PROMOTE
PROTECT
PREVENT
PROGRESS

CHIEF PUBLIC HEALTH OFFICER'S REPORT

JULY 2018 to JUNE 2020

Government of South Australia

SA Health

A report prepared pursuant to Section 23 of the *South Australian Public Health Act* 2011

SA Health has made every effort to ensure that the information provided in this report is up to date at the time of publication and does not accept responsibility for any errors or omissions.

Data within this report are correct as to the date gathered; however, data, comparisons and trends are subject to change over time.

Aboriginal is used respectfully in this report as an all-encompassing term for Aboriginal, Torres Strait Islander people, health and culture. The term Torres Strait Islander is specifically used in position titles and titles of publications and programs.

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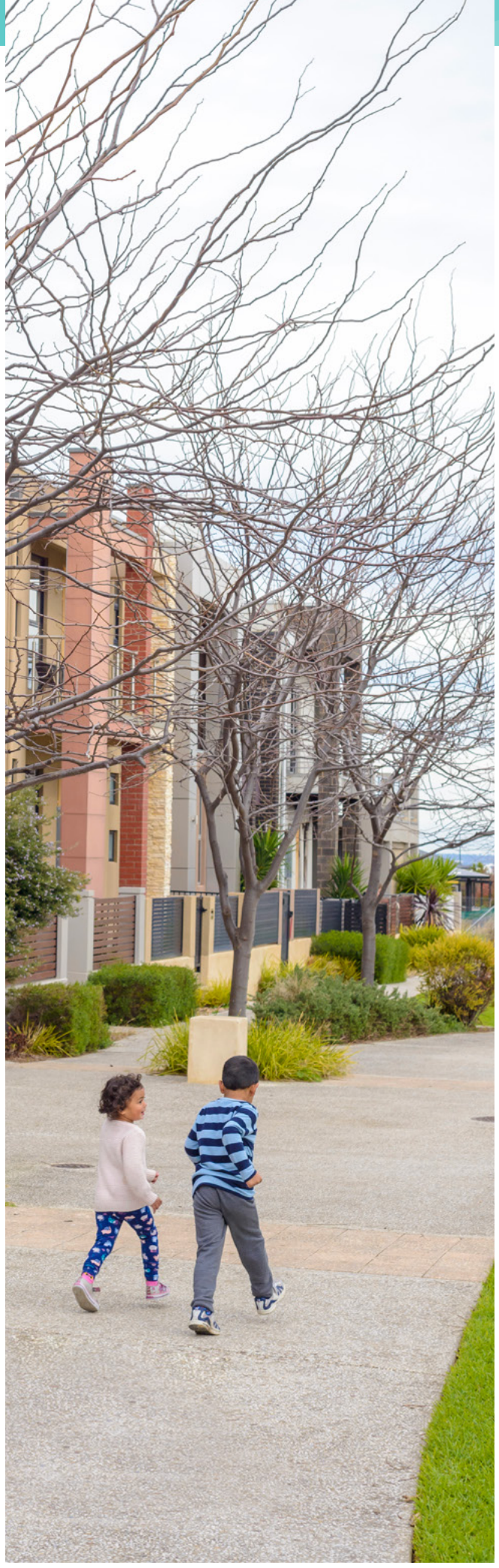

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LIST OF ABBREVIATIONS

ABLV	Australian Bat Lyssavirus
ABS	Australian Bureau of Statistics
ACIC	Australian Criminal Intelligence Commission
ADHD	Attention deficit hyperactivity disorder
ARF	Acute rheumatic fever
ADF	Alcohol and Drug Foundation
ADF	Australian Defence Force
AEDC	Australian Early Development Census
AGD	Attorney-General's Department
AHPPC	Australian Health Protection Principal Committee
AMS	Antimicrobial stewardship
ARC	Australian Research Council
ARF	Acute rheumatic fever
CALD	Culturally and Linguistically Diverse
CEARS	COVID Emergency Accommodation Response Service
CDNA	Communicable Diseases Network Australia
COPD	Chronic Obstructive Pulmonary Disease
CMP	COVID Management Plan
COTA SA	Council on the Ageing SA
CPHO	Chief Public Health Officer
CVD	Cardiovascular disease
CWMS	Community Wastewater Management System
DALY	Disability-Adjusted Life Years
DASSA	Drug and Alcohol Services SA
DMFT	Decayed, missing or filled permanent teeth
DCP	Department for Child Protection
DCS	Department for Correctional Services
DDF	Don Dunstan Foundation
DE	Department for Education
DEW	Department for Environment and Water
DHS	Department of Human Services
DHW	Department for Health and Wellbeing
DIT	Department for Infrastructure and Transport
DPTI	Department of Planning, Transport and Infrastructure
EHC	Environmental Health Centre
EPA	Environment Protection Authority
ERP	Estimated resident population
ECMO	Extracorporeal membrane oxygenation
FUNLHN	Flinders and Upper North Local Health Network
GIUS	Green infrastructure in the urban setting
HiAP	Health in All Policies
HIV	Human Immunodeficiency Virus
HR&P	Health Regulation and Protection
HPV	Human papillomavirus
ICU	Intensive Care Unit
IGH	Institute of Global Homelessness
IRIS	Immunisation Records Inventory System
K10	Kessler 10 psychological distress scale
LDAT	Local Drug Action Team
LGA	Local Government Association of SA
LGAs	Local Government Areas
LHN	Local Health Network
LGBTIQA+	Lesbian, Gay, Bisexual, Transgender, Queer Intersex, Asexual and allies
MDMA	Methylenedioxymethamphetamine
MRFF	Medical Research Future Fund
MSM	Men who have sex with men
NALHN	Northern Adelaide Local Health Network
NARI	New Arrival Refugee Immunisation Program
NAUSP	National Antimicrobial Utilisation Surveillance Program
NBCSP	National Bowel Cancer Screening Program
NEPM	National Environment Protection (Ambient Air Quality) Measure
NGO	Non-government organisation
NH&MRC	National Health and Medical Research Council
NHS	National Health Survey
NHF	National Heart Foundation (SA Chapter)
NSQHS	National Safety and Quality Health Service
OCP	Office of the Chief Psychiatrist
OHSAWG	One Health South Australia Working Group
PPE	personal protective equipment
PHIDU	Population Health Information Development Unit
PHN	Primary Health Network
PHPA	Public Health Partner Authority
PHSMS	Population Health Survey Module System
PM	Particulate matter
PrEP	HIV pre-exposure prophylaxis
PTSD	Post-Traumatic Stress Disorder
RTWSA	Return to Work with SafeWorkSA
RHD	Rheumatic Heart Disease
RAH	Royal Adelaide Hospital
RCF	Residential Care Facility
RPHP	Regional Public Health Plan
PRPP	Prevention, Planning, Response and Recovery
RTPM	Real-time prescription monitoring
SAAGAR	South Australian expert Advisory Group on Antimicrobial Resistance
SACOSS	South Australian Council of Social Service
SACR	South Australian Cancer Registry

SAHA	SA Housing Authority
SAHMRI	South Australian Health and Medical Research Institute
SAHTC	SA Healthy Towns Challenge
SALHN	Southern Adelaide Local Health Network
SAPHC	South Australian Public Health Council
SAPHS	South Australian Population Health Survey
SAPOL	SA Police
SARs	Special Administrative Regions
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SCC-H	State Control Centre-Health
SDS	School Dental Service
SEIFA	Socio-Economic Indexes for Areas
SES	State Emergency Service
SP	System Performance Division
SPN	Suicide Prevention Network
STEDS	Septic Tank Effluent Drainage Scheme
STI	Sexually transmissible infection
UniSA	The University of South Australia
UoA	The University of Adelaide
WHO	World Health Organisation
Y&NLHN	Yorke and Northern Local Health Network

ACKNOWLEDGEMENTS

We acknowledge and respect the traditional custodians of Country throughout South Australia and acknowledge the deep feelings of attachment and relationship they have to their ancestral lands.

The SA Health *Statement of Reconciliation (2014)* recognises Aboriginal people as the first Australians and seeks 'to engage Aboriginal people in decision-making processes for matters that affect their lived experiences in the community and through the health system. Together we will develop services and practices to be non-discriminatory and inclusive of Aboriginal people, respectful of Aboriginal beliefs and culture, fostering Aboriginal self-determination and producing equitable health outcomes for Aboriginal people of South Australia'.[1]

This report has been prepared for the Chief Public Health Officer by an editorial team comprising experts from across the disciplines of public health, drawing on advice from SA Health more widely. The report would not have been possible without the contributions of broader agencies and sectors, including other government departments, the Local Government Association of South Australia (LGA SA), local councils and the communities they serve, and other organisations from across South Australia and Australia.

LETTER OF TRANSMITTAL

May 2021

Hon Stephen Wade
Minister for Health and Wellbeing
Level 9, CitiCentre
11 Hindmarsh Square
ADELAIDE SA 5000

Dear Minister

RE: 'Promote, Protect, Prevent, Progress' – The Chief Public Health Officer's Report 2018-2020

Pursuant to Section 23 of the *South Australian Public Health Act 2011* (the Act), I am pleased to provide you with this report on the key public health trends, activities and indicators in South Australia, the implementation of the State Public Health Plan and the Act's administration.

This report describes the state of public health for South Australia, including health protection, prevention and control of communicable disease and non-communicable disease and their associated risks, the promotion of wellbeing and our work to progress and support the public health system for the period July 2018 to June 2020.

I acknowledge the work of the many public health practitioners contributing to the health and wellbeing of all South Australians, and I commend 'Promote, Protect, Prevent, Progress' – The Chief Public Health Officer's Report 2018-2020 to you.

Yours sincerely

Professor Nicola Spurrier
Chief Public Health Officer
Presiding Member
South Australian Public Health Council

MESSAGE FROM THE CHIEF PUBLIC HEALTH OFFICER

Public Health is what we do collectively as a society to create the conditions and environments that enable good health and wellbeing across a population. Often unseen, public health action touches all South Australians daily. Because public health focuses on the health of populations rather than individuals, improvements in population health can only be achieved through many people and organisations working together through strong relationships and establishing partnerships.

Over this reporting period, we have faced public health emergencies that, as well as highlighting the importance of health to our quality of life and wellbeing, have required the full exercise of powers under our legal framework for action and large-scale government intervention.

The 2019-2020 bushfires were significant and devastating for South Australian communities. The immediate effects and tragedy of death and trauma from the fires are apparent, while the longer-term health and environmental impacts are just becoming clear. Public health actions were part of the first response, and they will play a continuing role in rebuilding the health and wellbeing of affected communities.

South Australia's response to the COVID-19 pandemic has resulted in very low case numbers in the population and an ability to maintain an enviable lifestyle. Despite the high risk of COVID-19 introduction into the state, the pandemic has been contained and community transmission has been limited. We would not be in this position without the dedication of staff across the Health portfolio working together with South Australian Police and other government departments, local government, the wider health sector, non-government and business sectors.

Our response also reflects the combined efforts of all South Australians who have committed to protecting each other during the challenges of bushfire and pandemic. Throughout, we have seen the resilience and fortitude of communities caring for each other, sharing resources and reaching out with kindness to connect and support others in need, particularly the most vulnerable.

South Australians can be proud of our collective achievements in minimising the impact of COVID-19 on our health, community and economy. However, we must remain vigilant and continue to review emerging scientific evidence to prevent introduction of COVID-19 into South Australia, identify and contain new outbreaks, and to prevent chains of transmission through ongoing baseline restrictions.

Despite these two major health crises, I can report significant achievements in public health in South Australia

- In 2019, 95.5% of South Australian Aboriginal children aged 60 months to less than 63 months were fully immunised. This exceeds both the national and state averages for all children
- A general downward trend in smoking prevalence is evident across all groups in South Australia. Daily smoking prevalence overall among people aged 15-29 years and among those from the most disadvantaged areas was lower in 2019 than in 2017
- In 2019, 22% of South Australians aged 15 years and over reported drinking alcohol at levels that put them at risk of injury on a single occasion at least monthly, a significant decrease from 2011
- South Australian screening rates for breast, cervical and bowel cancer are amongst the highest in Australia
- South Australia currently leads the nation in the uptake rates of hepatitis C direct acting antiviral treatment, contributing significantly to achieving the World Health Organization's 2030 target for eliminating hepatitis C
- South Australia also has made significant progress on the elimination of Human Immunodeficiency Virus (HIV).

We face ongoing and complex challenges

- Tobacco use, overweight and obesity, and dietary risks are the leading contributors to South Australia's total disease burden. The persistent growth of overweight and obesity in children aged two to 17 years is particularly concerning
- Nearly half of South Australians will experience mental illness in their lifetime. This is now the second largest contributor to years lived in ill-health
- Sexually transmissible infections have increased over this period, consistent with national trends
- In South Australia and the rest of the nation, the gap in health outcomes between the nation's least and most disadvantaged communities continues to widen
- Aboriginal South Australians experience a higher rate of burden of disease and premature death than non-Aboriginal South Australians across nearly all age groups, including newborns
- 2019 was the warmest and driest year recorded in Australia, and the second warmest year on record for South Australia. Intensified climate risk means increased health risk and mortality, and a consequent increased demand on hospital and emergency services.

The mandate and expertise required to address these complex public health challenges do not sit solely with health or any other sector alone. Multi-faceted partnerships involving different levels of government, non-government organisations (NGO) and communities are required to build and sustain safe, healthy, thriving communities in the 21st century. However, it is also during a health emergency, such as the COVID-19 pandemic, that the benefits of a well-functioning and resourced public health system come to the fore. Public health has shown itself to be the first, second and third line of defence during the COVID-19 pandemic with border quarantine controls to decrease exposure, cross-community education and COVID restrictions to support behaviour change, and testing and contact tracing at the first sign of outbreak. The case for strengthening Public Health is compelling.

There is no doubt that South Australia has strong foundations for a robust public health system. We must continue to invest in our capacity to protect and promote good health, and to ensure preparedness for future threats to South Australian's health and wellbeing.

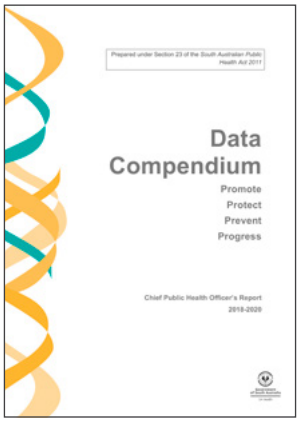
Professor Nicola Spurrier
Chief Public Health Officer

HOW THE REPORT IS STRUCTURED

The Chief Public Health Officer's Report is comprised of three interlinked components

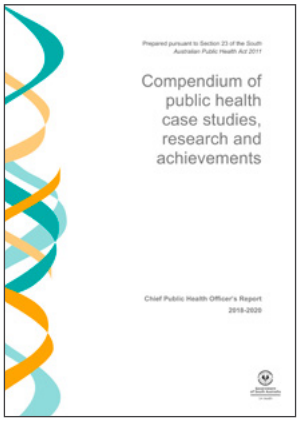
THE REPORT

Covers administration of the Act from 2018-2020 and the state of public health for South Australia over this period. It provides key population health data on disease incidence and prevalence, risk and protective factors. The report includes a dedicated chapter on COVID-19 activity, and outlines a range of activities undertaken in the reporting period to protect and promote health, and to prevent and control disease.



THE DATA COMPENDIUM

Throughout the report ***Indicators at a glance*** refer to statistical tables, figures and maps which are held in the Chief Public Health Officer's Report Data Compendium. This compendium also provides definitions, terminology, references and further information on data sources and analysis.



THE COMPENDIUM OF CASE STUDIES, RESEARCH AND ACHIEVEMENTS

Summaries of select case studies and feature stories are highlighted in the report. This compendium showcases these in full, including all references, demonstrating the breadth of public health action in South Australia. A linked index of case studies is provided with this compendium.

CHAPTER ONE
ADMINISTERING THE *SOUTH AUSTRALIAN PUBLIC HEALTH ACT* 2011

Chapter One sets public health in its strategic context by providing the rationale for public health action that is enabled by the Act, and brief outlines of its legislative, policy and planning tools.

WHAT IS PUBLIC HEALTH?

Public health is what we do collectively as a society to create the conditions and environments that enable good health and wellbeing. It involves the combination of policies, programs and safeguards designed to protect, maintain and promote the community's health, and to prevent or reduce disease, injury or disability incidence within the community. It is what stops us from getting sick and keeps us out of hospital.

Often unseen, public health action touches all South Australians daily. By preventing harm, promoting and preserving wellbeing, public health halts the causes of sickness in our population, and builds on the things that protect us and improve our health and wellbeing. Access to nutritious food, water supply protection, housing safety, monitoring and prevention of health and injury threats like infectious agents and poisoning, and minimising disease impacts through improved diet, smoking cessation, and increased physical activity; these are just a few examples of the foundational place of public health in the lives all South Australians.

Public health in the 21st century remains focused on mitigating public health risks, such as infectious diseases and environmental health protection. At the same time, public health recognises that health is also shaped by broader factors including the social, economic and physical environments in which people live.

Because public health can make changes at a population level, it has the potential to positively impact upon the health and wellbeing of many people, in some cases with relatively little input. For example, ensuring that women of child-bearing age have access to sufficient folate in their diet has markedly reduced the incidence of spina bifida in Australia. Similarly, supplying Australia's municipal water with added fluoride reduces rates of tooth decay across populations.

THE ACT'S KEY TOOLS

South Australia has a world-leading legislative and partnership framework under the Act. Legislative intent is guided by broadly scoped objects and clear principles, and the Act has been designed as a robust, inter-dependent system of powers and functions, some of which are highlighted here.

Principles for action

Public health action is guided by principles which are enshrined in the Act and supported by Guidance on how these principles can be applied.[2]

The **POPULATION FOCUS PRINCIPLE** is fundamental to the way the Act should always be used: namely, with the health of the wider community as its prime concern. It also reinforces the importance of public health planning and community wide strategies that are designed to improve the health of individuals (for example by the creation of environments that encourage people and communities to be more active). **PREVENTION** is about maintaining the focus on risks that can be prevented and avoided, while the **SUSTAINABILITY PRINCIPLE** ensures that public health, social and environmental factors inform decision-making.

PARTNERSHIP and **COLLABORATION PRINCIPLES** recognise that no single individual, agency, or community can promote and protect population health, and that to improve population health we must work together. These principles underpin the planning system envisaged under the Act, and encourage collaboration partnership and joint action across all levels of government, with NGOs, wider stakeholders, and communities.

The **PARTICIPATION PRINCIPLE** recognises that public health is a shared responsibility that needs individuals and communities to take responsibility for their own health and participate in public health action. Widespread adoption of hygiene measures and social distancing to prevent community transmission of COVID-19 is a powerful example of how the principle works in practice to protect the whole community.

The **EQUITY PRINCIPLE** recognises that health disparities should be addressed. It requires those who are working under the Act to ensure decisions and actions take equity into account and don't unduly or unnecessarily or unfairly disadvantage individuals or communities, to develop strategies to minimise or alleviate health disparities, and to improve the public health of vulnerable communities and groups – especially Aboriginal South Australians.

