



The State of Public and Environmental Health Report for South Australia 2006–07

A Report Prepared Pursuant to Section 44 (3) of
the Public and Environmental Health Act (1987)



**Government
of South Australia**

SA Health

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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 this Act during the financial year 2006–07 and comments on the standard of public and environmental health in the state generally.

This year the report details the scope and diversity of public health action in this state. Public health by its nature is a diverse and dispersed activity. It involves many players both within the health system and across other areas and levels of government. While public health is primarily the mandated concern of several levels of government, it also works through the cooperation of private providers and the non-government sector as well as with the cooperation of the business sector and the participation of the broader community. Public health is the outcome of the organised effort of a society to preserve, protect and promote the health of all its people.

South Australians are very healthy. We are healthier and living longer now than we ever have before. This is no accident. It is the result of generations of effort to improve the social, economic and environmental conditions of our community.

Like the rest of Australia we have all benefited from rising levels of income and economic activity, improved sanitation, clean air and water, good food, improved housing, improved heating and cooling, and access to transport, together with sustainable environmental protection and access to services and supports that help us stay active, healthy and engaged with our communities. It is this combination of factors that has improved our standard of living and helped us to achieve the best health ever.

A survey of South Australians in 2005 showed that more than 84% reported “excellent, very good or good” health while only 16% reported “fair or poor” health. Those rating themselves as having fair to poor health have shrunk by a statistically significant number since 2002. Not only are most of us in good to great health, but those who are not so great are also improving. This is a good picture of health at the start of the 21st century. However, the benefits of our collective efforts as a society are not always shared equally or equitably. In Australia and South Australia there are still groups of people who do not share in our common wealth or our common health.

The health status of Aboriginal Australians remains a significant community concern. The latest Australian Institute for Health and Welfare report on Australia’s Health showed that on average Indigenous people die 17 years younger than other Australians. Action to improve this situation is not simply the responsibility of the health system and it is not even the responsibility of any one level of government. It is the responsibility of all governments and the broader community committed to working with Aboriginal people and their families to help build bridges to better health and to help build better lives for all.

Whilst South Australia’s health, has, for the greater part, improved remarkably over several generations, there continue to be public health challenges. Perhaps the most important of these is the increasing rate of chronic diseases. Overweight and obesity underlie many chronic diseases including cancer risk, type 2 diabetes, heart disease and osteoporosis, and are mainly caused by a combination of poor nutrition and inadequate physical activity. The rising epidemic of overweight and obesity is particularly alarming with many commentators suggesting that the next generation may be the first in recent centuries to experience shorter life expectancy than their parents’ generation.

Meeting these challenges and maintaining and improving our health is not just the work of South Australia's health care system. Most of the factors that make us healthy and keep us healthy have little to do with the health care system itself. Keeping all of us as healthy as possible requires the concerted and organised efforts of society, government and the non-government sector, industry and community, working together to ensure proper standards of health and safety are developed, defended and promoted. The public health activities of the Department of Health (the department) play a central role.

When thinking about our health, health care is something that all of us will need at some time, whereas public health is something that all of us need all of the time.

What is Public Health?

Public health is concerned with the health of the whole population and sub-populations within it. It seeks out patterns of illness and ill health that are experienced by individuals and populations, and it intervenes through processes of legislation, regulation, education, advocacy, coordination and facilitation of cross-sectoral action.

In circumstances such as the outbreak of disease or a disturbing pattern of injuries; rises in cases of food poisoning; the observance of harmful changes to the environment, such as spills of toxic substances; and the emergence of unexplained trends in the causes of death, illness or injury; you will find public health practitioners ready to intervene and act for the public's health.

It is paradoxical that the more successful public health activities are, the more invisible this multifaceted professional discipline becomes. When things don't go wrong, for example there are no outbreaks of disease, no food contamination incidents, no injuries or environmental poisonings, it is easy to forget that the avoidance of disaster is the result of good planning and sustained strategic investment, rather than simple good luck. When the incidence of heart disease and pregnancy complications drop, it is not by virtue of some fortuitous accident. When a new alarm bell rings, for diabetes or obesity or a particular sort of cancer, it is due to the constant vigilance of public health workers that the attention of the public is drawn to the emerging danger.

Who is Public Health?

Public health agencies are responsible for leading community efforts to improve health and their success is reliant on effective partnerships with other government and non-government agencies and consumers. A commitment to collaboration from providers and consumers establishes a sense of ownership of health and wellbeing.

The National Public Health Partnership describes the total public health effort in Australia through nine core functions:

- > 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.

In South Australia, these functions are performed by a number of practitioners and agencies. They include: 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 outside of the department including: Department of Environment and Heritage; Environment Protection Authority; Department of Families and Communities (DFC); Department for Transport, Energy and Infrastructure (DTEI); Office of Recreation and Sport; Arts SA; Department of Education and Children's Services (DECS); 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 there are a range of branches and units that contribute to the public health effort. The principal focus for public health effort in the department is the Directorate of Public Health within the Public Health and Clinical Coordination Division. This directorate consists of a number of specialist units each focussing on a certain aspect of preserving, protecting and promoting public health.

These units include the:

- > Applied Environmental Health Branch;
- > Communicable Disease Control Branch;
- > Food Policy and Programs Branch;
- > Health Promotion Branch; and
- > Scientific Services Branch.

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

Public Health operates under various pieces of legislation, principally the Public and Environmental Health Act (1987), the Food Act (2001), South Australian Health Commission Act (1976), Controlled Substances Act (1984) and Tobacco Products Regulation Act (1997). In addition to these principal Acts there are many dozens of Acts of Parliament in South Australia 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. This Council is established under the provisions of the Public and Environmental Health Act (1987). Functions of the Public and Environmental Health 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

The Australian Institute for Health and Welfare publishes a biennial report on Australia's health. Its most recent publication in 2006 found that the health of the Australian population is continually improving. Australians are now living longer than ever before. There have been large reductions in morbidity and mortality from communicable diseases; notable improvements have also been observed for a variety of chronic diseases and injuries over the last several decades. The impact of these changes is visible in almost all segments of the population, although not uniformly. For more details visit:

www.aihw.gov.au/publications/aus/ah06/ah06.pdf

These findings reveal a long term trend over the last century of steady and indeed, dramatic improvements in health and wellbeing. A rapid scan of the health of the population over the last century underscores a shift in the causes of ill health and death. During the 20th century there were notable successes relating to trends in mortality. They include falls in the death rates of:

- > 95% for children aged four or younger, including infants
- > 96% for infectious diseases
- > 85% for stomach cancers and 80% for cervical and uterine cancers
- > close to 80% for respiratory diseases
- > over two-thirds for circulatory diseases after a mid-century epidemic
- > over 30% for male lung cancer since its peak in the 1980s
- > 70% for motor vehicle accidents since their peak in 1970.¹

Illness and death caused by infectious diseases and diseases caused through insanitary conditions have largely been eradicated as major public health concerns. In 1907 tuberculosis was the second highest cause of death for all ages and diarrhoea was the third highest. Diarrhoea was also a principal cause of death in the 0–4 years age group.

In 1907 circulatory diseases, respiratory diseases and cancer were responsible for 42% of male deaths. By 2000 these conditions, commonly recognised as chronic diseases, were responsible for 77% of male deaths. At the start of the 21st century it is estimated that chronic disease accounts 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. These together with the social and environmental conditions that give rise to them are all amenable to public health intervention.

Improvements in health status are fundamentally underpinned by sound and comprehensive public health measures. For example, in determining the cause of the dramatic decline in deaths from acute myocardial infarction and stroke over the last 30 years, 42% of this decline has been due to improved medical and surgical treatments, and 58% is due to the reduction in risk factors, most notably smoking. Reducing smoking has been a consistent target of public health actions including tighter regulation and control, as well as mass media and information campaigns.

This picture of health is mirrored in the South Australian context. South Australians are healthier and living longer than ever before, though this is not uniformly shared across the population.

¹ Source: AIHW: *Mortality Over the Twentieth Century: 2006*

The factors that are causing ill health are now more likely to be non-communicable diseases due to environmental, social and lifestyle factors, rather than the traditional public health dangers of infectious disease and insanitary conditions which dominated the health agenda early in the last century.

The South Australian Burden of Disease (BoD) Study demonstrated that three disease categories cardiovascular disease; malignant neoplasms; and mental disorders; were responsible for more than half the disease burden in South Australia.

In terms of premature mortality the SA BoD 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 concluded that:

- > 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 sites:

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

Whilst this picture of health in South Australia is strong and positive, there still remain avoidable and preventable inequalities in health between different groups. The starkest of all examples of groups that are excluded from sharing in our community's health are Aboriginal Australians.

On most measures of health including morbidity, premature mortality, vulnerability to infectious disease, prevalence of chronic conditions, risk of injury due to violence and accidents, and poorer health at any age, Aboriginal people and their families fare poorly in comparison to the rest of the population.

While the health status of Aboriginal Australians serves as the most dramatic illustration of avoidable and preventable ill health, other groups are similarly affected. The profound and strong 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 government. It is the responsibility of all governments and the wider community.

Concerted public health action, 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 2006–07

The development and completion of a strategic plan for public health was a significant achievement in 2006-07.

This strategic plan provides a strategic focus for the work of the Public Health Directorate and its associated Branches. It also provides a cohesive direction and clear set of strategies and performance measures to advance the public health effort in South Australia for the next three years. The plan is closely aligned with the Department of Health Strategic Plan 2007-2009 and delivers public health's contribution to the achievement of the overall vision of SA Health: *The Best Health for South Australians*.

The following section presents details on public health activities for South Australia for 2006–07. Conducted by a range of public health practitioners working across all areas of Public Health, these activities cover a broad spectrum and are presented alphabetically — from asbestos to wastewater management.

Asbestos

Issues

The prevalence of malignant mesothelioma, a neoplasm affecting the lining of the lungs related to asbestos exposure, has been increasing since 1965 and there is no firm indication of when it will start to decline. In South Australia, prevalence has been found to be above the national average.

Occupational exposure accounts for 87% of these cases, 4% are non-occupationally related and the remaining 9% could not be classified. In recent years it has become obvious that do-it-yourself (DIY) home renovators can be exposed to potentially high levels of asbestos fibres.

Desired Outcome

To inform the public of the health risks associated with working with products containing asbestos, particularly targeting do-it-yourself home renovators.

Action

In the past year the South Australian Asbestos Safety Action Plan has undergone major review by SafeWork SA and has been redeveloped as the South Australian Asbestos Management Strategy and Action Plan, which continues to emphasise reducing disease by limiting exposure to asbestos.

The Action Plan also recognises the importance of cooperating with business, unions, support groups and other government departments in order to raise awareness of asbestos issues. The department has a continued involvement in the South Australian Asbestos Coalition, which aims to raise awareness of asbestos among workers and the community. Other parties to the Coalition include SafeWork SA; DTEI; asbestos victim support groups; asbestos litigation law firms; unions; academics; environmental consultants; and private industry.

The department has a largely educational role in the implementation of the Action Plan. In an attempt to increase public awareness of asbestos inclusion in houses built or renovated prior to or during the mid 1990s, the department is coordinating the distribution of asbestos awareness brochures titled *Is it asbestos?*

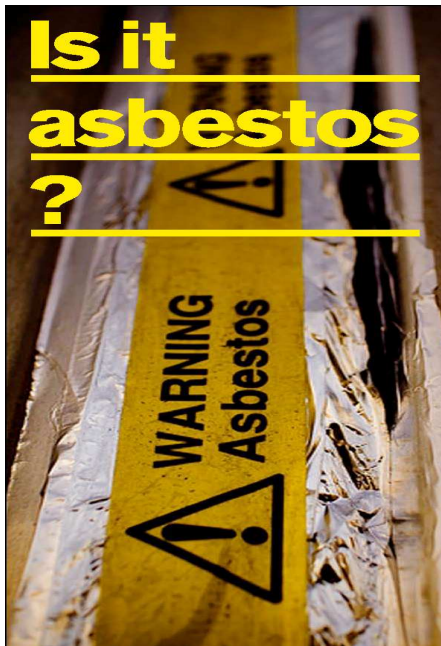


Figure 1. *Is it asbestos?* — Asbestos awareness brochure

The brochure provides Department of Health, SafeWork SA and EPA contact details for health services, removal and disposal information. The brochure was pilot tested in a limited mailout, with the Revenue SA Emergency Services Levy mail-out, in October 2007. The brochure will be mailed out to 69,900 households (with the Emergency Services Levy mail-out in October 2008), followed by data collection and evaluation.

The co-operation and assistance of Revenue SA and the Commissioner of State Taxation in achieving this distribution is acknowledged.

Blood Borne Viruses — Hepatitis C Virus

Issues

While hepatitis C (HCV) affects a significant number of people, with approximately 16 000 people infected in SA, the community still lacks knowledge about this blood-borne virus. Transmission occurs only through blood-to-blood contact, but HCV is very infectious and even small amounts of infected blood are sufficient. While people may have caught the virus in a number of ways in the past, new HCV infections in SA occur almost exclusively through sharing injecting drug use equipment. Prevention of HCV infection is based on harm reduction principles and ensuring access to clean injecting equipment for those who inject drugs is the central strategy.

Treatment is now available to cure hepatitis C in 50-80% of cases (depending on virus type), providing hope for reducing further transmission and the severe long-term liver damage (including cirrhosis and liver cancer) that affects a proportion of those infected. Awareness of and access to treatment, as well as the prevention of further transmission are the key components of a response to hepatitis C. However, the long-term care needs of those for whom treatment is unsuccessful must also be carefully considered.

Desired Outcome

- > Increase access to treatment and further reduce new infections through prevention programs.

Action

- > Outreach clinics by treatment specialists for the populations most affected
- > Continue existing prevention programs and support new initiatives in prevention and education
- > Two specialist outreach clinics are now operating at Nunkuwarrin Yunti and Warinilla through the initiative of hospital specialists at Flinders Medical Centre and the two community health organisations.

- > Several new information and education resources including one targeted at those in custody, have been developed and the education of health professionals continues
- > A theatre production about hepatitis C titled '*Chopped Liver*', developed by the Aboriginal theatre company *Ilbidjerri*, has toured SA with great success.

Future Directions

- > Further expansion of treatment access and continuing prevention efforts, including outreach to vulnerable youth.

Breast Cancer Screening

BreastScreen SA (BSSA) is the fully accredited South Australian component of BreastScreen Australia, the national breast cancer-screening program for women without breast cancer symptoms or signs. BSSA is a part of the Central and Northern Adelaide Health Service.

BSSA incorporates six fixed screening clinics (the Wayville Clinic doubles as an assessment centre) and three mobile screening units — two service 27 remote and rural areas, and the other services seven Adelaide metropolitan areas where participation rates are relatively low. BSSA provides free screening mammograms (breast x-rays) at two-yearly intervals, primarily for women aged 50-69 years. Its aim is the reduction of deaths from breast cancer in this target group through early detection of the disease. Women over the age of 40 years with no breast symptoms are eligible to access the screening program.

From 1 January 1989 to 30 June 2007, there were 932 524 screening mammograms provided to 240 806 individual women across South Australia. From 1 January 1989 to 31 December 2006, a total of 5232 breast cancers (invasive and ductal carcinoma in situ) were diagnosed by BSSA.

Key Highlights During 2006–07

- > BSSA was re-accredited for a four year term in March 2007.
- > 67 077 screening mammograms were performed.
- > 78.5% of the total number of women screened was in the target age group 50-69 years.
- > 28.9% of the total screening mammograms provided were performed on the three mobile screening units; 71.1% performed at the fixed clinics.
- > New clients represented 12% of our total population screened.
- > 2.7% (1759) of women screened were recalled for assessment of a screen-detected breast abnormality.
- > BSSA has reduced waiting times from screening to assessment since March 2006, exceeding national targets.
- > BSSA had the second lowest cost per woman screened (the cheapest cost per women screened in Australia in the previous two financial years, although the costs between jurisdictions are not strictly comparable).

In 2007, two reports confirmed BSSA is achieving its primary aim, which is the early detection of breast cancer and reduction of mortality from the disease. The 2007 SA Cancer Registry Report indicated that during the 1980s, which was prior to the advent of screening, the proportion of small breast cancers with a diameter of less than 15 mm was approximately 15%. By the year 2000, this proportion increased to about 40%. Within the target group of women 50-69 years the proportion of small cancers detected increased from 13% to 44%. Women with these cancers have better survival rates and are more likely to require simpler treatment.

In mid June 2007, the report *Efficacy of Population Based Screening in Australia* indicated that women participating in mammography screening at BSSA reduced their risk of dying from breast cancer by up to 41%.

Future Directions

In the next reporting period BSSA will:

- > continue to review the attraction and recruitment strategies for radiographers, as there is a current workforce shortage
- > work towards addressing the decline in the participation rates and the increased waiting times for screening
- > respond to any changes in the national policy framework to come out of BreastScreen Australia National Evaluation Project
- > commission the two country mobile units and replace the client information system in 2008.

BSSA will continue to work towards achieving the BreastScreen Australia National Accreditation Standards while maintaining the high standards of client care and outcomes necessary for continued accreditation of the program.

Cancer

Issue

Cancer is one of the leading causes of mortality in South Australia, with great opportunities remaining for screening and intervention programs. Public health activity in cancer control aims to prevent new cases from occurring; identify new cases at an early stage of disease; effectively treat people with cancer; and return people who have had cancer to fully functional healthy lives. In 2005 there were 8456 new cases of cancer diagnosed in South Australia, with 3302 deaths due to the disease.

South Australian Cancer Registry

In order to identify possible risk factors and monitor the impact of interventions aiming to reduce cancer, it is necessary to utilise information representative of the whole population. The South Australian Cancer Registry collects information about all cases of cancer incident in the state. This collection began in 1977, and is one of the longest running cancer data collections in Australia.

Hospitals and pathology laboratories are required to notify the SA Cancer Registry about diagnoses of cancer. Information is collected on cancer site and histology; dates of birth, diagnosis and death; but generally not on tumour stage unless specifically required to analyse population-based interventions such as screening programs. Although the detailed way in which cancer information is classified may change periodically, data on the Registry is collected in such a way that trends can be monitored over time. This is particularly important because the outcomes of interventions can only be assessed over a long period.

Actions

The South Australian Registry publishes an annual report summarising population-based surveillance data, with survival statistics by primary site of tumour and histological type every five years. The annual report appears on the department website at: www.health.sa.gov.au/pehs/health-statistics.htm

The data show trends in survival, which facilitate judgements about the effects of cancer treatment. These trends are of interest to clinicians and public health practitioners as indices of survival change. When changes in outcomes are suggested by the data, the plausibility of these findings is reviewed in the context of changes in services and other factors. Sometimes interpretation is straightforward, while on other occasions the data simply provide leads for follow-up investigation using the more detailed information available from hospital-based clinical registries and other sources.

Results

Analysis of the surveillance data contributes to the understanding of the determinants and modifying factors associated with each type of cancer, as well as the effectiveness of treatments and interventions.

Research has led to the association of asbestosis with mesothelioma, cigarette smoking with lung cancer, sun exposure with melanoma and dietary influences with bowel cancer — all of which have led to comprehensive campaigns to limit dangerous exposures.

The mortality and morbidity of some cancers can be reduced with appropriate programs of population screening. South Australia participated in a pilot study of the use of faecal samples to screen for bowel cancer. This program is currently being rolled out in SA to specific target groups. Registry data can improve the equity of interventions by identifying population subgroups at particularly high risk.

Future Directions

Cancer remains one of the leading causes of mortality in South Australia, with great opportunities remaining for screening and intervention programs. For example, although mortality from cervical cancer has reduced considerably with the advent of screening, the Cancer Registry will assist the monitoring of the population effect of the 2007 introduction of human papilloma virus vaccination.

The Registry analysis reflects many advances in cancer treatments over the years. All of these have contributed to improved outcomes for people with cancer. As our population continues to age monitoring these interventions will become increasingly important.

Cervix Cancer Screening

The South Australian Cervix Screening Program (SACSP) is the state component of the National Cervical Screening Program, which aims to reduce mortality and morbidity from cervical cancer, in a cost effective manner through an organised approach to cervical screening. Specifically, it aims to reduce the incidence of cervical cancer by encouraging all women between 18-70 years of age to have a Pap smear every two years. This is in line with the national policy.

The SA Cervix Screening Program has two key areas of responsibility:

- > maintenance of a Pap Smear Registry — the Backup Record System
- > recruitment of women to screening.

Issues

Cervical cancer is the 18th most common cause of cancer deaths in Australian women. Through population screening and a national approach, 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 program recognises the importance of improving the health of Aboriginal and Torres Strait Islander women who have a higher incidence of cervix cancer than other Australian women.

Actions

A successful statewide Pap Smear Awareness Week advertising campaign was held in May 2007.

Culturally appropriate health promotion and education activities to promote the importance of screening to Aboriginal Australian women with the Well Women's Screening Program and also to culturally and linguistically diverse groups in remote, rural and metropolitan areas.

Key partnerships were developed with other jurisdictions of the National Cervical Screening Program, the Department of Health and Ageing (DoHA) Immunisation Section, the SA Immunisation Coordination Unit and the community, to ensure consistency of information relating to Human Papilloma Virus (HPV) and the continuing effectiveness of the National Cervix Screening Program (NCSP).

To ensure the successful implementation of the National Health and Medical Research Council (NHMRC) guidelines *Screening to prevent cervical cancer: Guidelines for the management of asymptomatic women with screen detected abnormalities*, key partnerships were developed with other jurisdictions of the National Cervical Screening Program, South Australian health providers and the wider community.

Results

There are currently 596 713 women registered on the SACSP Backup Record System, 577 736 of these are South Australian women. In 2006 a total of 167 947 smears were recorded on the system, with 86 509 smears recorded from January to June 2007.

The 2005–06 biennial participation rate of screening for cervical cancer for South Australian women aged 20–69 years was 62.8% (see Figure 2). This represents a decrease from 64% in 2004–05, when the data also included women from the Northern Territory postcode 0872 (excluded from the 2005–06 data). This difference has contributed to the lower participation rate.

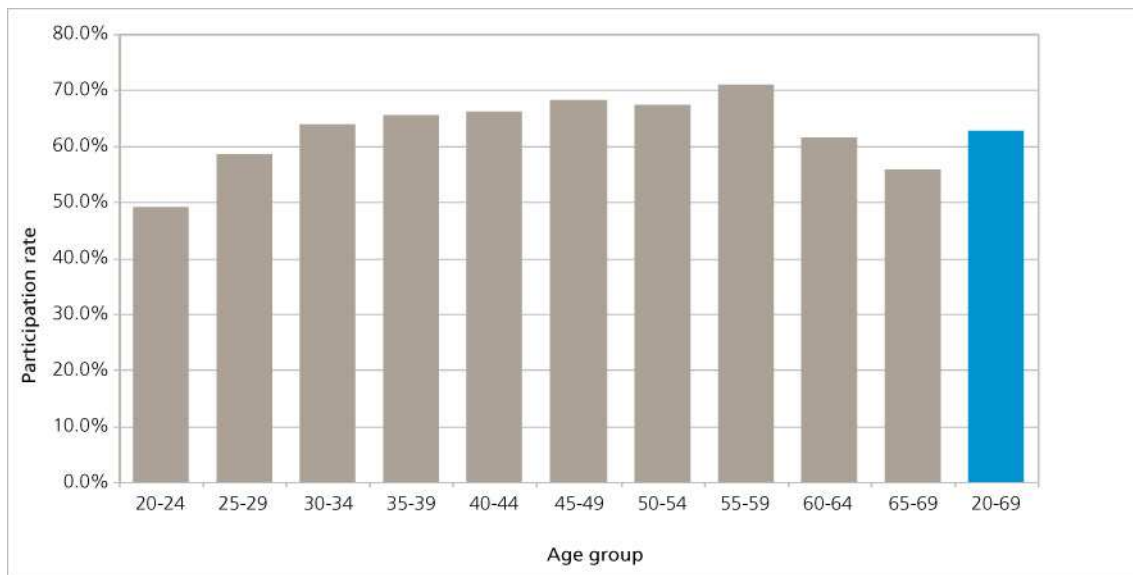


Figure 2. Biennial cervix screening participation rate for SA women 20–69 years, 2005–06 (excludes vault smears and women with postcode 0872)

The 2007 Pap Smear Awareness Campaign recorded a 14.7% increase in the number of women having a Pap smear during the campaign compared to the pre-campaign period, up from 10% in 2006.

The 2007 campaign also recorded a 17.8% increase in Pap smears by women who had not had a smear for 24–36 months, and a 16.8% increase for women who had not had a smear for more than 36 months or who had never had a smear. This was a significant increase in participation in screening compared with 2006.

