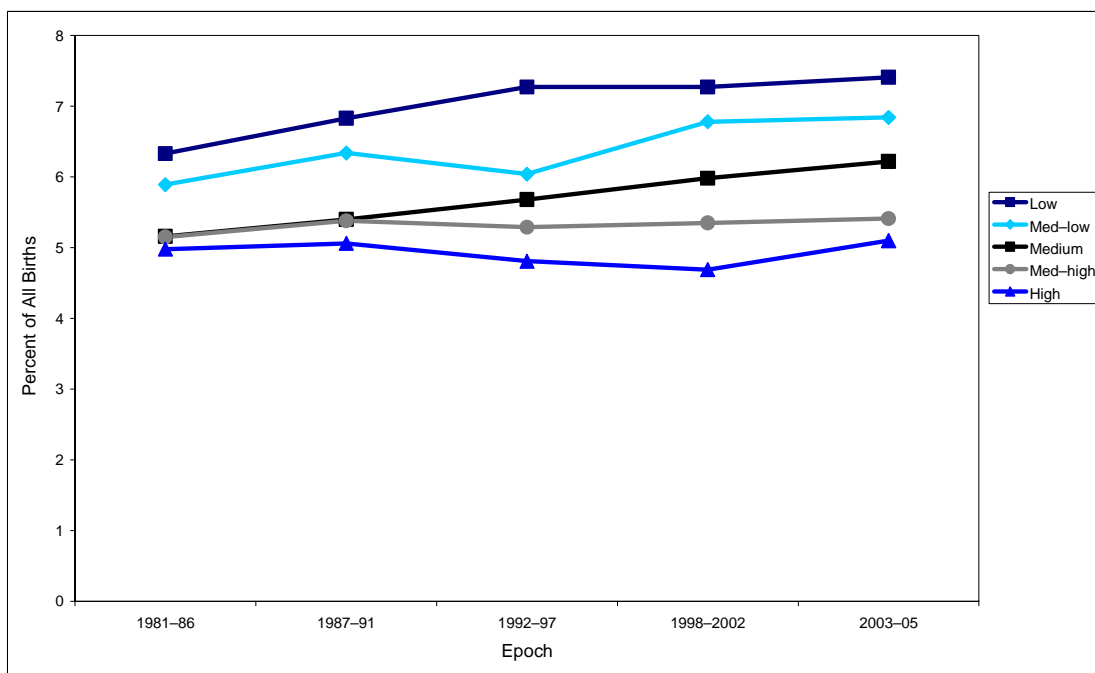


Figure 16: Percentage of low-birthweight births in SEIFA quintiles by epoch: adult women 1981–2002