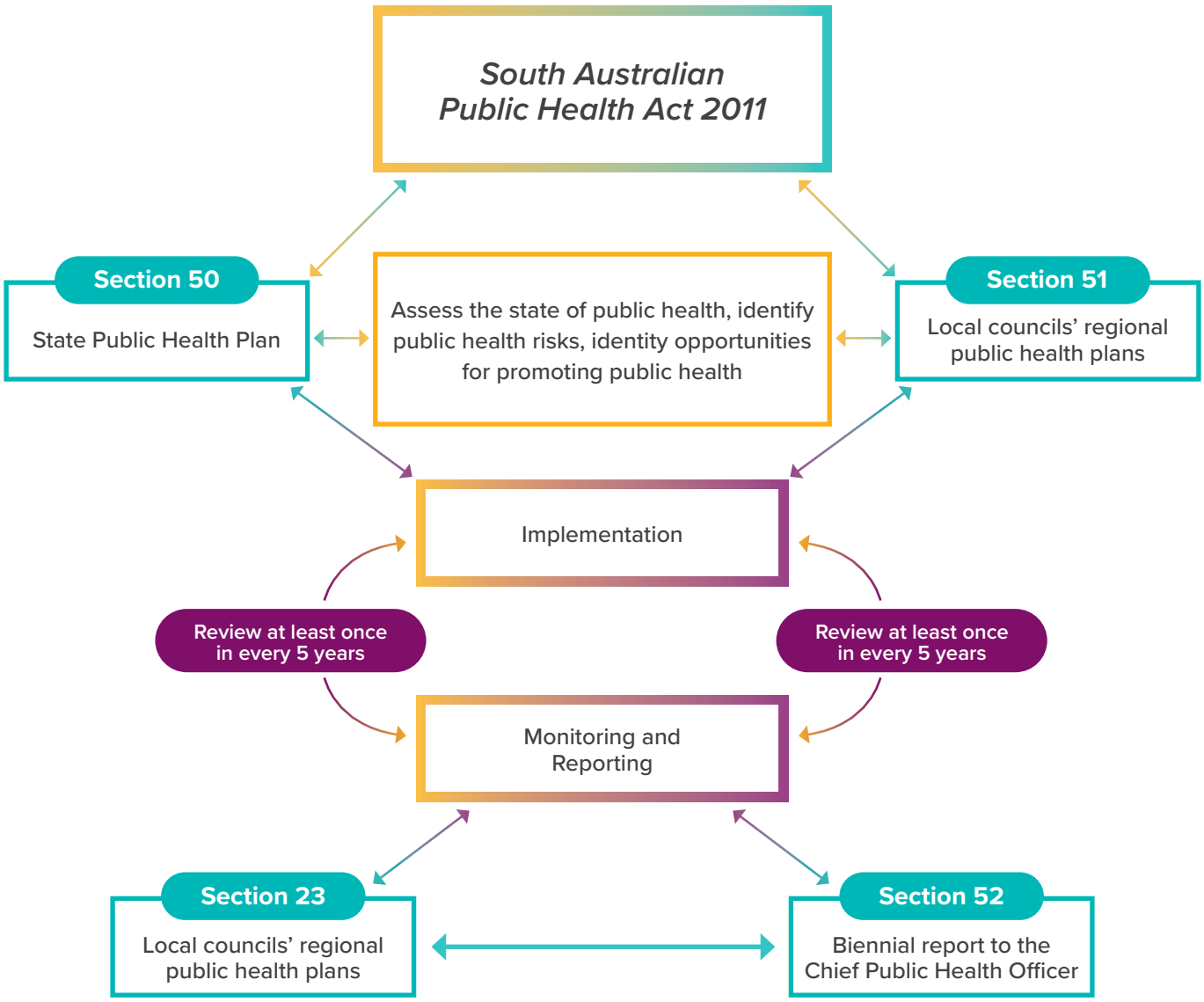
The **PROPORTIONAL REGULATION PRINCIPLE** deems that the steps taken to mitigate risk must be proportionate to the risks posed. For example, decisions around making particular actions such as vaccination mandatory must be proportionate to the risk posed by a particular infectious disease.

The **PRECAUTIONARY PRINCIPLE** provides for action on a material risk to public health, in the absence of full scientific certainty, rather than postponing measures to prevent, control or abate that risk. In practice, the precautionary principle is rarely used since we usually have enough evidence to make an informed decision. However, the precautionary principle underpinned public health action on COVID-19 because little was known about this novel virus. South Australia's experience demonstrates that the precautionary principle, systematically applied to actions such as risk assessment and review of restrictions, has been vital to minimising the impacts of this pandemic.

South Australia's public health planning system

The Act and its regulations are designed to address contemporary public health issues as well as the foundational and enduring public health concerns. Guided by the Act's Objects and Principles, the planning system enabled by the Act provides a framework for action on sustaining and improving the health and wellbeing of all South Australians. This report has been developed within the context of implementing the planning system contained in Sections 50, 51 and 52 of the Act.

Figure 1 - South Australian Public Health Planning System



State Public Health Plan

The *State Public Health Plan 2019-2024* sets the agenda for public health planning and action across South Australia and provides a framework for local government public health planning to address public health challenges. It provides for consistent, coordinated action for public health across all relevant spheres and sectors of government.

The Plan and related actions respond to identified state-wide public health issues, as well as public health issues of relevance that are identified by local councils. Key actors include commonwealth, state and local governments, NGOs, tertiary and research institutions, industry, the private sector, and the community. The Plan must be reviewed at least once in every five years.

The State Public Health Plan is the second State Public Health Plan and meets the requirements of Section 50 of the Act. The Plan builds on the strong foundation and achievements of the inaugural Plan, with the objects and principles of the Act at its core.[3]

The State Public Health Plan's vision is a healthy, liveable and connected community for all South Australians. The vision builds on four strategic priorities:

PROMOTE	Build stronger communities and healthier environments
PROTECT	Protect against public and environmental health risks, and respond to climate change
PREVENT	Prevent chronic disease, communicable disease and injury
PROGRESS	Strengthen the systems that support public health and wellbeing

Key issues, risks and challenges prioritised by the Plan include:

- Disability inclusion
- Ageing well
- Addressing the increased prevalence of chronic conditions (including diabetes, heart disease, and some cancers)
- Obesity (especially childhood obesity)
- Mental health and wellbeing
- Real-time prescription monitoring of drugs of dependence
- Maintaining food safety in light of changing food business models and new food technologies
- Zoonotic, and other infectious diseases
- Outbreaks and occurrences of particular infectious diseases in Aboriginal communities
- Sexually transmissible infections, including the persistence of Chlamydia
- Antimicrobial resistance
- Climate change

Chapter Four highlights public health action over the reporting period, including examples of delivery on the State Public Health Plan's four priorities, including responses to the issues identified above.

Regional Public Health Plans

The Act recognises South Australia's local councils' continuing key role in protecting and promoting the health and wellbeing of their communities, as the public health authorities for their areas. It recognises councils' leadership and coordination of this planning effort on behalf of their communities.

The Act requires councils to prepare, maintain, and report on a Regional Public Health Plan (RPHP) that is consistent with the State Public Health Plan, and responds to public health challenges within their local area or region.

Once prepared and in place, the RPHP must be reviewed at least once in every five years. The first review of RPHPs under the Act spans the period 2018-2021, in line with individual councils' RPHP commencement dates. The review must undertake a fresh assessment of population health and risks, and consider any changes to the RPHP arising from the second State Public Health Plan. At 30 June 2020, 20% of reviewed RPHPs were submitted for final consultation with the Chief Public Health Officer (CPHO). This final step is required by the legislation before a council may operationalise its RPHP. Biennial reports on implementation must be provided on 30 September of each reporting year. Owing to COVID-19, the due date for these reports has been extended to 31 December 2020.

South Australian Public Health Council

Pursuant to Section 31 of the Act, the South Australian Public Health Council (SAPHC) supports the CPHO in meeting statutory obligations by providing assistance and advice about a broad range of public health related matters. This includes, for example, the development of plans under the Act, programs and strategies to promote public health research and the public health workforce in South Australia. The Act also requires consultation with SAPHC on certain matters, including preparation of guidelines, and proposals to create or amend a State Public Health Policy or the State Public Health Plan. SAPHC is required to report annually on its activities. SAPHC reports are available at this link.

With the expiration of membership terms and two member resignations over the reporting period, His Excellency the Governor in Executive Council appointed/re-appointed the following SAPHC Council members under Section 27 1(b) of the Act:

- Gary Mavrinac, re-appointed 2018
- Prof Helen Marshall, re-appointed 2018
- Imelda Lynch, appointed 2018
- Dr Adriana Milazzo, appointed 2019
- Dr Matthew McConnell, appointed 2020
- Andrew Pruszinski, appointed 2020
- Dr David Cox, appointed 2020
- Nicole Moore, appointed 2020

Due to the COVID-19 pandemic, the SAPHC did not meet in the final six months of the reporting period.

Public Health Partner Authorities

Public Health Partner Authorities (PHPAs) are organisations that have agreed to collaborate with SA Health, Wellbeing SA or local government on public health planning or actions that lead to improved population health and wellbeing. To date, PHPAs have focused on partnerships across the South Australian government, NGOs and universities, and delivery on state-wide policy and public health issues. Thus far, 19 PHPAs have been declared in the South Australian Government Gazette, as per Section 51(23)(b) of the Act. PHPAs deliver a range of successful project outcomes. PHPAs established during the reporting period are listed at Table 1, with greater detail on these, and the full list of PHPAs, provided in Chapter Four.

Table 1: Public Health Partner Authorities

Public Health Partner Authorities	Establishment date/ status
Department for Environment and Water (DEW)	Renewed Agreement – March 2019
The University of South Australia (UniSA)	Renewed agreement – September 2019
National Heart Foundation (SA Chapter) (NHF)	Established August 2019
Don Dunstan Foundation (DDF)	Established September 2018
Alcohol and Drug Foundation (ADF)	Established September 2018
Council on the Ageing SA (COTA SA)	Established November 2018
Primary Health Networks (PHN) Includes Adelaide and Country SA PHN	Established November 2018
Department for Education (DE)	Established November 2018
Department for Correctional Services (DCS)	Established December 2018
The University of Adelaide (School of Public Health)	Established January 2019
ReturnToWork SA (with SafeWork SA)	Renewed Agreement – February 2020

Establishment of Wellbeing SA

In January 2020, Wellbeing SA, attached to the Department for Health and Wellbeing, was set up as a new agency to deliver a renewed focus and action on prevention in South Australia. Wellbeing SA will use a population health approach and a broad approach to wellbeing to improve the health of the entire population, leading community-wide action on the determinants of health and wellbeing. A priority for Wellbeing SA is to take action to reduce disparities in health outcomes, and to be responsive to the needs of priority populations, especially for Aboriginal South Australians.

PUBLIC HEALTH LEGISLATION UPDATES 2018-2020

The Act is part of a range of public health legislation designed to protect and promote the health of South Australians. Other relevant legislation assigned to the Minister for Health and Wellbeing is listed as follows:

- *Controlled Substances Act 1984*
- *Food Act 2001*
- *Health Care Act 2008*
- *Public Intoxication Act 1984*
- *Safe Drinking Water Act 2011*
- *Tobacco and E-Cigarette Products Regulation Act 1997*
- Vaccine Administration Code

Other relevant Acts that have implications for public health are:

- *Biosecurity Act 2015*
- *Climate Change and Greenhouse Emissions Reduction Act 2007*
- *Disability Inclusion Act 2018*
- *Emergency Management Act 2004 (South Australia)*
- *Environmental Protection Act 1993 (South Australia)*
- *Gene Technology Act 2001*
- *Housing Improvement Act 2016*
- *Local Government Act 1999 (South Australia)*
- *National Environment Protection Council Act 1994*
- *National Health Security Act 2007*
- *Natural Resources Management Act 2004*
- *Planning, Development and Infrastructure Act 2016*
- *Radiation Protection and Control Act 1982 (South Australia)*
- *Therapeutic Goods Act 1989*

Public Health legislation is reviewed and amended for a range of reasons, including policy changes, national legislation alignment, and in response to emerging issues.

Summaries to changes in public legislation 2018 to 2020 are detailed here.

Table 2: Summary of changes to legislation, regulations, public health policy and guidelines 2018-2020

Full title	Precis of legislative changes
Gene Technology Regulations 2017	South Australian Regulations were varied to incorporate changes made to Commonwealth Gene Technology Regulations in line with the national gene technology scheme and supporting consistency for operators.
South Australian Community Wastewater Management System (CWMS) Design Criteria	The South Australian CWMS Design Criteria was released in July 2019. This document was jointly prepared by the Local Government Association of SA (LGA) and the Department for Health and Wellbeing (DHW) and replaces the Septic Tank Effluent Drainage Scheme (STEDS) Design Criteria (LGA, DHW). The new design criteria provide the minimum requirements for CWMS designs specific to South Australian conditions, and has been updated to reflect significant changes in the industry.
South Australian Public Health Act 2011	Amendments to the *South Australian Public Health Act 2011* were made to provide the CPHO with additional powers to respond quickly and effectively in order to control the spread of infectious diseases, such as COVID-19. Pre-emptive action, potentially ahead of a definitive medical diagnosis, can be critical to preventing the spread of infection, as evidenced by recent months. Further consequential amendments were made in April 2020 in relation to the introduction of the South Australian *COVID Emergency Response Act 2020*. These changes provide expanded powers as required to assist in responding to the COVID emergency.
South Australian Public Health Act 2011	Part 12A – Immunisation and Early Childhood Services. Phase 1: Implemented 1 January 2020: Early Childcare Service required to collect and retain immunisation history statements. Phase 2: Implemented 7 August 2020, children will not be able to enrol in or attend early childhood services unless all immunisation requirements are met. Early childhood services must not enrol a child if all immunisation requirements are not met. A child cannot attend, or continue to attend, an early childhood service if all immunisation requirements are not met; early childhood services must keep a current copy of an approved immunisation record for each child enrolled in or attending that service; and approved immunisation records must be supplied by parents/guardians to the early childhood service at specified times.
South Australia Public Health (Notifiable Contaminants) Regulations 2020	These regulations were implemented to activate the requirements under the Act for mandatory reporting of prescribed contaminants when detected in food as part of a laboratory analysis. This provides the opportunity for action to be taken before a contaminant can become a foodborne illness risk and, in the longer term, data collected from these notifications provides a useful indicator of where public health interventions can be taken to proactively protect the health and safety of South Australians.
South Australian On-site Wastewater Systems Code	A major review of the South Australian On-site Wastewater Systems Code 2013 (the Code) is in progress. The Code is a prescribed code under the South Australian Public Health (Wastewater) Regulations 2013 and provides a regulatory framework for the design, installation, operation and maintenance of on-site wastewater systems in areas not serviced by SA Water sewers. The updated Code is expected to be released for public consultation early to mid-2021 prior to publication.
Controlled Substances Act 1984	18 November 2019 – Amendments made by the Statutes Amendment (Drug Offences) Bill 2018 included increased penalties for cannabis possession, in line with community expectations, and limiting the number of drug diversions before a person must be charged with an offence.

Full title	Precis of legislative changes
Controlled Substances (Poisons) Regulations 2011	1 July 2018 – A number of substances were added under regulation (16)(3) (as Section 17C precursors). 18 April 2019 – Administrative amendments, including amendments to recognise the national change to codeine scheduling. 13 January 2020 – Emergency supply arrangements; amendments to regulation 21 to allow pharmacists to dispense or supply a Schedule 4 prescription drug without a prescription under certain conditions if the pharmacist is satisfied that the person is being treated with the drug and is unable to produce a prescription for the drug because they are affected by an emergency specified by the Minister by notice published in the Gazette. 1 April 2020 – Amendments place restrictions on the sale of nitrous oxide. 18 June 2020 – Amendments enable electronic prescribing.
Controlled Substances (Controlled Drugs, Precursors and Plants) Regulations 2014	26 July 2018 – The drug beta-phenyl-gamma-aminobutyric acid (Phenibut) declared as a controlled drug in Schedule 1. 1 July 2019 – Schedule 5 cannabis expiation fees increased. 31 October 2019 – 1-(1,3-Benzodioxol-5-yl)-2-(ethylamino)pentan-1-one (N-Ethylpentylone) declared as a controlled drug in Schedule 1.
Guideline for reporting on Regional Public Health Plans	The Guideline was revised for the 2018-2020 reporting period in order to reflect priorities of the second State Public Health Plan.
Guide to Regional Public Health Planning	The Guide, which was developed in collaboration with the LGA as lead agency, assists councils with the renewal and development of RPHPs, supporting consistency in planning approaches across South Australian Councils.
Tobacco and E-Cigarette Products Act 1997	Over 2019, the South Australian government amended tobacco control legislation to restrict the advertising and sale of electronic cigarettes (E-Cigarettes) in line with the regulation of tobacco products.

Information about monitoring, enforcement and education action associated with administration of these Acts is provided in Chapter Five.

Five-year review of the Act

In accordance with Section 110 of the Act, the Social Development Committee of the South Australian Parliament undertook its first Review, commencing on 22 October 2018 and concluding on 21 July 2020. The Review addressed the powers, structures and tools established under the Act since full commencement, and aimed to determine whether these have been effective in providing the framework to achieve the objectives of the Act to promote, preserve and protect public health in South Australia.

Thirty-five submissions were received from state and local government, professional leadership organisations, and NGO's. The Committee sought additional advice from the CPHO with regard to the COVID-19 pandemic, which required amendments and modifications to the Act, and the introduction of the *COVID-19 Emergency Response Act 2020*.

The Social Development Committee Report made 85 recommendations, finding in the main that the Act, its subordinate legislation, and supporting policies provide a 'fit for purpose' regime for the protection and promotion of the health of South Australians, with strategic and real-world instruments for dealing with emerging threats to public health. This confirms that the Act provides strong foundations for a robust public health system. The full report is available for download at the **South Australian Parliament website**.

CHAPTER TWO
STATE OF PUBLIC HEALTH 2018-2020

Chapter Two reports on the key public health trends in South Australia for the reporting period July 2018 to June 2020. Data snapshots provided in 'at a glance' infographics are linked to the 2018-2020 Data Compendium. This companion document reports more extensively against each indicator in the Public Health Indicator Framework.

The Framework includes the measures used in South Australia to monitor the state of public health under the Act, using available data. While this endeavours to cover the scope of activity envisaged in the Act, it does not cover all aspects of public health action undertaken by relevant agencies. More information about the Framework is contained in the Data Compendium.

INDICATORS AT A GLANCE

SA estimated resident population was **1.75 MILLION** (2019)

The population change was **0.9%** compared with **+1.4% in Australia** (2018-2020)

18.4% of South Australians were aged over **65 YEARS** (2019)

17.7% of South Australians were aged **0-14 YEARS** (2019)

The median age of Aboriginal South Australians is **22.8** years of age

The population density in South Australia is **1.8** persons per km/2

>75% of South Australians live in the greater Adelaide region (2018)

23% South Australians report being **BORN OVERSEAS** (2019)

SA is home to **200+** Culturally, linguistically, and religiously diverse backgrounds

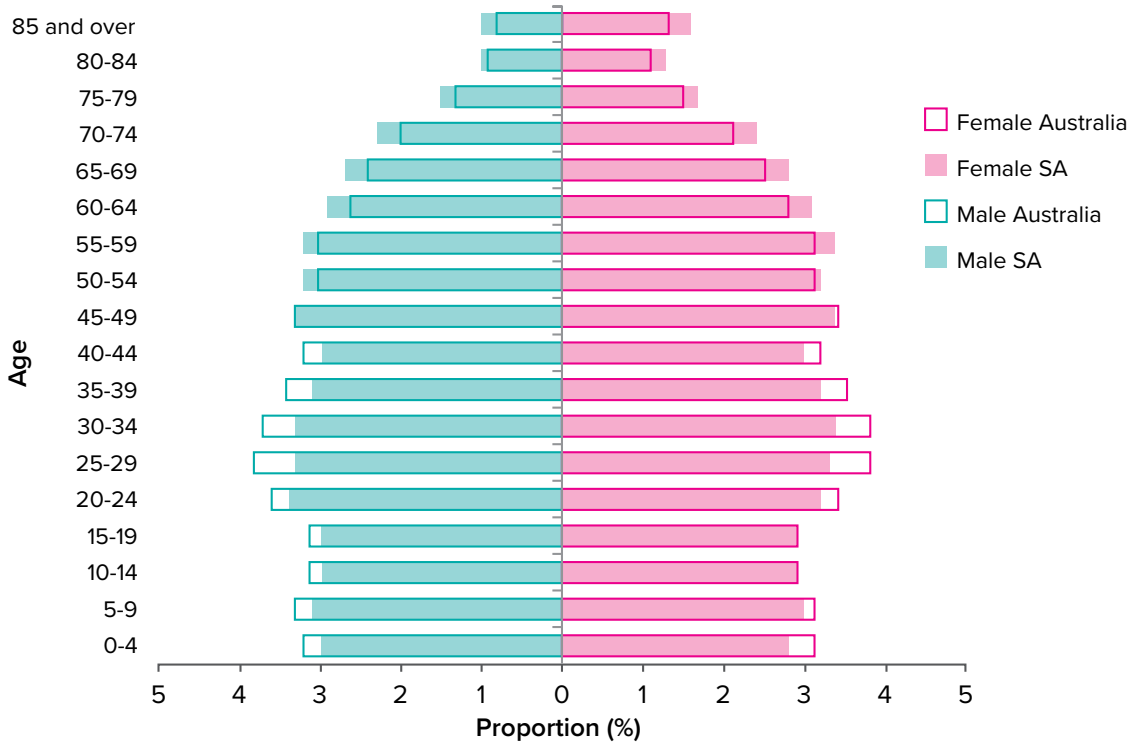
28% of South Australians live in a lone household (2016)

SOUTH AUSTRALIA'S POPULATION PROFILE

Understanding of South Australia's population profile helps preparation for the issues and demands of population change on services, including public health and healthcare services. Demographic trends, for example about age, where people live, population growth and decline and cultural diversity, have direct implications for priorities in preventing illness and improving population health outcomes.