Future Directions

- > Continue updating the Back Up Records System.
- > Ongoing progress to update the cervical cytology register's National Standardised Minimum Data Set and Data Dictionary and the National Standardised Cervical Cytology Reminder Protocol, in collaboration with other jurisdictions and the National Cervix Screening Program.
- > Commitment to upgrade standards, policy and their viability at the national level, and to continue to examine the topic and issues of cervical screening globally as well as locally.
- > Continue discussions at national and state levels regarding new technologies and assess if they are viable for the future of the national and state programs.

Clandestine Drug Laboratories

Issues

The manufacture of illicit drugs in Australia has been increasing since the late 1990s. In the past 12 months, 34 clandestine drug laboratories have been found in South Australia. The majority of the laboratories discovered between 2001–07 have been methamphetamine laboratories that are often located in residential dwellings, sheds, vehicles and motel rooms within the metropolitan area, as shown in Figure 3.

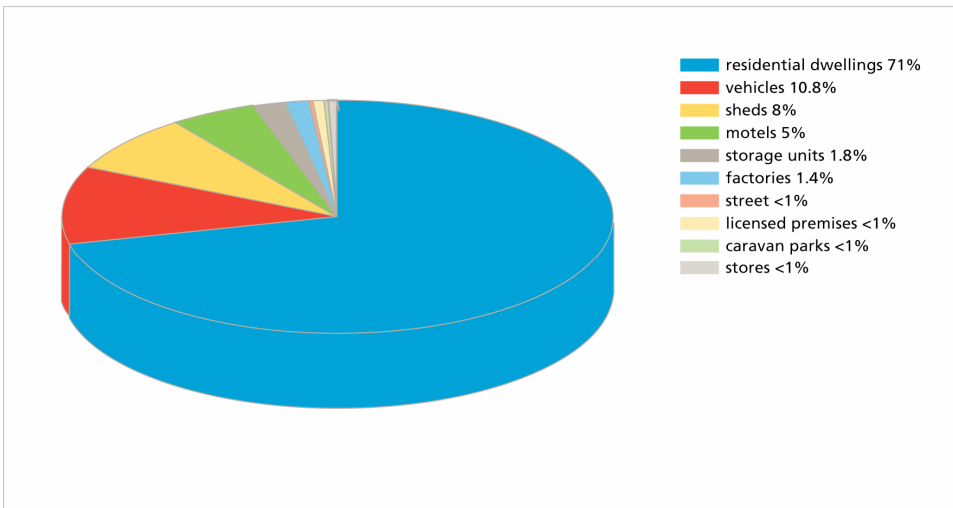


Figure 3. Clandestine drug laboratory locations 2001–07

Figure 4 below indicates the number of clandestine drug laboratory seizures in South Australia from 1997 to 2007.

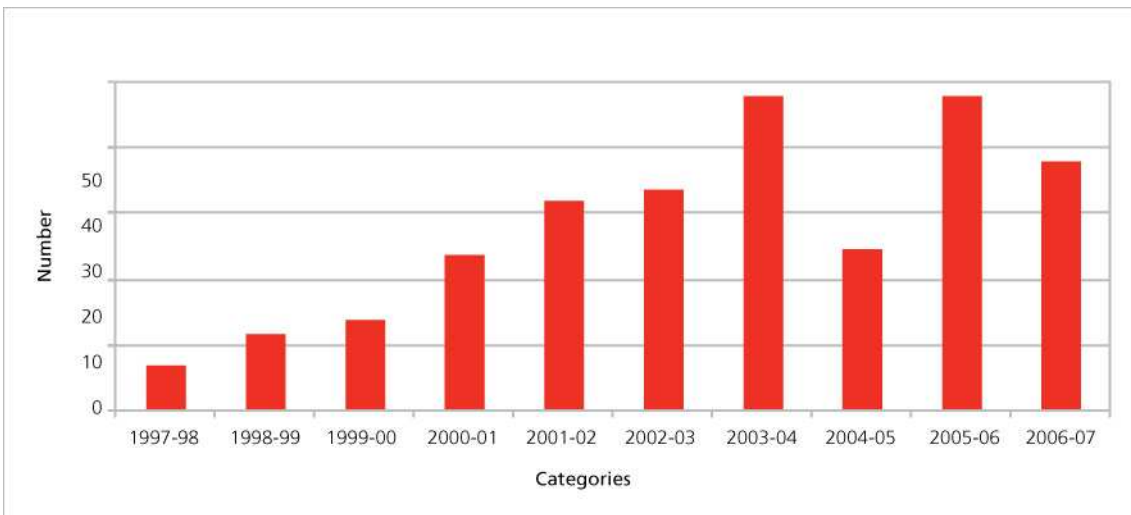


Figure 4. Number of clandestine laboratory seizures in South Australia 1997–2007

Actions

An Action Plan has been developed to determine:

- > the frequency of clandestine drug laboratory seizures in South Australia
- > the location and prevalence of clandestine drug laboratories within the metropolitan, regional and country centres
- > the variation (classification) of clandestine drug laboratory activities at the time of seizure and the degree of risk to health
- > whether there are links with injury surveillance and exposure to clandestine laboratory activities.

The desired outcome of the Action Plan is to work with the Local Government Association to increase awareness of the potential for adverse health outcomes from clandestine activities and to seek to strengthen the statewide partnership with local councils in the development of clean-up guidelines and notification protocols.

Collaboration with SA Police has produced information on numbers and classification data for clandestine drug laboratory seizures from 1998–2007.

There is also collaboration with Victoria and New Zealand, who are proactively involved in drafting cleanup guidelines for owners of properties.

Future Directions

- > To further implement the Action Plan
- > To build on the database of information on clandestine laboratories
- > To establish a working group to further develop and agree on a notification protocol
- > To assess and review the roles of those involved in the issue and the effectiveness of the program.

Communicable Disease Prevention

Communicable disease prevention aims to work with individuals, communities, organizations and health care services and providers, to build capacity directed toward the prevention of infectious diseases for both individuals and the community.

Actions

- > Promoted the *Fight the Bite* campaign, a health promotion campaign aimed at reinforcing messages about the need to adopt personal protection against mosquito bites and the associated risk of mosquito-borne disease. The campaign involved working with key community stakeholders in the Riverland to plan, develop, implement and evaluate community-based strategies to reduce the risk of mosquito-borne disease for visitors and people living in the region.
- > Continued distribution of health promotion information via pharmacies about the importance of pneumococcal and influenza vaccination for those considered to be “medically at risk”
- > Streamlined the transmission of Public Health Alerts and Public Health Information by facsimile to all general practitioners statewide by adopting the South Australian Divisions of General Practice Inc Health Provider Registry database.

Future Directions

- > Continue to promote the *Fight the Bite* campaign and development of community-based strategies in the Riverland to reduce the risk of arbovirus infection for people visiting and living in the Riverland.
- > Develop and distribute health promotion messages about the need for members of the public to create healthy swimming environments to guard against cryptosporidium.
- > Educate, inform and advise general practitioners across the state about the existence of the South Australian Guidelines and Call Centre dealing with HIV non-occupational, post-exposure prophylaxis.

Communicable Disease Surveillance and Investigation

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.

A summary of notifiable diseases in South Australia is published on the department Website each week. This includes text and tables with up-to-date counts of all notified infections as well as historical data. The website also provides current information about cluster and outbreak investigations that are in progress.

To better facilitate joint investigations, formal pathways of communication were established with some partner agencies during 2006–07, to ensure optimal transfer of information, facilitating prompt responses and resulting in rapid control of newly identified sources of infection. Extra data was collected from cases through short-term enhanced surveillance to assist the relevant agencies to efficiently target sources of infection.

Although labour-intensive, this process resulted in rapid identification and control of environmental sources of infection.

Some investigation and control activities are conducted in conjunction with agencies that provide expertise and authorities under other Acts in South Australia, such as the Food Act 2001 or the Meat Hygiene Act 1994. These agencies include OzFoodNet Australia, Primary Industries and Resources SA, the Institute of Medical and Veterinary Science and local government.

Future Directions

Outbreaks in 2006–07 highlighted the need to further streamline communication strategies with partner agencies for acute situations. In 2007–08 it is anticipated that formal links established with more partners will define the nature of information required and modes of communication for both sporadic and outbreak situations.

Disease Surveillance and Investigation Activities

- > Recording 8874 reports of notifiable diseases in South Australia
- > Referral of more than 280 cases for further investigation by other agencies or other branches in the department.
- > Investigation and control of:
 - > 13 cases of meningococcal disease
 - > 11 clusters of *Salmonella* infection
 - > 11 cases of *Legionella pneumophila* serogroup 1 disease
 - > four *Listeria monocytogenes* infections
 - > five typhoid cases
 - > a cluster of Shiga-toxin producing *E. coli* infection cases
 - > five hepatitis A virus cases
 - > one Q fever outbreak
 - > a norovirus outbreak in a bus tour group
- > Enhanced surveillance and control of a *Cryptosporidium* outbreak
- > In partnership with OzFoodNet, investigation of seven outbreaks of food-borne disease comprising two *Campylobacter* infection outbreaks, four *Salmonella* infection outbreaks and one outbreak where the agent was not identified.

Selected Disease Surveillance and Investigation Activities in 2006–07

Typhoid Fever

Typhoid fever is transmitted by consumption of food or water contaminated with *Salmonella Typhi*. When infected, most people have symptoms, but a small proportion become asymptomatic carriers. Most typhoid cases reported in South Australia are acquired overseas in countries where the infection is common.

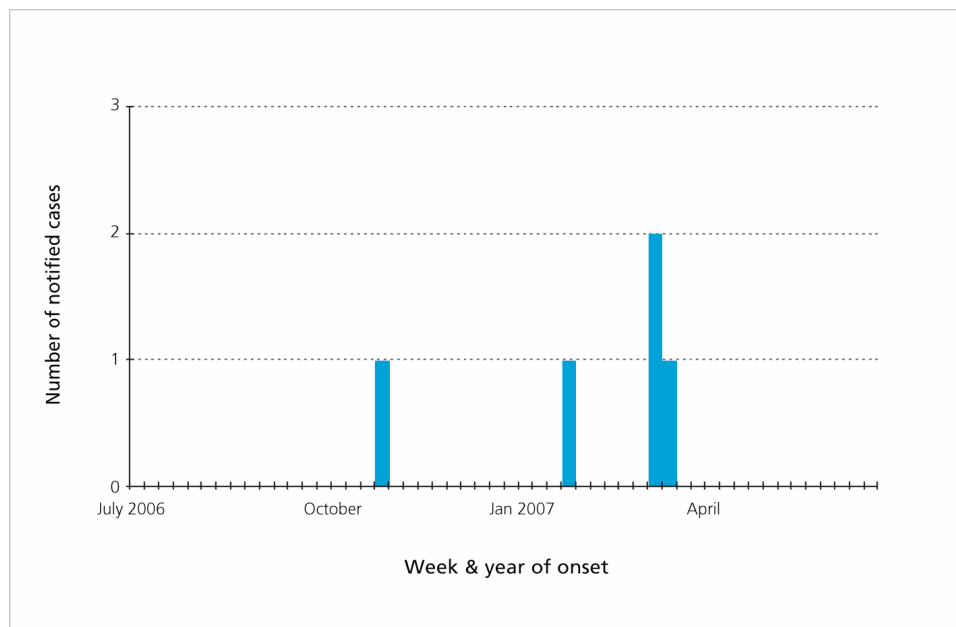


Figure 5. Notified cases of Typhoid fever, by month of onset 1 July 2006 to 30 June 2007

When reported, all patients are interviewed and cases thoroughly investigated by the Disease Surveillance and Investigation Section to identify, test and treat high-risk contacts.

One investigation of a typhoid fever case involved contacting and testing of 54 people; another brought 14 contacts to testing. As a result of contact tracing, one asymptomatic carrier of this infection was detected and treated in 2006–07.

Cryptosporidiosis

Cryptosporidiosis is a parasitic infection of the bowel. *Cryptosporidium* parasites can be found in a range of animals as well as in humans. They spread by the oral–faecal route and infection commonly occurs by drinking or swimming in, contaminated water. Unlike other gastrointestinal infections, people with cryptosporidiosis must abstain from swimming for 14 days after symptoms disappear, to ensure that swimming pools are not contaminated resulting in further infections.

In early 2007 cases of cryptosporidiosis were reported in greater than expected numbers and enhanced surveillance was initiated. This required interviewing all patients to reinforce the exclusion period and identify infected individuals who had been swimming in public pools. The appropriate local government Environmental Health Officers were contacted to ensure that nominated pools were treated to kill *Cryptosporidia* and so prevent further infection.

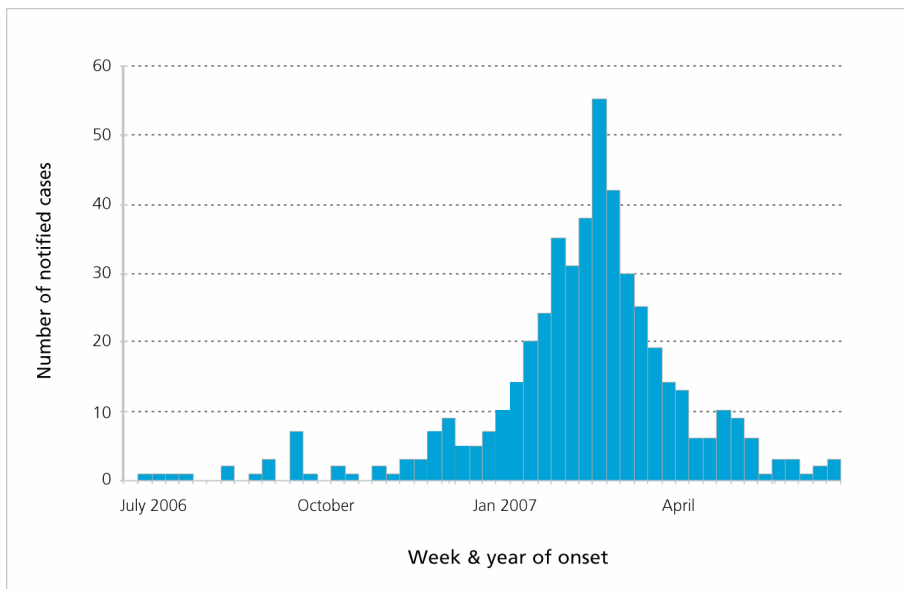


Figure 6. Notified cases of *Cryptosporidium* infection, by month of onset 1 July 2006 to 30 June 2007

Figure 7 demonstrates the distinctive age and gender structure of cases notified in 2007; predominately males under 15 years of age and females aged 25-45 years. Although the age range was <1 to 74 years, 60% of Cryptosporidiosis cases affected people less than 25 years old.

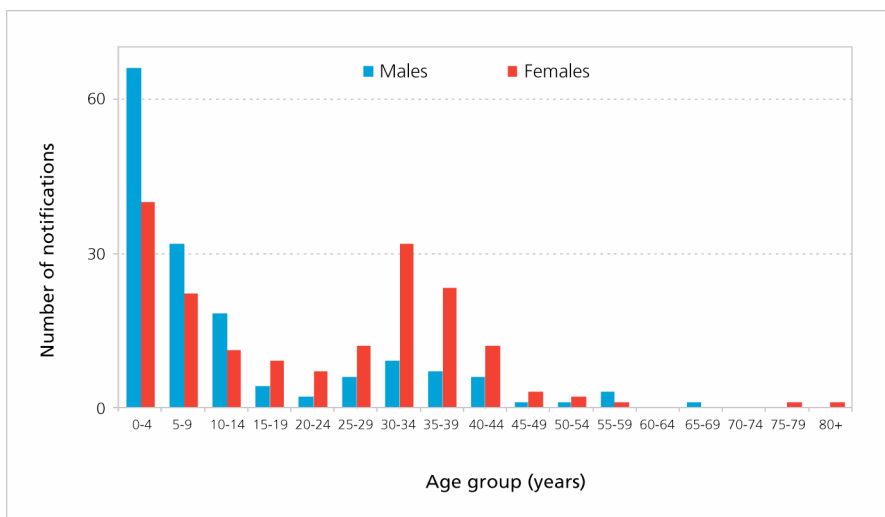


Figure 7. Notified cases of *Cryptosporidium* infection, by age and gender 1 January 2007 to 30 June 2007

Shiga-Toxin Producing *E. coli* (STEC) Infection

Enterohaemorrhagic *Escherichia coli* bacteria include shiga-toxin producing *E. coli* (STEC), which can cause bloody diarrhoea. A small proportion of cases progress to toxin-mediated haemolytic uraemic syndrome (HUS). This syndrome can cause severe chronic disease, particularly renal failure.

Early in 2007, a cluster of STEC O157 cases was notified and at interview, a comprehensive food history was recorded for each case. This information was immediately passed to the Food Policy and Programs Branch, Environmental Health who conducted inspection, testing and trace-backs on common food items. No environmental source was identified to account for this cluster of cases.

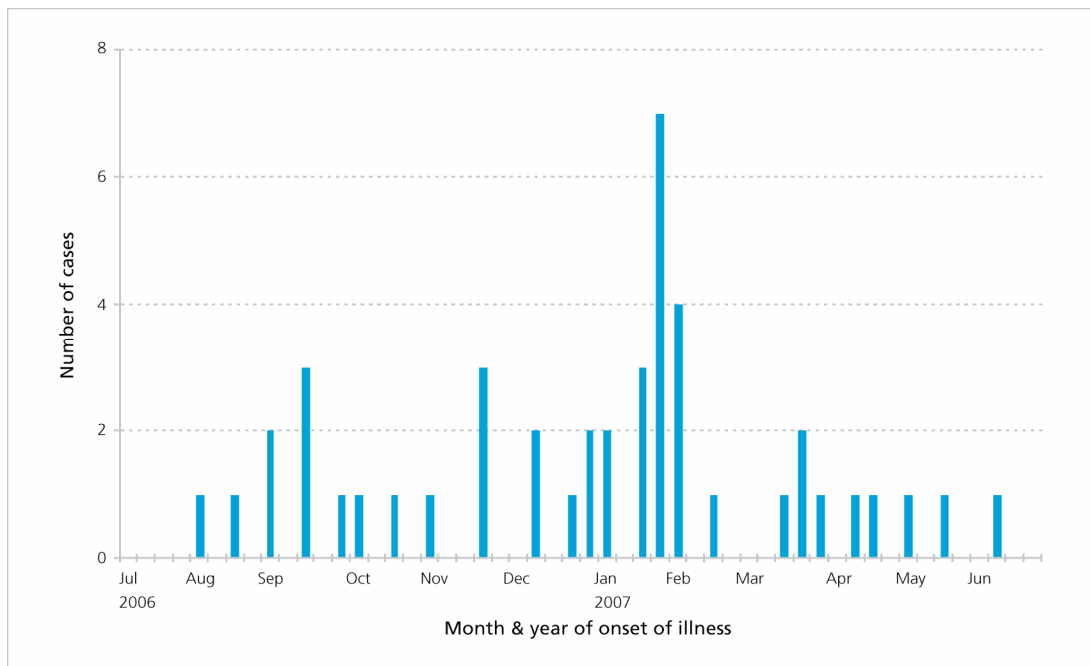


Figure 8. Notified cases of Shiga toxin-producing *E. coli* infection, by month of onset 1 July 2006 to 30 June 2007

Q Fever

Q fever is a zoonotic infection caused by *Coxiella burnetti*. Q fever cases often have occupational exposure to animals, commonly sheep, cattle or goats that are natural reservoirs for this infection. Typically, cases are males aged 20-60 years.

Among the cases reported in the first half of 2007 was a small cluster of community infections comprising four females and three males. Four of those affected were over 70 years of age and one was less than 10 years. In all cases, the risk factor for acquiring Q fever was not occupational, but the proximity of their residence to a rural abattoir. Partners in the investigation of this cluster were Environmental Health Officers from the local government area and Primary Industries and Resources SA.

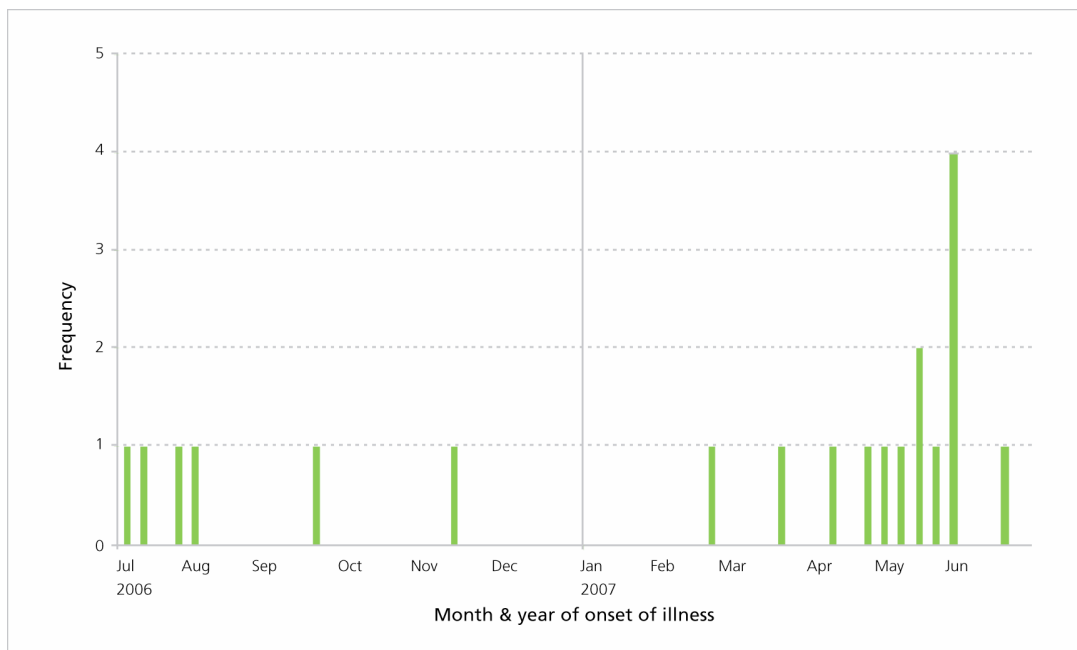


Figure 9. Notified cases of Q fever infection, by month of onset 1 July 2006 to 30 June 2007

Males aged 20-60 years with occupational risks usually dominate Q fever infections. In Figure 10, cases over 70 years and <10 years of age represent community infections.

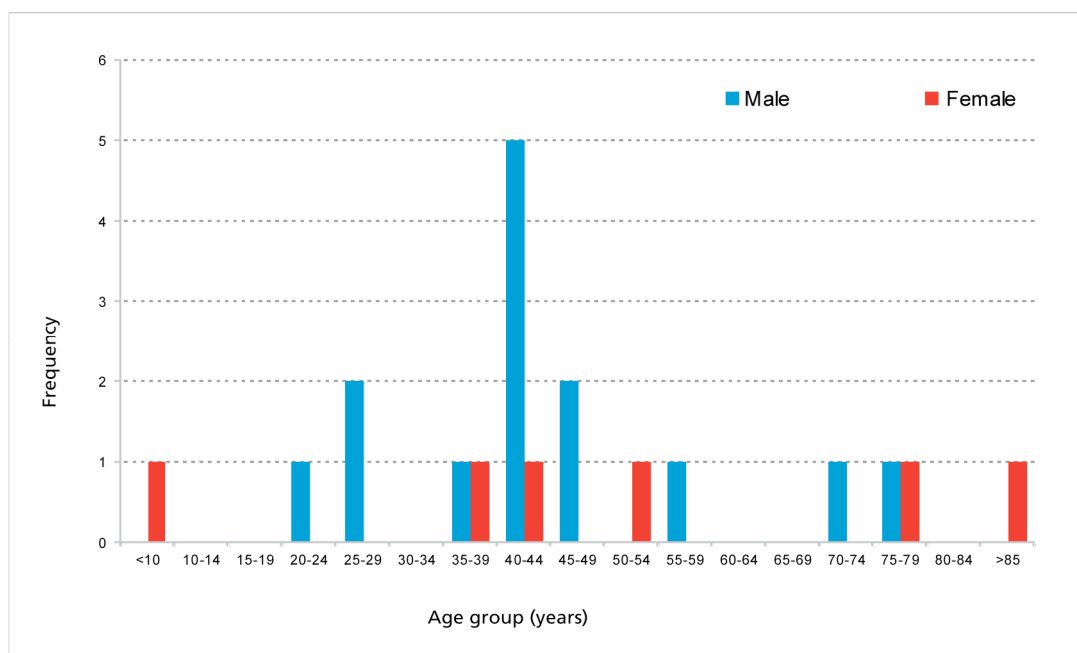


Figure 10. Notified cases of Q fever infection, by age and gender with onset date between 1 July 2006 to 30 June 2007

Controlled Substances Licensing

The Controlled Substances Licensing section administers the Controlled Substances (Poisons) Regulations 1996 (the Poisons Regulations) and Controlled Substances (Pesticides) Regulations 2003 (the Pesticide Regulations) under the Controlled Substances Act 1984 (the Act).