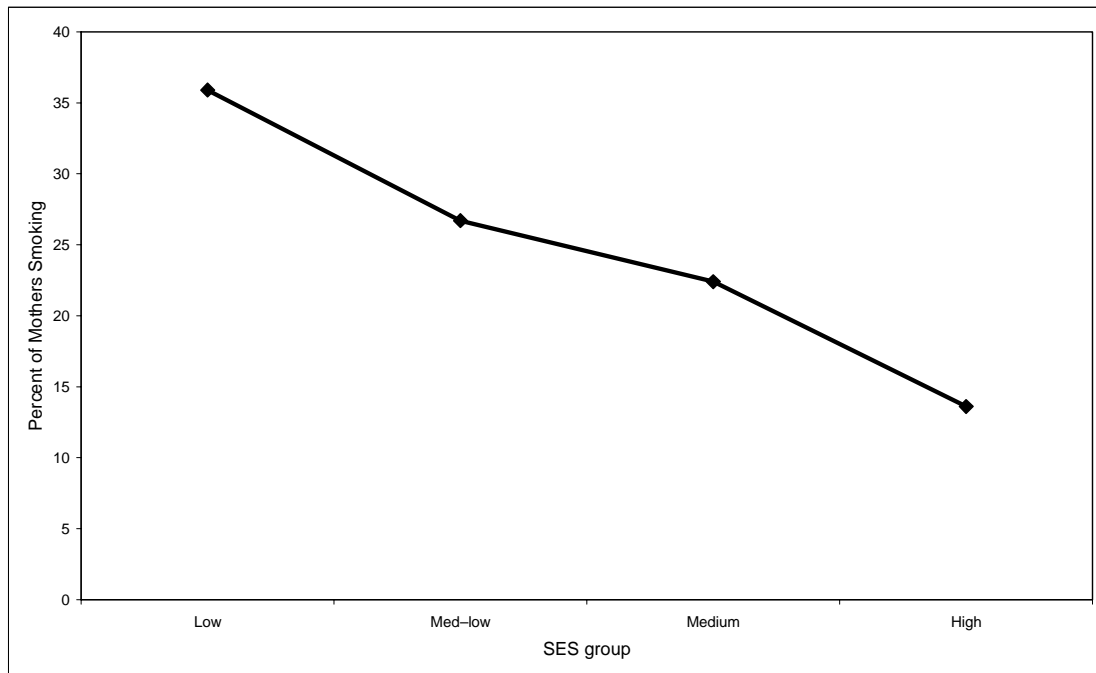


Figure 17: Percentage of all mothers smoking by SES group in South Australia 1998–2002

Future directions

The department will continue to monitor progress against its identified health equity actions. Equity initiatives are also being developed that engage and support cross-agency collaboration for equitable health outcomes.

Two major initiatives that are being progressed in 2008–09 are:

- > leading the development of the Children’s Centres Health and Wellbeing Framework and working in partnership with Department of Education and Children’s Services and Department of Family and Children’s Services in implementing the framework across children’s centres
- > disseminating the Planning for Health Study, which was commissioned in 2007 by the department to provide a systematic review of urban planning trends, processes and structures affecting population health outcomes. The study reports on Australian and international experiences in linking urban planning, health and wellbeing. It canvasses the evidence and methodologies that need to be considered in planning for healthy and sustainable communities, and outlines seven strategic directions for facilitating greater integration of health and planning issues.

The department is also fully funding a 3-year Health in Planning position, to be located in Planning SA, to provide advice and assistance to the agency to ensure that policies, key planning documents and practices are designed to maximise good health.

Aboriginal environmental health

Issues

Aboriginal and Torres Strait Islander communities experience proportionally very high morbidity and mortality across a vast range of illnesses compared with the non-Aboriginal population in South Australia. While there are a large number of causes for this gap in healthy life expectancy, inadequate environmental health conditions are an important determinant of this poor health.

Aims

The department aims to address the high rates of morbidity and mortality in Aboriginal communities through:

- > building community capacity in Aboriginal environmental health
- > engaging in or actively supporting state and national initiatives to improve environmental health on the APY Lands
- > managing the interface between the local environment and humans to improve health outcomes.

Programs and initiatives

In 2007–08 the department secured funding from the Public Health Outcome Funding Agreements (PHOFA) and employed an Aboriginal environmental health project officer. This position provides support for training and work experience in building environmental health capacity in the Aboriginal community.

For the past decade the department and the Aboriginal Housing Authority have participated in the federally funded *Fixing Houses for Better Health* (FHBH) initiative, which aims to ensure that the state's Aboriginal housing stock can support the basic healthy living practices of:

- > washing children
- > washing clothes and bedding
- > safely removing waste
- > safely storing food and preparing meals
- > reducing overcrowding
- > separating dogs and children
- > controlling dust
- > controlling temperature
- > reducing trauma.

FHBH has a number of key concerns, including:

- > to employ local Indigenous people on every project, ensuring that some local people receive 'on-the-tools' training about how to test and do minor 'fix' work on their houses
- > to employ licensed tradespersons to carry out more extensive 'fix' work within 24 hours of the project's commencement
- > to use the data generated by projects to expose building and product faults, and to help define the principles essential for better design, specifications, construction and maintenance.

Outcomes

To date 741 houses across South Australia in 26 separate programs have received a total of 9354 'fixes' to maintain the houses in a safe and functional condition. During 2007–08 a total of 114 houses were assessed and received remedial works.

Future directions

It is anticipated that in 2008–09 an additional 167 houses will receive the benefits of this initiative. These and other elements will form the basis of an Aboriginal Environmental Health Strategy for the APY Lands to be developed in the 2008–09 reporting period.

Aboriginal oral health

Issues

Oral health across all age groups in the Aboriginal and Torres Strait Islander population in South Australia is well below that of the rest of the population. Dental decay experience for Indigenous children is higher than that for children in the rest of the community across all ages. Aboriginal and Torres Strait Islander children in South Australia experience approximately 70% more dental caries, and have more adult teeth with untreated dental decay, than non-Aboriginal children. While decay experience among Aboriginal children in metropolitan areas reduced in the 1990s in line with the rest of the community, it more than doubled in Aboriginal children in remote areas.