- The Australian Bureau of Statistics (ABS) estimated the resident population of South Australia at 31 December 2019 to be 1.75 million people. This is an increase of 15,739 people since 31 December 2018 at an annual growth rate of 0.90%. Australia's growth rate over the same period was 1.39%. The Northern Territory had the lowest population growth rate (-0.4%)
- Figure 2 shows the age-sex distribution of South Australians compared to all Australians, highlighting South Australia's ageing population
- Regional and rural areas were more likely to report higher rates of people aged 0-14 years. with the District Council of Roxby Downs reporting one quarter (25.9%) of its population within this age group
- Metropolitan areas were less likely to report people aged 0-14 years, with the City of Adelaide reporting the lowest proportion (5.5%)
- The City of Victor Harbor had the highest proportion of people aged 65 years and over (39.6%).
- The population density of South Australia at June 2019 was 1.8 people per square kilometre, which was the third sparsest state or territory behind the Northern Territory (0.2 people per square kilometre) and Western Australia (1 person per square kilometre).
- Over three quarters of South Australia's population reside in the greater Adelaide region.
- The cities of Prospect, Unley and Holdfast Bay are the most densely populated areas in South Australia.[5]
- South Australia has a higher proportion of lone households and households with two residents compared with Australia as a whole:[6]
  - 27.9% of South Australian dwellings have one resident, compared with 24.3% across Australia.
- 25.8% of families are couples with children, compared with 28.4% across Australia.
- Among couples with children, 43% have two children, while among sole parent families, the majority (56.9%) have one child.
- The five most advantaged areas in South Australia are the Local Government Areas (LGAs) of Burnside, Adelaide Hills, Walkerville, Mitcham, and Unley.
- The five most disadvantaged areas in South Australia are the LGAs of Peterborough, Playford, Coober Pedy and Whyalla, and the out of council area Anangu Pitjantjatjara.

Figure 2: South Australian population by age and sex at 30 June 2018*



Date source: National, state and territory population, June 2019[4]

Table 3: Median age and estimated resident Aboriginal and Non-Aboriginal population, South Australia, 2016*

	Estimated resident population (n)						ERP (%)		Median age (years)	
SA	Aboriginal	Torres Strait Islander	Both Aboriginal & Torres Strait Islander	Aboriginal and/or Torres Strait Islander	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Aboriginal	Non-Aboriginal
Males	19,979	570	378	20,927	825,950	846,877	2.5	97.5	22.1	39.3
Females	20,414	545	379	21,338	844,628	865,966	2.5	97.5	23.4	41.4
Persons	40,393	1,115	757	42,265	1,670,578	1,712,843	2.5	97.5	22.8	40.3

Data source: ABS
Note: Imputation of Aboriginal status for Census records with unknown Aboriginal status (as a result of either non-response to the Aboriginal and Torres Strait Islander origin question in Census, or unknown Aboriginal status on Census records imputed by the ABS when a form could not be obtained from occupied dwellings identified in the files (for details please see ABS explanatory notes).

** Note: These data have not been updated since 2016. Please see ABS explanatory notes: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3238.0.55.001Explanatory%20Notes1June%202016?OpenDocument*

Aboriginal South Australians

In 2016, it was estimated there were 42,265 Aboriginal people in South Australia comprising 2.5% of the South Australian population. The median age of Aboriginal people in South Australia was 22.8 years, much younger than non-Aboriginal people (40.3 years).

Country of origin and language spoken at home

South Australia is home to people from more than 200 culturally, linguistically and religiously diverse backgrounds.[7] The migrant population in South Australia has comprised just under a quarter of the total population since the mid-1960s. In 2018-19, the net overseas migration in South Australia was 14,100, representing 5.9% of all net overseas migration for Australia. This represents 25,500 arrivals and 11,500 departures.[5] The most recent Census in 2016 showed:

- Around 22.9% of South Australians were born overseas. The most common countries of birth were England 5.8%, India 1.6%, China (excludes Special Administrative Regions (SARs) and Taiwan) 1.5%, Italy 1.1% and Vietnam 0.9%
- The most common ancestries in South Australia were English 28.5%, Australian 25%, Scottish 6.3%, Irish 6% and German 5.8%
- The LGAs with the highest proportion of people who speak a language other than English at home (excluding Aboriginal communities) were the City of Adelaide (47.3%), Coober Pedy (40%), Port Adelaide Enfield (38.2%) and the City of Campbelltown (37.9%)
- 400,000 South Australians had been born overseas and about 270,000 reported speaking a language other than English at home.

BIRTH AND LIFE EXPECTANCY

Birth and life expectancy are important metrics for assessing population health. Birth rate is a key indicator of population growth and change, while life expectancy captures mortality along the entire life course, and tells us the average age of death in a population.

INDICATORS AT A GLANCE

7.7%
of babies born in South Australia are low birthweight
(2018)

SA life expectancy
MALE
80.4
FEMALE
84.7
(2016-18)

Aus-wide Aboriginal life expectancy
MALE
71.6
FEMALE
75.6
(2015-2017)

SA standardised death rates equal to the Australian rate
5.3
per 1,000
(2019)

Fertility / birth

In 2018, there were 19,113 live births in South Australia which increased slightly from 2017 (19,072 live births). In 2018, there were 809 Aboriginal births representing 4.2% of all live births in South Australia. The fertility rate of Aboriginal women was slightly higher than the South Australian state level in the past decade.

Low birth weight

Birthweight is a key indicator of infant health and a major determining factor in a baby's chance of survival and good health. Babies born with low birthweight are at greater risk of poor health, disability and death.[8]

- In South Australia in 2018, the percentage of low birthweight babies (<2,500g) was 7.7%
- The proportion of infants with a low birthweight born to Aboriginal women has fluctuated over time, increasing from 9.2% in 1982 to 19.7% in 2002, and is currently 16.9%.

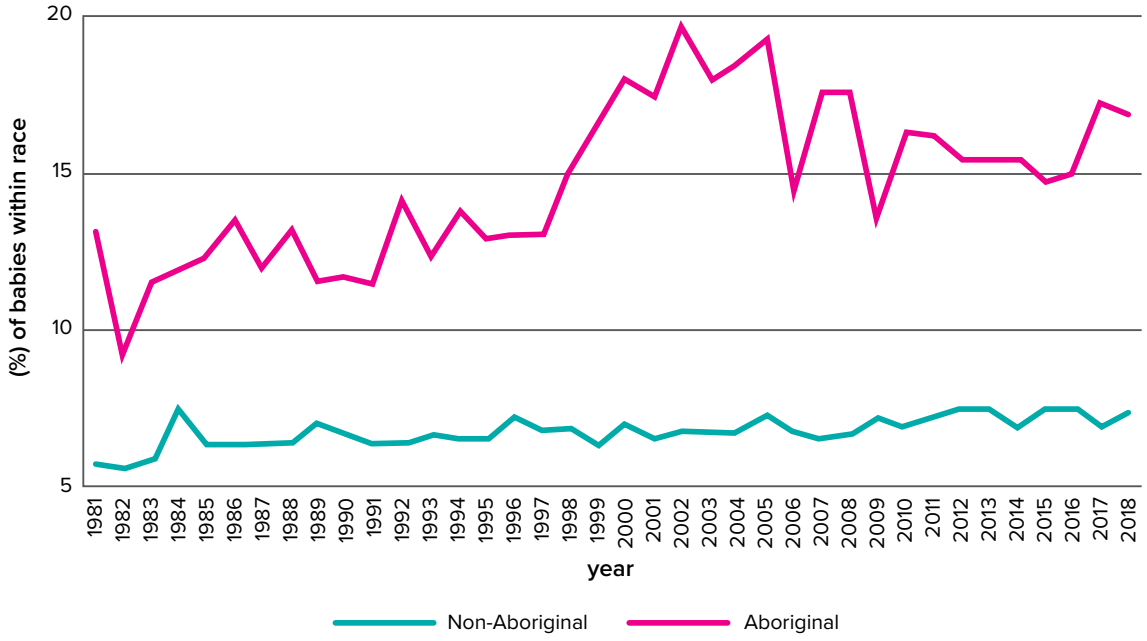
Life expectancy

In South Australia, life expectancy at birth was 80.4 and 84.7 for males and females in 2016-18, and increased 1.2 years for males and 0.9 years for females compared to 2006-08 figures.[9]

Life expectancy at birth for both males and females in South Australia is similar to national levels (males 80.7 and females 84.9 in 2016-18).

Australia-wide, the total life expectancy of Aboriginal males (71.6 years) and females (75.6 years) born in the years 2015-2017 is around a decade lower than the 80.4 and 84.6 years for all males and females.[10]

Figure 3: Trends for proportion of low birthweight by maternal Aboriginal status, all births, 1981-2018



Data source: Pregnancy Outcome Unit, Wellbeing SA

Table 4: Life expectancy at birth, South Australia and Australia – selected year

		2006-2008	2016-2018	Change
Australia (a)				
	Males, years	79.2	80.7	1.5
	Females, years	83.7	84.9	1.2
South Australia				
	Males, years	79.2	80.4	1.2
	Females, years	83.8	84.7	0.9

Data source: Life tables, states, territories and Australia, 2016-2018[9]
Note: (a) Includes other territories

Causes of death

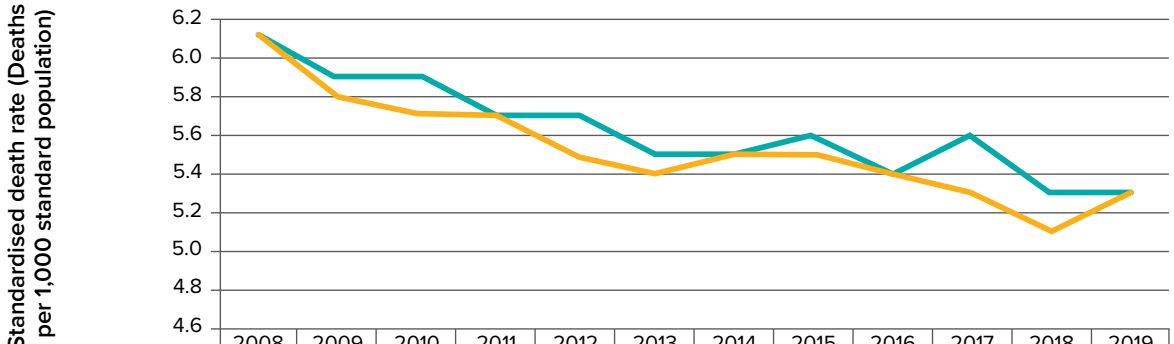
Deaths data are a vital measure of a population's health, and provide information on patterns of disease that cause death, by population groups, and over time. Deaths data are calculated using standardised age rates – hypothetical rates that enable comparison between or across populations by controlling for differences between them. Examining deaths data can help explain differences and changes, assist with evaluating health strategies, and guide planning and policy making.

In 2019, there were 13,917 deaths in South Australia. The standardised death rate has gradually decreased from 2008 (6.1 per 1,000) to 2019 (5.3 per 1,000 standard population).[11] In 2019, controlling for South Australia's older population, the number of people who died compared with the rest of Australia was proportionally the same.

Causes of death data are available to 2018. In total, the top six leading causes accounted for 40.6% of all deaths in South Australia registered in 2018:

- The leading cause of death was dementia (1,441 deaths), accounting for 10.6% of all deaths
- The number of deaths from dementia and Alzheimer's disease has increased 64% over the past decade (2009-2018)
- Ischaemic heart disease is the second leading cause of death (1,431 deaths) accounting for 10.5% of all deaths, and the first leading cause for males and the second leading cause of death for females
- While remaining the leading cause of death for males, the number of deaths from ischaemic heart disease has been steadily declining over the past decade
- Cerebrovascular diseases (5.7%), cancer of the trachea, bronchus and lung (5.2%), chronic lower respiratory diseases (4.9%), and cancer of the colon, sigmoid, rectum and anus (3.7%) complete the top six leading causes of death.

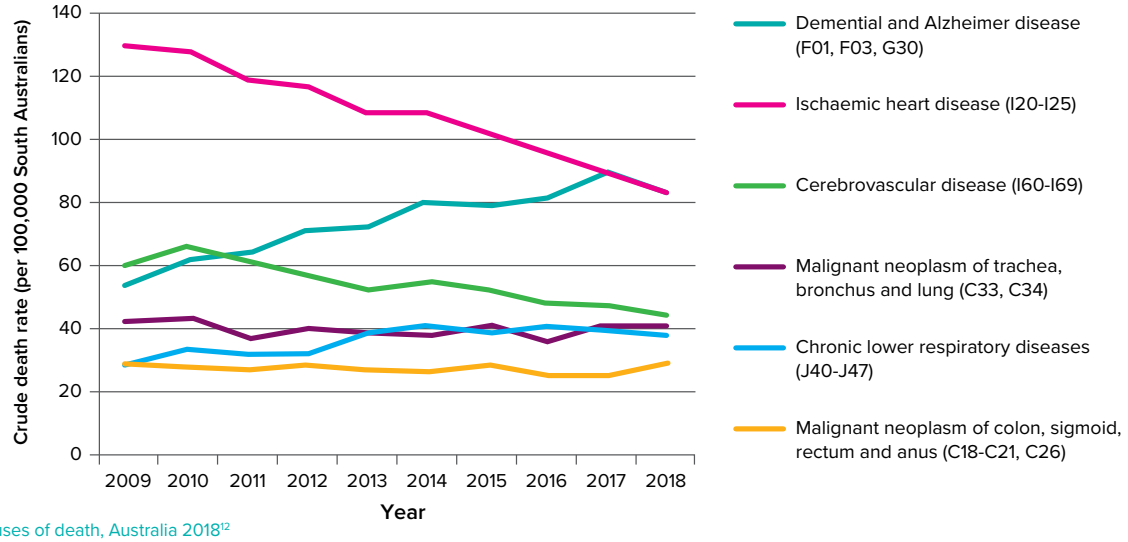
Figure 4: Standardised death rate per 1,000 standard population, South Australia, 2008-2019



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
South Australia	6.1	5.9	5.9	5.7	5.7	5.5	5.5	5.6	5.4	5.6	5.3	5.3
Australia	6.1	5.8	5.7	5.7	5.5	5.4	5.5	5.5	5.4	5.3	5.1	5.3

Data source: Death Australia, Reference period 2019[11]
Note: Deaths per 1,000 standard population. Standardised death rates use the age distribution of total persons in the Australian population at 30 June 2001 as the standard population.

Figure 5: Trend top six leading causes of death, crude rates, South Australia, 2009-2018



Data source: Causes of death, Australia 2018[12]
Note: Results are percentages out of the total number of top six leading causes of death.

Potentially avoidable deaths

Measuring and reporting potentially avoidable deaths helps with assessing the effectiveness of public health and health care systems in reducing premature deaths from various diseases and injuries that have modifiable risk factors.

The most recent data (2015-2017) show the potentially avoidable deaths (age-standardised) were 102 and 119 per 100,000 people for Adelaide and Country South Australia respectively. This was unchanged from 2014-2016.[13]

Perinatal mortality

In South Australia over 2017 and 2018, the perinatal mortality rate for all births (livebirths of any gestation and stillbirths of at least 400g birthweight/20 weeks' gestation) was 9 and 9.2 per 1000 births. Aboriginal perinatal death rates over this period were more than double the rate of non-Aboriginal deaths per 1000 births.

BURDEN OF DISEASE, INJURY AND DISABILITY

The human and economic costs that result from poor health are frequently described as 'burden of disease'. Burden of disease analysis measures the impact of fatal and non-fatal burden; that is, both deaths and living with poor health. It takes disease prevalence, severity of disease and age at death into account.[14] Understanding the burden of disease helps public health practitioners and policy makers to plan interventions and deliver services that enhance prevention, control the spread of disease, improve disease outcomes, and reduce health inequities.

INDICATORS AT A GLANCE

CORONARY HEART DISEASE
is the leading cause of total disease burden in South Australia

29%
of South Australian adults report having a mental health problem
(2018/19)

The projected incidence of all cancers
MALE
546.2
FEMALE
461.9
per 100,000
(2020)

1 in 5
South Australian adults report having a disability
(2018-2020)

47,900
hospital admissions in South Australia were potentially preventable
(2019/20)

DEMENTIA
was the leading cause of death of South Australians
(2018)

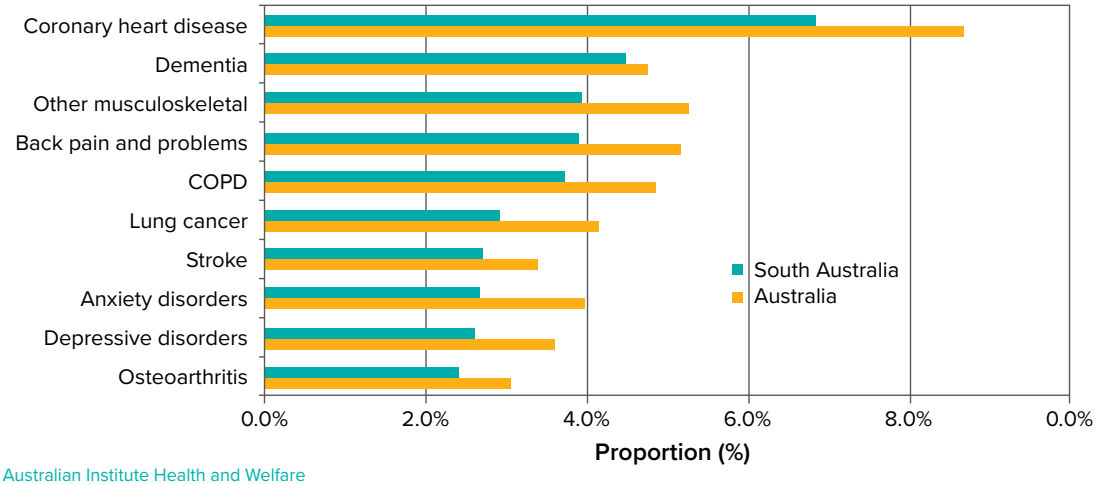
Top ten leading causes

As a proportion of total Disability-Adjusted Life Years (DALY) within South Australia, the top ten leading causes of disease burden are coronary heart disease (6.8%), dementia (4.5%), other musculoskeletal (3.9%), back pain and problems (3.9%), chronic obstructive pulmonary disease (COPD) (3.7%), lung cancer (2.9%), stroke (2.7%), anxiety disorders (2.7%), depressive disorders (2.6%), and osteoarthritis (2.4%).