Desired Outcome

To effectively administer the Act, the role of which is to regulate or prohibit the manufacture, production, sale, supply, possession, handling or use of certain poisons, drugs, therapeutic and other substances, and of certain therapeutic devices, in order to protect and prevent harm to the public from this class of chemicals.

Actions

Of the total 3304 licences issued during the report period, 1600 licences were issued under the Pesticide Regulations, and 1704 were issued under the Poisons Regulations. The figure below provides total annual licence numbers issued under the Poisons Regulations and Pesticide Regulations since 1987. Licences issued for the period have increased mainly as a result of bringing commercial viticulture pesticide applicators into line with other pesticide application industries.

The licensing of possession of Schedule 4 and Schedule 8 drugs in aged care facilities has continued to rise whilst the possession of cyanides continues to decline with the greater use of cyanide-free plating solutions.

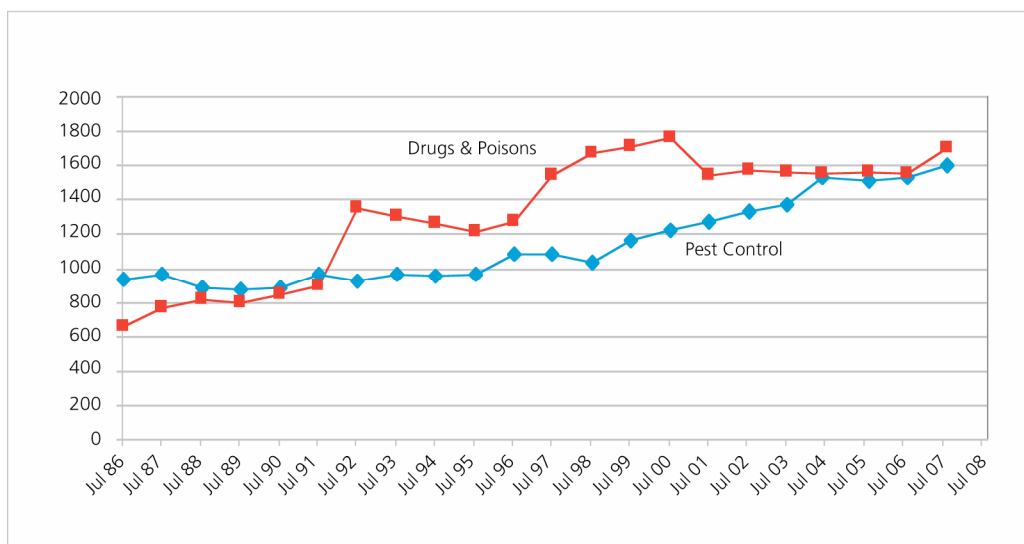


Figure 11. Comparison trend for number of licences issued under Pesticide and Poisons Regulations July 1986 to July 2006

Revised procedures for licence re-application during the period has greatly improved compliance with the requirement of holding a current licence and has also reduced workloads associated with the pursuit of un-renewed licences. This has enabled a greater focus on compliance and inspections. The first stage of redeveloping the current licensing computer program was completed. The second and third stages leading to a new system should commence midway through 2008–09.

Future Directions

Proposed activities for the next reporting cycle include:

- > extending licence terms to three-yearly in accordance with the Government's commitment to reduction of red tape
- > continuation of the redevelopment of the licensing database following the completed systems analysis documentation
- > investigating current and developing improved and more flexible payment options
- > as a priority, researching a feasible training option for commercial Vertebrate Pest Control and redevelopment of web-based resources for clients.

Dental Health

Children's Oral Health

For children, the major oral health condition is dental decay. By 5 years of age, 40% of children have decay experience and 60% of this caries is untreated. Most young children have healthy gums and although this figure falls to 37% by age 15 years, most of this periodontal disease is of the mildest variety and is of limited public health significance.

By the late 1990s, South Australia ranked second best among all OECD countries for the level of dental decay in its children. In recent years there has been an increase of more than 50% in dental caries amongst South Australian children, include increased use of low fluoride toothpastes, increased drinking of non-reticulated (non-fluoridated) water and changes in diets.

The decay experience of children at 12 years of age in South Australia in 2001 (the last year for which national comparisons are available) was the lowest in Australia. Data for NSW are not available because of the very low coverage of their School Dental program.

Some groups of children have significantly poorer oral health than the community average:

- > In 2004 children in the Mt Gambier area, the only major centre in South Australia without water fluoridation had 78% more dental decay in their adult teeth than children in Adelaide and 40% more than children in the Riverland.
- > Children from lower socio-economic areas have approximately 40% more dental decay experience than those from more advantaged areas
- > Children from culturally and linguistically diverse backgrounds have 80% more decay experience in their deciduous teeth and 30% more decay experience in their adult teeth.
- > Aboriginal and Torres Strait Islander children in South Australia experience 70% more dental caries than children in the wider community and have more teeth with untreated dental decay.
- > Children in country areas of the state on average experience up to 30% more dental caries than children in Adelaide.

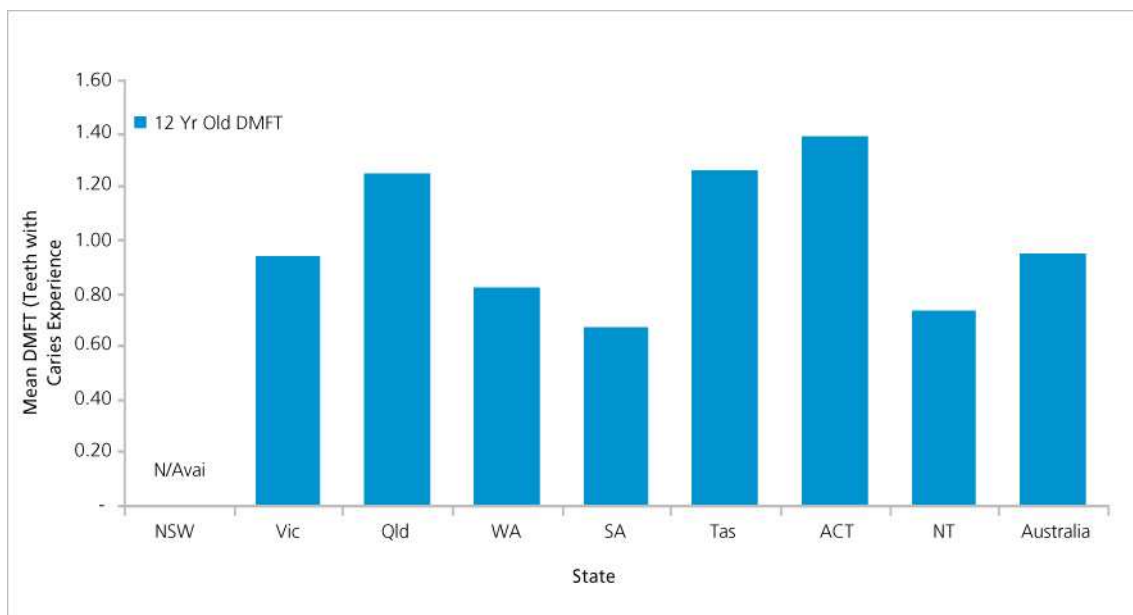


Figure 12. Average number of teeth with decay experience of 12 year olds in Australia by state

Adult Oral Health

The decay experience of adults attending public dental clinics has increased by 12% since 1995–96 for all age groups except 20-24 year olds. However, the amount of decay that is untreated has increased by 50% reflecting the loss of the Commonwealth Dental Health Program in 1996.

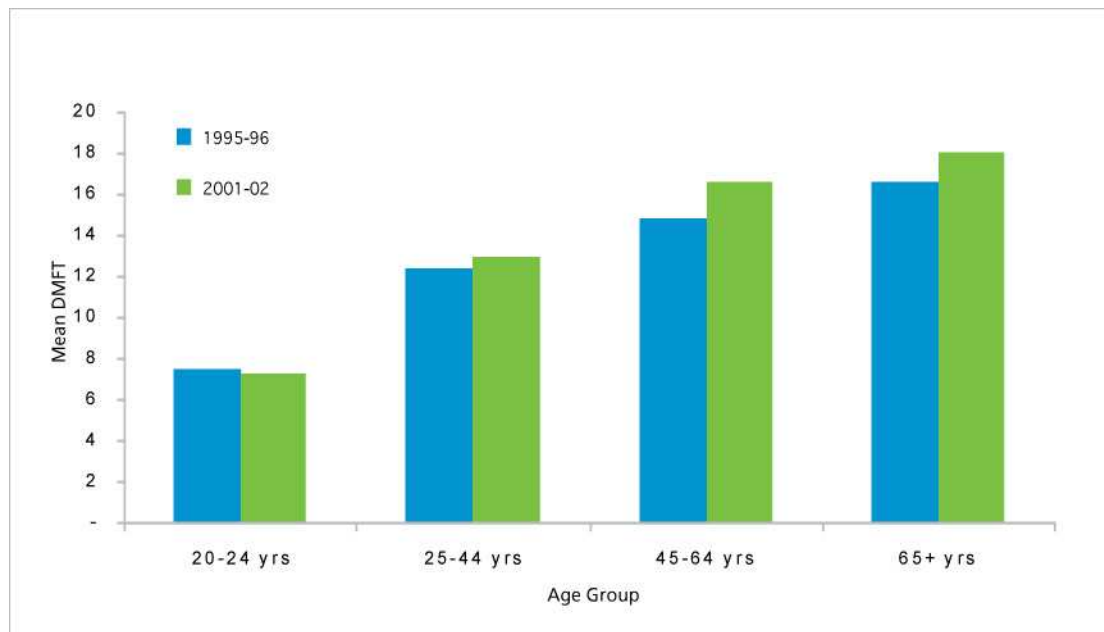


Figure 13. Average number of teeth with decay experience of adults attending public clinics 1995–96 and 2001–02

Between 1995–96 and 2001–02, the proportion of adults attending public dental clinics who had healthy gums decreased from 12% to 10% and the percentage with calculus on the teeth had increased from 28% to 45%.

Concession cardholders are more likely to have had all of their natural teeth extracted, that is, to be edentulous, than the rest of the community.

Indigenous adults aged 25-44 years attending public dental clinics in South Australia have fewer teeth with dental decay experience (8.7 teeth) compared with concession cardholders across the wider community (12.9 teeth).

More Aboriginal Australian adults (21%) who attend public dental clinics have healthy gums than adult concession cardholders across the wider community (10%). However more of the periodontal disease present has progressed to a severe stage, possibly related to the presence of systemic conditions such as diabetes.

Attendance at a Dentist

The School Dental Service offers a comprehensive dental care program to all children until their 18th birthdays. Participation in the School Dental Service is high with 87% of primary, 45% of secondary and 16% of pre-school age children (0–4 years) enrolling in the program and receiving regular care.

Through a combination of the School Dental Service and the private dental sector, 99% of 5-11 year olds and 97% of secondary school age children receive dental care within a two-year period. This is a high level of coverage and something of which South Australia can be extremely proud. For adults, attendance reduces once eligibility for the School Dental Service ceases at 18 years and is lowest among 25-44 year olds.

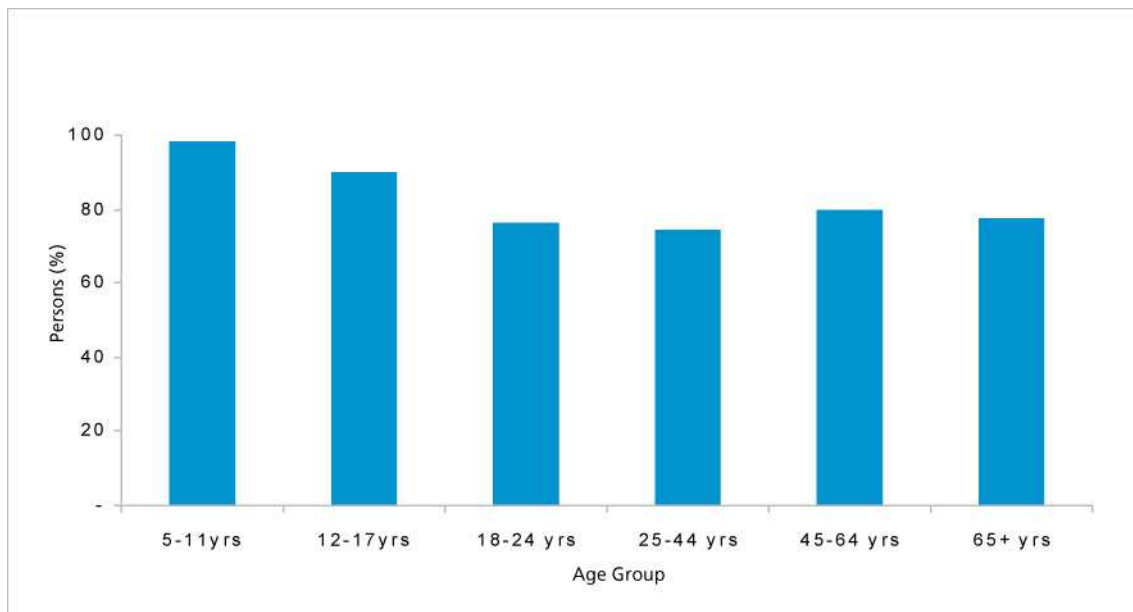


Figure 14. Percentage of people with natural teeth attending a dentist within two years

Services and Initiatives

Water Fluoridation

In 2007 the State Government announced that Mount Gambier's water supply is to be fluoridated. In coming years this population health measure will reduce the very high levels of dental decay among children in South Australia's second largest centre.

The State Government is also seeking to have the water supplies at Coober Pedy and Roxby Downs fluoridated.

School Dental Service

The oral health of South Australia's children is the best in Australia and amongst the best in the world. However, children from lower socio-economic backgrounds, in country areas, from culturally and linguistically diverse backgrounds and Indigenous children have more decay than other children. The School Dental Service directs its clinical preventive services to children with poorer oral health in an attempt to redress this inequality in health outcome.

In 2007 the School Dental Service introduced a new fee schedule for non-concession or school-card holders. The revenue raised is being used to enable the School Dental Service to bring its program of check-ups and preventive dental care back on schedule, again focusing on children who are most at risk.

SA Dental Service also operates a number of targeted health promotion programs for Indigenous children.

Oral Health for Community Living Older People

Commencing in 2004, a pilot program was developed under the direction of a multi-sectoral steering committee to assist older people living in the community to achieve good oral health as a contributor to maintaining their independence.

This project is based in the inner southern metropolitan area of Adelaide and integrates a simple question-based oral health screen into the annual health assessments by medical practitioners of people in the community who are aged over 75 years. Concession cardholders who are assessed as "at risk" through this process are referred to a public dental clinic where they bypass the waiting lists to receive publicly funded dental care.

Evaluation of this program by the University of Adelaide demonstrated that early assessment and intervention dental care can improve the quality of life and general wellbeing of older people and their ability to go about their day-to-day activities.

In 2006–07 a modified version of this program was extended to Adelaide’s northern suburbs. In this enhanced program the oral health assessment is undertaken by Metropolitan Domiciliary Care including Aged Care Assessment Teams. In addition to priority access to dental treatment, older people who are identified as being at risk are given a functional assessment for the maintenance of good oral hygiene in the home.

The Aboriginal Liaison Dental Program

The Aboriginal Liaison Dental Program was initiated in response to an identified need to improve oral health outcomes for Aboriginal Australians. Discussion with the people who provide services for Aboriginal and Torres Strait Islander people and their families gave an insight into the oral health needs and expectations of the community and an opportunity to investigate barriers to accessing dental care.

One of the barriers identified initially was the two-year waiting list for general dental care at community dental clinics. As a result, a number of priority general courses of care were made available for eligible Indigenous adults.

During 2007–08 adult Aboriginal Australians attending diabetes camps in the northern Adelaide suburbs, Muna Paiendi Community Health Service, the Noarlunga Health Service and the Parks Community Health Service will receive an oral health assessment. This program will be progressively extended across the state over the next two years.

Food

Contributing to National Food Regulation Policy Setting

The Inter-Governmental Food Regulation Agreement 2002 between the state, territory and Australian governments established the food regulatory system. The Australia New Zealand Joint Food Standards Agreement between Australia and New Zealand, created a joint food standards system and established New Zealand’s role and participation. The system consists of three major components described below.

The Australia New Zealand Food Regulation Ministerial Council (Ministerial Council)

The Ministerial Council is primarily responsible for the development of domestic food regulatory policy and the of policy guidelines for setting domestic food standards. It has the capacity to adopt, amend or reject standards recommended by Food Standards Australia New Zealand (FSANZ) and to request that these be reviewed.

Primarily comprised of Health Ministers from most Australian states and territories and the Australian Government, the Ministerial Council includes other Ministers from related portfolios such as Primary Industries and Consumer Affairs, where these have been nominated by their jurisdictions. Under the Food Regulation Agreement the Australian Minister of Health holds the position of chair. The State Minister for Health (Lead Minister) and the Minister for Agriculture, Food and Fisheries represent South Australia.

Food Regulation Standing Committee (FRSC)

The FRSC is responsible for coordinating policy advice to the Ministerial Council and ensuring a nationally consistent approach to the implementation and enforcement of food standards.

It also advises the Ministerial Council on the initiation, review and development of standing committee activities. Membership of FRSC reflects the membership of the Ministerial Council and comprises the heads of Departments for which the Ministerial Council members have portfolio responsibility. The President of the Australian Local Government Association and FSANZ participate as observers. The Director of Public Health represents the Department of Health at FRSC.

Food Regulation Standing Committee Working Groups

The department was represented on the following FRSC working groups:

- > Addition to food of substances other than vitamins and minerals.
- > Strategic planning working group.
- > Risk profiling working group.
- > Front of pack labelling working group.

Contributing to National Food Standards Development

FSANZ has established a number of advisory committees to provide advice regarding the development and review of standards. The department participated in the following FSANZ advisory committees in 2006-07.

- > Egg and egg products — Standards Development Committee

The department is represented on the national Standards Development Committee assisting FSANZ to develop a new standard for egg and egg products for inclusion in the Food Standards Code. An Initial Assessment Report on the proposed standard was circulated for public comment and the next stage of the process will see a draft assessment report circulated for further comment in the first half of 2007-08.

- > Health claims — Standard Development Advisory Committee

This committee was formed to assist with developing the new Standard for Nutrition, Health and Related claims. Currently, health claims on food labels are covered by a transitional Standard 1.1A.2 in the code, which prohibits statements linking consumption of a food with a therapeutic or prophylactic use. It also prohibits references to physiological conditions or diseases on a food label or advertisement. The department is closely involved with the development of this new standard, which should be recommended to the Ministerial Council in 2008.

- > Novel foods — Standard Development Advisory Committee

This committee was formed to assist in the review of Standard 1.5.1 Novel Foods. Novel foods are foods that are not traditionally consumed in Australia and New Zealand, and do not have a history of safe consumption in the context or at the levels in which they are presented for sale. Such foods may include traditional foods from other cultures, foods that are technologically altered or foods that have substances added for a specific purpose, such as phytosterol margarines to aid in lowering blood cholesterol levels.

The committee includes representatives from Australian and New Zealand governments, state and territory health agencies, nutritionist associations, consumer and fair trading organisations, and therapeutic goods, quarantine and industry bodies. The committee met twice in 2006–07. The proposal to amend Standard 1.5.1 Novel Foods is currently on hold to allow for consideration of exclusivity provisions, as recommended in the recent review of the FSANZ Act and its administrative processes.

> Fortification - Standard Development Advisory Committee

This committee was formed to assist in the development of standards for mandatory fortification of food. The committee includes representatives from Australian and New Zealand governments, state and territory health agencies, nutritionist associations, consumer and fair trading organisations, and therapeutic goods, quarantine and industry bodies.

Members have assisted FSANZ to develop standards to regulate the mandatory fortification of food with folic acid and the proposed mandatory fortification with iodine. The committee met twice in 2006–07 to discuss fortification generally, however work on each fortification issue also progressed independently.

> Food safety programs for food service to vulnerable populations — Standards Development Committee

This committee advised on the development of the standard to mandate food safety programs for businesses that provide food to vulnerable people in hospitals, aged care, childcare centres and via delivered meals organisations.

The group met on several occasions and liaised extensively with FSANZ to ensure that the proposed standard reflected the Ministerial Council policy guidelines, could be implemented by businesses and enforced by regulators. The Ministerial Council endorsed the Standard out of session in September 2006 and it was subsequently introduced into the Food Standards Code on 5 October 2006 with a two-year transition period. The advisory group was dissolved at this time.

> Food safety programs for caterers to the general public — Standards Development Committee

This committee is advising on the development of a standard to mandate food safety programs for businesses that cater for the general public. The development of this standard has been difficult due to complexities in defining to whom it will apply. A Draft Assessment Report is expected in mid-2007 with the aim of the new standard being introduced into the Food Standards Code during 2008.

Food-Borne Disease

Food-Borne Disease: OzFoodNet

- > OzFoodNet SA conducts enhanced surveillance of food-borne disease and provides expertise in the investigation of outbreaks of food-borne disease, particularly multi-state outbreaks. OzFoodNet also conducts special projects related to surveillance and control of food-borne disease. OzFoodNet epidemiologists are funded by specific targeted funds from the Commonwealth Department of Health and Ageing and contribute to national activities through a network of OzFoodNet epidemiologists across all state and territories.

Actions

- > Completed the Campylobacter study, a collaborative project (IMVS, SouthPath, PIRSA, OzFoodNet SA) examining the correlation between chicken and human Campylobacter isolates using molecular typing methods and antimicrobial testing.
- > Completed the national Shiga toxin producing *E. coli* case control study exploring risk behaviours and foods associated with sporadic (non-outbreak) cases of Shiga toxin producing *E. coli* infection.

Future Directions

- > Contribute to development, conduct and analysis of the second National Gastroenteritis Survey
- > Participate in the development of national norovirus guidelines and multi- jurisdictional outbreak investigation guidelines.

Food-Borne Disease Investigations

The department conducts epidemiological investigations into food-borne disease outbreaks in conjunction with Local Government Environmental Health Officers (EHOs). Primary Industry and Resources South Australia (PIRSA) staff may also assist with trace back investigations that seek to identify the sources of implicated food items or products. The Institute of Medical and Veterinary Science (IMVS) conducts microbiological testing of food and environmental samples.

The specific food vehicle or source of an outbreak can be difficult to identify, as often there is no remaining food to begin the investigation. Additionally, faecal samples from affected persons are not always provided for analysis, limiting the microbiological evidence.

Epidemiological and environmental information including reports of onsite visits to premises, food history questionnaires of cases and laboratory results of stool and food samples, are collated and used to provide an analytical picture of outbreaks. Epidemiological analysis may demonstrate a statistical association between illness and the consumption of a particular food item. Microbiological evidence can suggest an association when a very similar or identical micro-organism is found in the food vehicle, suspected on epidemiological grounds.

Table 1. Summary of food-borne disease outbreak investigations

No	Month of Outbreak	Organism	People at risk	Location	Number ill	Cases positive	Transmission mode	Evidence
1	October 2006	Campylobacter	Unknown	Aged care facility	4	4	Unidentified	D*
2	December 2006	Campylobacter	Unknown	Private Function	6	1	Chicken	S ⁺ & D
3	December 2006	<i>Salmonella</i> Typhimurium phage type 9	Unknown	Bakery associated	Unknown	15	Eggs	M [#] , D & S
4	January 2007	<i>Salmonella</i> Typhimurium phage type 9	Unknown	Special needs care facility	5	5	Unidentified - eggs suspected	D & S
5	January & March 2007	<i>Salmonella</i> Typhimurium phage type 29	Unknown	Community cluster	26	26	Eggs	M, D & S
6	March 2007	<i>Salmonella</i> Typhimurium phage type 9	Unknown	Restaurant	46	36	Unidentified	D & S
7	April 2007	Unknown	Unknown	Private function	Unknown	0	Sushi	D & S

*D (descriptive): other evidence, usually descriptive or local investigations indicating the suspect vehicle or mode of transmission.