Data from 2004 show that young Indigenous adults had higher levels of decay (with an average of 5.23 decayed teeth) than other young adults (with an average of 3.68). Untreated decay accounts for over half of this decay experience. Older Indigenous adults had high levels of tooth loss, with this accounting for more than half of the decay experience of adults aged over 44 years. On average, Indigenous adults aged 25–44 years had 8.74 decayed teeth, and those aged over 44 years had 13.21 decayed teeth.

Aims

The South Australian Dental Service (SADS) Strategic Plan aims to provide culturally inclusive and accessible oral health services, which are to be made operational through projects including the Aboriginal Liaison Program and the Aboriginal Dental Scheme.

These services aim to:

- > improve oral health outcomes for eligible Aboriginal and Torres Strait Islander people in South Australia by increasing the number who access both public and private dental services
- > develop partnerships with specifically Aboriginal health services at a statewide level
- > increase the proportion of mainstream dental services that provide culturally inclusive services
- > support the Aboriginal community-controlled health sector in recognition of its demonstrated effectiveness in providing appropriate and accessible health services
- > work in partnership with local Aboriginal communities, supporting localised decision making so that health needs and priorities can be addressed in a culturally inclusive way through tailoring mainstream dental services to local specifically Aboriginal needs.
- > promote oral health as an important part of general health at all opportunities

- > provide cultural awareness training in sites where Aboriginal liaison projects are being implemented.

Programs and initiatives

Aboriginal Liaison Program

The SADS Aboriginal Liaison Program, which was initiated in late 2005 in Salisbury, Noarlunga, Parks and Port Adelaide, continued in 2007–08. Liaison officer staff at the four participating community dental clinics and Aboriginal health workers from allocated Aboriginal Community Health Services worked together to refer, appoint and manage client attendance. From July 2007 to June 2008, 350 Aboriginal adults were assessed and referred for priority dental care, and 179 eligible adults commenced a course of dental care.

All community dental service staff attended workshop sessions that included information about the Cultural Respect Framework for Aboriginal and Torres Strait Islander Health. Members of the Aboriginal Liaison Program Working Group attended cultural awareness training at Coorong Wilderness Lodge.

Nunga Dental Day

Nunga Family Dental Day was held at Alberton Primary School in August 2007, with the aim of increasing the number of Aboriginal children from Alberton Primary School accessing the local school dental clinic. A number of Aboriginal children enrolled at the school had already been identified as needing dental care through the Wadu Wellness Program operating at the school. Feedback from parents/carers and children on the day was extremely positive. Staff from Alberton and Hendon primary schools dental clinic continue to work together to coordinate appointment times for the children who required dental treatment. Children have been transported to the dental clinic by school bus to complete their treatment.

Aboriginal Dental Scheme

In consultation with Country Health SA, the following planning principles have been established for planning of Aboriginal oral health programs in country areas:

- > Where an Aboriginal Community Controlled Health Service (ACCHS) or Aboriginal Health Service (AHS) exists, establishment of a co-located Aboriginal dental clinic is recommended.
- > Public dental services for Aboriginal people will be provided by the ACCHS/AHS in collaboration with SADS.
- > In such circumstances, mainstream public dental services will be scaled to provide culturally appropriate dental services for Aboriginal people.

Outcomes

A specifically Aboriginal oral health program incorporating a new dental clinic has been established at Umoona Tjutagku Health Service (UTHS) in Coober Pedy. With the collaboration of Country Health SA, SADS, the department and UTHS, the clinic commenced in May 2008. The establishment of this clinic is an illustration of what can be achieved in a relatively short time through constructive collaboration and partnership arrangements involving all stakeholders.

SADS currently works in partnership with local Aboriginal Community Controlled Health Services to provide ongoing Aboriginal oral health programs at:

- > Yalata, incorporating Oak Valley (Tullawon Health Service)

- > APY Lands (Nganampa Health Service)
- > Port Augusta (Pika Wiya Health Service)
- > Coober Pedy (Umoona Tjutagku Health Service).

Future directions

In 2008–09 the department anticipates expansion of the Aboriginal Liaison Program, and continuing to work with Aboriginal Community Controlled Health Services and Country Health SA to ensure that Aboriginal people have access to dental services.