Compared to the proportion of disease burden in all of Australia where these ten diseases accounted for 46.9%, South Australia has a more even spread, with all the burden of the top ten diseases accounting for only 36.2% of all disease burden.

Older South Australians experience a significant proportion of the burden of ill health. In 2015, Australians aged 65 years and over, represented 15% of the population, but experienced one-third (33%) of the burden of ill health. Chronic conditions (musculoskeletal disorders, neurological conditions, cardiovascular diseases including coronary heart disease, stroke and heart failure (CVD) and respiratory diseases) accounted for 60% of this burden.[15]

Figure 6: Top ten leading causes of total disease burden for South Australia compared with Australia – 2015



Data source: Australian Institute Health and Welfare

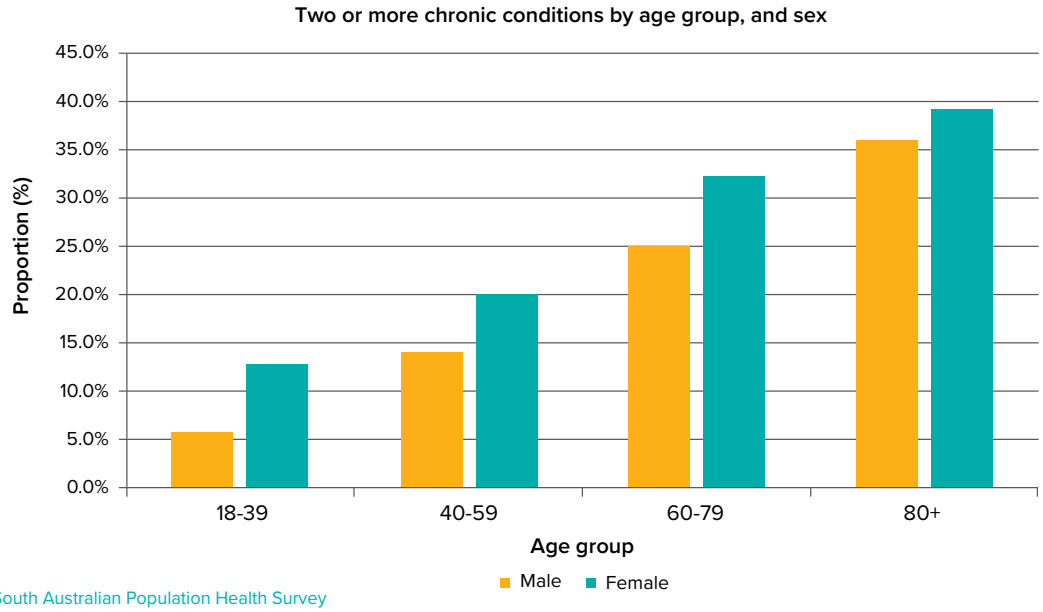
Chronic disease contribution to burden of disease

Chronic disease is characterised by invisible or low-grade symptoms which, if missed or neglected over time, reach a tipping point of illness, disability and premature death. Chronic conditions are occurring earlier in life and Australians may live for longer with complex care needs. The number of people reporting at least two chronic conditions also increases with age. Only 9.8% of 18-39-year-old South Australians report having two or more chronic conditions, while 39.1% of those aged 80 and older do so.

South Australian Population Health Survey (SAPHS) data for 2018-2020 show that:

> In 2018-20, 10.8 % of South Australian adults reported having been diagnosed with CVD
> Men and individuals in rural areas have higher rates of CVD, and rates of CVD increase with age
> 5.3% of South Australian adults reported having COPD in 2018-20.
> Women and older individuals were more likely to report COPD than men and younger individuals
> Women were more likely to report having at least two chronic conditions than men (Figure 7)
> In 2018-20, 11.3% of South Australian adults reported having diabetes
> Women and older individuals were more likely to report an osteoporosis diagnosis than men and younger individuals
> Women and rural residents were more likely to report arthritis or asthma than men and those living in metropolitan areas.

Figure 7: Proportion of South Australian adults reporting two or more chronic conditions (diabetes, asthma, COPD, cardiovascular disease, arthritis, osteoporosis, mental health*) by age group and sex – July 2018-June 2020



Data source: South Australian Population Health Survey
Note: *Due to the impact of COVID-19 on the responses of survey participants, Mental Health data are reported from July 2018 to December 2019.

Cancer incidence, survival and mortality

As one of the leading causes of death in South Australia, cancer also has a heavy social and economic impact on individuals, families and the community. Cancer care represents a substantial and rapidly rising healthcare cost in Australia,[16] and costs are likely to increase, in part because of population ageing, but also as new, more effective treatments are adopted as standards of care.

Cancer incidence and mortality have shown distinct trends over time in South Australia.[17] Male incidence rates decreased by 2% per annum between 2013 and 2017, while female rates remained relatively stable over this period with a 0.2% decrease. Male mortality rates have decreased by 1.8% per annum between 2013 and 2017, while female mortality rates have decreased 1.2% over the same period.

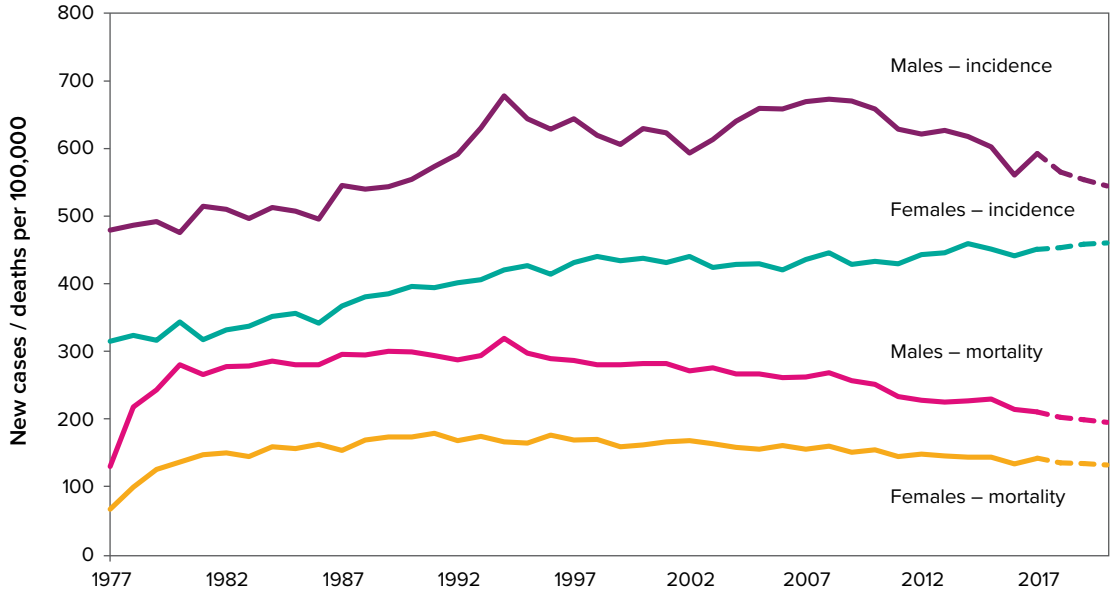
Incidence, mortality and survival

The age-adjusted (Australian population) incidence rate for South Australia in 2017 was 594 new cases per 100,000 for males and 452.3 for females.[17] The age-adjusted cancer mortality rate for South Australia in 2017 was 211.8 deaths per 100,000 for males and 143.6 for females.[17]

According to *Cancer in South Australia 2014 with projections to 2017*[18] and updated South Australian Cancer Registry (SACR) data:

- Relative survival rates have improved gradually from 2000-2004 to 2010-2014 periods for colorectal cancer, female breast cancer and cervical cancer
- Relative survival rates for melanoma have decreased over time.

Figure 8: Trends in cancer incidence and mortality rates, South Australia, 1977-2017, with projections to 2020



Data source: Cancer in South Australia 2017 with projection to 2020[17]
Note: Rates are expressed per 100,000 and standardised to the Australian 2011 population.

Table 5: Five-year relative survival rates (%) and 95% confidence intervals for South Australians diagnosed with selected cancers

Cancer type	Time period	RD	95% CI LB	95% CI UB
Colorectal cancer	2000-2004	60.5	58.9	62.0
	2005-2009	65.3	63.8	66.8
	2010-2014	67.5	66.0	69.0
Melanoma	2000-2004	93.0	91.4	94.4
	2005-2009	89.9	88.4	91.4
	2010-2014	88.6	87.0	90.1
Female breast cancer	2000-2004	86.4	85.1	87.6
	2005-2009	88.6	87.4	89.7
	2010-2014	90.1	89.0	91.1
Cervical cancer	2000-2004	64.39	58.02	70.15
	2005-2009	65.91	59.32	71.79
	2010-2014	71.23	65.17	76.52

Data source: Cancer in South Australia 2014 with projections to 2017: a report on the incidence and mortality patterns of cancer.[18]

Projections

Numbers of cases, deaths and rates have been projected from 2018 to 2020 for all cancers and for each of the most common cancers based on the previous ten years of SACR data. Prostate cancer incidence is the exception to this. It has been projected based on the previous five years of data due to non-linear trends.[17] Accounting for the current age/sex patterns of cancer and changing populations over the projected years, SACR projections indicate:

- Decreasing male incidence and mortality rates from 2018
- Increasing female incidence rate from 2018 through to 2020 and a decreasing mortality rate projection from 2018.

MENTAL ILLNESS

Mental health is about being cognitively, emotionally and socially healthy – it relates to the way we think, feel and develop relationships – and is not merely the absence of a mental health condition or disorder. The latter refer to clinically diagnosable conditions that interfere with a person's cognitive, social or emotional abilities. Mental health exists on a continuum with feeling good and functioning well at one end of the spectrum and mental health conditions (or mental illness) – represented by symptoms that affect people's thoughts, feelings or behaviour – at the other.[19, 20]

The Kessler 10 (K10) psychological distress scale is a proxy measure for overall mental health and wellbeing in the community and is used by the SAPHS. The scale measures the extent to which a person has been affected by anxiety and depression during the previous 4-weeks. In the period July 2018-December 2019:

- 9.6% of South Australian adults reported having psychological distress
- Women and those living in metropolitan areas were more likely to report psychological distress than men and those living in rural areas
- Rates of psychological distress increase with age.

SAPHS measures the prevalence of adults living with doctor-diagnosed anxiety, depression, stress, or any other mental health problem. Mental health concerns and mental illness can have a substantial personal, social and economic impact through disability, reduced quality of life, and lost productivity.[21]

In 2018-19:

- 29.3% of South Australian adults reported having a mental health problem
- Women and those living in metropolitan areas were more likely to report having a mental health condition than men and people living in rural areas
- Younger individuals were more likely to report having a mental health condition than older individuals.

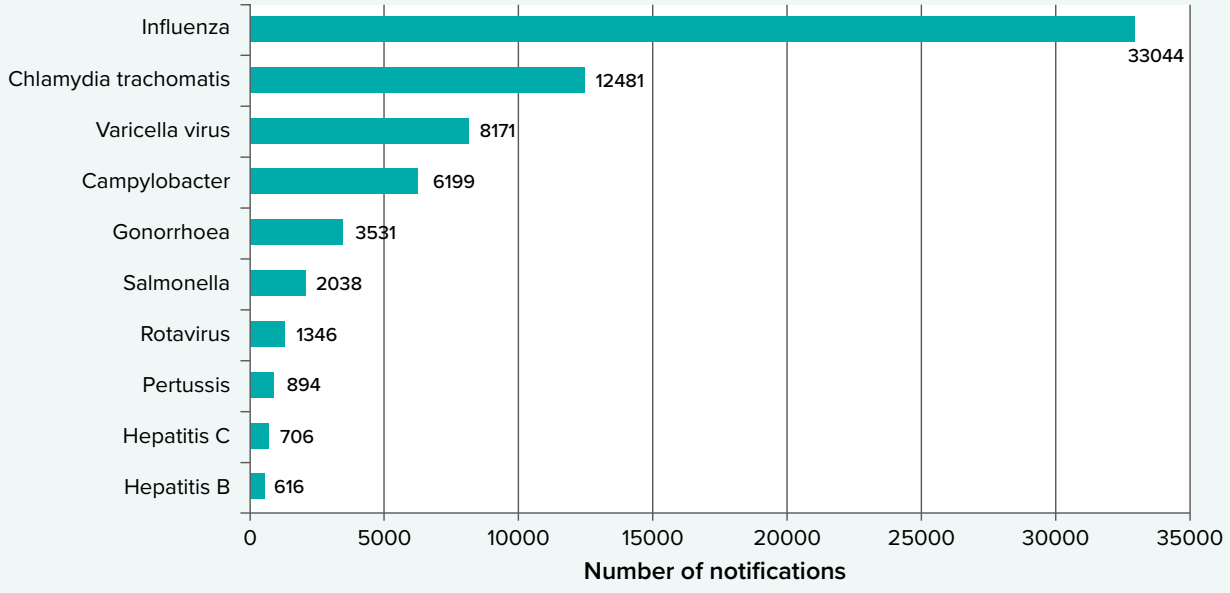
SAPHS measures the prevalence of children living with a doctor-diagnosed mental health condition including depression, Attention deficit hyperactivity disorder (ADHD), conduct disorder, anxiety and other mental health conditions. In 2018-19:

- 14.0% of South Australian children 5-15 years reported having a mental health problem and the rate was highest in children aged 10-14
- The lowest Socio-Economic Indexes for Areas (SEIFA) quintile had the highest proportion of children reporting having a mental health problem.

NOTIFIABLE DISEASES

There were 72,681 notifiable infectious diseases recorded in South Australia over the period July 2018 to June 2020. The top ten notifiable infectious diseases for the reporting period July 2016 to June 2018 are shown in Figure 9. These ten diseases accounted for 95% of all notifications, with Influenza comprising 45%. At 30 June 2020, 443 cases of COVID-19 had been notified to SA Health. Chapter 4 provides a fuller discussion of COVID-19 infection in South Australia.

Figure 9: Top ten notifiable diseases reported in South Australia, July 2018-June 2020



Data source: Communicable Disease Control Branch, SA Health

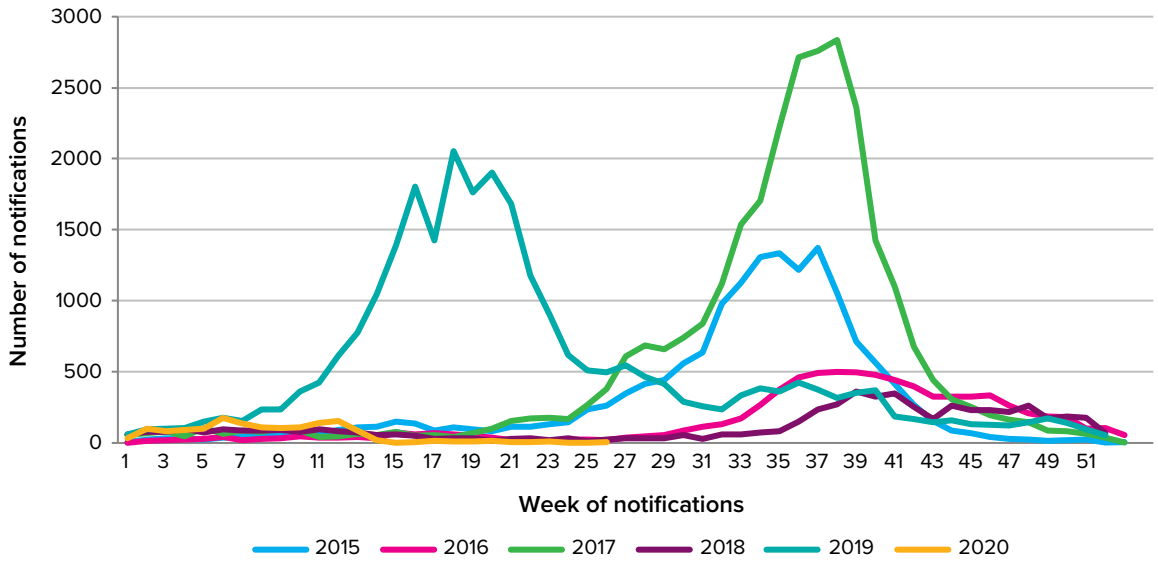
INFLUENZA

2019 saw the second highest numbers of Influenza notifications reported to date. Peak numbers of influenza were reported in May 2019. This was four months earlier than the usual peak in September for the previous five years in South Australia.

Influenza, commonly known as the flu, is a highly contagious infection of the nose, throat and lungs caused by the influenza A or B (or rarely C) viruses. Influenza causes a spectrum of illness from asymptomatic infection to fatal pneumonia (primary viral or secondary bacterial). Severe disease is more common during pregnancy, people aged over 65 years, and in people with underlying chronic disease.

Influenza notifications have been significantly lower from March to June of 2020 than in recent years in South Australia, as with the rest of Australia. This is likely due to a number of factors, many related to the response to the COVID pandemic, including reduced international travel, physical distancing, people staying home whilst unwell with respiratory illnesses, improved respiratory hygiene, and increases in the influenza vaccination coverage.

Figure 10: Number of Influenza notifications by week reported in South Australia, 2015 to June 2020



Data source: Communicable Disease Control Branch, SA Health

SEXUALLY TRANSMISSIBLE INFECTIONS

Rates of notifiable sexually transmissible infections (STI), including chlamydia, gonorrhoea, and syphilis have increased over the reporting period. Several factors are contributing to this rise:

- The introduction of dual testing for chlamydia and gonorrhoea
- Increased comprehensive testing for targeted populations at highest risk of infection
- Testing requirements for initial screening and ongoing management of people on HIV pre-exposure prophylaxis (PrEP).

An analysis of national Medicare-rebated chlamydia tests, used as a proxy for gonorrhoea due to the dual testing, indicates that the increase in gonorrhoea is likely to reflect true increased transmission, including a significant increase amongst women, while for chlamydia, the increase is attributed to increased testing.[22]

There has been a significant increase in syphilis amongst Aboriginal and Torres Strait Islanders including incidence of congenital syphilis. This is linked to the multi-jurisdictional syphilis outbreak which began in northern Queensland and has since expanded into parts of South Australia, including Adelaide. In parallel with that outbreak, increases in syphilis infections amongst gay men and other men who have sex with men (MSM) and women of childbearing age are reported.

Nationally, there have been significant gains in vaccination coverage for human papillomavirus (HPV), leading to sustained reductions in HPV-related disease (genital warts), and declines in high-grade cervical abnormalities.

DISABILITY

There are many different kinds of disability resulting from accidents, illness and genetic disorders. A disability may affect mobility, ability to learn, or to communicate easily. A disability may also be visible or hidden, may be permanent or temporary, and may have minimal or substantial impact on a person's abilities. Some people are born with disability, while others acquire a disability in their lifetime, and some people may have more than one disability. Disability data assist policy-makers to assess and respond to the diverse health and social needs of people with disabilities.

- In 2018-20, 20% of South Australian adults reported having disability. These rates have been stable over the past decade
- Women and those living in rural areas had higher rates of disability than men and those living in metropolitan areas
- The highest SEIFA quintile had the lowest proportion of people that reported having disability
- In 2018-20, 10% of South Australian children reported having a disability and the rate was lowest in children aged 5-19.

Knowing the extent of informal care that is provided is important for understanding the shift in disease burden from acute fatal diseases to long-term illness and the burdens placed on carers which can impact on their health and ability to provide care.[23] Over the reporting period:

- The total number of carers in South Australia providing unpaid care to people with disability and people aged 65 years and over decreased to 181,300 in 2018, down from 242,400 in 2015[24]
- The average age of carers was 50.8 years, which is similar to 50.7 years in 2015, but is younger than the national average of 51.2 years in 2018.