S⁺ (statistical): a significant statistical association between consumption of the suspect vehicle(s) and a case.

#M (microbiological): identification of an organism of the same type from the cases and the suspect vehicle, vehicle ingredient(s), detection of toxin in faeces.

Seven outbreaks of gastrointestinal illness were investigated during 2006–07 where there was evidence for food as the mode of transmission of the infection; or a link to particular food premises (such as restaurants and bakeries), settings or functions was suspected. Two outbreaks respectively occurred in care facilities, restaurants and at private functions; and one was linked to a bakery. A further 16 clusters (cases linked by time and/or place and by a particular causative organism) of illnesses that are commonly, though not exclusively, food-borne were investigated, but the mode of transmission was not identified. A summary of these outbreaks, clusters and their settings is presented in Table 1.

Food-Borne Disease Case Study: An Outbreak Investigation — Bakery Associated Salmonella Typhimurium Phage Type 9

The department observed an increase in notifications of Salmonella Typhimurium phage type 9 during December 2006 with 15 cases notified. At interview, several of those affected reported eating products from a specific bakery — including one of its employees.

A case control study demonstrated an association between illness and consumption of products from the bakery. Environmental investigation at the bakery found that its food-handling practices were generally satisfactory.

Eggs in the bakery were tested and Salmonella Typhimurium phage type 9 was isolated. An environmental investigation of the farm supplying the eggs was also conducted and Salmonella Typhimurium phage type 9 was isolated there. Advice was provided to the farm about methods to reduce Salmonella contamination including the collecting, storing, cleaning and inspection of eggs.

Action to Prevent Further Outbreaks

This outbreak prompted the department and the Department of Primary Industries and Resources of South Australia (PIRSA) to conduct a major exercise to address the broader risks in the farming industry and in the egg-using sector of the food industry — bakers, restaurants and similar.

Working with the major egg industry association, a 10-point plan detailing best practice for safety was provided to all egg growers in South Australia. A Food Industry Bulletin highlighting the need to purchase eggs from a reliable supplier and how to safely handle them was mailed to all food businesses in the state. The department will survey food businesses and PIRSA will survey egg producers to ensure that the safety message has been acted upon by industry.

Health Equity

Health inequities are the differences in health status that are considered to be unnecessary, avoidable, unfair and unjust. The health system has an important role to play in reducing health inequities, and thus improving health equity.

Desired Outcomes

The department has continued its commitment to improving health equity by engaging in an ongoing planning process that ensures equity is a priority of the health system.

Actions

During 2006, a comprehensive literature review was conducted to identify evidence-based approaches to reducing health inequity and extensive consultation was held with external experts and senior government experts to develop specific equity actions for each of the South Australian Strategic Plan (SASP) health targets.

Results

In April 2007, the Health Portfolio Executive endorsed a series of equity actions for the health targets focusing on:

- > reducing smoking among youth
- > increasing the proportion of the population at healthy weight
- > increasing healthy life expectancy
- > improving psychological wellbeing
- > reducing low birth weight babies

Endorsing equity actions was a significant achievement and signifies that the department is committed to improving health equity.

Additional equity work included:

- > The launch of Towards a Fairer Society: Community Case Studies Volume 2.
- > Support for a health inequities network breakfast as part of the 17th National Health Promotion Conference.
- > Regular meetings of a high-level working group to monitor the implementation of the equity actions.

Future Directions

The aforementioned work has provided an opportunity for the South Australian health system to move forward in relation to improving health equity. This work will be strengthened in future years by:

- > Monitoring the implementation of SASP Equity Actions to improve health equity in South Australia.
- > Researching other opportunities to embed a health equity focus across the work of the health system.
- > Developing research partnerships that contribute to a more comprehensive understanding about health interventions to build health equity.
- > Providing support for professional development opportunities aimed at improving health equity in South Australia.

Health Impact Assessment

In 1999, the World Health Organisation (WHO) defined health impact assessment (HIA) as:

“A combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population.”

There is a strong connection between the environment (both natural and built) and health. In recognition of this the department engages with other government agencies, the private sector and non-government organisations to undertake assessments of development proposals in an effort to maximise the benefit and sustainability of these projects. These assessments are conducted using a “health lens” that endeavours to incorporate all the determinants of health.

EnHealth (2001) describes the determinants of health as being fixed (genes, gender, age); social and economic; lifestyle and behaviours; access to services and environmental. As all of the government’s activities impact on the determinants of health, HIA is a collaborative process to determine the potential impacts of any development proposal.

Desired Outcomes

The goals are to have effective and meaningful input into the various phases of the development system and for other proposals to achieve better development and maximise benefit.

Action

The department engaged with key stakeholders to consider the potential health outcomes of policies, developments and other proposals. These stakeholders included:

- Planning SA
- PIRSA Minerals
- Environment Protection Authority of South Australia
- Department for Transport Energy and Infrastructure
- local government
- the community
- the private sector
- National Heart Foundation
- other non-government organisations (NGOs)

Results

The following list provides an overview of the proposals received for the 2006–07 reporting period. Proposals received for HIA vary greatly in terms of their complexity and potential health impacts, making direct year-to-year comparisons difficult. Some projects also continue from previous reporting periods and as such were detailed in the 2005–06 report.

Results from the 2005–06 reporting period are provided (in parentheses) for interest to demonstrate changes in the type of development occurring in South Australia.

Input was provided on:

- > 1 (0) Regional Spatial Plan — Yorke Peninsula
- > 29 (23) Ministerial and Local Government Development Plan Amendments (DPAs)
- > 118 (192) informally referred development applications — including major developments such as the Bradken Foundry, Ceduna Quays, Narnu Waters, Southern Ocean Lodge, Northgate Development, Perilya Ore Stockpile
- > 1 (1) major project — Northern Expressway Extension
- > 1 (0) draft Town Spatial Plan
- > 2 (2) mining lease application — continuing assessment of the impacts of Terramin Australia’s Angas Project and the Olympic Dam expansion.

Future Directions

- > Formalised HIA is a key component of the Health in All Policies movement and is increasingly being incorporated in public health and development legislation across the world.
- > Empowering local government to undertake HIA as part of their development assessment processes is a key focus of future activity.

Emerging Issues

Transport is increasingly being identified as a major health impact (particularly for populations living near major transport routes), and HIA is being used in both planning and engineering measures to reduce these impacts.

The health impacts of climate change and adaptation requirements are future areas of significant work.

Health in All Policies (HiAP): The South Australian Experience

Professor Ilona Kickbusch, an internationally recognised expert in population health, began her first term as an Adelaide Thinker in Residence in February 2007; her second residency is planned for October–November 2007.

Two objectives of Professor Kickbusch's residency were to demonstrate the central role that health plays in the economies and the social life of 21st century societies, and to highlight the implications of this for the development of South Australia.

At the conclusion of her first residency Professor Kickbusch made a number of recommendations that she expected to be progressed before her second residency. Three of these recommendations directly work towards achieving the above objectives:

- > Convening a state-based, inter-sectoral HiAP conference, with a focus on government policy
- > Applying a health lens (health impact assessment) over selected SASP targets
- > Convening, in partnership with the Department of the Premier and Cabinet (DPC), a Premier's Summit on 21st century health.

The central goal of these recommendations is to encourage the adoption of an HiAP approach to ensure that health and wellbeing impacts of policies across all sectors of government are considered and in turn help to realise the goals of other sectors.

The department allocated resources to develop these recommendations in readiness for Prof Kickbusch's second residency.

Critical factors identified to progress HiAP:

- > Leadership and support from DPC throughout the development of the HiAP process. In particular the commitment from DPC to apply a Health Lens to 15 SASP targets.
- > High-level support from the department.
- > A joint DPC and Department of Health high-level steering group to oversee the development of HiAP.
- > Support and commitment from the Senior Management Council.
- > The establishment of a high-level, cross-departmental reference group to guide the planning process and engage key departments in the HiAP approach.
- > The allocation of dedicated resources from the department to coordinate the HiAP process and conference in partnership with DPC.

- > Commitment to the development of case studies for seven SASP targets based on health lens analysis to provide input from all sectors.
- > Clear opportunities for agencies' SASP targets to be progressed through their involvement in the HiAP process.

Future Directions

- > In preparation for the conference, workshops will be conducted on seven SASP targets as case studies to demonstrate the interconnections between the targets and HiAP.
- > Conduct a HiAP conference in November 2007 for senior cross-government decision-makers and other relevant stakeholders.
- > Identify ongoing mechanisms for continuing to progress HiAP.
- > The HiAP conference is an intermediate strategy to achieve longer-term outcomes for South Australia.

Health Promotion through the Arts

The department has a Memorandum of Understanding with Arts SA until June 2008 for the Health Promotion through the Arts (HPTTA) program. This Agreement outlines a commitment to improving the health and wellbeing of all South Australians through the arts.

Actions

Arts SA provides funding for HPTTA and the department works in partnership with funded organisations.

Funding was provided to 70 organisations during 2006–07 for activities that promote health initiatives and healthy lifestyles. Sponsorship is available under the categories of general sponsorships; community arts; and festivals.

Two key health campaigns were promoted through HPTTA, psychological wellbeing (focusing on young people) through the 'Positive minds attract' campaign and 'Healthy Lifestyles' through the '**be active — find 30**' and *Go for 2&5*® fruit and vegetable campaigns.

All organisations promoted the we're smoke-free campaign. In total, 37 organisations worked with the 'Positive minds attract' campaign, while 33 worked with campaigns under the 'Healthy Lifestyles' banner.

All organisations implemented health promotion plans to achieve structural, educational and promotional objectives. They received Health Information Kits to assist them implement the initiatives outlined in their health promotion plans.

Staff work closely with individual organisations, providing assistance in the development and implementation of policies to support:

- > structural change, including policy development such as nutrition and smoke-free policies
- > educational and promotional initiatives including distributing pamphlets, holding seminars and publishing newsletter inserts addressing young people's psychological wellbeing, increasing fruit and vegetable consumption and physical activity
- > promotional objectives, including displaying signage, publishing advertisements, providing promotional support.

Future Directions

Arts SA will lead a review of the HPTTA program during 2007–08. The department will participate in the review and the outcome will determine the future of the program.

Housing Improvement Regulations

Issue

Housing SA has embarked on the development of new Housing Improvement (Standards) Regulations (the Regulations) under the Housing Improvement Act 1940.

The regulations are intended to broaden the scope of matters, including a greater focus on health, considered during inspections to fix the rents of private rental properties. The department has participated in the development of the regulations and assessment tools as part of this process.

Desired Outcomes

A more holistic assessment of private rental properties that provides an impetus for improving the standard of rental housing stock in South Australia, making a positive contribution to the health of tenants.

Action

Officers of the department and Housing SA have met on a regular basis to discuss the proposed content of the regulations and enforcement tools, including housing assessment measures based on a risk assessment matrix. Departmental officers have provided advice from a health perspective on the aspects of housing that influence both physical and mental wellbeing.

Result

Draft regulations and housing assessment measures have been developed. The assessment measures, including a risk assessment matrix, are currently being tested.

Future Directions

Collaboration will continue to develop training sessions and materials for Housing SA staff on the health aspects of housing and integrating Department of Health, Housing SA and local government approaches once the Regulations come into effect.

Emerging Issues

The group has also considered a number of other issues that the collaboration may help address, including hoarding and clandestine drug laboratories.

Infection Control: Health Care Associated Infection

Issue

Health care associated infection is a significant cause of poor hospital outcomes for patients in hospitals worldwide, and is associated with an increased length of hospital stay and increased cost to the health care system.

Desired Outcome

To minimise health care associated infection in South Australian health care facilities through monitoring of infection rates and promotion of best practice in infection control.

Action and Results

A project has been undertaken to equip health care workers with the knowledge and skills to use appropriate personal protective equipment in the event of an influenza pandemic. More than 80% of health care workers in hospitals around the state have been fit tested for the appropriate respiratory mask, and have received training in respiratory protection.

> Methicillin resistant *Staphylococcus aureus* (MRSA)

Since 2001 South Australian hospitals have achieved a reduction in the rate of health care associated infection due to methicillin-resistant *Staphylococcus aureus* (MRSA or “golden staph”). The incidence of infections with this organism has been reduced from an annual rate of approximately 3.5 per 10 000 bed-days in 2002 to 1.8 per 10 000 bed-days in 2006 (see Figure 15).

This has been accomplished by analysis and regular feedback of routine surveillance data, increased education of health care workers and the introduction of alcohol-based hand hygiene products into clinical areas of the hospitals. Many of these interventions have been facilitated by the establishment in 2003 of an Infection Control Link Nurse program into the major public hospitals.

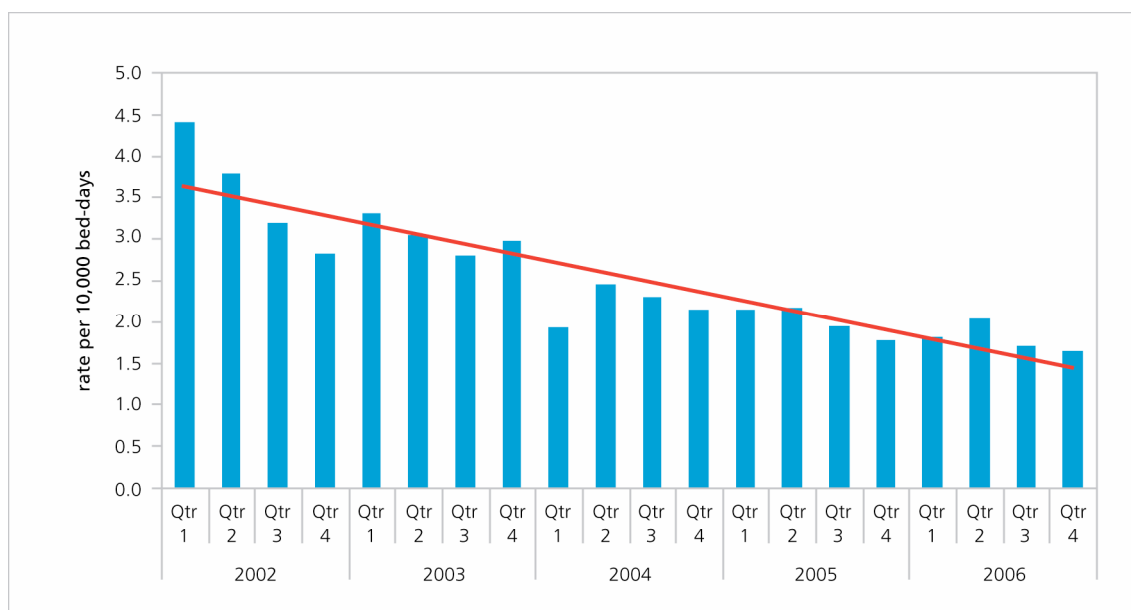


Figure 15. MRSA infection rate in 16 contributing metropolitan hospitals

Health Care Associated Bloodstream Infection

Since 2001, there has been a steady decline in the rate of health care associated bloodstream infection, particularly those associated with the use of intravenous lines, the rate of which has almost halved from 16 episodes per 10 000 bed-days at the beginning of 2002 to approximately 9 per 10 000 bed-days in 2006.

Staphylococcus aureus bloodstream infection is one of the most serious types of health care associated infection and is associated with a high mortality rate. Critically ill patients in intensive care are at particular risk.

The number of episodes of bloodstream infection that are caused by *Staphylococcus aureus* has declined over the past five years, and the proportion of these that are methicillin-resistant (MRSA) has declined from a peak of 36% in 2002 to about 25% in the past two years. This is shown in Figure 16 below. The reasons for this decline include improved management of central intravenous lines, including the introduction of antimicrobial impregnated central venous catheters, as well as greater awareness of the importance of infection control procedures, especially hand hygiene.

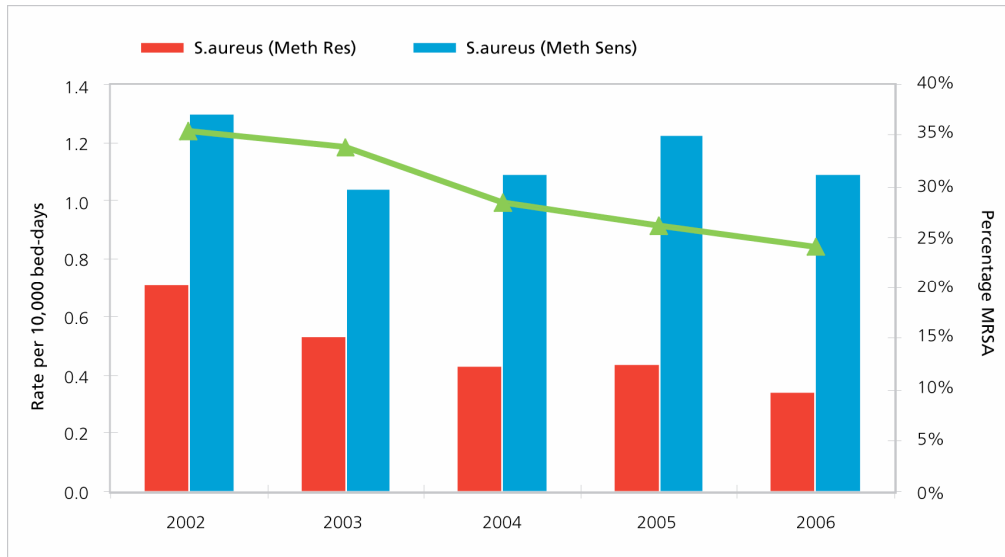


Figure 16. The rate of health care associated *S. aureus* bloodstream infection and the proportion that is methicillin-resistant (MRSA)

Future Directions

Despite the successes, much remains to be done in the field of infection control to improve outcomes for patients in the South Australian hospital system.

Compliance with established infection control procedures, especially the performance of hand hygiene, remains a challenge. The 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 for South Australia.

Consequently, the main focus in the coming year is on improving hand and respiratory hygiene compliance amongst all health care workers across all health care settings, as well as in the general community and schools. To facilitate this a hand and respiratory hygiene project is being undertaken this financial year, which aims to provide a resource kit containing key messages and educational tools. It is anticipated that this will lead to a more extensive campaign incorporating media advertising.

Assisting health care facilities with preparation and planning for the possibility of an influenza pandemic will continue as part of the normal occupational health and safety program of each facility.

The rollout of an integrated computer-based statewide infection control data management system should be completed by the end of 2007. This system will assist infection control professionals in each of the major public hospitals to quickly identify patients who are admitted with or acquire, infectious diseases that are likely to present problems with transmission in the hospital setting. This system is expected to save time on data management, freeing infection control professionals for more proactive infection control activities.

Injury

If cardiovascular disease, cancer and stroke are the scourge of the aged, injury (including poisoning and drowning) is the scourge of youth.

From ages 1- 44 years, injury is the leading cause of mortality in South Australia. This is particularly significant because the loss of a younger person, to death or significant disability, deprives the community of human capital that would otherwise on average, have been quite assured.

Other than its association with youth, injury is a phenomenon with many similarities to other health issues. South Australian males, for example, are more at risk than females (as with cancer); lifestyle and behaviour play a large role in determining risk (as with diabetes); environments are crucial risk modulators (as with communicable diseases); and there is a strong inverse association with socioeconomic status (as with mental illness).

Starting in 1986, case data has been captured in selected South Australian emergency departments, providing prevention specialists with a vital adjunct to previously available, but much less detailed hospital in-patient data.

Setting priorities in injury prevention is a matter of balancing three key parameters: frequency of event; severity of health effect; and opportunity for intervention.

Naturally, it is desirable to address hazards that commonly give rise to injury, but equally it is important to address the uncommon, even rare, events that may be associated with catastrophic consequences. Examples of the latter category involve cases of drowning and poisoning.

Fundamentally, some hazards are susceptible to intervention, perhaps at particularly opportune times, while others are simply not. For example, enforcing better design of play equipment can prevent many playground accidents. Nevertheless, some children will inevitably be hurt by running into each other if they are distracted during play.

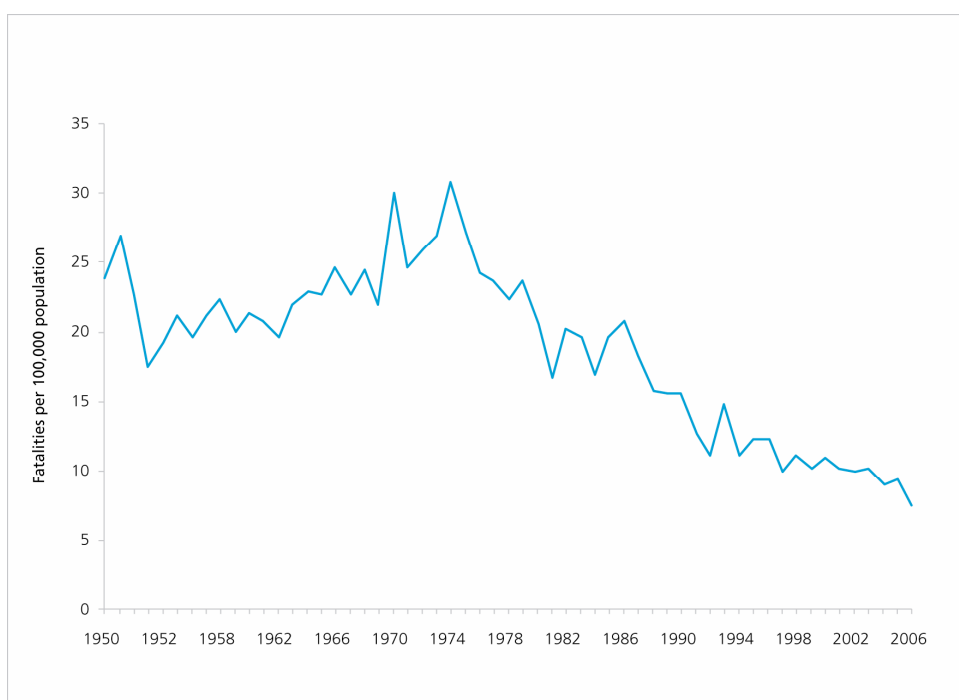


Figure 17. Fatalities per 100 000 population, South Australia, 1950-2006

However, acknowledging the inevitability of some occurrence of injury in the community is not the same as concluding that injury is a random event, unresponsive to measures of prevention. In fact, quite the opposite is true. Among all public health issues in Australia, injury control has been cited as a good example of long-term success. Figures 17 and 18 demonstrate the long-term declining rate of road accidents in South Australia, expressed in terms of death and serious injury.

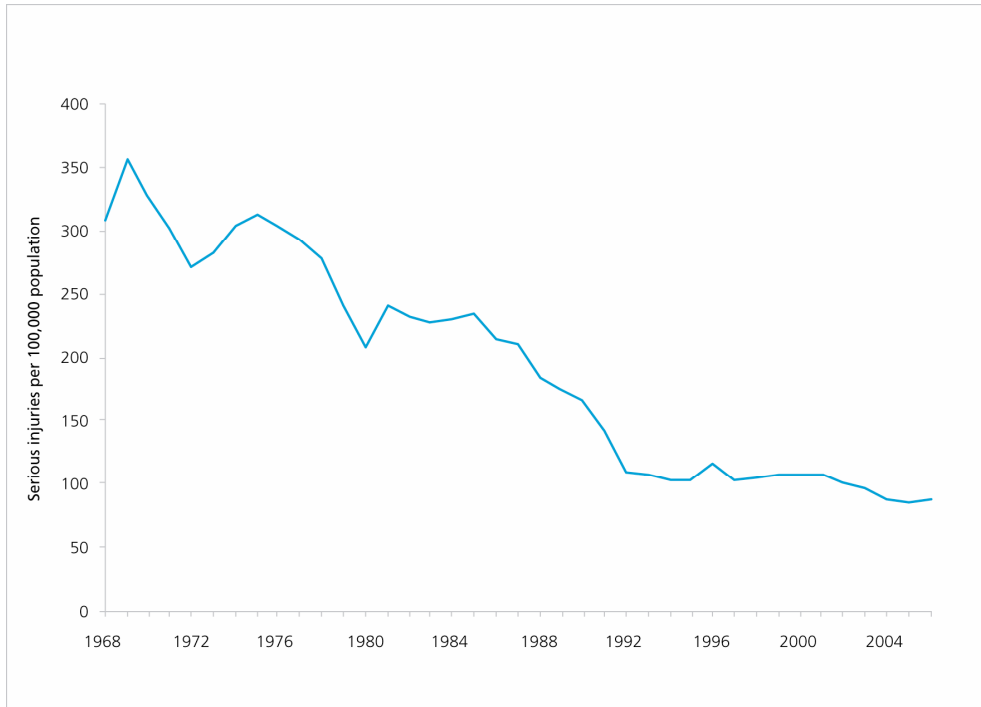


Figure 18. Serious injuries per 100 000 population, South Australia, 1968-2006

In general, young people experience injury in circumstances directly reflecting their developmental stage (for very young children) and their daily activities (for older children, youth and young adults).

As might be expected, children aged 1-4 years who are injured are proportionally more likely to be engaged in routine personal activities such as washing, dressing and sleeping, than those in other age groups.

Children aged 12-15 years who are injured are proportionally more likely to be engaged in sporting activity than those in other age groups.

Occupational injury is prominent among 16-29 year olds, while from age five years onward all of the age groups through to age 29 years have approximately equal representation in transport-related injury.

If injury were only a problem of youth, the demographic shift to older age in South Australia might help solve the problem. Unfortunately after youth, the age group that is second most susceptible to injury is the elderly.

Fall injuries in particular are a threat with nearly one in three people aged over 70 years reporting a fall each year. Fortunately, not every fall results in a hospitalisation, but as the population of elderly people increases, the number of them requiring health care after falls increases as well.

Mosquito Control

Issue

Mosquitoes are a nuisance, and some can be vectors of serious disease including Ross River virus, Barmah Forest virus and Murray Valley encephalitis.

Desired Outcome

The department is involved in a number of mosquito management strategies to reduce the incidence of mosquito-borne disease and mosquito-related nuisance.

Actions

> South Australian Integrated Mosquito Management Strategy

In 2007 the department released the South Australian Integrated Mosquito Management Strategy (SAIMMS) aimed at promoting and integrating mosquito management practices throughout SA to ensure that these programs are as effective, efficient and environmentally sensitive as possible.

The SAIMMS document, together with the companion document titled *Integrated Mosquito Management Resource Package 2006* are the result of the effort and input of representatives of 15 agencies that have a key interest in mosquito management.

The SAIMMS framework provides a means of encouraging ongoing communication and collaborative action between agencies. It also identifies a series of guiding principles and provides models to facilitate the balancing of often competing environmental, economic and public health considerations.

> Fight the Bite Campaign

Throughout the reporting period, the department actively promoted the *Fight the Bite* campaign encouraging personal and household protection against mosquitoes so as to prevent the spread of mosquito-borne arbovirus. *Fight the Bite* pamphlets and posters are distributed widely throughout SA. Additionally, the campaign is underpinned by the placement of advertisements in the Sunday Mail and other local print press.

> Mosquito control subsidy: Supporting local government

The department supported local mosquito control programs across South Australia by way of a subsidy to local councils to cover the costs of mosquito surveillance, identification and treatment.

Mosquito surveillance data supplied by local government is collated by the department and used to monitor mosquito problems on a statewide basis. Local government continues to play an integral role in supporting the *Fight the Bite* campaign by disseminating posters and pamphlets within their local council areas.

> Riverland Arbovirus Prevention Working Group

The Riverland Arbovirus Prevention Working Group is a group consisting of representatives from Riverland Local Government, the community and the department. The group takes a proactive approach to arbovirus prevention by planning, developing and implementing strategies to prevent mosquito-borne disease in the Riverland. Key initiatives of the group include the development of:

- > locally targeted radio community service announcements
- > education packages for children in preschool and kindergarten

- > community education programs for culturally and linguistically diverse communities.

Results

- > RR (Ross River) Forecaster

In 2006, the department contracted the Mosquito Research Laboratory within the Sansom Institute of the University of South Australia to develop a predictive model for mosquito nuisance and mosquito-borne disease in South Australia.

In early 2007, RR (Ross River) Forecaster 1.1 was launched. Using data from historical Ross River virus notifications, local meteorological observations and seasonal mosquito community sampling, the RR Forecaster is a tool for the prediction of Ross River virus notification rates and mosquito nuisance in specific regions in South Australia.

The RR Forecaster is primarily intended to inform the Department's statewide health promotion and mosquito surveillance and control strategies. Work on refining and expanding the RR Forecaster will continue during 2007–08.

Future Directions

The department is currently reviewing the Torrens Island and Environs Mosquito Control Program. Implemented in the 1960s, the program is intended to combat nuisance mosquito biting problems that arose due to environmental modification that occurred during the construction of the Torrens Island Power Station. The review will identify a best practice approach to controlling nuisance mosquito problems in this environmentally sensitive area.

Multiple Chemical Sensitivity

Issue

Surveys suggest that approximately 1% of the South Australian population has multiple chemical sensitivity (MCS) and experiences serious and sometimes debilitating reactions to what they perceive to be low levels of exposure to a wide range of chemicals.

Issues around MCS remain controversial due to the absence of clinical diagnosis and management guidelines for MCS; the absence of consensus on aetiology and mechanism of disease; and the similarity of some MCS symptoms to those of infections, stress and certain psychological disorders. Notwithstanding, MCS sufferers need consideration for their living and working environments, and for their interactions with the wider community and health services.

Actions

The 2005 Social Development Committee Inquiry into MCS made a number of recommendations, two of which were actioned by the department in 2006–07.

The first was the establishment of a MCS Reference Group with a brief to maintain ongoing communication and provide up-to-date information on developments in the multiple chemical sensitivity debate. The department provides the chair and secretariat function and representatives include the key players in the field. The current key task of the group is an evaluation of local government use of herbicides and the establishment of no-spray registers.

The second recommendation actioned by the department in 2006–07 has been the development of a protocol for hospital accommodation for MCS patients. The Scientific Services Branch and Statewide Service Strategy Division are collaborating on this work.

Future Directions

In 2007–08 the MCS Reference Group will work on providing guidance for the establishment and implementation of no-spray registers, which will be complemented by guidance on best practice for weed management in municipal areas, along with the continuation of robust dialogue between stakeholders leading to greater understanding and awareness about MCS.

The department is also preparing guidelines for hospitals for the management of MCS sufferers.

Nutrition

Desired Outcome

The goal is for all South Australians consume a diet consistent with the National Health and Medical Research Council's dietary guidelines. Priorities are set out in *Eat Well: South Australia's Public Health Nutrition Action Plan 2006–2008* and many of these are the nutrition priorities of the *Eat Well Be Active Healthy Weight Strategy for SA 2006–2010*.

Actions

New initiatives in 2006–07 to improve nutrition include:

- > in collaboration with the DECS, development of the Right Bite food supply strategy to ensure that from 2008 healthy food and drinks are available in government schools and preschools
- > initial work on developing a healthy foods and drinks policy for health facilities
- > collaborating with the DTEI to develop freight action plans for remote Aboriginal communities
- > analysis of Department of Health nutrition data
- > funding to increase South Australia's sample from 480 to 880 in the national children's nutrition and physical activity survey *Kids Eat Kids Play* (results are expected in early 2008).

Ongoing initiatives include:

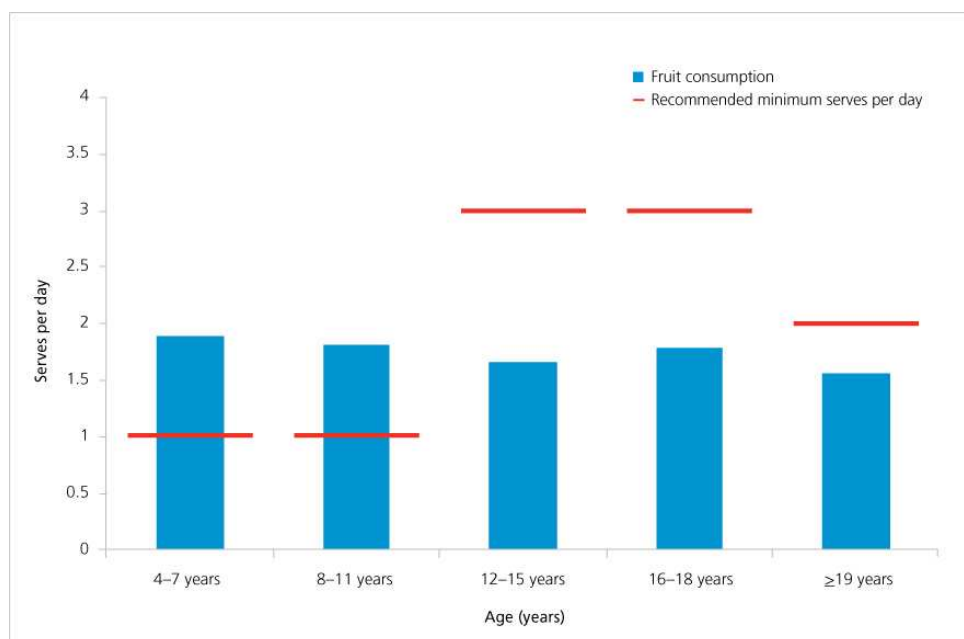
- > The *Start Right Eat Right* childcare centre accreditation program.
At June 2007, 150 or 64% of eligible centres have received training (65 trained in 2006–07), while 106 or 45% are accredited as providing healthy and safe food.
- > The Community Foodies program. Engaging with disadvantaged people, the program operates in eight sites and currently involves 52 trained volunteers called 'Foodies', working with health and other services to conduct nutrition activities. Evaluation data shows that in the period 2004–07, 52% of 'Foodies' had incomes of less than \$25 000 and 45% had completed year 11 high school or less.
- > Nutrition expertise is contributed to national food policy and standards development.
- > Building the capacity of the specialist public health nutrition and other workforces in South Australia — includes training for children's services and health sector staff including Aboriginal health workers.
- > Supporting the *Go for 2&5*[®] campaign which with the SA Fruit and Vegetable Coalition, promotes fruit and vegetable consumption across the state.
- > Improving initiation, duration and intensity of breastfeeding.
- > Involvement with other jurisdictions, in several initiatives to improve the health of Aboriginal people and their families, including the development of tools to support the provision of healthy food in stores and takeaway outlets in remote Indigenous communities, and ensuring the inclusion of nutrition units in the new training package for Aboriginal health workers.

Research

Flinders University was funded through the department's Strategic Health Research Program to explore the relationship between food supply, food access, the nutritional quality of food consumed and overweight, plus the implications of this in preventing overweight.

Data and Trends

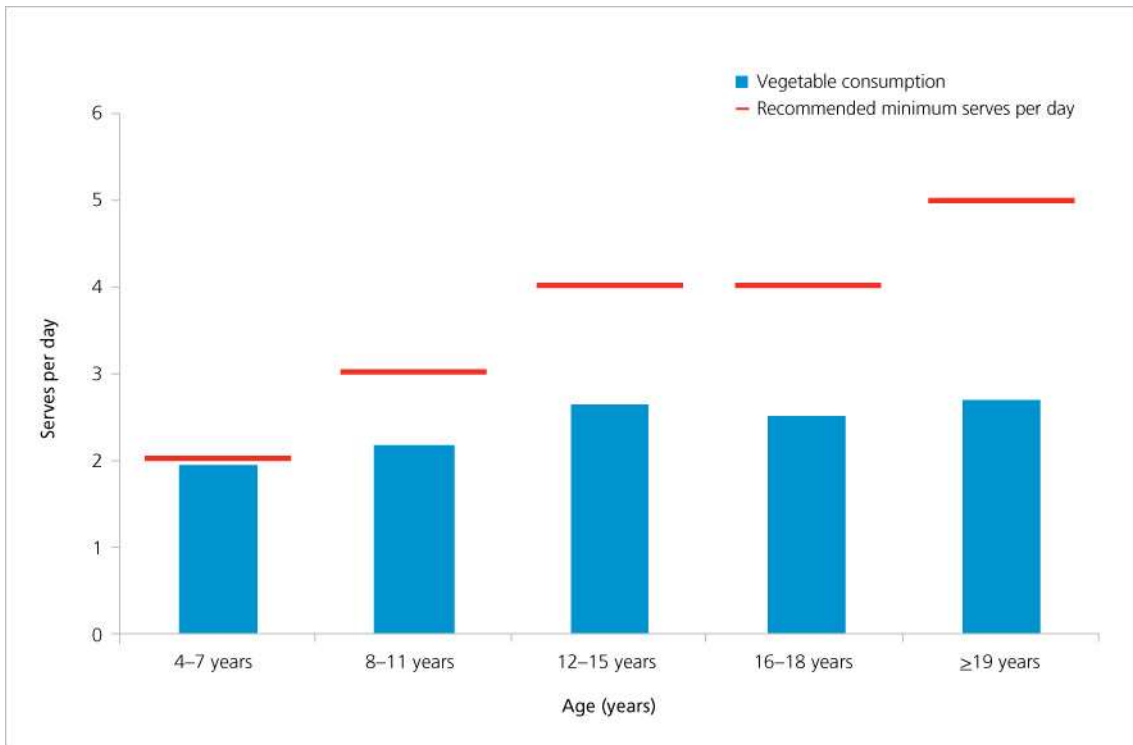
The South Australian Monitoring and Surveillance System collects self-reported data to monitor consumption of fruit and vegetables and several other nutrition indicators including consumption of takeaway foods and water, and breastfeeding.



Data source: South Australian Monitoring and Surveillance System

Figure 19. Self reported vegetable consumption, average serves per day, by age, 2006

Fruit and vegetables are particularly important, as their intake is associated with the prevention of serious diseases including cardiovascular disease and some cancers, plus overweight and obesity. Figures 19 and 20 show that for most age groups self-reported fruit and especially, vegetable intakes in 2006 are below the recommended minimum levels. Only 10.4% of adults aged 19 years and over reported eating 5 or more serves of vegetables each day while 41.1% reported eating two or more serves of fruit each day. Figure 21 shows vegetable consumption from 2002 and suggests that consumption rose after the national *Go for 2&5*[®] social marketing campaign from April–June 2005 and has been buoyed by ongoing promotion including a burst of television advertising from April–June 2006.



Data source: South Australian Monitoring and Surveillance System

Figure 20. Self-reported vegetable consumption of SA adults 2002–06

In July 2006, the Department’s Health Monitor collected information about fast food intakes to inform the Social Development Committee 2006 inquiry into fast food and obesity. One in five children 12 years and younger eats snack foods like potato crisps, chocolate, lollies and muesli bars, five or more times each week and one in three children has sugary drinks such as soft drinks, five or more times a week.

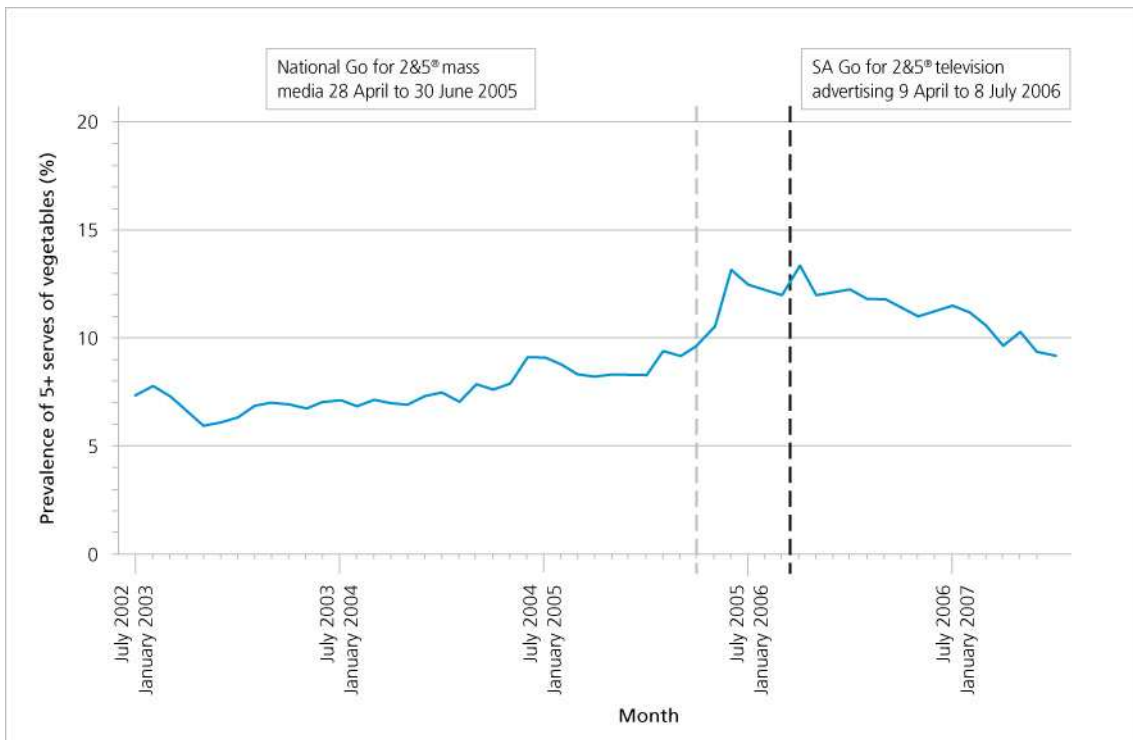


Figure 21. Self-reported vegetable consumption of SA adults 2002–06

Future Directions

There will be an ongoing focus on policy development to improve the availability of healthy food and drinks at community and organisational levels; supporting coordinated action at community level to implement effective programs; program evaluation, data collection, analysis and reporting; and on building workforce capacity to address nutrition issues at individual, family, community and population levels.

Odour

In early 2006 the department was involved in investigating a significant odour complaint from residents in the north-western area of Adelaide.

The odour was identified as emanating from a local factory. The department in collaboration with Flinders University, conducted an odour survey to establish how widespread the odour experience was in the community, the extent of community discontent and facilitated a swift response to the problem by the factory.

An odour perception questionnaire was distributed randomly using a survey area surrounding the factory in two concentric circles marking a radius of 500 m and 1000 m. For location and property identification, a council-based geographic information system (GIS) was used. To identify possible impacts of prevailing wind directions the survey area was further divided into 4 quadrants providing north-eastern, south-eastern, north-western and south-western sectors. Statistical analysis took into account the size of each sector and the number of participants.

From the 1818 postal survey forms distributed, 364 responses (20%) were received. Of these, 177 or 48.6% had experienced annoying odour in the preceding 6 months. The respondents who had experienced odour were more likely to live in the inner circle surrounding the factory (55.5%) than in the outer circle (40.1%).

Overall, 72% of the residents indicated industry (the factory) as the origin of the odour, followed by 3% claiming traffic-related odour. The highest prevalence of odour perception was in the north-eastern and south-eastern sectors concurring with prevailing winds coming from the southern directions in metropolitan Adelaide.

Chemical and metallic odour represented 53% of the responses describing the characteristics of odour (Figure 22), and those who had selected industry as the odour source were more likely to be considerably or extremely (38%) impacted by the odour compared to those who had chosen other odour sources (29%). Only 30.5% of those who had experienced annoying odour had lodged a complaint, primarily with the EPA and the local council.

The survey results, which were presented at a community meeting, indicated a wider distribution of concern about the odour than the complaint's history would indicate. It prompted intense investigations by the industry that is ongoing and will hopefully lead to a significant odour reduction.

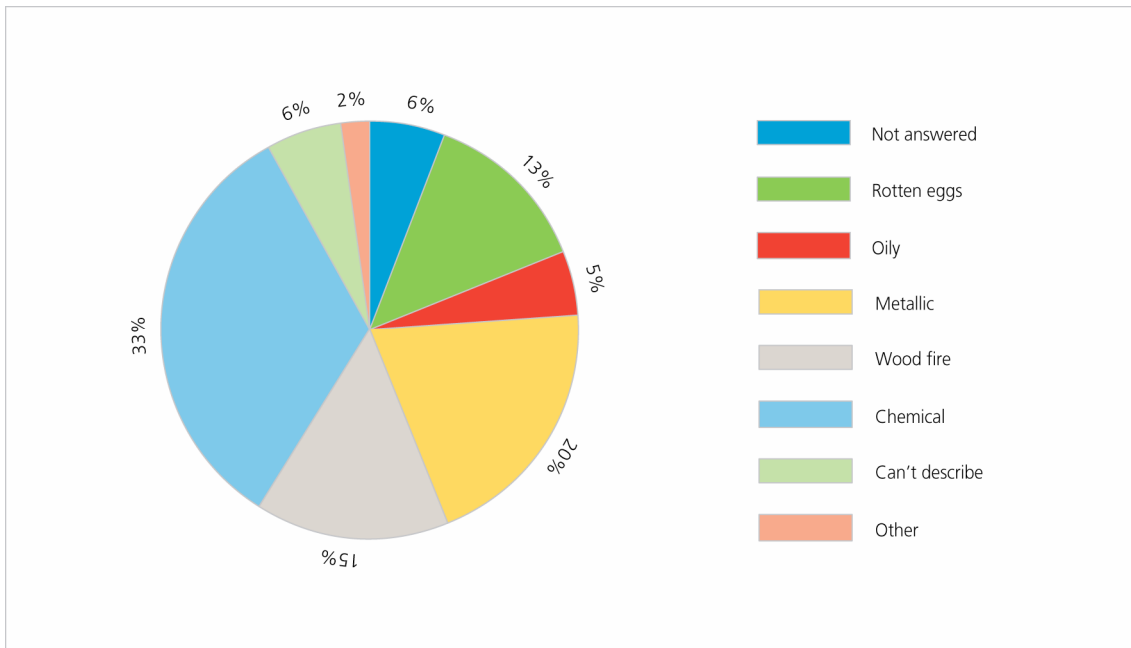


Figure 22. Frequency (%) of odour categories

Overweight and Obesity

Reducing overweight and obesity is a target of South Australia's Strategic Plan. Target T2.2 of the plan is to increase by 10% the proportion of South Australians aged 18 years and over with healthy weight by 2014. The department is the lead agency for this target.

Table 2. Self reported prevalence of healthy weight according to BMI by gender, ages 18+, July 2006 to June 2007

	Proportion in health weight category, SAMSS		Approximate number in SA population in the healthy weight category (2006 Census)
	n	% (95% CI)	
Male	871	34.5 (32.7-36.7)	196 700
Female	12 21	48.0 (46.0-49.9)	289 200
Overall	2 093	41.3 (39.9-42.6)	484 000

Source: South Australian Monitoring and Surveillance System (SAMSS)

Note: The weighting of the data can result in rounding discrepancies or totals not adding.

Issues

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. High rates of childhood obesity (approximately 20% of 4 year old children in South Australia are overweight or obese) are likely to track into adulthood. Relative body-weight tracks from childhood to adulthood and the predictive power of this association increases with age. Once a child or adolescent is on an overweight or obese percentile, spontaneous track-down is unlikely.

Disadvantage correlates strongly with poorer health outcomes and higher rates of overweight, obesity and illness. Evidence points to interactions between individual, social and environmental factors that must be addressed through a suite of strategies to have an impact. There is good evidence that even small changes in behaviour amongst large numbers of people will reduce the long-term risk of chronic disease.

Desired Outcomes

- > Increase rates of breastfeeding initiation with exclusive or full breastfeeding at 3 months and 6 months of age, and breastfeeding at 12 months of age.
- > Ensure younger children maintain a healthy weight throughout childhood.
- > Prevent young people 11-18 years from moving into the adult category with unhealthy weight.
- > Prevent men and women from gaining weight and moving into the category of overweight, or from overweight into the obese category, by encouraging and supporting healthy eating and physical activity.
- > Sustain effective interventions across the population. This requires exposure of a large proportion of the population to a range of intervention to achieve population change.

Action

South Australia is implementing a set of policy, program and infrastructure prevention strategies, which are outlined in the Eat Well Be Active Healthy Weight Strategy for South Australia 2006–10, and are similar to those being progressed throughout the world. This requires:

- > an across government approach
- > comprehensive, multi-faceted community-wide nutrition, physical activity and healthy weight initiatives with strong community input.

Highlights of actions targeting children and their families as a priority include the:

- > development of healthy weight action plans in each health region
- > Department of Health funding of the DECS early childhood nutrition and physical activity initiative
- > Right Bite school canteens initiative which will mandate the availability of healthy food in school canteens across state school populations.

Result

Data from 2003–06 suggests a decline in the percentage of adults in the healthy weight range has levelled off. However it is too early to be confident this is a trend. Rates of obesity are rising with the rate in the overweight category relatively steady.

Future Directions

The Eat Well Be Active Healthy Weight Strategy for South Australia 2006–10 provides the strategic framework for partnership and action. The department is leading the implementation, with advice from the health regions, an across-government taskforce, the non-government sector and other key stakeholders.