INJURY

Injury is a major contributor to mortality, morbidity and permanent disability in Australia. Hospitalised injuries can range from single fractures to catastrophic injuries, such as spinal cord injury or traumatic brain injury that may result in lifelong disability. Most injuries requiring hospitalisation are the result of falls and transport accidents, while most deaths from injuries occur as a result of falls, intentional self-harm, and transport accidents.[15]

- Most hospitalisations due to injury occur in the 65 years and over age group for females, while for males, the majority occur in the 25-44 age group[25]
- In South Australia, the top type of hospitalised injury was due to falls, which accounted for 44.6% of injury by external cause in 2016-2017
- In 2019, 24,340 people injured after a fall were admitted to South Australian public hospitals, and over 70% of these were aged 65 years and over[26]
- Transport accidents account for around 10% of all injuries requiring hospitalisation[25, 27]
- For South Australian residents of all ages, the frequency of hospital admissions following dog bite has risen steadily. The upward trend in total cases over the seven-year reporting period to 2018-19 was statistically significant ($p<0.02$).[28]

Nationally available data on causes of unintentional death among children point to:

- Transport-related (car crashes and driveway run-overs)
- Drowning (particularly in private swimming pools)
- Unsafe sleeping environments
- Strangulation/suffocation (entrapment, strangulation by curtain and blind cords)
- Crush injuries (large objects falling onto a child).

SUICIDE

Suicide is a tragedy that affects families, communities and countries. It leaves long-lasting effects on the people left behind, and for every completed suicide there are many more attempts. The ABS reports that 3046 Australians died by suicide in 2018, and indicates that suicide is the leading cause of death among 15-44 year-olds in Australia.[12]

In relation to South Australia:

- In 2018, 212 people died by suicide
- The age-standardised death rate of suicide was 12 per 100,000 people, and slightly lower than the national rate of 12.1 per 100,000 people
- Between 2014 and 2018, the age-standardised death rate of suicide for Aboriginal South Australians was 21.2 per 100,000 people, which was almost double that of non-Aboriginal South Australians (12.9 per 100,000 people).

Suicidal ideation and attempts can cause injury and hospitalisation, and are strong predictors of future suicide attempts and suicide deaths. In 2018-19:

- 10.9% of South Australian adults reported having suicidal ideation
- The lowest SEIFA quintile had the highest proportion of people that reported having suicidal ideation.

Table 6: Hospitalised injury cases by external cause, South Australia, 2016-2017

Hospitalisation injury	Number	%
Falls	17,358	44.6
Other external causes of unintentional injury	5,562	14.3
Exposure to inanimate mechanical forces	4,258	10.9
Transport crashes	4,047	10.4
Intentional self-harm	2,692	6.9
Assault	1,496	3.8
Exposure to animate mechanical forces	1,454	3.7
Accidental poisoning	1,020	2.6
Thermal causes	546	1.4
Undetermined intent	297	0.8
Other or missing	140	0.4
Accidental drowning and submersion	19	0.0
TOTAL	**38,889**	**100.0**

Data source: Australian Institute of Health and Welfare – *Trends in hospitalised injury, Australia 2007-08 to 2016-17* Supplementary tables – based on Table S3

ABORIGINAL HEALTH STATUS AND OUTCOMES

Despite some improvements in health over the past 30 years, disparities in health outcomes persist for Aboriginal South Australians, including a higher rate of burden of disease and premature death across nearly all age groups, compared with non-Aboriginal people. The reasons for these disparities are complex, and include the lasting impact of colonisation and separation from Country and entrenched racism, with clear links between racism and decreased health and wellbeing for Aboriginal people.[29]

Aboriginal life expectancy at birth data are unavailable for South Australia. However, the national Aboriginal life expectancy compared to that of the total population is provided here to give an indication of that gap for our state. Australia-wide, the total life expectancy of Aboriginal males (71.6 years) and females (75.6 years) born in the years 2015-2017 is around a decade lower than the 80.4 and 84.6 years for all males and females.[10]

In 2019, the median age at death for Aboriginal people living across New South Wales, Queensland, Western Australia, South Australia and the Northern Territory was 60.9 years. While this is an increase from 57.1 years of age in 2010, it is still significantly lower than the median age at death for all Australians of 81.7 years.[30]

The gap in life expectancy between Aboriginal people and other Australians is substantial. Chronic disease is known to be a major contributor to this gap for adults, and Aboriginal South Australians report higher levels of risk factors for chronic disease and ill health. For example, in 2018-19:

- 30.4% of Aboriginal people 18 years and older reported high blood pressure[31] compared with 23% for all South Australians
- 70.9% of Aboriginal people 15 years and over were overweight or obese[31] compared with 68.3% for all South Australians aged 18 years and over[32]
- 39.4% of South Australian Aboriginal people aged over 15 years reported excellent or very good health overall[31] compared with 57.5% for all South Australians[32]
- 36.2% of Aboriginal adults aged 18 years and over also reported high or very high psychological distress[31] compared with 13.5% for all South Australians[32]
- 45.8% of Aboriginal people (all ages) report having a disability.[31]

The social determinants of health have a substantial impact on inequities in health status and outcomes for Aboriginal South Australians:

- In 2014-15, a survey of South Australian Aboriginal people over the age of 15 years[33] found 57.3% were in the labour force, 11.6% lived in a house which required one or more additional bedrooms to house the occupants, and 29.1% of household members had run out of money for basic living expenses in the last year
- In 2019, ischaemic heart disease was the leading cause of death for Aboriginal people[30]
- Cancer is the second most common cause of death among Aboriginal people and is anticipated to become the primary cause of death in the next ten years.[34]

Aboriginal people experience serious infectious diseases, such as trachoma, rheumatic heart disease and glomerulonephritis, which are now rarely, if ever, seen in non-Aboriginal people, and which are the direct result of environmental living conditions. High rates of chronic disease, such as cardiac disease and renal failure, all of which occur at much younger ages than for non-Aboriginal people, are closely linked to socioeconomic factors and are preventable. Disparities in cancer diagnosis and survival between Aboriginal and non-Aboriginal Australians are also well documented,[35] and early detection through screening provides the opportunity to close the gap on some of these outcomes.

The South Australian Rheumatic Heart Disease (RHD) Register, which was established in 2012, houses data on all confirmed cases of acute rheumatic fever (ARF) and RHD notified in our state. There are currently 350 people on the register, with 87% identifying as Aboriginal, and one third under the age of 25. In 2018, as reported in the register, ten times as many Aboriginal people were diagnosed with ARF.

Table 7: Proportion of people reporting selected chronic conditions in South Australia (2018-19)

Selected current long-term conditions	% of Aboriginal people in SA[31]	% of all people in SA[32]
Asthma	22.8 (all ages)	12.9 (all ages)
COPD	4.9 (all ages)	2.0 (all ages)
Diabetes mellitus	8.6 (all ages)	5.1 (all ages)
Ear/hearing problems	15.1 (all ages)	Not available
Eye/sight problems	48.6 (all ages)	Not available
Heart, stroke and vascular disease	5.1 (all ages)	4.4 (all ages)
Kidney disease	1.2 (all ages)	0.9 (all ages)
Mental and behavioural conditions	29.5 (2 years and over)	19.7 (all ages)

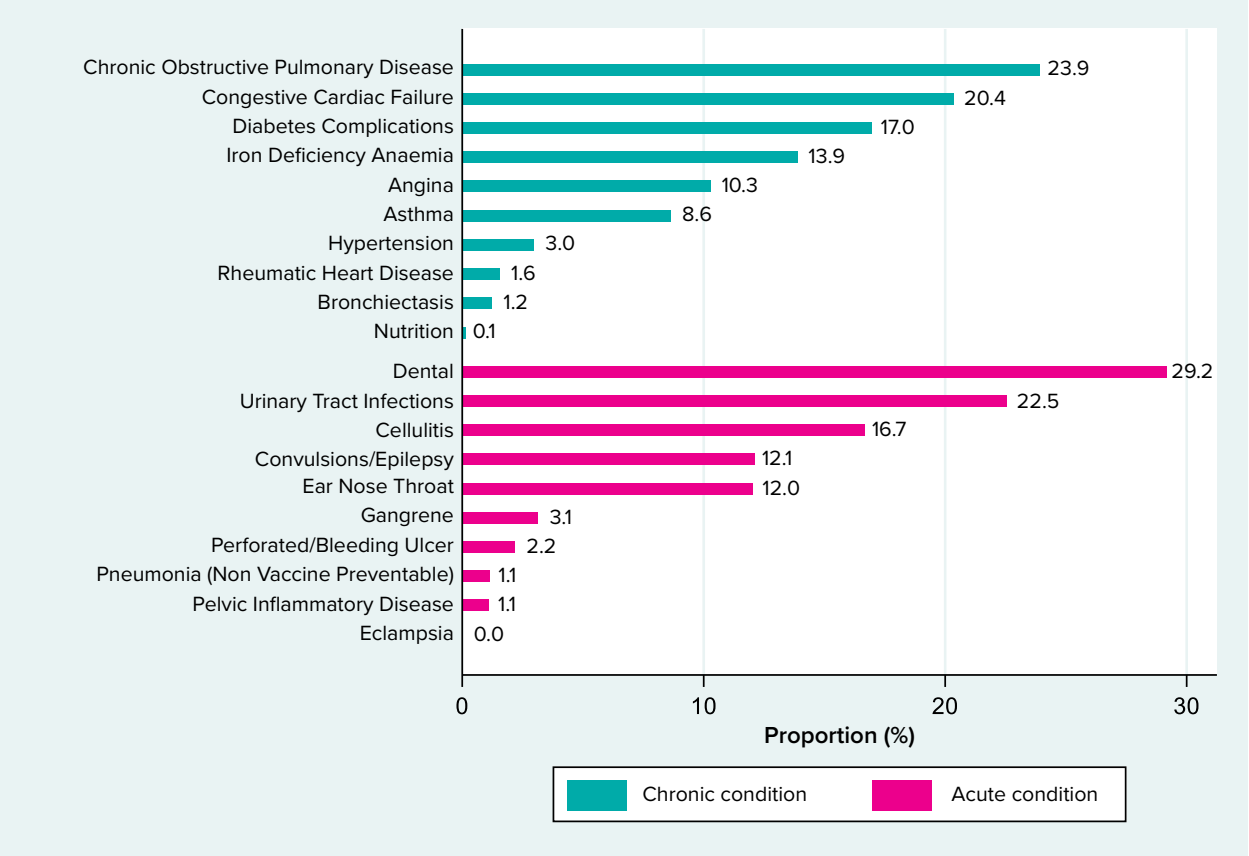
Data sources (1) National Aboriginal and Torres Strait Islander Health Survey, 2018-19 (2) National Health Survey, 2018-19

POTENTIALLY PREVENTABLE HOSPITALISATIONS

Potentially preventable hospitalisations are those considered as potentially able to be avoided through appropriate preventative health interventions and timely, adequate primary care. The most recent updates for potentially preventable hospitalisations from SA Health Data Reporting Service show:

- In 2018/19 and 2019/20 there were 53,851 and 47,996 potentially preventable hospitalisations in South Australia
- In 2018/19 and 2019/20, 46.8% of preventable hospitalisations were chronic conditions, 44.6% were acute conditions, and 8.6% were vaccine-preventable
- COPD (23.9%) was the most common potentially preventable chronic condition, while dental conditions were the most common potentially preventable acute condition for the period of July 2018 to June 2020.

Figure 11: Proportion of chronic and acute potentially preventable hospitalisation in South Australia, July 2018 - June 2020



Data source: Enterprise Data and Information, SA Health

CHAPTER THREE
OUR LEADING RISK FACTORS

This Chapter looks at South Australian data for ten leading disease risk factors with reference to the Australian Burden of Disease Study 2015[14] and local data. Data visualisation, linking estimates of disease burden to trends over time, various risk factors and interactions across age and gender, is available in the study's interactive web report.[36]

INDICATORS AT A GLANCE

12.4%
smoking prevalence
(2019)

70%
of South Australian adults are overweight or obese
(2017/18)

9%
of South Australian adults meeting recommended daily vegetable consumption (5 serves)
(2018/19)

ONE IN TEN
South Australians experienced food insecurity in the last 12 months
(2018/19)

26%
of South Australian adults report high blood pressure
(2018/19)

22%
of South Australian children met daily physical activity recommendations
(2018/19)

63%
of South Australian children report more than the recommended 2 hours of screen time per day
(2018/19)

95%
of 5 year-old South Austrlian children are fully immunised
(2019)

14%
of South Australians report drinking at levels at risk of disease or injury over a lifetime
(2019)

15%
of South Australians aged 14 years and over reported using illicit drugs
(2016)

Additional information (although not included as leading risk factors in the national study) is reported in relation to sleep, sedentary behaviour, oral health, childhood immunisation, and cancer screening, as each has a public health profile in South Australia. The full data set for risk factors monitored in South Australia is available in the data compendium.

The Australian Burden of Disease Study reports the leading risk factors contributing to total burden as:

1. Tobacco use
2. Overweight and obesity
3. All dietary risks
4. High blood pressure
5. High blood plasma glucose (including diabetes)
6. Alcohol use
7. High cholesterol
8. Illicit drug use
9. Physical inactivity
10. Child abuse and neglect

Tobacco use continued to be the greatest contributor of fatal burden and deaths in Australia, followed by all dietary risks, while overweight and obesity contributed the most non-fatal burden in both males and females. The burden attributable to each of these risk factors was higher in men than in women, with the exception of child abuse and neglect.[14, 30]

According to the Study, around 38% of Australia's total disease burden could have been prevented by reducing exposure to modifiable risk factors. This estimate has taken into account the complex pathways and interactions between diseases and risk factors.

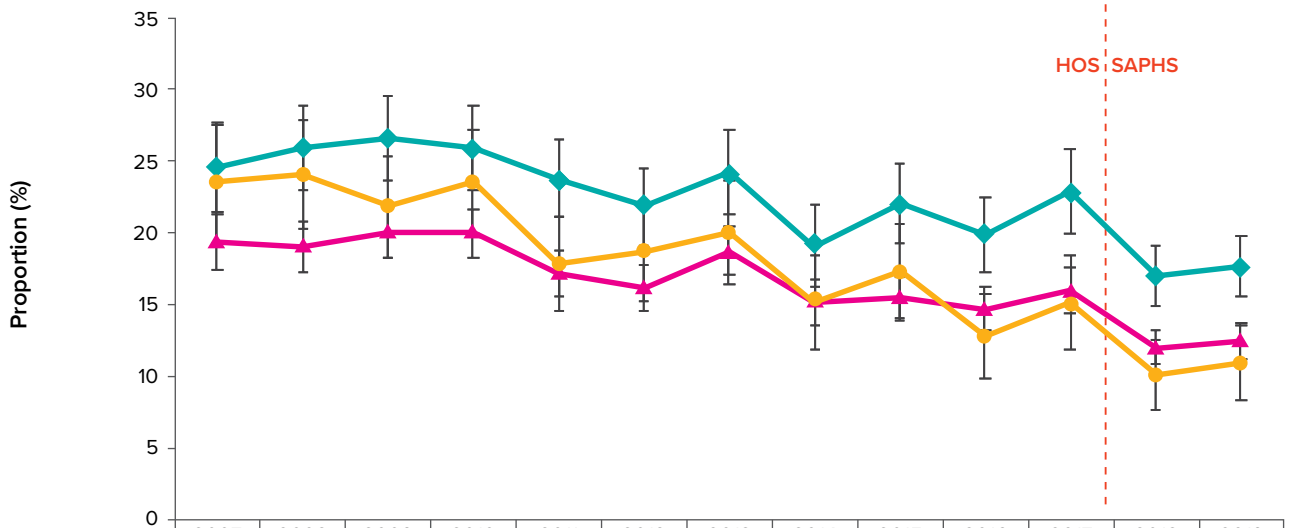
TOBACCO USE

While tobacco use (smoking) prevalence can fluctuate on a year-to-year basis, since 2007 a general downward trend has been evident in South Australia for all groups. Daily smoking prevalence overall (among those aged 15-29 years, and among those from the most disadvantaged areas) was lower in 2019 than in 2017. Whilst it is likely smoking rates among these groups continue to follow the downward trajectory, a change in survey methodology may mean the decreases are not as marked as observed in the data.

Data from the National Aboriginal and Torres Strait Islander Health Survey,[31] Australian secondary school students alcohol and drug survey[37] and SAHMRI[38] supplement the South Australian picture of population smoking rates and behaviours:

- In 2018-19, 40.4% of Aboriginal people aged 18 years and over (age-standardised) in South Australia were current daily smokers (40.1% across Australia)
- 42.2% of Aboriginal women reported in 2017 that they smoked at their first antenatal visit. While a 2.7% decrease from 2016, the 2017 rate for Aboriginal women was considerably higher than that for non-Aboriginal women over the same period (7.2%)
- In 2019, 93.6% of the South Australian population reported that they had heard of e-cigarettes, but only 2.1% were current users of e-cigarettes
- In 2019, 73.5% of the South Australian population reported that they had been exposed to someone else's cigarette smoke in the past two weeks, which was a significant increase from 2018 (60.8%)
- The majority of South Australian smokers have made a previous quit attempt (85.7%); 45.6% have tried to quit in the past year, and 66.8% intend to try to quit in the next six months
- 2.5% (2.9% of males and 2% of females) of school students aged 12-17 were current smokers (i.e. had smoked in the past week). The decrease in smoking prevalence in these groups from 2014 (3%) to 2017 (2.5%) was statistically significant.

Figure 12: Proportion of daily, weekly or less than weekly smoking among South Australians aged 15 years and over, 2007-2019



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All	19.4	19	20	20	17.1	16.1	18.7	15.1	15.4	14.7	16	12	12.4
15-29 years	23.5	24.1	21.8	23.5	17.9	18.6	20	15.1	17.3	12.8	15.2	10.1	11
Most disadvantaged	24.5	25.9	26.6	25.9	23.8	21.8	24.2	19.1	22	19.9	22.9	17	17.7

Data source: Health Omnibus Survey (2007-17) SAPHS Module System (2018-2019), data produced by the South Australian Health and Medical Research Institute.
Notes: Data for SA overall and those aged 15-29 years old are age-standardised to the 2016 population. Red line indicates changeover of data source from the Health Omnibus Survey (a face-to-face survey) to the Population Health Survey Module System (a phone survey) from 2018. Estimates of smoking prevalence from phone surveys are approximately 3% lower than smoking prevalence data derived from face-to-face surveys, and this should be considered when interpreting results.

CHILD AND ADULT OVERWEIGHT AND OBESITY

Overweight and obesity refers to excess body weight. Excess weight is a medical problem in its own right, and – as a risk factor for other conditions – a major public health issue. Obesity in particular is a key risk factor for serious health concerns including heart disease, stroke, type 2 diabetes, some musculoskeletal conditions and certain cancers. In 2015, 8.4% of Australia's burden of disease was attributed to overweight and obesity.[14]

Unhealthy weight in children and adolescents is associated with poorer health and wellbeing, poorer performance at school, increased healthcare costs, and an increased risk of overweight and obesity in adulthood.[39] The risk of developing unhealthy weight increases with age. As the level of excess weight increases, so does the risk of developing these poorer outcomes. In addition, being overweight can hamper the ability to control or manage chronic conditions.[15]

The 2017-18 National Health Survey, which collects measured height and weight of its respondents, found that the proportion of people in the normal weight, overweight, and obese categories differs, depending on age group. For example:

- The proportion of South Australians with normal weight drops from 68.7% in children aged 2-17 years to 18.5% in people aged 45-54 years. Inversely:
- The proportion of South Australians who are overweight increases from 18.9% in children aged 2-17 years to 35.2% in young adults aged 18-24 years, and remains steady for older age groups
- The proportion of South Australians who are obese increases steadily with age, from 7.5% in children aged 2-17 years to 43.2% in adults aged 55-64 years.

NHS survey data 2011-2018 show that overweight and obesity is increasing over time in South Australian children aged 2-17 years.