Additional funding of healthy weight effort will enable consolidation and expansion of activity across four domains:

- > Improving knowledge of and attitudes to breastfeeding, healthy diet, being active and having a healthy weight.
- > Helping people to establish and maintain improved nutrition and physical activity through accessible, evidence-based programs.
- > Developing policy, regulatory and partnership environments that support breastfeeding, healthier eating and increased levels of physical activity. Key settings include early childhood; schooling; health and food supply services; neighbourhoods; and workplaces.
- > Strengthening the capacity of health and other service providers for best practice service provision through research, evaluation and workforce development.

Other activities will extend or introduce significant statewide campaigns, programs and policy including:

- > Expansion of the *Go for 2&5*[®] fruit and vegetable campaign with a focus on parents of children up to age 12 years.
- > Establishment of a nutrition and physical activity initiative targeting children and families across South Australia — based on the French “EPODE” (Together we can fight childhood obesity) program.
- > Providing South Australian schools with evidence-based healthy eating and physical activity programs accessed through a panel of providers.
- > Rollout of an endorsed policy on healthy food in health services across the state.

Physical Activity

Issue

Regular physical activity is an important factor in preventing a range of lifestyle-related diseases, reducing the likelihood of developing risk factors for disease and effectively managing chronic diseases.

The National Physical Activity Guidelines recommend that adults undertake at least 30 minutes of moderate-intensity physical activity on most, preferably all days of the week. Guidelines for children aged 5 to 18 years recommend at least 60 minutes and up to several hours, of moderate to vigorous activity every day and limiting screen-based activities for entertainment, eg TV and computer games, to less than two hours per day.

In South Australia just over half of adults are undertaking sufficient levels of physical activity to gain health benefits. Sufficient physical activity can be defined in two ways:

- > Definition 1 — Achieving a minimum of 150 minutes of moderate or vigorous activity in a week. Vigorous activity is weighted by a factor of two to account for the greater intensity required.
- > Definition 2 — same as above, however the 150 minutes of activity must be accumulated over at least five sessions in a week.

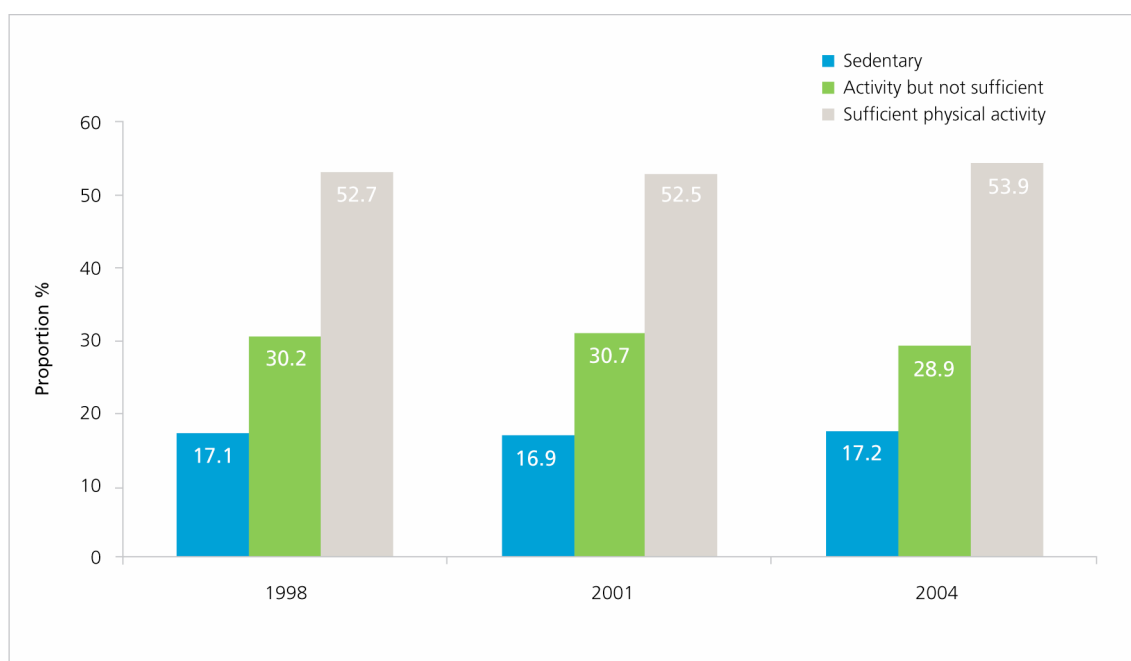
The 2004 South Australian Physical Activity Survey reported that 53.9% of adults aged 18 years and over were sufficiently active (using definition 1); 28.9% were insufficiently active and the remainder inactive or sedentary. The 2007 South Australian Physical Activity Survey is being conducted and will give up-to-date data on the current activity patterns of the state’s adults. This will include the Global Physical Activity Questionnaire (GPAQ) as well as the International Physical Activity Questionnaire (IPAQ).

Some other items included in the 2007 survey will measure parental involvement in their children’s physical activity; active transport patterns; workplace physical activity behaviours; sedentary behaviours; attitudes to physical activity and sleep behaviours. A number of short reports will be produced (as in 2004) for dissemination in 2008.

The 2007 survey will be the fourth survey with previous ones conducted in 2004, 2001 and 1998. Activity patterns have remained fairly stable to date as indicated in Figure 23.

South Australian Monitoring and Surveillance System data is also available and reports a similar level of sufficient physical activity as the Physical Activity Survey.

Collection of data for *Kids Eat Kids Play*, the national physical activity and nutrition survey of children, was conducted in 2007 with results available early 2008. The survey will give a comprehensive and clearer picture of physical activity levels of children aged 5-16 years.



Source: SA Physical Activity Survey of Adults 1998; 2001 and 2004. Population Research & Outcome Studies Unit, Department of Health (SA)

Figure 23. Physical activity levels of South Australian adults in 1998, 2001 and 2004

Desired Outcomes

The aim of all current and future physical activity programs is to increase physical activity levels across the South Australian population. A number of specific outcomes for programs being implemented include:

- > increasing the awareness within the South Australian workforce and key industry groups of the need to promote physical activity among employees and provide supportive environments for physical activity
- > increasing early childhood workers’ knowledge and understanding of the importance of physical activity and ways to support children and parents to participate in physical activity
- > developing a case study of the Northgate development documenting how it aligns with active living principles set out in Healthy by Design, the Heart Foundation’s planners guide to environments for active living

- > increasing parents and carers knowledge and understanding of the role they may play in supporting their children to participate in active play and develop fundamental movement skills.

Actions

Physical activity is an integral factor for weight management and the prevention of overweight and obesity. For these reasons, strategies to increase physical activity are reflected in the Eat Well Be Active Healthy Weight Strategy 2006–10 and the range of healthy weight initiatives being implemented statewide.

The department continues to work closely with the seven sectors represented on the Ministerial Physical Activity Forum. The Minister for Health is a member of the Forum comprising seven Ministers from the portfolios of Health; Recreation and Sport; Transport; Education; Planning; Families and Communities; Local Government and Tourism. The Health Promotion Branch represents the department on the Physical Activity Council and the State Government Officers Panel (an advisory panel to the Council).

The department is contributing to the **be active** Workplace Physical Activity Program which aims to engage key agencies to have a longer term impact on South Australian employers in 2007–08. These agencies include SafeWork SA, WorkCover, Business SA, Self Insurers Association of SA and Employers Mutual among others. The program will also include information on healthy eating within the workplace setting.

The Active Living Coalition was established earlier this year and aims to provide a collaborative forum for the planning and coordination of active living in South Australia. The Coalition consists of key government departments and other agencies whose core business includes achieving targets relating to improving the health and wellbeing of South Australians.

Members of the SA Active Living Coalition to date include the department, Office for Recreation and Sport, DTEI Office for Cycling and Walking and TravelSmart, National Heart Foundation, Planning Institute of Australia (SA Div), Cancer Council of South Australia and most recently the Land Management Corporation.

The role of the Coalition includes the provision of advice and strategic direction in relation to active living. 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.
- > Working with the property development industry to integrate active living principles into new residential developments and urban regeneration projects in South Australia.

The department will be co-funding *Playtime*, a train the trainer model that teaches parents and carers how to use everyday items to encourage active play by young children and foster the development of fundamental movement skills.

Future Directions

The department will be investigating opportunities to increase active transport through options such as the Walking School Bus (WSB). Discussions will commence with TravelSmart and DTEI to progress the development of a broader WSB model to serve the wider community.

In March 2008 new National Physical Activity Guidelines for children under 5 years will be released. These guidelines will be integrated into existing and planned initiatives in early childhood settings.

Port Pirie Lead Implementation Program

Issues

Children in Port Pirie are exposed to high levels of lead as a result of emissions from the Zinifex smelter.¹ Reduction in emissions of lead from the smelter is paramount in reducing the exposure of children. Currently 53% of children under the age of 5 years have a blood lead level above ten micrograms per decilitre (10 µg/dL).

The aim of the Port Pirie Lead Implementation Program is to assist the local community in achieving an acceptable balance between safeguarding health and the ongoing viability of the world's largest lead smelter and subsequently, the sustainability of the City of Port Pirie.

The Port Pirie Lead Implementation Program consists primarily of the Port Pirie Environmental Health Service, which is based in Port Pirie (Country Health SA) and is responsible for the delivery of program strategies, and the Port Pirie Lead Investigation Group (based in Adelaide), which conducts research to develop and evaluate program strategies to support the community-based activities of the Environmental Health Service.

Desired Outcome

In 2006 Zinifex launched the *tenby10* project in partnership with the department, Port Pirie Regional Council and the Environment Protection Authority.

The Environmental Health Service and the Lead Investigation Group aim to support the *tenby10* project 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.

Actions

Through strong partnerships and collaboration the *tenby10* project stakeholders have developed a joint initiative to address the impact of exposure to lead on children by implementing strategies to specifically and aggressively reduce fugitive smelter emissions and lead exposure in the community.

The Environmental Health Service contribution to *tenby10* is based on its Strategic Plan completed in January 2007. The plan contains goals, objectives and strategies to maximise the service's impact on achieving a better health outcome for Port Pirie children.

The theme *Every Child Matters* adopted in the Strategic Plan forms the basis for prioritising, actioning and evaluating. In addition, the General Manager of the service has been appointed to coordinate a 'whole-of-government' case management team to coordinate the actions of government agencies addressing the incidence of lead ingestion in Port Pirie children including: health, housing, community services, infrastructure and economic development.

The Environmental Health Service has been investigating ways in which children's blood lead levels can be evaluated on a more frequent basis in order to monitor progress of the strategies throughout the year. As indicated in Figure 24, there has been a gradual improvement in lead levels with a greater proportion of children having levels below 10 µg/dL. It is estimated that at the end of June 2007, approximately 390 children were equal to or above 10 µg/dL. However, based on ABS population estimates that figure will need to be reduced to around 40 children by the end of 2010 in order to achieve the *tenby10* goal.

¹ On the 1 September 2007 the Belgian company - Umicore merged with Zinifex and the Zinifex smelter is now called the Nyrstar smelter

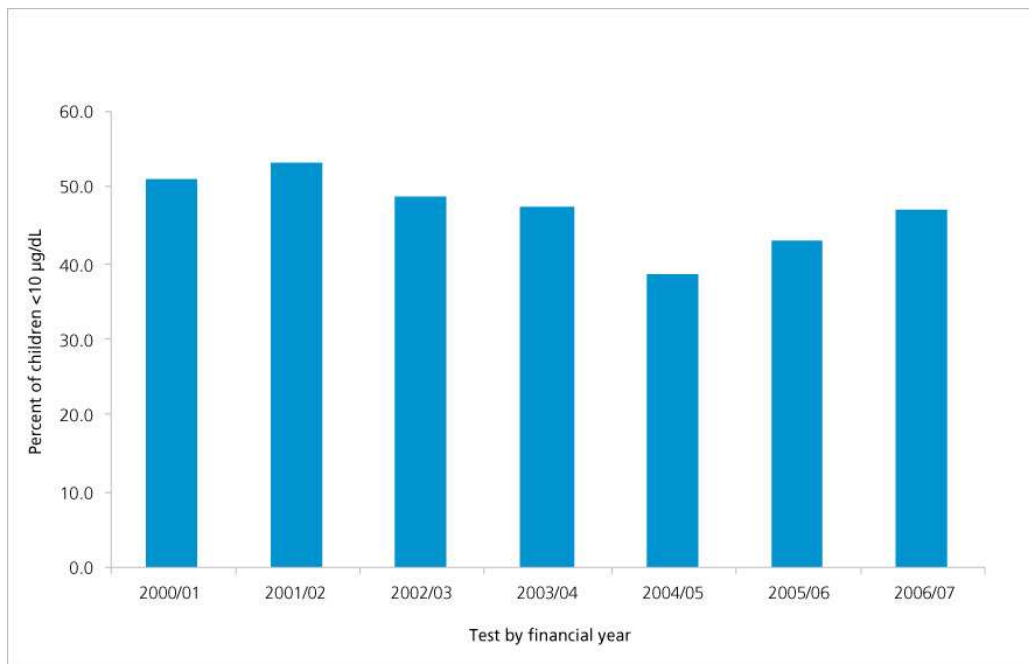


Figure 24. Percentage of children aged 0-4 yrs with blood lead levels <10 µg/dL by year of test.

The Port Pirie Lead Investigation Group has provided scientific direction and advice to the *tenby10* Working Party and the Environmental Health Service, to assist with developing, prioritising and evaluating evidence-based strategies designed to reduce child blood lead levels. The Investigation Group analyses blood lead level data for the Environmental Health Service to evaluate the performance of their community blood-screening program and the progress of strategies.

Following a successful pilot study, the Investigation Group gained ethics approval to install five ventilation systems in homes in Port Pirie in order to test their performance at reducing in-house lead in air levels by minimising the entry of lead-containing dust into the home and removing dust from the air within the house. This project has not yet proceeded, as the highest priority and resourcing was given to the completion of emission minimisation activities such as the Blast Furnace enclosure and Slag Fumer Coal Injection projects at the smelter site. It was determined that smelter improvements were likely to have the greatest impact on achieving the goal of the *tenby10* project and reducing lead exposure across the entire community.

The Investigation Group completed a pilot study to validate the methodology for the first phase of a new research project in to the risk of children exceeding tolerable daily intakes of metals other than lead in Port Pirie, including arsenic, cadmium and antimony. This project involves sampling outdoor surfaces (phase 1) and indoor surfaces of the homes of children who have the highest blood lead levels and therefore the greatest risk of exposure to heavy metals (phase 2).

Future Directions

The Port Pirie Environmental Health Service plans the following activities for 2007–08:

- > Determination of a robust internal method of reporting children's blood lead levels to enable ongoing evaluation of program strategies.
- > Implementation of the Every Child Matters Strategic and Business Plans for the Environmental Health Service.
- > The completion of a government action plan to guide agency action in achieving the *tenby10* goal.

- > Investigate and support the initiation of a Safe Cities proposal for Port Pirie in conjunction with the *tenby10* executive and Port Pirie Regional Council.

The Port Pirie Lead Investigation Program plans the following activities for 2007–08:

- > Provide continuing scientific evaluation of strategies for the Environmental Health Service and the *tenby10* project to ensure any necessary modifications are made as smelter emissions reduce in line with predictions.
- > Identification of micro-trends in blood lead levels within residential areas to assist with targeting public health strategies to districts and families in need of the most help.
- > Exploration of the potential risks and benefits of decontaminating homes.
- > Exploration of the impact of drought and changing climate and weather patterns, on blood lead levels in Port Pirie.
- > Investigation of the exposure of children to heavy metals other than lead including arsenic, antimony and cadmium.

Pregnancy Outcomes

The Department of Health Pregnancy Outcome Unit in the Epidemiology Branch monitors pregnancy characteristics and outcomes in South Australia through its data collections on births, abortions and reviews of maternal, perinatal and infant deaths undertaken by the Maternal, Perinatal and Infant Mortality Committee.

In November 2007 three annual reports were released:

- > The Fourth Annual Report of the South Australian Abortion Reporting Committee — for the year 2006 (after tabling in Parliament)
- > Pregnancy Outcome in South Australia 2006
- > Maternal, Perinatal and Infant Mortality in South Australia 2006.

The latter two reports are available at: www.health.sa.gov.au/pehs/pregnancyoutcome.htm

In addition, individual reports are provided annually to hospitals with obstetric beds in the state that have at least 100 births a year. Group reports are provided for smaller hospitals.

The Pregnancy Outcomes Unit is also affiliated with the South Australian Birth Defects Register at the Women's and Children's Hospital, which monitors the prevalence of birth defects and cerebral palsy in South Australia. The Register's Annual Reports are available on its website at: www.wch.sa.gov.au/services/az/divisions/labs/geneticmed/

Since the unit began collecting perinatal data in 1981, there has been a marked increase in the proportion of women giving birth at older ages. The proportion of women aged 35 years and over has increased from 5% to 20% while the proportion of women who are in their teenage years decreased from 8% to 5%. The mean age for women giving birth has increased from 26.55 years in 1981 to 30.01 years in 2006.

During this same period, the perinatal death rate has fallen substantially. This rate has two components: the stillbirth rate and the neonatal death rate for live born babies. The stillbirth rate has fallen mainly for babies of birthweight 1000 g and above. The neonatal death rate has fallen by 61% from 5.1 to 2.0 per thousand live births, the lowest level ever recorded in South Australia. Since 1986, the infant mortality rate has fallen by 54% from 7.6 to 3.5 per thousand live births, also the lowest level ever recorded.

The proportion of women smoking during pregnancy has fallen steadily from 25% in 1998 to 18% in 2006. Aboriginal Australian women have very high smoking rates and outcomes of births to these women have always been much worse than those of births to mothers in the wider community. In 2006, for the first time, a fall was seen in the proportion of Indigenous women smoking during pregnancy (from 61% the previous year to 54%) as well as a drop in the preterm, small-for-gestational-age and low birthweight proportions of babies with Indigenous mothers. These rates remain about twice those of other South Australian mothers and continuing efforts to improve outcomes need to be reinforced.

Actions

In 2006–07 an agreement was reached to extend the funding for the *Healthy Ways* Program, which focused on the child and maternal health of Aboriginal Australians in remote communities, for a further five years. The new program, the *Remote Aboriginal Tobacco Control Project* has a specific focus on pregnant women and is currently recruiting staff.

Stage 3 of the *Smoke Free Pregnancy Project* continued in 2006–07 focusing on tobacco control among pregnant women, including Aboriginal Australian women.

A holistic birthing program, the *Regional Family (Anangu Bibi) Birthing Program* based in Whyalla and Port Augusta, provides culturally appropriate support to Indigenous women aimed at improving pregnancy and birthing outcomes. This program has had significant gains in improving birthing outcomes including in reducing smoking in pregnancy.

Some key outcomes to 30 June 2007 include:

- > 74 births recorded over the life of the program (3 years)
- > 27 current antenatal participants as at June 2007
- > 90.4% of births reached target birth weight (2500 gm or greater)
- > average of 10 antenatal visits per participant (target was 7 visits)
- > average of 7 postnatal visits per participant
- > average of 10 weeks gestation at entry to the program
- > 50.5% of participants breastfeeding at birth
- > 24 participants quit smoking during pregnancy.

Prison Health

The SA Prison Health Service (SAPHS), which is part of Central Northern Adelaide Health Service, provides targeted, evidence-based, primary and public health services to the South Australian prison population. These are designed to improve the health of prisoners as well as offering effective means for the prevention and control of a number of diseases and conditions that could impact on the health of the general population.

Selected Key Performance Indicators

SAPHS collects data describing key performance indicators relating to interventions addressing prisoners' complex health problems. These include:

- > Self harm
- > Hepatitis B immunisations
- > Opioid Substitution Treatment Program (OSTP) client-months closed
- > OSTP clients transferred to community

Many prisoners have unmet physical and mental health issues before they go into prison. The crime and ill health nexus may become intergenerational without interventions. SAPHS in partnership with the Department of Correctional Services (DCS) has implemented the WHO best-practice screening tool of substance misuse, as one means of stopping the offending cycle.

Activity Report

2007 saw an increase in prisoners participating in the Prison Opioid Substitution Treatment Program from 259 (2006) to daily dosing of 270 participants.

The shared hepatitis C partnership between SAPHS and the Royal Adelaide Hospital Viral Hepatitis C Unit has been very successful. Three prisoners participated in the program in 2005, 17 prisoners participated in 2006 and up until October 2007 there have been 18 participants. Results for 2006 have been very promising. Six participants have cleared the infection and four participants did not clear. Results for the final seven are pending as the participants are either still on treatment or in the waiting period for their final results, which do not become available until 6 months following completion of treatment. This program has the potential of saving the state many health dollars.

In SA prisons 9.4% of inmates are prescribed major anti-psychotic medication used for schizophrenia and chronic psychotic disorders and 24% are prescribed antidepressants.

Improved pathways to increase levels of psychiatric and substance misuse services are under development. Enhanced discharge planning processes, underpinning post-release community support to reduce recidivism are being investigated.

Deaths in custody remain a great concern. In 2007 there were four deaths in custody compared to five in 2005 and none in 2006. Of these deaths, two were suicide and two from natural causes. With the ageing of the prison population an increasing proportion of deaths from natural causes is anticipated.

The introduction of the Joint Systems Protocols in 2007 and High Risk Assessment Team meetings (introduced in 2005–06) between SAPHS and DCS has been positive. Collaboration has improved information sharing and decision-making in the management of high-risk prisoners.

The increased bed management plan introduced earlier this year by DCS for the management of higher prisoner numbers has had a significant impact on SAPHS. In February 2007, DCS commissioned 38 beds at the City Watch House as an extension of the Adelaide Remand Centre. There have been increases in prisoner numbers in most SA prisons, creating great pressure on existing health services.

Future Directions

The SAPHS Patient Administration and Health Management System Business Case is now complete. This system provides for a range of improved shared health care information and high-level business requirements including:

- > Improving services with common care pathways for high-risk individuals, including Aboriginal Australians.
- > Development of comprehensive health plans for prisoners who are transferable into community settings.
- > A focus on the needs of repeat offenders with high co-morbidities around ethnicity, substance misuse and mental illness.

- > Preparations for a possible pandemic influenza by reviewing infection control procedures collaboratively with Justice, to benefit prisoners, custodial staff and prison health care providers.
- > Improving service capacity and onsite facilities in partnership with DCS.
- > Developing links across detention systems (Families SA and DCS) to ensure seamless health services
- > Developing strong service pathways and shared responses across the client group in the community setting with partners including Housing SA, the Aboriginal community controlled sector and Centrelink.

Population Monitoring and Surveillance

Monitoring and surveillance of health and related issues including chronic conditions, risk factors and sociodemographic factors is conducted on an ongoing basis by the department through the Population Research and Outcome Studies (PROS) Unit. This unit is situated within the Health Intelligence Branch of the Policy and Intergovernment Relations Division.

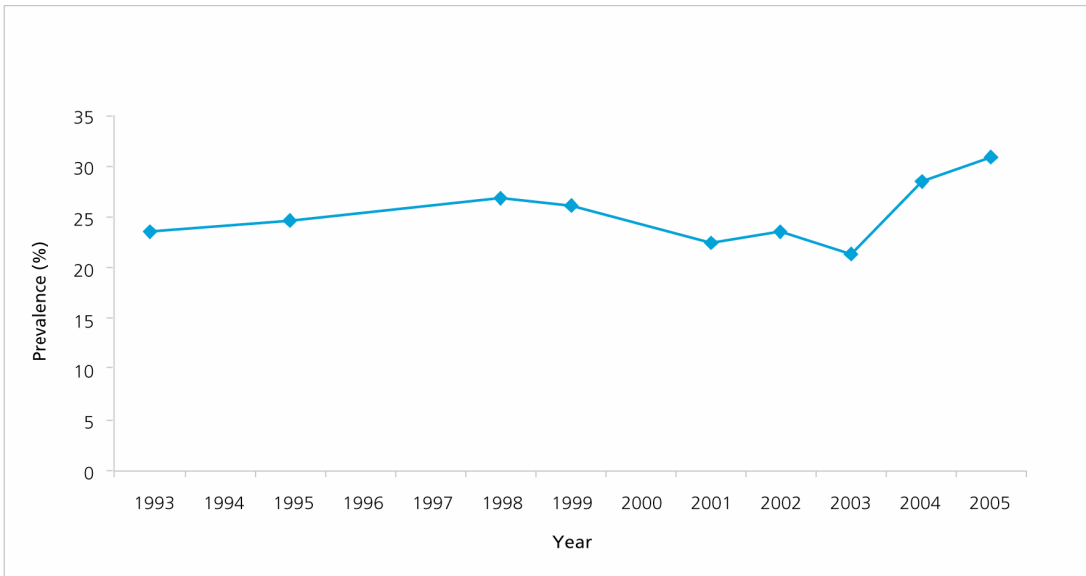
Information obtained from population health surveys and epidemiological studies is used to inform policy, programs and health services that will promote the health and wellbeing of the South Australian population.