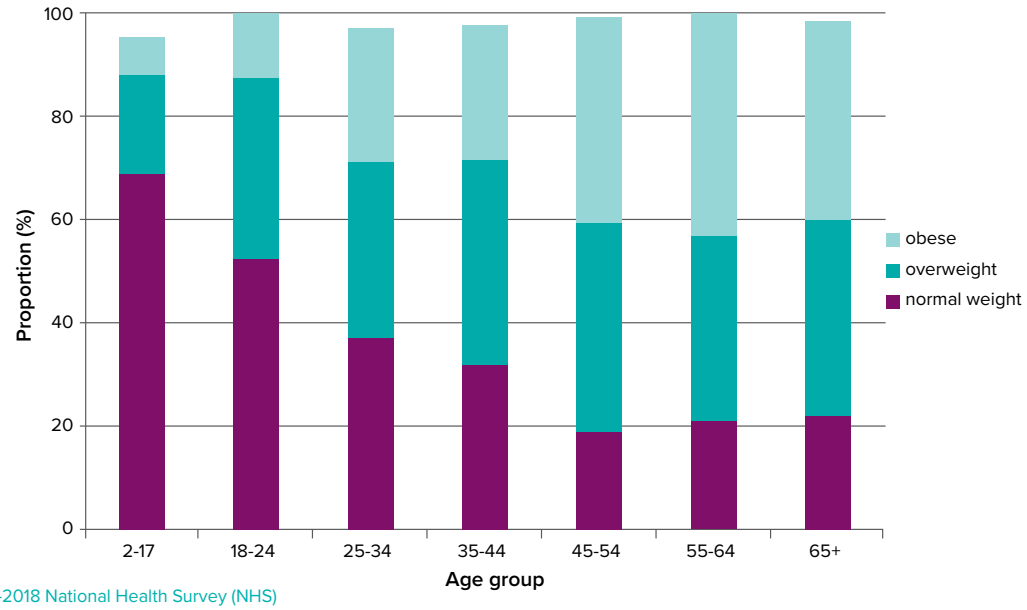
The SAPHS, which collects self-reported measures of height and weight, is a supplementary data source to the National Heath Survey which allows analysis of different population subgroups. According to the SAPHS:

- 34.3% of South Australian adults were classified as overweight in 2018-2019
- 30.7% of South Australian adults were classified as obese in 2018-2019
- Women and those living in rural areas were more likely to report BMI in the obese category than men and those living in metropolitan areas
- Men and those living in metropolitan areas were more likely to report BMI in the overweight category than women and those living in rural areas
- The proportion of overweight individuals increased with age
- The proportion of obese individuals increased until the 50-69 year old categories before decreasing again for those aged 70 years and over.

Table 8: Children 2-17 years – BMI categories, National Health Survey (ABS)

Category	2011/12[40]	2014/15[41]	2017/18[32]
Underweight	Combined with normal weight	5.4	6.1
Normal	75.8	71.2	68.7
Overweight	17.8	16.6	18.9
Obese	6.4	6.2	7.5

Figure 13: Proportion of South Australians in each Body Mass Index category, by age – 2017-2018



Data source: ABS 2017-2018 National Health Survey (NHS)

OTHER DIETARY RISKS

Inadequate nutrition

Good nutrition, including breastfeeding, is fundamental to health and wellbeing. From birth through the life-course, healthy eating helps to maintain a healthy weight and reduces the risk of dietary risk factors for chronic conditions (including type 2 diabetes, high blood pressure and cholesterol), CVD and some cancers. However, many South Australians are not getting sufficient nutrients for a healthy diet.

In 2018-19:

- 44.6% of South Australian adults met the recommended fruit consumption
- South Australian adults reported an average of 1.6 serves of fruit consumed per day
- 9% of South Australian adults met the recommended vegetable consumption, and reported consuming an average of 2.4 serves of vegetables per day
- 78.7% of South Australian children met the recommended fruit consumption, with an average of 2 serves of fruit consumed per day
- 14.3% of South Australian children met the recommended vegetable consumption, with an average of 2.2 serves of vegetables consumed per day.

Breastfeeding is a key protective factor for child nutrition and development, and maternal health. Of those surveyed in April 2019, 94.7% of mothers with children three years or under reported ever breastfeeding. Breastfeeding rates were higher in rural areas, and lower for mothers aged 35 and above.

Discretionary foods

Discretionary ('sometimes') foods and drinks are high in kilojoules, added sugars, saturated fat, salt, or alcohol, and are not an essential part of a healthy diet. Australian children are growing up in an environment where discretionary food and drinks are easily available, heavily promoted, and perceived as low cost.

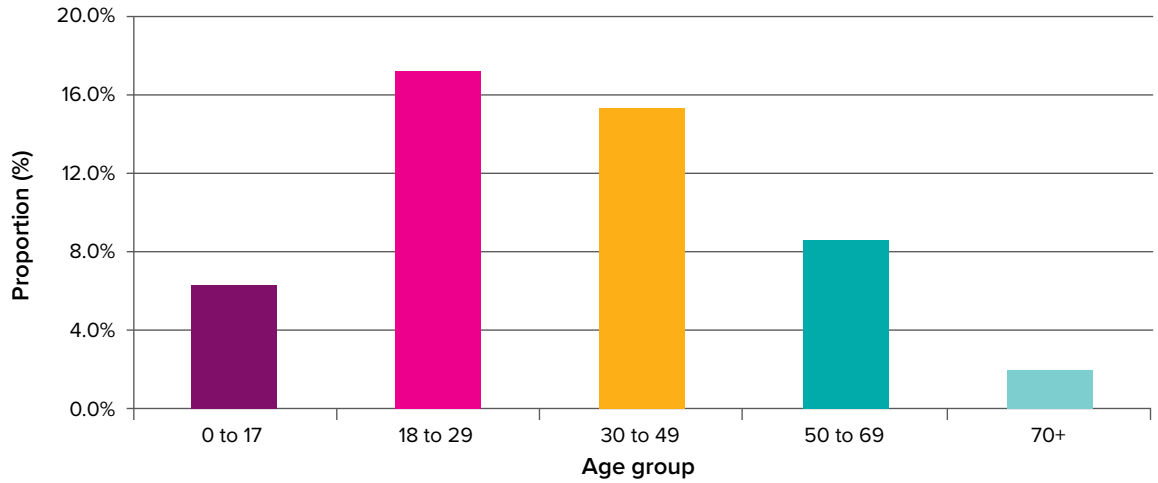
- National data show that around 40% of the energy in children's diet now comes from discretionary food and drinks[42]
- In 2018, almost 93% of South Australian children reported eating an unhealthy snack at least once a week, and over half reported consuming fast food at least once a week.[43]

These outcomes disproportionately affect children in lower socioeconomic groups, and children living in rural and remote areas.

Food insecurity

Approximately one in ten South Australians experienced food insecurity in the past 12 months. However, those aged 18-29 and 30-49 years were more likely to report food insecurity, at 17.1% and 15.2% respectively, compared with those aged 0-17 (6.3%), 50 to 69 (8.6%) and 70+ years (2%).

Figure 14: Proportion of South Australians reporting food insecurity in the last 12 months by age group, July 2018 – December 2019



Data source: South Australian Population Health Survey
Note: Due to the impact of COVID-19 on the responses of survey participants, SAPHS data are reported from July 2018 to December 2019.

HIGH BLOOD PRESSURE (HYPERTENSION)

High blood pressure (hypertension) is a condition in which the force of the blood against the artery walls is too high. Often symptomless, high blood pressure is both a medical problem, and risk factor for other potentially life-limiting conditions such as heart disease, diabetes, and stroke. High blood pressure is a global public health issue. Its modifiable risk factors include poor diet (particularly a high salt intake), obesity, excessive alcohol consumption, and insufficient physical activity. It can be controlled through changing these risk factors, and with medication.

- The proportion of South Australians reporting high blood pressure was 26.4% (July 2018 to December 2019)
- Men and those living in rural areas reported higher rates of high blood pressure than women and those living in metropolitan areas
- The proportion of individuals reporting high blood pressure increased with age.

HIGH BLOOD PLASMA GLUCOSE (INCLUDING DIABETES)

High blood plasma glucose (hyperglycemia) means high glucose in the blood. Hyperglycemia is a defining characteristic of diabetes. An estimated 1.2 million people (4.9% of Australia's total population) had diabetes in 2017-18. Prevalence is likely to be higher.[44] Risk is greatly increased by factors such as high blood pressure, being overweight, insufficient physical activity, and poor diet.

- In 2018-20, 11.3% of South Australian adults reported having diabetes
- Men and rural individuals were more likely to report diabetes than women and metropolitan individuals
- 1.2% of adult women reported ever having gestational diabetes.

ALCOHOL USE

Alcohol use is enmeshed in Australian social norms and cultural activities. Harmful levels of use are a major health issue, associated with increased risk of chronic disease, injury and premature death.

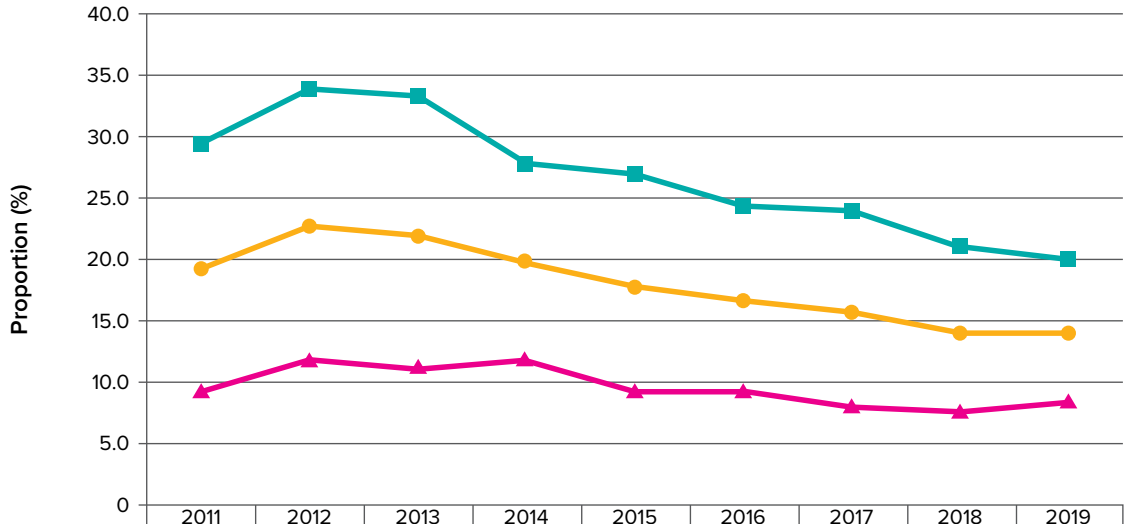
- In 2019, 13.8% of South Australians aged 15 years and over reported drinking at levels that put them at risk of disease or injury over a lifetime, a significant decrease since 2011 (19.1%)
- In 2019, adults aged 50-59 years were most likely to report drinking at risky levels over a lifetime (18%), followed by those aged 20-29 years (17%)
- While there has been a decreasing trend among most age groups, lifetime risky drinking has remained stable, with no significant differences between 2011 and 2019
- The average age at which young people aged 14-24 first tried alcohol has steadily risen since 2010 from 16.8 to 17.1 in 2019 in South Australia.

HIGH CHOLESTEROL

High blood cholesterol is one of the major risks for heart disease. A variety of factors can affect cholesterol levels including saturated fats and cholesterol intake, being overweight, and physical inactivity. In South Australia from July 2018 to December 2019:

- The proportion of adults reporting high blood cholesterol was 23.6%
- Men and those living in rural areas reported higher rates of high cholesterol than women and those living in metropolitan areas
- The proportion of individuals reporting high cholesterol increased with age.

Figure 15: Proportion of South Australians aged 15 years and over who drank at levels that put them at risk of disease or injury over a lifetime, 2011-2019



	2011	2012	2013	2014	2015	2016	2017	2018	2019
All	19.1	22.5	21.7	19.6	17.7	16.5	15.6	14.0	13.8
Males	29.3	33.7	33.0	27.5	26.6	24.2	23.7	20.8	19.6
Females	9.3	11.7	11.0	11.9	9.1	9.1	7.8	7.5	8.3

Data Source: South Australian Health Omnibus Survey (2011-2017) and SAPHS

ILLICIT DRUG USE

Illicit drugs are prohibited from manufacture, supply, sale or possession in Australia. Illicit drug use (including the impact of opioids, amphetamines and cocaine, cannabis, other illicit drug use, and unsafe injecting practices) contributed to 2.7% of the total burden of disease and injury in 2015. The national rate of total burden of disease and injury attributable to illicit drug use also increased 18% between 2003 and 2015.[45]

In 2019, 15.4% of South Australians aged 14 years or over reported any illicit drug use in the last 12 months, compared to the national average of 16.4%.

The Australian Criminal Intelligence Commission (ACIC) uses wastewater data collected to estimate the population-weighted averages of stimulants (specifically methyl amphetamine, Methylenedioxymethamphetamine (MDMA), and cocaine), and heroin consumed in each Australian state and territory in Australia. The National Wastewater Drug Monitoring Program represents world best practice in its field.[47]

- Methamphetamine was the predominant stimulant consumed in metropolitan Adelaide, and consumption levels increased from 2012 to 2017
- Although methamphetamine levels have increased since June 2019, they are below those seen from 2016 to 2018. There was a small increase in June 2020[48]
- Other stimulants are consumed at lower levels. Of these:
  - Cocaine consumption levels have increased since 2015, with levels in 2019 the highest since reporting began. There was a small decrease in June 2020
  - The upward trend in ecstasy (MDMA) consumption levels in 2019 has been maintained in 2020, although there was a decrease in April and June
- Heroin consumption levels have decreased since 2013. An increase observed in May 2020 was not sustained, with levels in June returning to those seen in April 2020.

Table 9: Proportion of South Australians (14 years old+) reporting use of any illicit drugs* in the last 12 months by gender, 2010 to 2019

	Proportion								Age-standardised proportion	
	SA				Australia				SA	Australia
Sex	2010	2013	2016	2019	2010	2013	2016	2019	2019	2019
Males	16.4	18.3	19.0	16.7	17.0	18.1	18.3	19.6	17.4	20.0
Females	13.5	13.2	12.7	14.1	12.3	12.0	13.0	13.2	15.2	13.6
Persons	14.9	15.7	15.7	15.4	14.7	15.0	15.6	16.4	16.3	16.8

* Illicit use of at least 1 of 16 classes of drugs in the previous 12 months in 2019. The number and type of drug used varied over time.
# Statistically significant change between 2016 and 2019.
Source: National Drug Strategy Household Survey 2019. Supplementary data tables (Tables S23, S25, S27)[46]

PHYSICAL INACTIVITY

Physical inactivity is associated with increased risk of chronic disease and some cancers. In South Australia, physical inactivity is measured by reference to levels of physical activity,[49] cycling and walking data, which show:

- 63.8% of South Australian adults reported doing 150 minutes or more of moderate intensity physical activity per week in 2018-19
- Of these, a higher proportion of people in higher SEIFA quintiles reported doing at least 150 minutes of moderate physical activity per week in 2018-19
- More men and metropolitan residents reported doing at least 150 minutes of moderate physical activity per week compared to women and rural residents
- The proportion of people reporting doing at least 150 minutes of moderate physical activity decreased with age
- 51.8% of South Australian children aged 5-17 years undertook at least 60 minutes of moderate to vigorous physical activity for four or more days per week in 2018-19
- Only 22.1% of South Australian children undertook at least 60 minutes of moderate to vigorous physical activity every day in 2018-19
- A higher proportion of younger children undertook at least 60 minutes of moderate to vigorous physical activity every day, than older children
- 47.2% of South Australian adults walked 150 minutes or more each week during July 2018 to December 2019
- 16% of South Australians reported no walking
- Weekly cycling participation rate was 13% in South Australia in 2019, which has declined 1.0% from 2017 (14%), and is slightly below the Australian average for 2019 (13.8%).[50]

CHILD ABUSE AND NEGLECT

Child protection system contact data are important indicators of child abuse and neglect prevalence. The data are based only on those cases notified to the Department for Child Protection (DCP), and are likely to understate prevalence. Three conditions contributing to overall disease burden are directly linked to child abuse and neglect, anxiety disorders, depressive disorders, suicide, and self-inflicted injuries. As contact with the child protection system increases, so does the prevalence of developmental vulnerability on one or more domains at age five (South Australian Early Childhood Data Project).[51] In 2018-2019:

- The total number of child notifications reported to the South Australian government was 23,280
- The rate of substantiations of notifications was 4.8 per 1,000 children, lower than the Australian national average of 8.5 per 1,000
- The rate of substantiations of notification in 2018-19 was 35.9 and 3.1 per 1,000 children for Aboriginal and non-Aboriginal children respectively
- The ratio of Aboriginal children to non-Aboriginal children of the number of substantiations of notifications during 2018-19 was 11.7, higher than the national average of 6.3.

OTHER MODIFIABLE RISK FACTORS

Sleep

Sleep is vital for body and brain rest and recovery. It is crucial for childhood growth and general health. In the short term, reduction of sleep can lead to fatigue, irritability and exhaustion, lack of energy, daytime drowsiness and impaired memory and concentration. Regular insufficient or poor sleep contribute to long-term health problems, including obesity, type 2 diabetes, CVD, and poor mental health. In 2018-19:

- 59.9% of South Australian adults met sleep duration guidelines
- 71.5% of South Australian children aged 2-17 years met sleep duration guidelines
- A greater proportion of people in higher SEIFA quintiles met the sleep duration guidelines.

Sedentary behaviour

Physical inactivity and sedentary behaviour have their own health hazards and need to be addressed separately.[52] Persistent sedentary behaviours have a range of negative health impacts in the short to long term. A proxy measure of children's sedentary behaviour is the proportion of children meeting/exceeding screen-based activity recommendations:

- The majority of children (62.6%) report more than two hours of screen time per day
- Male children, those living in rural areas, older children and those living in lower socio-economic areas are more likely to report more than two hours of screen time per day than female children, those living in metropolitan areas, younger children, and those living in higher socio-economic areas.

Oral health

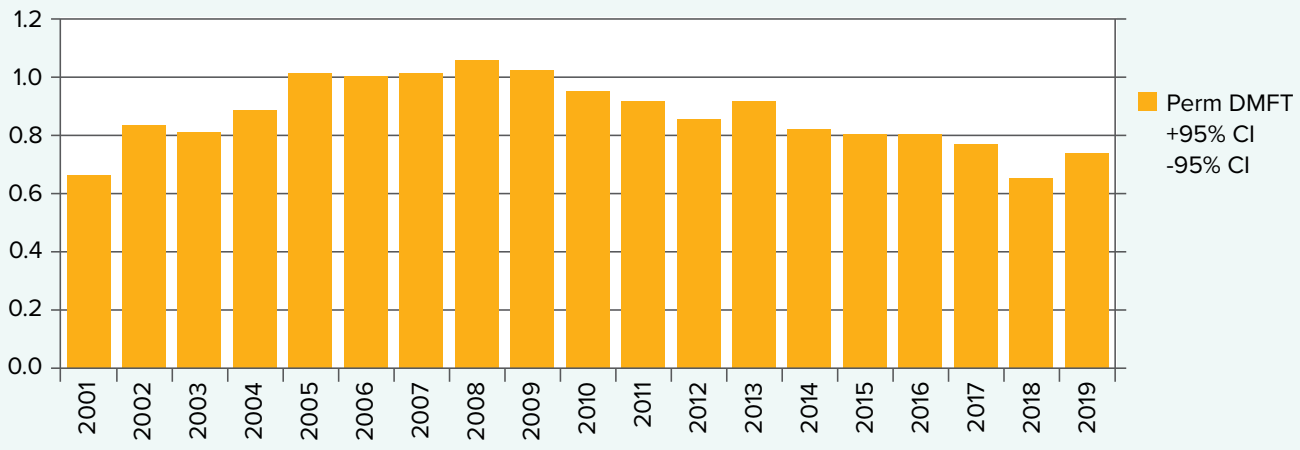
Oral health refers to the health of the mouth. It is a key indicator of overall health and is important for general wellbeing and quality of life. Mouth health influences dietary protection and risk – through diet and nutrients consumed, which then affect the health of mouth tissue. Sugar consumption increases poor oral health through increased dental caries (tooth decay). Poor oral health interferes with daily function, impacts on social interactions and work productivity, and is a medical problem as well as risk factor for other conditions. Dental problems were reported as the most common acute potentially preventable hospitalisations for the period of July 2018 to June 2020. Dental problems are also a risk factor for chronic diseases including stroke and heart disease, and for adverse pregnancy outcomes.[53]

The number of decayed, missing or filled permanent teeth (DMFT) is a measure of tooth decay experience, and 12-year-old DMFT rates are an international measure of child oral health. South Australian DMFT data for children enrolled in the School Dental Service (SDS) have been collected since 1977. The 12-year-old DMFT of South Australian children currently enrolled in the SDS during 2019 has decreased to 0.74.