Data sources used to monitor trends in the health of the South Australian population include the South Australian Monitoring and Surveillance System (SAMSS), Health Monitor surveys, and the Health Omnibus Survey. Patient Evaluation of Health Services (PEHS) surveys are conducted to monitor consumer satisfaction with health services. The North West Adelaide Health Study is a longitudinal biomedical cohort study examining prevalence, incidence and determinants of chronic conditions and risk factors among a representative sample of adults living in the north-western region of Adelaide. Further details are available on the PROS website: <http://www.health.sa.gov.au/pros/>

Arthritis

The PROS Unit produced a report *An Epidemiological Analysis of Arthritis Prevalence Among South Australian Adults* in collaboration with the Arthritis Foundation of South Australia. SAMSS data from July 2003 to June 2006 showed that the overall prevalence of arthritis among South Australians was 21.9% (approximately one fifth of the population).

Overall there was a statistically significant increasing trend in arthritis prevalence in South Australia from 1993 to 2005 (χ^2 test for trend = 12.8, $p < 0.001$). The greatest increase in prevalence has occurred between 2003 and 2005, perhaps due to early diagnosis or increased awareness (Figure 25).



Source: Health Omnibus Surveys, 1993 to 2005, ages 15+

Figure 25. Age-gender standardised prevalence of arthritis for people aged 18 years and over in South Australia, 1993–2005

Diabetes

Health Omnibus Survey data show that the proportion of people who have been told by a doctor that they have diabetes has significantly increased from 3.5% (95% CI 2.8-4.2) in 1991 to 6.4% (95% CI 5.6-7.6) in 2006, as shown in Figure 26.

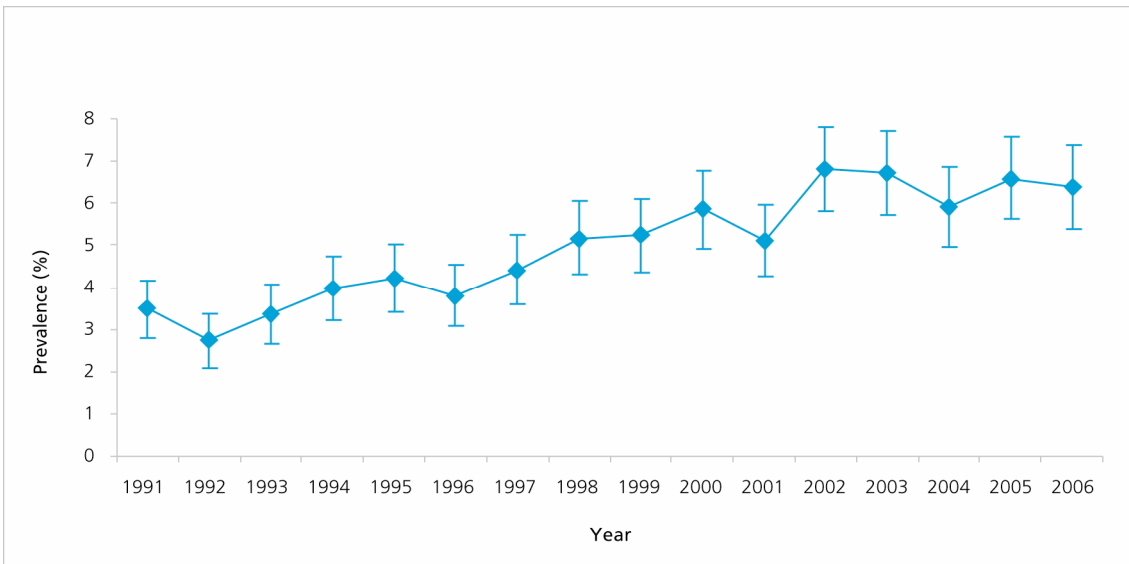


Figure 26. Age-gender standardised prevalence of diabetes for ages 15+ in South Australia, Health Omnibus Surveys 1991–2006

Report for the Divisions of General Practice

The Health Status of the People Living in the South Australian Divisions of General Practice report provided evidence-based information to the 14 South Australian Divisions of General Practice and the SA Divisions of General Practice Inc about the health status of the state's population. It will assist General Practitioners with advocating for health issues specific to their Divisions and will inform policy to achieve valuable change for General Practitioners and the community.

The report examined use of health services; chronic diseases and risk factors; days lost or limited because of health issues; and feelings regarding neighbourhood safety.

Aboriginal and Torres Strait Islander Population

A Chartbook of the Health and Wellbeing of Aboriginal and Torres Strait Islanders in South Australia was produced using SAMSS data from 2002–05 to provide information on the health and wellbeing of Indigenous Australians. The report highlighted important differences in health status regarding chronic conditions such as cardiovascular disease and risk factors such as alcohol consumption, smoking and body mass index.

The findings indicate that Aboriginal Australians:

- > experience statistically significant lower overall health status
- > have a higher likelihood of being limited in any activities due to any impairment or health problems
- > are significantly more likely to report being diagnosed with coronary vascular disease when compared to the wider community
- > are more likely to report being smokers, obese and to consume alcohol at risky to high risk levels.

North West Adelaide Health Study

Results from Stage 2 of the North West Adelaide Health Study were launched in May 2007. It is a biomedical cohort study of a representative population sample (n=4060) of people aged 18 years and over who live in the northern and western suburbs of Adelaide.

The department collaborated with regional hospitals, universities, health organisations, health care providers and the community, for the study.

During Stage 1 (2000–02), participants were recruited and attended the study clinic for a health examination. Stage 1 focused on the priority conditions of diabetes, asthma and chronic obstructive pulmonary disease, and risk factors such as smoking, obesity, physical activity, alcohol use, high blood pressure and high cholesterol. Information was also collected via telephone and self-completed questionnaires about quality of life and health service use. Linked Medicare and Pharmaceutical Benefits Schedule data was obtained.

Between May 2004 and February 2006, participants attended the clinic for their second visit. The focus of Stage 2 was expanded to include additional chronic conditions such as arthritis, osteoporosis, and cardiovascular disease. Of the original living cohort, 3564 (90.1%) participants provided some Stage 2 information, and 3206 (81.0%) attended the clinic for their second visit.

Longitudinal data from this study is being used to determine incidence rates for a number of chronic diseases, and for examination of changes in patterns of severity, management costs and utilisation of resources. Some of the emerging incidence rates for chronic disease and risk factors include:

- > The annual incidence of diabetes is 6.8 people per 1000 in the adult population. This means approximately 7500 South Australians adults develop diabetes each year.
- > The annual incidence of cardiovascular disease (CVD) is 5.6 people per 1000 in the adult population. This means that approximately 6200 South Australian adults develop CVD each year.
- > The annual incidence of obesity, as measured by BMI, is 18.6 people per 1000 in the population, meaning approximately 16 100 South Australian adults develop obesity each year.

Gestational Diabetes Mellitus (GDM) Recall Register

The Gestational Diabetes Mellitus (GDM) Recall Register was established in South Australia in 2002 as a response to the lack of systematic, long-term follow up of women who have had GDM.

Women who have had GDM are at increased risk of developing Type 2 diabetes. The Register facilitates early detection of prediabetes and diabetes, enabling earlier intervention and thus reducing diabetes-related complications and costs. A pilot project from July 2002 to June 2004 with the Diabetes Centres of The Queen Elizabeth and Ashford Hospitals examined the feasibility of establishing a GDM Recall Register in terms of recruitment, retention over time and encouraging women on the Register to have regular diabetes check-ups.

Following evaluation of the pilot project, the Register was expanded to include the Women's and Children's Hospital in September 2005. As at 30 June 2007, 326 women were enrolled on the Register. Consent forms, information sheets and annual reminder letters are now available to participants in Vietnamese, Chinese and Arabic. Other recommendations from the evaluation, including the expansion of the health promotion function of the Register are being investigated.

Patient Evaluation of Health Services (PEHS) — Maternity

The 2006 Maternity Patient Evaluation of Health Services (PEHS) survey represents the first patient satisfaction survey of South Australian maternity patients. The report presents satisfaction scores for a sample of 848 female adult patients aged 16 years and over who had at least one live birth in the South Australian public hospital system and were discharged from hospital in September 2006.

The *Overall* satisfaction score for the 2006 Maternity PEHS survey was 86.1. Significant differences were also found in *Overall* satisfaction among maternity patients by according to various socio-demographic factors:

- > Patients aged 25 and over were significantly more satisfied than other age groups.
- > Married and partnered patients were significantly more satisfied than respondents who were never married.
- > Patients with annual gross household income \$20 001–\$40 000 were significantly more satisfied than those with annual gross household income \$12 001–\$20 000.
- > Patients who stayed less than 3 days were significantly more satisfied than those who stayed 8 to 14 days.

Psychological Wellbeing

Improving psychological wellbeing is a target under the Improving Wellbeing objective in the South Australian Strategic Plan (SASP). The target seeks to ensure that South Australia has an equal or lower level of psychological distress than the Australian average by 2014.

Baseline data as measured by the Kessler Psychological Distress 10 (K10) scale, currently indicates that South Australia is achieving a lower level of psychological distress than the Australian average. However survey data also indicates that psychological wellbeing is not evenly distributed across the South Australian population including disparities between socioeconomic groups.

Desired Outcomes

Reducing psychological distress and promoting psychological wellbeing through enhancing protective factors and reducing risk factors such as depression and anxiety is being supported through a series of mental health reforms.

Actions

A range of activities is being undertaken including:

- > Expanding the South Australian Government's partnership with *beyondblue* — the national depression initiative (now in its second term 2005–10). The focus is on raising awareness and promoting help-seeking behaviours, and reducing the prevalence and impact of depression and anxiety across the South Australian population.
- > Research to investigate the population distribution of and key factors that impact on psychological wellbeing.
- > A continued focus on increasing mental health literacy and promoting help-seeking behaviours. A number of mental health literacy initiatives are being conducted including Mental Health First Aid training, increasing awareness of depression and anxiety in partnership with *beyondblue*, and the exploration of a population mental health community awareness campaign for South Australia.

Results

A shift away from an exclusive focus on mental illness has been achieved during 2006–07 by renaming the SASP psychological distress target to *psychological wellbeing*. The positive features of psychological wellbeing include optimism, hopefulness, resilience and the importance of socially connecting with others. Adopting a population health approach further enhances the transition from distress to wellbeing. This approach recognises the influence of a complex interplay of biological, social, cultural, physical and environmental factors that impact on overall mental health and wellbeing across the South Australian population.

Future Directions

Future activity will focus on the importance of promoting *psychological wellbeing* through the prevention of mental illness and the promotion of positive mental health and overall wellbeing. This includes:

- > Mental Health First Aid Training delivered by Relationships Australia (SA).
- > promoting workforce development and increased capacity for improving psychological wellbeing in partnership with Auseinet - Australian Network for Promotion, Prevention and Early Intervention for Mental Health.
- > further development of the Headroom project promoting the mental health of children and young people in South Australia.
- > continued liaison and partnership with Country Health SA in developing responses to drought affected rural communities.

- > identifying key strategies that can be put in place to further support and promote psychological wellbeing.

Public Health Expenditure

As part of a national agreement with the Australian government, South Australia provides expenditure reports for public health to the Australian Institute of Health and Welfare.

Due to national recording standards these reports do not capture the full scope of public health activity such as is represented in this report. The data nevertheless provides some significant information on public health expenditure levels.

Total public health expenditure by the department in 2005–06 is estimated, in current price terms, at \$83.1 million, up \$1.2 million or 1.5% on the previous financial year.

The five main public health areas funded in SA in 2005–06 were:

- > 21% on prevention of hazardous and harmful drugs use, including —
 - > tobacco control and surveillance
 - > alcohol misuse reduction and education
- > 19% on communicable disease control including —
 - > needle and syringe programs
 - > HIV AIDS and hepatitis C prevention, education and support
- > 17% on selected health promotion including —
 - > overweight and obesity prevention
 - > nutrition and physical activity promotion
- > 15% on organised immunisation including —
 - > Childhood Indigenous Pneumococcal Program
 - > Pneumococcal and Influenza Program
 - > essential childhood vaccines
- > 10% on breast cancer screening.

Public Health Outcome Funding Agreement

Public Health Outcome Funding Agreements are bilateral funding agreements between the Commonwealth and each state and territory, providing broadbanded and specific purpose funding for a range of public health programs.

The Public Health Outcome Funding Agreements are underpinned by the following principles: equity and access, including to the Aboriginal and Torres Strait Islander population; best practice; participation and partnership; commitment to infrastructure; and integration with primary health care. Under the Public Health Outcome Funding Agreements, the state and territory governments are required to report annually against a range of outcome-based performance indicators.

The current Public Health Outcome Funding Agreement is for five years 2004–2005 to 2008–2009 — with programs funded in three public health priority areas:

- > communicable diseases
- > health risk factors (that is, tobacco and alcohol misuse programs); and
- > cancer screening (that is, breast and cervical screening).

The Agreement also provides funding to implement programs in:

- > women's health
- > alternative birthing
- > female genital mutilation services, and
- > programs under the National Drug Strategy.

Programs in South Australia which currently receive Public Health Outcome Funding Agreement funding include:

- > BreastScreen SA
- > SA Cervix Screening Program
- > Shine SA
- > Drug and Alcohol Services SA
- > HIV/AIDS
- > National Women's Health Program
- > Female Genital Mutilation Education Program.

Review of the Public and Environmental Health Act (1987)

The Public and Environmental Health Act is the centrepiece of public health law in South Australia. As part of the Platform for Government, a commitment was given to strengthen and modernise the state's public health infrastructure and to modernise public health legislation.

The review commenced in May 2006 and is incorporating the work of a partial review of the Act undertaken in 2000.

Key stakeholder consultation has occurred since the last report and will continue throughout 2007–08. Additionally, the Minister for Health has established a formal local government reference group under the terms of the State-Local Government Agreement. This agreement requires the state government to establish formal consultation protocols with local government when significant pieces of legislation are developed that have direct impact on the role and responsibilities of local government.

The reference group was established with the assistance of the Local Government Association. The Australian Institute for Environmental Health provided further assistance and has agreed to convene a technical reference group to assist the department with detailed consideration of technical aspects of reform proposals. It is expected that a draft Bill will be ready for broader consultation in 2008.

Sexually Transmitted Infections — HIV/AIDS

While South Australia has a relatively small HIV epidemic, continuing increases in new HIV infections are being detected here as they are in Queensland, Victoria and Western Australia.

Here as in Australia generally, the great majority of HIV transmissions continue to occur through male-to-male sex. As levels of unsafe sexual behaviour among those most at risk are stable (except in New South Wales where they have declined and where there is no continuing rise in new infections), a number of factors are thought to contribute:

- > The success of currently available treatments results in a greater number of HIV positive people living longer, healthier and more sexually active lives.
- > Some people who are at risk may not get tested often enough.
- > Growing rates of sexually transmitted infections, which increase the risk of HIV transmission.

While the health and life expectancy of people living with HIV/AIDS has improved, long-term effects of HIV/AIDS including resistance to available treatments, cardiovascular disease and HIV-related brain injuries, require specialised and long-term care services.

Desired Outcomes

A targeted HIV prevention and education program run by non-government, community-based organisations and in partnership with the populations most at risk is complemented by a range of government and non-government services providing a continuum of care and support for people living with HIV/AIDS.

Goals for 2006–07 were the development of services for the long-term care of HIV positive people with complex needs and HIV-related brain injury and a new SA Action Plan for HIV including targeted responses to the increases in rates of new infections.

Actions

- > Mid-term qualitative and quantitative evaluation of the NGO grant funding program.
- > A feedback day presenting the results of program evaluation was held for all participating organisations in March 2007.
- > Several proposals have been developed to address long term HIV complex care needs and the process for developing a new SA Action Plan on HIV has been agreed.

Results

The NGO grant funding program for targeted prevention and support for people living with HIV/AIDS continued successfully.

Future Directions

The SA HIV Action Plan 2008-2011 will be finalised. In addition, a new coordinating and advisory structure for the government and non-government HIV and hepatitis C sector partnership in South Australia will be completed.

A group of key stakeholders and community representatives will be convened to decide on and implement prevention efforts to specifically reverse the trend of increasing new HIV infections among gay and homosexually active men.

Tobacco Surveillance

The Tobacco Surveillance Section is responsible for the enforcement of the *Tobacco Products Regulation Act 1997* (the Act) and regulations, including newly introduced provisions regulating:

- > an increased number of expiable offences
- > a ban on fruit flavoured cigarettes and split pack cigarettes
- > increase the tobacco retail merchants licence fee from \$12.90 to \$200
- > introduction on 31 May 2007 of a ban on smoking in cars in the presence of children.

The Tobacco Surveillance Section also assists businesses to comply with the future requirements of the Act including smoke-free workplaces and licensed venues, and controls on points of sale.

Desired Outcomes

- > Effective implementation of the South Australian Tobacco Control Strategy 2005–2010.
- > Improved health of South Australians by reduction of the harm caused by smoking tobacco.

- > Reduced availability and promotion of tobacco products.
- > Elimination of passive smoking in indoor workplaces and public spaces

Action

Officers of the Tobacco Surveillance Section undertake various activities to ensure compliance with the Act:

- > issuing of 3200 retail tobacco licences
- > routine and complaint based inspections
- > biannual controlled purchase operations to test compliance with sales-to-minors requirements
- > surveying licensed premises for knowledge of and compliance with the Act
- > responding to telephone inquiries concerning compliance
- > distributing information materials on current and upcoming requirements
- > visiting premises to discuss compliance.

Results

From 1 January to 30 June 2007, 405 tobacco retail licence cancellations were recorded following the introduction of the increased licence fee. There has been little overall impact on the total licence numbers as new licence applications have maintained the overall licence numbers.

Officers conducted a number of patrols to ensure retailers were complying with the prohibition of fruit flavoured cigarettes and found a high level of compliance. The South Australian ban was followed by a national ban.

A total of 954 inspections were conducted throughout metro and regional areas including hotels, sporting clubs, nightclubs, community clubs, retail outlets and workplaces.

Visits to 241 premises during controlled purchase operations in metropolitan and country South Australia resulted in the issuing of expiation notices at 27 premises for selling cigarettes to minors involved in the operation.

Figure 27 provides details of the number of expiation notices served under the Act. Expiation notice numbers for 2005–06 are provided for comparative purposes.

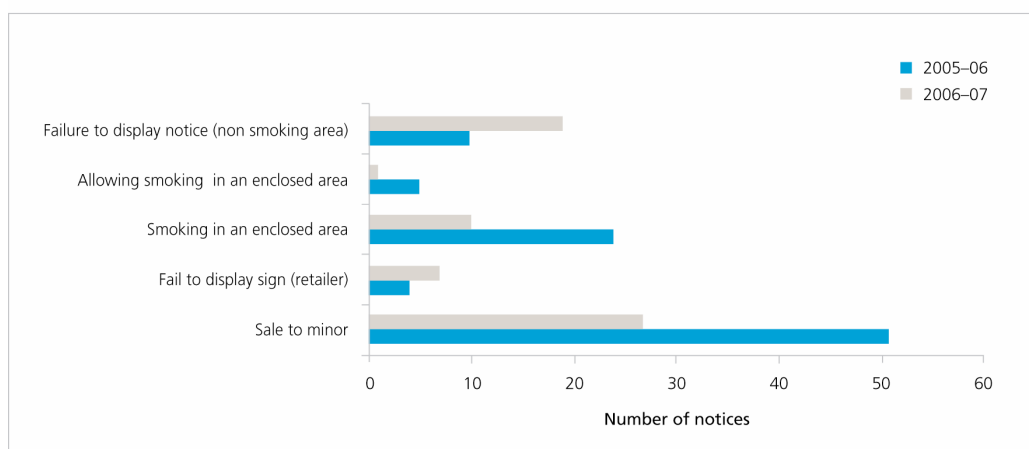


Figure 27. Expiation notices served under the Tobacco Products Regulation Act 1997

As at 30 July 2007, 14 drivers were issued on-the-spot fines for smoking in vehicles carrying children (enforcement data as at 30 June 2007 was unavailable).

A substantial amount of time during the reporting period was spent advising licensed premises on compliance procedures for the smoke-free laws commencing on 1 November 2007. This included meeting with architects to ensure correct interpretation and compliance with the Act in relation to building smoking-permitted outdoor areas and liaising with the Australian Hotels Association and Clubs SA to maintain the correct flow of information to their members.

Future Directions

November 2007 will see the introduction of the total ban on smoking in licensed venues (Smoke Free) and increased restrictions on points of sale. A significant effort will be dedicated to continuing to smooth the transition prior to the laws coming into effect and their enforcement following commencement.

Emerging Issues

Online tobacco sales are of increasing concern for the state and federal governments. There are currently two tobacco retail licences for online sales issued in South Australia. A number of national and international websites offer tobacco for sale in South Australia and issues of jurisdiction are currently being determined.

Vaccine Preventable Disease — Immunisation

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.

In November 2006 the Commonwealth announced the introduction of Human Papillomavirus Vaccine (HPV) for young women. In March 2007 it was announced that Rotavirus vaccine would be added to the childhood vaccine schedule. This required amendment to schedules and significant preparation of relevant resources to support the implementation of the program in July 2007.

Action and Results

In the period July 2006 to June 2007 the South Australian Immunisation Section distributed a total of 724 896 doses of vaccine for all vaccination programs.

Childhood Immunisation Program

In 2006–07 South Australia exceeded targets set by Commonwealth agreements for children at 12 months of age and 2 years of age, but is yet to reach the target for children at 6 years of age. However, as Figure 28 shows, there has been a significant increase in coverage rates for the 6 year old age group.

- > 91.15% of children aged 12–15 months are fully immunised compared to 90.56% at the same time last year (an increase of 0.59%).
- > 92.62% of children aged 24–27 months are fully immunised compared to 92.69% at the same time last year (a marginal decrease of 0.07%).
- > 87.73% of children aged 72–75 months are fully immunised compared to 84.53% at the same time last year. This increase of 3.2% is the largest percentage increase for South Australia in this cohort in the life of the program. It may be due to the implementation of strategies in South Australia to specifically address the low coverage in this age group.

- > There has been intensive work over the past 18 months focusing on the Australian Childhood Immunisation Register (ACIR) data in general practice and recalling children not fully up-to-date with their immunisations.

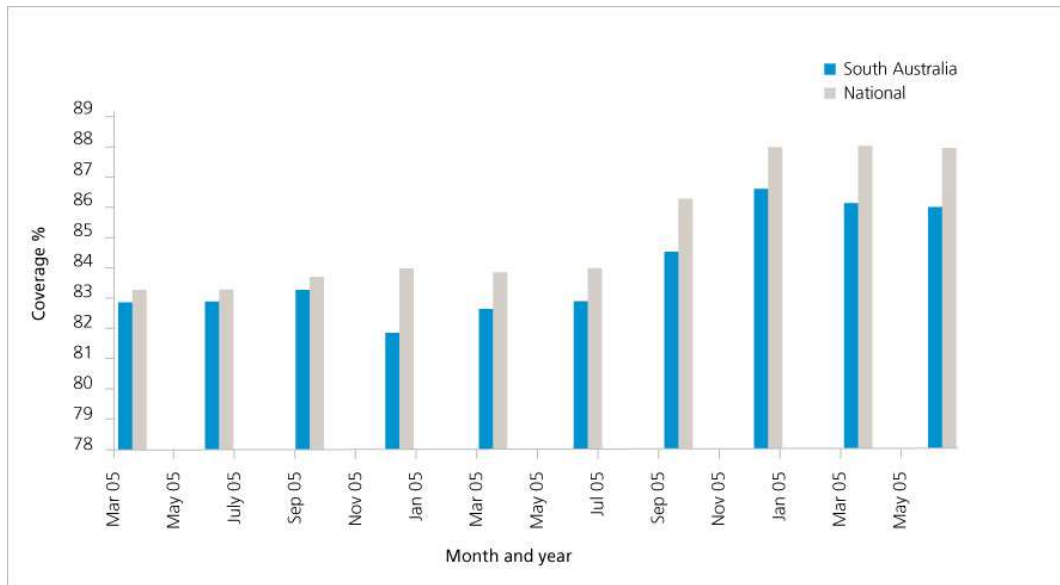


Figure 28. Immunisation coverage for six year olds in South Australia compared to national coverage 2006–07

National Influenza Vaccination Program

During 2006–07, 224 003 doses of influenza vaccine were distributed for those aged 65 years and over. A national survey conducted annually by the Australian Institute of Health and Welfare reports on the percentages of those vaccinated. South Australia has previously had high coverage through this program with 84% in 2006–07, a trend that is expected to continue.