The proportion of adults eligible for public dental services who access public dental care over a two-year period is a measure of adult oral health in South Australia. Coverage of eligible adults, predominantly holders of concession cards, through the South Australian Dental Service is currently 18.5% over the two-year period 2018-2020.

Water fluoridation reduces tooth decay by 26% to 44% in children and adolescents, and by 27% in adults. Access to fluoridated water from an early age is associated with less tooth decay in adults. Around 89% of Australians have access to fluoridated drinking water, and fluoridation coverage in South Australia is 92%.[54]

Figure 16: 12-year-old mean decay-missing-filled teeth (DMFT) of children attending SA School Dental Service (SDS), 2001-2019



Data source: SA Dental Service, SA Health

Childhood immunisation

Immunisation, particularly childhood immunisation, is one of the most cost-effective disease prevention interventions. South Australian data for 2019 show:

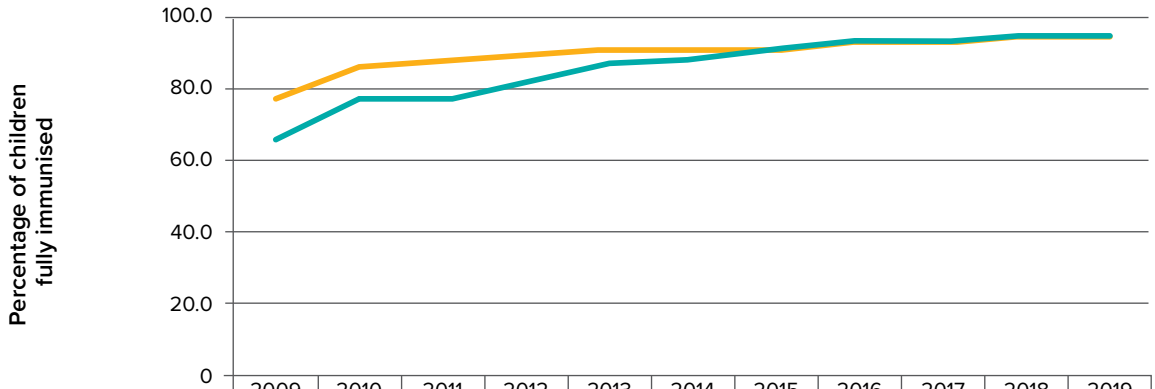
- The percentage of South Australian children aged 12 to less than 15 months who were fully immunised was 94.6%, similar to the national rate of 94.3%
- The percentage of South Australian children aged 24 to less than 27 months who were fully immunised was 91.7%, similar to the national rate of 91.6%
- South Australia equalled the national rate for children aged 60 to less than 63 months at 94.8%
- 95.5% of South Australian Aboriginal children aged 60 months to less than 63 months are fully immunised, exceeding the national and state averages for all children (Aboriginal and non-Aboriginal).

Breast, cervical, bowel cancer and screening trends

Cancer screening programs aim to detect cancers earlier, at a less advanced stage, so that treatment options are greater, the treatment itself is more effective, and survival rates improve. South Australia has among the highest rates of breast, cervical, and bowel screening in the country.

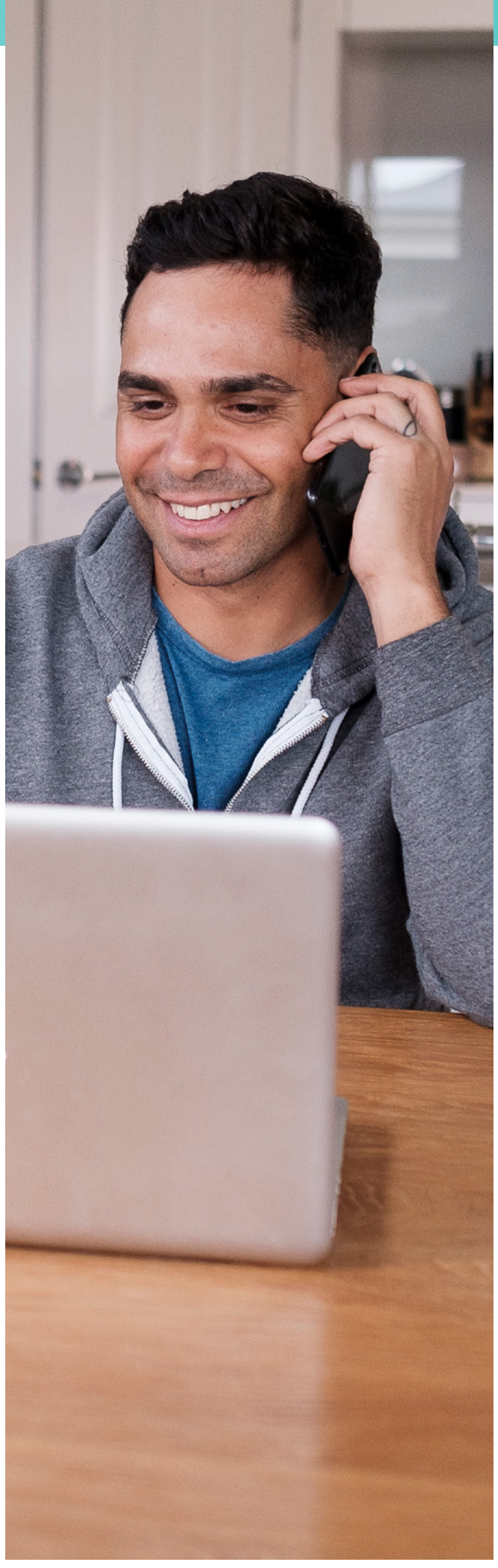
- The age-standardised participation rate of breast cancer screening at BreastScreen SA among women 50-74 years old was 59.1%, and 58.7% in 2016-17 and 2017-18 respectively. This was the highest reported rate of all states in 2016-17, and the second highest in 2017-18[55, 56]
- Outer regional areas had the highest participation rate (56.9%) in 2016-17
- In 2016-17, breast screening participation rates across Australia were lowest among women aged 50-74 living in very remote areas (43.4%), followed by remote area residents (52.6%)
- In 2016-17, breast screening participation rates across Australia were lower among particular groups, including non-English speaking women (45.8% compared with 56.4% for English speaking women) and Indigenous women (40.7% compared with 54.2% for non-Indigenous women).[56] Data were not delineated by state level, and the 2017-18 data are not yet available
- The age-standardised cervical cancer screening participation rate for South Australian women aged 20-69 was 58% in 2017-18 and was the highest among all states[57]
- In 2017-18, 48% of South Australian residents (50-74 years old) who were invited to screen through the National Bowel Cancer Screening Program (NBCSP) between 1 January 2017 and 31 December 2018 returned a completed screening test within that period or by 30 June 2019, and the participation rate was the equal highest among all states (with Tasmania).[58, 59]

Figure 17: Percentage of children aged 60 months to less than 63 months fully immunised in South Australia, 2009-2019



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All children	77.5	85.6	87.2	89.1	91.3	91.0	91.3	93.1	93.8	94.7	94.8
Aboriginal children	66.2	77.4	77.4	83.3	87.3	88.9	92.1	94.3	94.2	95.8	95.5

Data source: Australian Immunisation Register



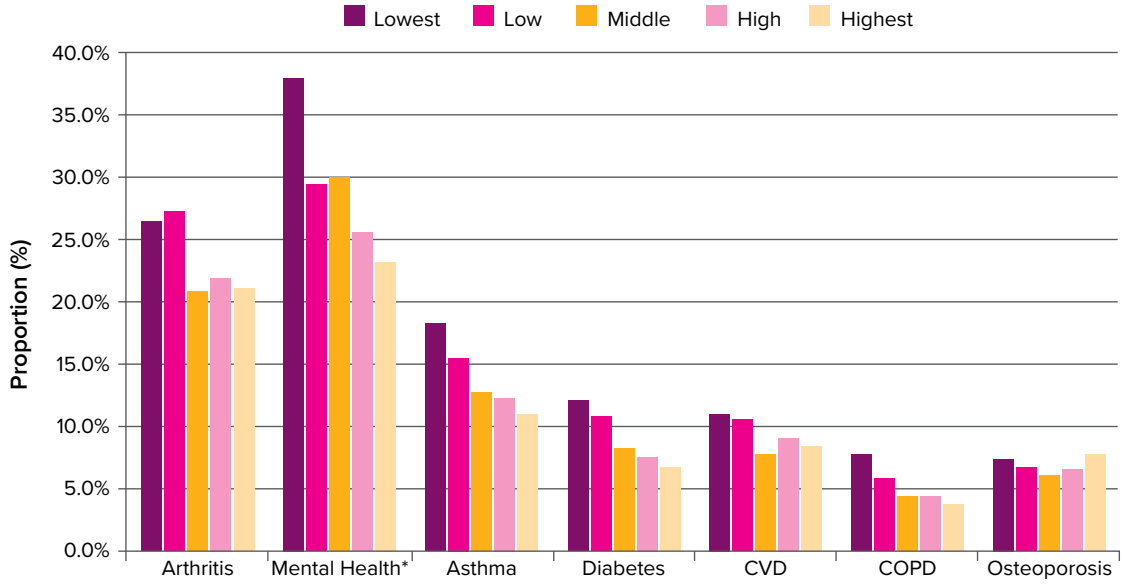
Health inequity

Health inequity is the existence of systematic, avoidable and unfair differences in health. Advantage and disadvantage impact upon access to basic requirements of a healthy life – safe water, sanitation, nutrition, housing, and education – conditions of work and freedom from poverty, and the chance for individuals and communities to flourish.[60, 61]

Socially and economically disadvantaged people are at greater risk of poor health over their lifetime, have higher rates of chronic illness and disability, experience barriers to health services and programs, and die earlier than those who are more advantaged.[61] Health inequities and poorer health outcomes are also associated with racism, discrimination and gender inequality.[62, 63] Aboriginal people, older people from culturally and linguistically diverse (CALD) backgrounds, people with disability, their families and carers, also have poorer health outcomes relative to the whole population.[9] Lesbian, gay, bisexual, transgender and/or intersex, queer, asexual and allies (LGBTQIA+) communities can also experience significant health and wellbeing inequities, including disproportionate rates of mental health diagnoses and suicide,[64] elevated rates of drug and alcohol use,[65] higher rates of HIV and sexually transmissible diseases,[66] and a significantly higher burden of certain cancers.[67]

Chronic illness and variation in health status relative to socio-economic advantage and disadvantage is measured and monitored via SEIFA. It is measured across five quintiles (groups), from the highest (most advantaged) to lowest (most disadvantaged) quintile. The social gradient in health is the difference (or gap) between these quintiles; the steeper the gradient, the greater the inequality.[68] There is a clear correlation between social position and health outcomes.[69] Rising up the socioeconomic ladder is paralleled by measurable improvements in health, and social disadvantage is linked to measurably worse health outcomes. In South Australia, the social gradient in health is visible in differing rates for many health risk factors, and in the unequal distribution of prevalence for many chronic diseases and conditions across quintiles.

Figure 18: Proportion of South Australian adults aged >18 years reporting chronic conditions by Socioeconomic Index for Areas – July 2018-June 2020



Data source: South Australian Population Health Survey. Note: Due to the impact of COVID-19 on the responses of survey participants, Mental Health data are reported from July 2018 to December 2019.

The SAPHS survey data further indicate:

- A higher proportion of people from lower SEIFA quintiles reported having psychological distress
- The highest SEIFA quintile had the lowest proportion of people that reported having a mental health problem
- The lowest SEIFA quintiles had the highest proportion of people who reported having been diagnosed with arthritis or asthma
- The lowest SEIFA group had the highest proportion of people that reported having been diagnosed with diabetes
- Women, older individuals, and those in the lowest SEIFA quintile were more likely to report a COPD diagnosis

These data highlight the impact of inequity on risk factors and health outcomes in South Australia, so it is of concern that the social gradient has been getting steeper over the past decades.[69]

SOCIAL DETERMINANTS OF HEALTH

Health inequities can be reduced through action upon the social determinants of health – those factors shaping power and wealth distribution, and access to other necessary resources for health and wellbeing.[60] Determinants of health influence how likely we are to develop and maintain good health or, conversely, how likely we are to be exposed to risk factors, become sick, or suffer injury. These influences are complex and typically take effect over a long period of time.[15] According to the World Health Organisation (WHO), the conditions in which people are born, live, learn, and work, are the most important determinants of good and ill health – the 'causes of the causes'.

INDICATORS AT A GLANCE

READING

94.6%

WRITING

95.1%

NUMERACY

94.4%

of South Australian children in year 3 were at or above the national minimum standard

(2019)

24%

of South Australian children were developmentally vulnerable in two or more domains

(2018)

61.5%

of South Australians with non-school qualification compared with **67.7%** of all Australians

(2019)

8.8%

unemployment rate for South Australia

(June 2020)

$989

PER WEEK

The mean equivalised disposable income of South Australians

(2017/18)

66%

of South Australians report some form of volunteering

(2018)

90.4%

of South Australians felt their neighbourhoods were a safe place to live

(2019)

14.5%

of South Australians spent more than 30% of their gross household income on housing costs

(2017/18)

15.2%

of South Australians reported being socially isolated

(2019)

Approximately

6,220

homeless people living in South Australia

(2016 census)

Developmental vulnerability

The Australian Early Development Census (AEDC) is a population measure of children's development as they enter the first year of full-time school. It is considered a measure of how well children and families are supported from conception through to school age. In the 2018 data collection, AEDC information was collected on 309,000 children in Australia representing over 96% of children in their first year of full-time school.[70] The census is conducted every three years and the next census will be held in 2021. In South Australia the figures were slightly higher than Australian national level, as shown in Figure 19.

Child literacy and numeracy

- 5.4% of South Australian Year 3 children were below the national minimum reading literacy: standard (National 4.1%)
- 4.9% of South Australian Year 3 children were below the national minimum writing literacy standard (National 3.7%)
- 5.6% of South Australian Year 3 children were below the national minimum numeracy standard (National 4.5%).[71]

Adult health literacy

- The health literacy scores in nine domains for South Australians ranged from 2.89 for Domain Five (appraisal of health information) to 4.24 for Domain Nine (understanding health information well enough to know what to do), and these figures are similar to the national average levels.[72]

Education and Employment

- In May 2019, 61.5% of South Australians aged 30-64 had a non-school qualification. This was lower than the national average of 67.7%, with an almost identical proportion of males and females
- The seasonally adjusted unemployment rate in South Australia ranged from 5.3 to 6.2% in 2018, 5.7 to 7.3% in 2019, and 5.7 to 8.8% from January to June in 2020[73]
- The unemployment rate for South Australians aged 15-24 years old fluctuated and reached a peak of 18.7% in April 2017, and was 17.1% in June 2020.[73]

Housing, financial stress

- The proportion of low income rental households spending more than 30% of their gross income on housing costs decreased to 32.4% in 2017-18 from 36.9% in 2015-16 in South Australia, and was 22.2% in 2007-08[74]
- In 2015-16, about 20% of South Australians experienced financial stress compared with 14.9% nationally.

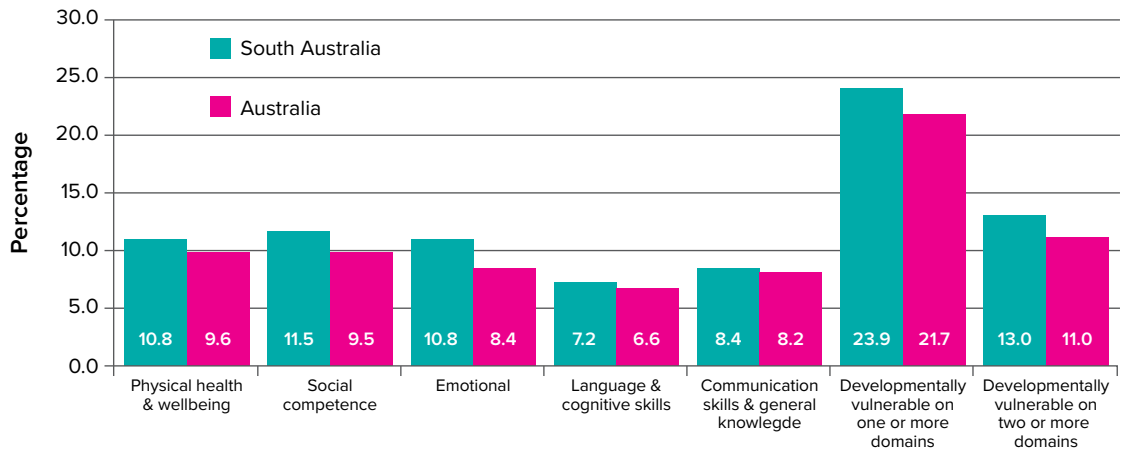
Social connectedness and inclusion

- Volunteer participation in South Australia continues to remain high, with 66% of the population involved in some form of volunteering, resulting in an estimated 1.42 million volunteer hours per week in 2018[75]
- Most South Australians believe they can get help from family, friends or neighbours when they need it (86.1%)
- In South Australia, the Australian Digital Inclusion Index (ADII) has been increasing steadily since 2016, and was 60.2 in 2019. The South Australian ADII score is consistently lower than the national score[76]
- The majority of adults in South Australia were not socially isolated, according to the six-item friendship scale (84.8% in 2019)
- The majority of South Australians (82%) and Australians (84.8%) strongly agree/agree that it is a good thing for a society to be comprised of different cultures.[77]

Safety

- The majority of South Australians feel safe in their own home (96.6%) and see their neighbourhoods as safe places (90.4%)
- Sexual assault was the most recorded victimisation type in South Australia, and this rate has increased from 83.8 per 100,000 persons in 2010 to 92.8 per 100,000 persons in 2018. In 2019, the rate decreased to 88.5 per 100,000 persons
- The rate of domestic violence-related sexual assault was 34.7 and 33.4 per 100,000 persons in 2018 and 2019 respectively, which was lower than in 2017 (37.3).

Figure 19: Percentage of children developmentally vulnerable in 2018, South Australia



Data source: Australian Early Development Census National Report 2018[70]

CHAPTER FOUR
SUMMARY OF COVID-19 IN SOUTH AUSTRALIA

South Australia has prevented large scale importation and transmission of COVID-19 in our community, whilst balancing social and economic outcomes. We have been very fortunate in being able to implement key strategies early enough to reduce importation, and – through Commonwealth and State relations – have maintained strong border controls and quarantine. Chapter Four provides a picture of COVID-19 action in South Australia up to 30 June 2020.

COVID-19 EPIDEMIOLOGY, TRANSMISSION AND CLINICAL OUTCOMES

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the virus that causes coronavirus disease (COVID-19). SARS-CoV-2 is a novel coronavirus first identified in humans in Wuhan, China, in December 2019.