Health Care Worker Influenza Program

In 2006–07 the Health Care Worker program distributed 27 717 doses of influenza vaccine, up 10% from the previous year. Coverage rates also increased to approximately 57% (from 51% the previous year), which is a reasonable improvement, but still less than the 90% target. See Figure 29.

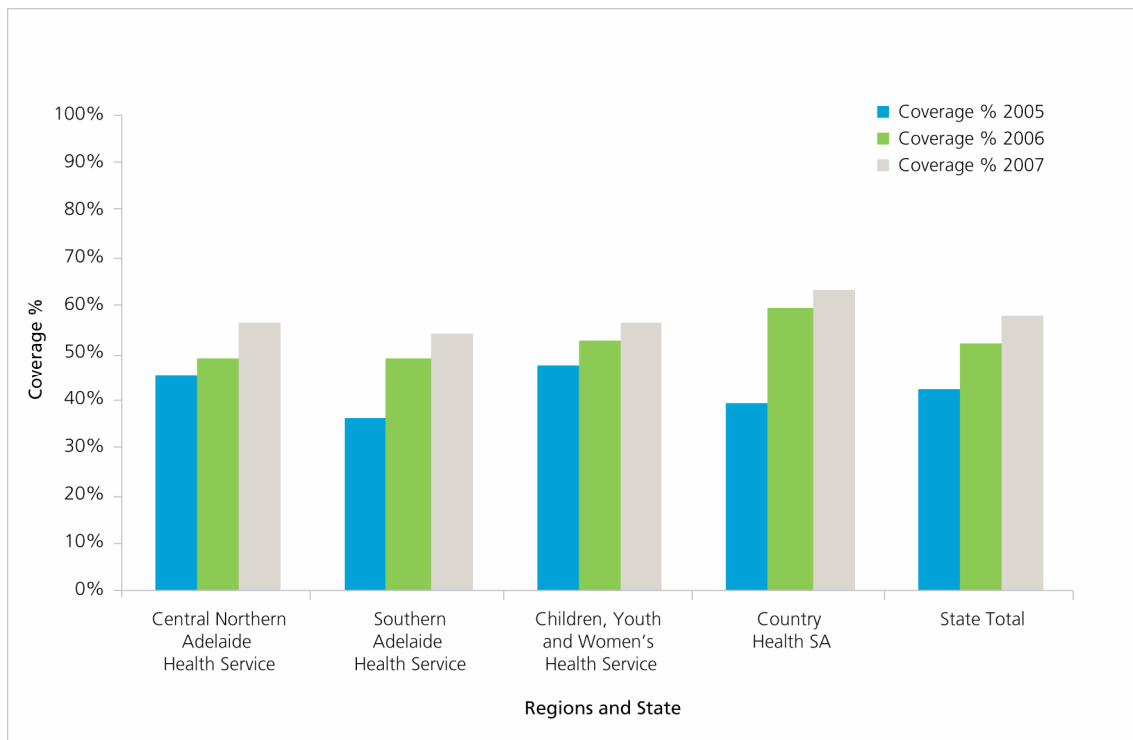


Figure 29. South Australian annual influenza health care workers vaccination program coverage by regions and state

School Immunisation Program

Commonwealth funded vaccines are offered to high school students annually through a program delivered by local government.

South Australia has the highest vaccine coverage rates in the nation for this age group. In 2006, 84% of Year 8 students received a booster for diphtheria, tetanus and whooping cough and were fully immunised for hepatitis B. Varicella vaccine was administered to 37% of Year 8 students. The low uptake of the latter vaccine is due to the high number of individuals who have natural immunity through previous exposure to chickenpox and so do not require vaccination.

Indigenous Childhood Immunisation Program

In 2006–07, 77.9% of Indigenous children were fully vaccinated by 12 months of age, a decrease from 85.1% the previous year. However, by the time they turn 2 years of age 89.5% are fully vaccinated as compared to 88.5% the previous year.

The coverage rate by the time children reach 6 years of age is 76.8% compared to 84.8% the previous year.

National Indigenous Influenza and Pneumococcal Program

Influenza and pneumococcal vaccines are offered to Indigenous Australians aged 50 years and over, and those 15–49 years of age who have medical at-risk-factors. It is not possible to measure the uptake of the vaccines in this group.

Future Directions

Health Care Worker Influenza Program

This program is a component of the Vaccination Pandemic Response Action Plan and is flagged as a priority for the department. Consequently greater focus will be placed on educational programs and reporting accountability to improve coverage rates of influenza vaccination uptake among health care workers.

Childhood Immunisation Program

The department will continue to work collaboratively with local council providers, the Divisions of General Practice and the ACIR Field Officer during 2007–08 to build on the gains made with improved vaccine coverage in the 72–75 month cohort.

Indigenous Childhood Immunisation Program

Effort will focus on improving Indigenous childhood immunisation rates through promotional programs targeting Indigenous communities as well as the education of key immunisation providers in 2007–08.

Human Papillomavirus Vaccine Catch-Up Program

A catch-up program is available for all females aged from 14-27 years and is to be offered over 2 years from 1 July 2007 to 30 June 2009. In South Australia it will be offered to all girls attending high school during 2007. Those eligible but not at school, may access the funded vaccine from July 2007 through their GP or other immunisation provider.

Water: Drinking Water Quality

Drinking water is primarily regulated under the *Food Act* and SA Water supplies to approximately 90% of our state's population.

The department and SA Water have a long-standing relationship that is reflected in a Cooperative Arrangement agreement signed by the Chief Executives of both bodies.

Water quality in drinking water supplies is monitored through two mechanisms: regular and incident reporting. SA Water provides routine monthly reports summarising compliance data for all supplies measured against guideline values provided in the *Australian Drinking Water Guidelines* (ADWG).

Incident reporting is required in accordance with criteria established through the *Water/Wastewater Incident Notification and Communication Protocol*. The protocol was initially developed in 1998–99 and is managed by the Water Incident Coordinator based in the department. The protocol 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 may cause risks to human health, and cause or threaten serious environmental harm. Type 2 incidents represent a low risk to human health or may cause low impact or restricted environmental harm.

Desired Outcome

To ensure that:

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

Action

Communication and reporting was maintained between SA Water and the department in accordance with the Cooperative Arrangement Agreement, including provision of routine and incident reports.

Results

Tables 3 and 4 demonstrate that a high quality of drinking water was provided to the South Australian population with at least 99.9% compliance with health-related parameters.

Tables 5 and 6 provide a summary of water incidents in 2006–07. The number of type 1 incidents for drinking water continued a downward trend. In each case, appropriate remedial action was instituted and none of the incidents were considered to represent a significant health risk or require public notification.

Future Directions

The department will continue collaboration with SA Water to assure drinking water quality and when incidents occur, to ensure that appropriate and timely remedial action is instituted to minimise risks to public health.

The rolling revision of the Incident Protocol will continue to ensure that criteria are appropriate and understood by the primary agencies involved. A new version will be implemented in 2007–08.

Table 3. Customer tap samples free from *E. coli*

	2004-05	2005-06	2006-07
Metropolitan	100%	100%	100%
Country	99.9%	99.9%	99.9%

Table 4. Percentage of samples compliant with Australian Drinking Water Guideline health parameters (microbiological and chemical)

	2004-05	2005-06	2006-07
Metropolitan	99.7%	100%	99.9%
Country	99.6%	99.8%	99.9%

Table 5. Source water incidents reported (before treatment)

Year	Type 1	Type 2
2004-05	15	49
2005-06	9	67
2006-07	14	26

Table 6. Drinking water incidents reported (after treatment)

Year	Type 1	Type 2
2004-05	44	16
2005-06	31	23
2006-07	28	9

Water: Drought Responses and Alternative Sources of Water

The ongoing drought has seen increased pressure to find suitable alternative sources of water for domestic and industrial use. There has also been an increase in requests for information from the public, local government and industry.

Desired Outcome

To support safe and sustainable use of alternative water sources and to provide public health advice relating to these water sources and potential impacts of drought.

Action

A procedure for approving carting and use of recycled water from Mawson Lakes and the Glenelg Wastewater Treatment Plant has been developed in conjunction with SA Water and the Environment Protection Authority. Approvals have been issued for carted supply of recycled water for domestic irrigation, cleaning industrial buildings and irrigation of bowling greens.

Endorsement has also been provided to a number of local councils for use of backwash water from public swimming pools — including the City of Adelaide for use of water from the Aquatic Centre for irrigation of trees, shrubs and landscape areas.

The decision was taken to allow manual bucketing and temporary diversion of greywater without approval. Advice to improve safe and sustainable use was developed.

In conjunction with the wastewater management group a drought package has been developed that includes advice on: rainwater tanks; testing water quality; safe use of borewater; guidelines carting for bulk water; blue green algae; rainwater quality; bushfires; and use of greywater.

The recruiting phase for the Adelaide Rain Water Study was completed. The NHMRC funded study is being conducted by Monash University in conjunction with the department. The study will examine the health impacts of drinking rainwater, with participants keeping a health diary for 12 months.

The department has taken a leading role in development of both phases of the *Australian Guidelines for Water Recycling*. This work is identified as an action under *Water Proofing Adelaide*, which is the South Australian government's 20-year blueprint for a sustainable water supply in this state.

Result

Increased support and public health information was provided in relation to alternative water sources and the public health impacts of water restrictions. Phase 1 of the *Australian Guidelines for Water Recycling* was published in November 2006 and the guidelines are being applied in South Australia.

Future Directions

It is expected that there will be a growing demand for approvals to cart recycled and other sources of water. Information available through the drought package will be reviewed and expanded as required. This will include development of *Guidelines for the Use of Alternative Water Supplies, Water Restrictions and Health Considerations* and *Health Aspects of Drinking Water Salinity*.

The Adelaide Rainwater Study will be completed in 2008–09.

Phase 2 of the *Australian Guidelines for Water Recycling* dealing with drinking water augmentation, managed aquifer recharge and stormwater reuse will be completed in 2008–09.

Water-borne Disease Outbreak Case Study: Cryptosporidium Outbreak

Issues

In the first four months of 2007 there were elevated notifications of *Cryptosporidium* infections. To the end of April, 390 cases were reported compared to 103 at the same time in 2006. The highest weekly rate was 54 cases in the week-ending 10 March. Case rates returned to normal in May.

The cases were widespread across the state. No single source of the outbreak was identified. There was clear evidence of person-to-person transmission within families and about 40% of cases used public or private swimming pools. About 60 pools were involved.

Campylobacter and *Salmonella* infections were also elevated for the same period. There were 1178 *Campylobacter* and 423 *Salmonella* cases notified in 2007 compared to 563 and 229 respectively for the first four months of 2006.

Desired Outcome

To reduce the frequency of cases and to prevent large outbreaks occurring at individual public swimming pools.

Action

Enhanced surveillance involving telephone contact with patients commenced in early February and continued until the end of April. The increase was first reported in *The Advertiser* on 26 February in an article about elevated numbers of reportable gastroenteritis.

Public health advice dealing with ways to reduce personal risks and the need for those affected not to use swimming pools and spas for 14 days after diarrhoea was released on 2 March. Information was also sent to local councils, General Practitioners, the Department of Education & Children's Services and the Association of Independent Schools.

Further advice was issued on 20–21 March together with a public health warning notice in *The Advertiser* and distribution of fact sheets and posters, for schools and swimming pool operators.

Local council environmental health officers checked the operation of all public pools identified as having been used by patients. No faults were identified. Precautionary decontamination with overnight hyperchlorination was applied at more than 20 pools used by more than one case or following use by an infected individual.

Result

The epidemiological curve and distribution of cases are shown in Figures 30 and 31. A large proportion of cases occurred in children (0-15 years of age), with a second peak of predominantly women aged between 25-45 years. This is consistent with person-to-person contact.

Swimming pool associated outbreaks have a more even age distribution. The cases were too widespread to be associated with drinking water. Enhanced surveillance also provided evidence of person-to-person contact within families. Activities such as sharing of baths contributed to some cases. There was no evidence of a major outbreak associated with an individual swimming pool.

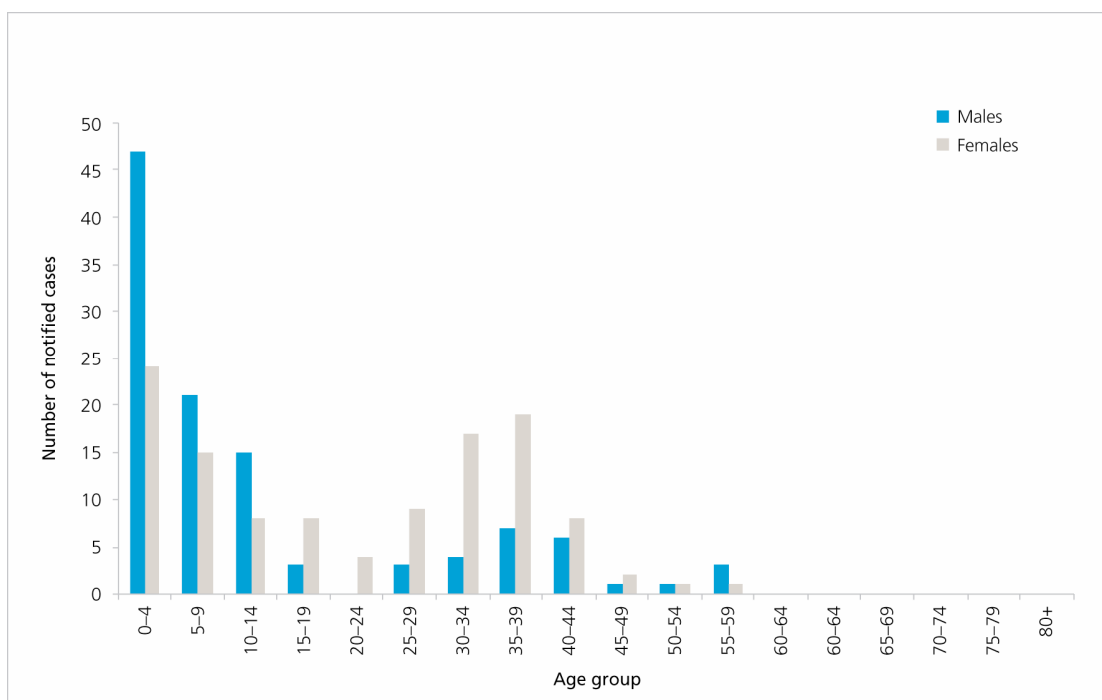


Figure 30. *Cryptosporidium* cases by age and gender

Notification of *Cryptosporidium* cases decreased following the issuing of public health advice and the distribution of information on preventive action (indicated by the red arrow in Figure 31).

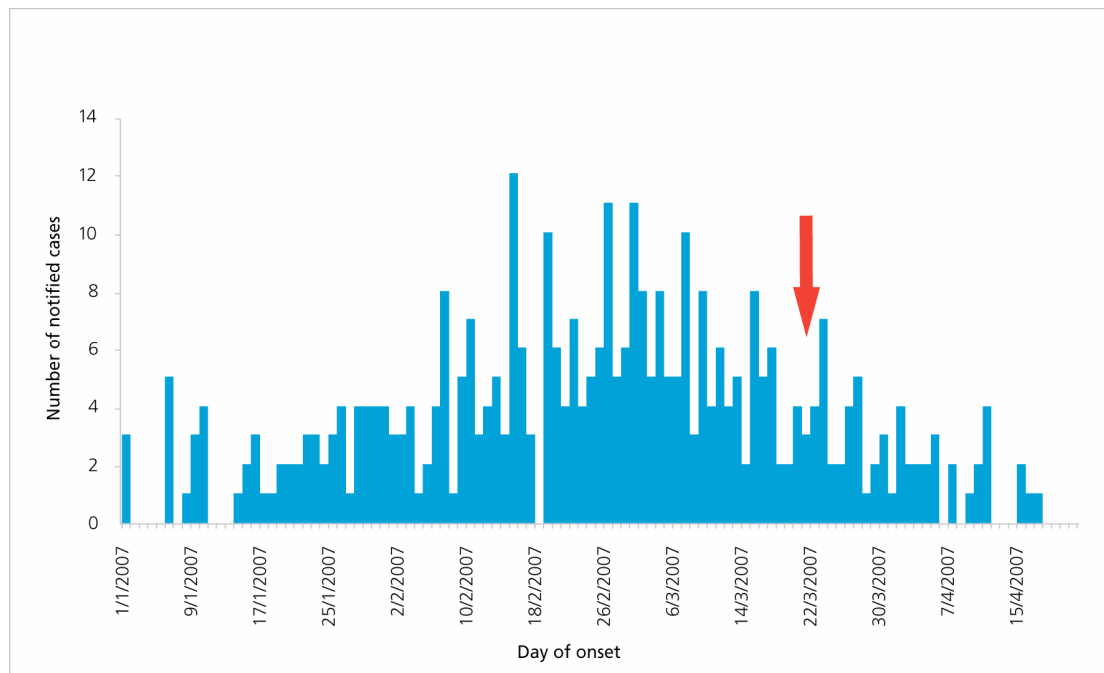


Figure 31. Cryptosporidium cases from January – May 2007

Future Directions

Health promotion material including a poster for use at public swimming pools is to be developed for summer 2007–08 and beyond. Advice will also be provided within the drought package reminding the public of the need to maintain hygiene while saving water.

Water: Small Community Non-SA Water Supplies

In addition to the water supplies operated by SA Water there are a large number of small community supplies. The department considers these in a similar manner to SA Water supplies: water quality assurance requires implementation of risk management plans that are consistent with the Framework for Management of Drinking Water Quality as described in the *Australian Drinking Water Guidelines*. NHMRC has developed a *Community Water Planner* to support design and implementation of management plans for small community supplies.

Desired Outcomes

- > Increased implementation of risk management plans for small community water supplies including those in:
 - > schools
 - > bed and breakfast, farmstay and tourist facilities
 - > rural and remote areas including Aboriginal communities.
- > The Community Water Planner is to be used as the reference model for these water supplies although equivalent plans will be accepted.
- > A catalogue of non-SA Water supplies.

Action

The department collaborated with the DECS to develop risk management plans for schools utilising non-SA Water supplies.

Discussions were initiated with the B&B and Farmstay Association and draft templates for risk management plans have been produced for application to rainwater and groundwater drinking supplies used in these facilities.

Meetings were held with the Outback Areas Community Development Trust (OACDT), DAARE and SA Water to progress design and implementation of risk management plans.

A catalogue of small community non-SA Water supplies throughout the State is being developed.

Results

DECS with assistance from the department has developed a policy on school water supplies and developed risk management processes.

Under the policy schools are to use mainswater where available. Where mainswater is not available rainwater can be used providing it is subject to UV disinfection. Groundwater can also be used. Management protocols have been designed that are consistent with existing DECS procedures and schedules while achieving quality assurance outcomes required by the department.

SA Water has developed risk management plans for Indigenous supplies managed under contract with DAARE. The department has reviewed these plans in reference to the Community Water Planner, which has been trialled by the OACDT. More than 180 supplies have been identified to date and this number is likely to increase.

Future Directions

The department will continue collaboration with OACDT, DAARE and SA Water on development, implementation and review of risk management plans.

Further discussions will be held with the B&B and Farmstay Association regarding the draft templates developed by the department.

Wastewater Management

The department in conjunction with local government develops and administers legislation regulating wastewater treatment systems for the 400 000 South Australians who are not connected to SA Water sewer infrastructure.

The development of legislation was a key focus of this reporting period with the continuing review of the Public and Environmental Health (Waste Control) Regulations (the Regulations) and development of two new codes (*The Onsite Wastewater Systems Code* and the *Standard for Connection to a Reticulated Community Wastewater System*).

Desired Outcomes

- > Establishing legislation that effectively protects public health, enables incorporation of new technologies and adopts a nationally consistent approach to wastewater management.
- > Achieving efficient assessment under the Regulations for all wastewater system collection, treatment and reuse installations, extensions and upgrades and product approval proposals.
- > Provision of support to local government on all aspects of wastewater management and advice to the general public and other stakeholders on matters relating to wastewater management.
- > Management of drought related issues regarding wastewater management and reuse, including large-scale wastewater recycling and domestic greywater reuse.

Action

- > Development of the Regulations:
 - > In July 2006 Cabinet approved two submissions to amend and undertake public consultation on the Regulations by prescribing two new codes — the *Onsite Wastewater Systems Code* and the *Standard for the Connection to a Reticulated Community Wastewater System*.
 - > Between February and March 2007 formal public consultation was undertaken on the draft regulations and codes, involving metropolitan and regional presentations to stakeholders.
- > Administration of existing legislation included:
 - > the assessment of all infrastructure associated with Community Wastewater Management Systems (CWMS) (including collection, treatment and reuse)
 - > the installation of alternative onsite systems not complying with prescribed codes
 - > all wastewater products for sale and installation in SA, including alternative systems such as greywater systems.

Such assessments require detailed and complex technical review of all engineering and public health aspects of the proposals.

Result

Stakeholders submitted 50 submissions during the consultation phase of the regulations and codes. Assessment of these submissions has commenced and a reference group consisting of local government has been formed to review submissions and provide advice.

In 2006–07 more than 248 wastewater system and product applications were processed under the Public and Environmental Health (Waste Control) Regulations. Details of the approvals granted during this period are detailed in Figure 32 (figures from the 2005–06 reporting period are provided for comparison purposes).

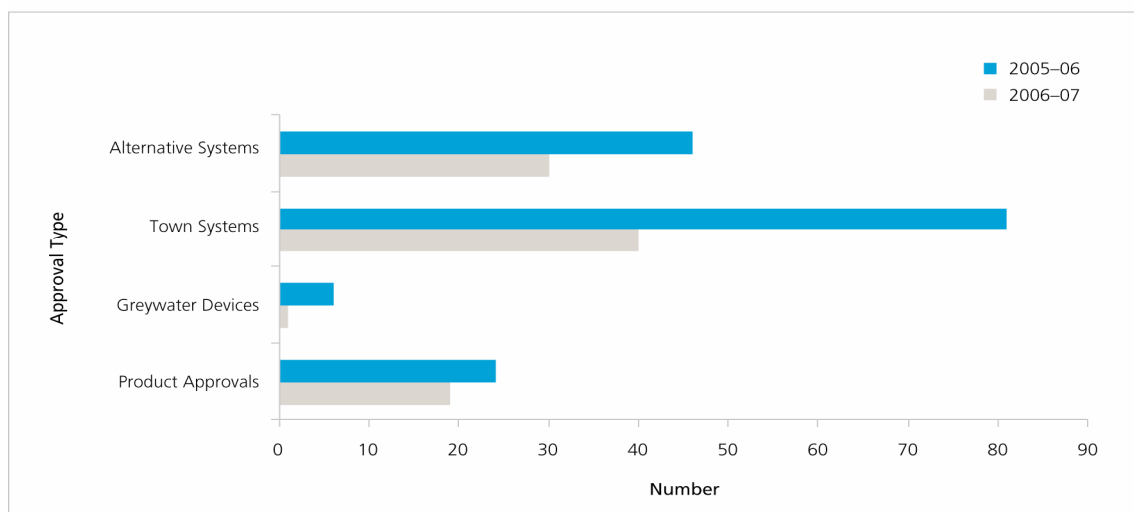


Figure 32. Wastewater system approvals 2005–06 and 2006–07

Increased support and information was provided on the public health risks of wastewater recycling and greywater reuse.

With the ongoing drought and water restrictions there has been an increased focus on water recycling and reuse of greywater. In response to this, a number of measures to support water recycling, while minimising public and environmental health risks, have been implemented. These include:

- > provision of increased support and public health information for local government, industry stakeholders and the general public particularly with regard to domestic greywater recycling
- > development of a web-based drought package which includes advice on use of greywater
- > gaining representation on the Water Security Taskforce and the Water Security Technical Group advising the Taskforce.

Future Directions

With continuing drought conditions forecast for 2007–08 it is expected that the demand for wastewater as an alternative water source will increase. For example, a number of recent private development proposals have been received for reuse of treated wastewater for high exposure activities such as unrestricted garden irrigation and flushing toilets. It is expected that the number of applications for water recycling schemes will increase and these will need to be assessed in a timely manner while still meeting public and environmental health standards.