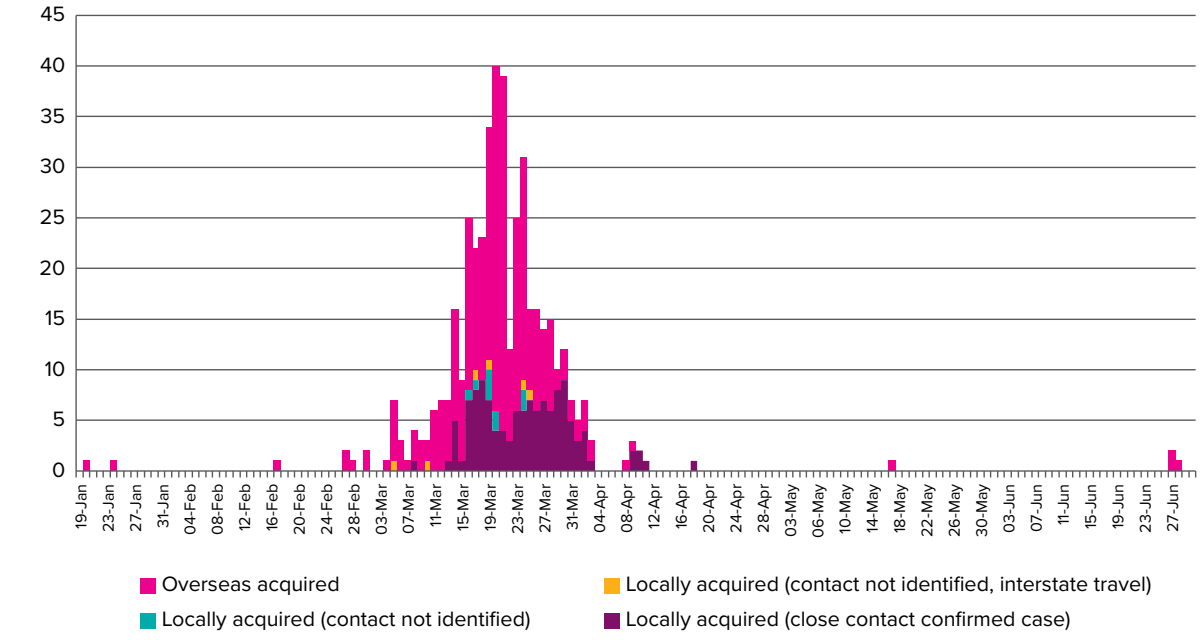
Transmission is primarily through direct human-to-human contact via respiratory droplets that come into contact with a person's mucous membranes (e.g. eyes, mouth) or are inhaled. Infection may also occur after a person's hands touch contaminated surfaces (fomites) and then touch their eyes, nose or mouth or by aerolisation. The incubation period is most commonly five to six days, with a range of one to fourteen days. The precise infectious period is estimated to range from 48 hours before symptom onset to seven-to-ten days after symptom onset.

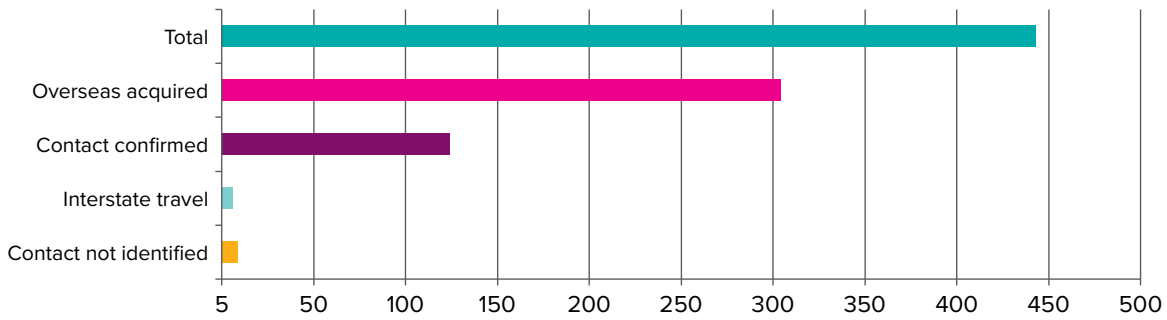
The majority of people with COVID-19 (approximately 80%) experience a mild illness. The most commonly reported symptoms are fever and cough. Some individuals may remain asymptomatic despite infection. Children appear to experience milder symptoms than adults in the majority of cases. Severe outcomes and death occur more frequently in the elderly and those with other health conditions.

Up to 30 June 2020:

- More than 10 million cases of COVID-19 had been reported globally, including 510,632 deaths[78]
- Australia had recorded a total of 7,920 confirmed COVID-19 cases, with 7,063 cases already recovered and 104 deaths due to COVID-19[79]
- A total of 443 cases had been notified to SA Health. Sadly, four infected persons died from COVID-19 illness, including a woman aged 62 years and three men aged 74, 75 and 76 years
- For thousands of other South Australians, COVID restrictions have required quarantine or self-isolation, and the community as a whole has experienced the pandemic's wider social and economic impact.

Figure 20: Number of confirmed COVID-19 cases by date of onset and source of infection, 19 January to 30 June 2020, South Australia





Data source: Communicable Disease Control Branch, SA Health

OUR RESPONSE

On 23 January 2020, SA Health released advice for those who had recently travelled through China to be aware of the signs and symptoms of coronavirus despite no confirmed cases in Australia. On 28 January 2020, COVID-19 was declared a controlled notifiable condition under the Act, making it a legal requirement of all medical providers and laboratories to report any suspected, probable or confirmed cases of COVID-19 to SA Health. The World Health Organisation declared a public health emergency at the end of January 2020, and international travel bans and quarantine measures (first declared by the Commonwealth on 1 February 2020) were fully implemented by 19 March 2020.

On 15 March 2020, a public health emergency in relation to the transmission of COVID-19 was declared in South Australia pursuant to section 87 of the Act. On 22 March 2020, a Major Emergency was declared pursuant to section 23(1) of the *South Australian Emergency Management Act 2004 (Emergency Management Act)*.

There was no approved vaccine for SARS-CoV-2 during the first six months of the pandemic, and so early prevention of COVID-19 focussed on modifying people's behaviour to reduce the risk of transmission; regular hand washing and cough etiquette, maintaining physical distancing recommendations, wearing a face mask in some situations, undergoing testing if symptoms compatible with COVID-19 develop, and staying at home when unwell. In addition, a range of restrictions on public activities were introduced in the state, particularly with respect to high-risk public activities.

South Australia's announcement of full border closure for all non-essential travel from other Australian jurisdictions on 24 March 2020 was among the first in Australia. This was in response to an increasing number of cases being imported into South Australia from interstate travel. Over the following weeks and months this decisive 'head-start' of public health alerts, border and quarantine controls was built on.

Testing capability was developed and rapidly expanded to identify and contact trace cases at the first sign of an outbreak. Quarantine and self-isolation requirements reduced virus importation, backed by restrictions on public activities and in-home gatherings to limit spread through physical contact. These COVID-19 restrictions were enacted to support behaviour change, and cross-community education. During these early days, our health system was significantly bolstered in anticipation of the modelled peak of the COVID-19 pandemic. The State Command Centre – Health was established to help coordinate the SA government response to the COVID-19 pandemic. Three new Deputy Chief Public Health Officers were appointed to support the work of the Chief Public Health Officer, and the government invested millions in health system improvements and resource redeployment – staff, technology, and infrastructure – to prepare for a surge of COVID-19 cases.

Strategies were put in place to protect particularly vulnerable individuals and communities. Public confidence in COVID-19 measures was built through regular COVID-19 updates, and straightforward advice about staying safe and protecting others. The state government also introduced extensive economic and social supports targeting businesses, industry and community services.

These challenges have required system leadership and collaboration, strong partnerships with external agencies and system enablers including rigorous evidence. South Australia's response has also been guided by the Australian Health Protection Principal Committee (AHPPC), and Communicable Diseases Network Australia (CDNA). This has provided nationally consistent information and guidance to public health units in responding to any notifiable disease event with appropriate implementation for our state context. The seven areas of implementation highlighted here indicate the scope of action involved in flattening the curve of infection in South Australia and our goal of zero community transmission of COVID-19.[80]

- Legislation
- Reorientating Department of Health and Wellbeing work into functional COVID Workstreams
- Testing and surveillance
- Public communications
- Preparing the health care system
- Building public health evidence
- Protecting vulnerable populations.

LEGISLATION

State legislation has been vital to preventing and controlling COVID-19 transmission and managing its impacts on South Australians. The Public Health Emergency and Major Emergency Declarations of January and March 2020 provided for:

- Restricting people's movement in and out of South Australia, enabling quarantine to further reduce virus importation and community transmission
- Protecting the whole population and vulnerable community members with restrictions on public and private gatherings, and through non-essential service closures when needed
- Exemptions to these controls for essential travel, and compassionate reasons for entry into South Australia.

However, COVID-19 was an unprecedented emergency, and it fully tested the Act's scope and powers. In March 2020, amendments were made to the Act to provide the CPHO additional powers to respond quickly and effectively to control the spread of COVID-19. New legislation – the *COVID-19 Emergency Response Act* 2020 – was implemented in April 2020 to further bolster pandemic control and manage its impacts. Further amendments to the Act were made in relation to this new legislation, with expanded powers to assist in responding to the COVID emergency.

Under the *Emergency Management Act 2004* State Emergency provisions, the State Coordinator enacts Directions which apply to everyone living in, and entering, South Australia. A Direction is a legal document that is enforceable by law, and which may be updated or amended. At 30 June 2020 there were multiple Directions in place in South Australia to support the broader public health response to COVID-19 and protect the South Australian community. The partnership with SAPOL has been crucial to community and business compliance with these Directions. As public health authorities for their areas under the Act, councils deployed environmental health staff to undertake area observations, incorporating compliance safety checks and enforcement. These commenced on 3 April 2020 and continued until 18 June 2020.

On 29 June 2020, the Premier of South Australia announced an easing of restrictions related to COVID-19, with the resumption of some high-risk public activities, subject to the approval of a COVID Management Plan (CMP). An expert public health team was established to support individuals and organisations with their CMP preparation. The *Emergency Management (Public Activities No 3) (COVID-19) Direction 2020* included the requirement for all venues and activities considered high-risk to have a CMP. Business operations, public events and other activities that are 'COVID-safe' are essential component of the state's safe transition to recovery. CMPs must be approved by SA Health and need to be supported by evidence. They can be complex and innovative.

STATE COMMAND CONTROL CENTRE (SCC-H) AND COVID-19 WORKSTREAMS

SA Health is the designated Control Agency for human epidemics, responsible for managing the disease outbreak response and recovery, across first, second and subsequent waves of infection. SA Health enacted and expanded the State Control Centre – Health (SCC-H) from February 2020. The SCC-H initially comprised HR&P Business Units (Disaster Preparedness and Resilience Branch and Communicable Disease Branch). As the pandemic increased in complexity and scale, the SCC-H was expanded to bring in wider departmental expertise including, Drug and Alcohol Services (DASSA), SA Ambulance Service (SAAS) and Local Health Networks (LHNs). The multi-agency COVID-19 Command Centre at SA Health headquarters was established a month later to help coordinate the South Australian government's response to the COVID-19 pandemic.

Executive-level workstreams were established to guide COVID-19 prevention and management, mitigate risk, and maximise action. They provided expertise and advice, ensured a consistent and coordinated operational approach to population health, health care, and community wellbeing. These Workstreams also managed relevant system, infrastructure and workforce issues.

- **The Whole of Government Response Workstream** was established to identify priorities, assist implementation of the Emergency Management Directions and cross-government protocols, share information and manage information flows and update agency executives. SCC-H played a strong role in this group and Centre staff were embedded in relevant other Workstreams
- **The Out of Hospital Response Workstream** was tasked with supporting people to isolate safely in the community when needed and supporting vulnerable community members to be able to remain in the community through access to a range of services to meet their health and non-health needs
- **The System Enablers Workstream** was established to support and inform leadership decision-making, supporting infrastructure and facility needs
- **The Acute Metro and Country Response Workstream** was established to achieve a consistent and coordinated operational approach across the health sector to manage the COVID-19 pandemic within South Australia, and provide leadership, guidance and support to the South Australian community
- **The Communications Workstream** was put in place to communicate accurate and timely information to the community
- **The Public Health Response Workstream** was tasked with minimising COVID-19 infection rates by applying policies and practices to restrict social interaction, contact trace people who have been infected, to determine if others need to go into quarantine.

SA Health and other emergency staff at SCC-H daily operational briefing.

TESTING AND SURVEILLANCE

Identifying all new cases of COVID-19 is the prerequisite to the whole public health response to COVID-19. This allows rapid identification of close contacts of cases, effective management of confirmed COVID-19 cases, and targeted public health action to prevent potential outbreaks. South Australian criteria for community access to COVID-19 testing are broad and aligned with CDNA and AHPPC guidance.

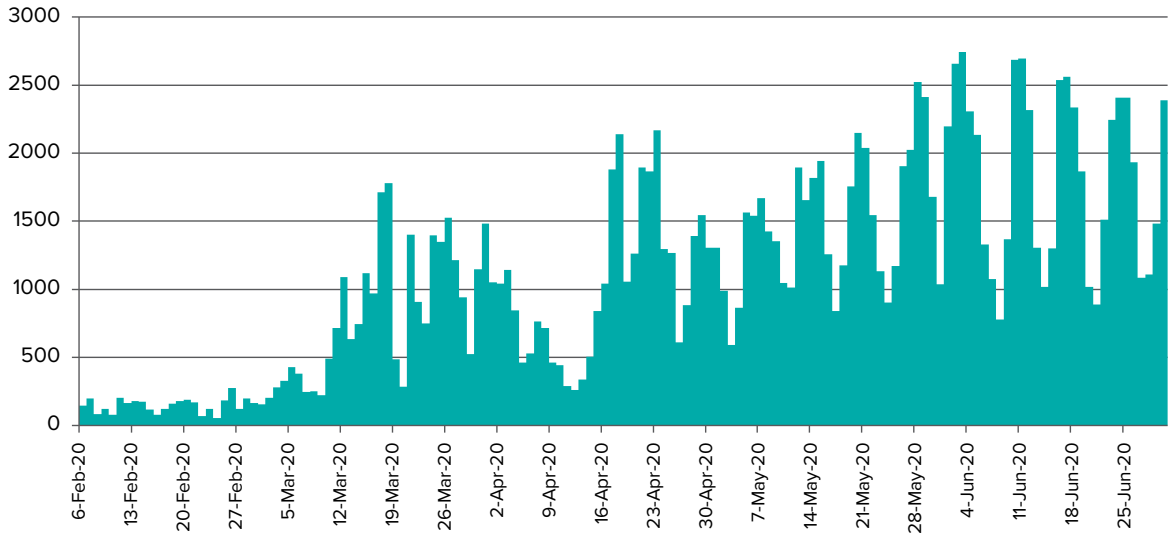
It is important that people presenting to a health care provider or COVID-19 clinic with any symptoms compatible with COVID-19 (no matter how mild) are offered testing. In partnership with SA Pathology, private pathology providers and LHNs, SA Health implemented strategies to improve testing access and rates in metropolitan, regional and rural areas and alleviate the burden on primary care providers and emergency departments. These included rapid testing, domiciliary testing, mobile clinics, and other dedicated COVID-19 clinics and testing facilities across metropolitan and regional areas of the state. The nation's first drive-through COVID-19 testing facility opened in South Australia on 11 March 2020.

SA Pathology has been a global leader in COVID-19 testing and surveillance. During the critical period when the 'first wave' of cases arrived on Australian shores in February-May, South Australia had the highest SARS-CoV-2 testing rates in the country, and among the highest in the world. Over this period, SA Pathology:

- Assisted population surveillance
- Developed an in-house assay for SARS-CoV-2, enabling testing within weeks of the novel pathogen first being described on the international stage
- Integrated this assay into the multiplexed respiratory panel assay, increasing throughput and producing among the highest testing rates per capita in Australia
- Used digital solutions to streamline the delivery of negative COVID-19 test results enabling people to rapidly access their results from a secure online platform.

Between testing the first sample on 31 January 2020 and 30 June 2020, SA Pathology performed 146,615 SARS-CoV-2 tests, consistently maintaining rapid turnaround time (less than 24 hours on average) for receipt of results. This surveillance also informed the rapid, effective public health response.

Figure 21: SARS-CoV-2 laboratory tests processed per day, 31 January to 30 June 2020, South Australia



Data source: Communicable Disease Control Branch, SA Health

CONTACT TRACING AND ISOLATION

'Upstream' and 'downstream' contact tracing is needed to identify and risk-assess all people who may have come into close contact with a confirmed case of an infectious disease – to determine who such 'close contacts' could have passed the infection on to, as well as whom they may have acquired the infection from.

A sophisticated contact tracing unit used case interviews, employer information, flight manifests, customer attendance records, and other sources to systematically identify and map close contacts of people infected with COVID-19. Close contacts were then contacted and placed into isolation for 14 days after their last confirmed exposure to COVID-19. Authorised Officers contacted each person on a daily basis, to monitor symptoms throughout their isolation period. The overall approach had to be extended to contacts of close contacts because of COVID-19's rapid transmission. SA Health's very small contact tracing team was expanded to 150 to scale up the response and worked to become rapidly more digitalised. By 30 June 2020, over 2,500 close contacts had been identified and managed by SA Health, working in partnership with SCC-Health, SAPOL and other agencies. SA Health worked with SAPOL's police investigation unit to switch to digital mapping and tracking of the massive amounts of investigation data. This transition greatly helped the overall contact tracing approach.

SURVEILLANCE TESTING

Disease surveillance is essential to the public health response to infectious disease through early case detection, and providing data needed to determine populations at risk. Active disease surveillance was undertaken by the contact tracing teams to identify and support people to access testing who either worked in settings identified as high-risk, had contact with known cases, including those who may have been reticent to present for a COVID test. In March/April 2020, active case finding initiatives were undertaken for three of the major South Australian clusters. Two of the three centred on workplaces and involved contacting those who may have attended worksites, been contracted to a business during the cases' infectious periods or worked in similar roles as those who became cases. Active case finding was in the suite of public health initiatives that contained the third cluster, which is provided as an example in the Case Study Compendium.

Wastewater monitoring for COVID-19 also contributes to disease surveillance by identifying where the virus has spread across the population. SA Health partnered with SA Water to identify the presence of virus genetic material (viral RNA) in wastewater samples, indicating possible COVID-19 clusters in the community. This analysis detected SARS-CoV-2 RNA in stored wastewater samples collected during April and May 2020, when cases of COVID-19 were being detected in South Australia. From May 2020 to 30 June 2020 all tests were negative. With the COVID case numbers very low, testing was expanded to include specific settings as an early warning signal for cases in particular communities. This included twice-weekly sampling at Mt Gambier and testing of remote communities. Further locations are likely to be included as the pandemic continues.

PUBLIC COMMUNICATIONS

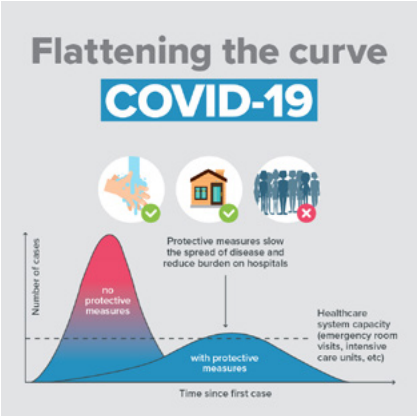
Public confidence and adherence in an emergency response require timely, regular and factual communication about risk and protective factors. The fast and regular provision of easily understood, accurate information about COVID-19 to the South Australian public was therefore a key strategy for building (and keeping) public trust in the SA Health response and recommendations. The communications response focussed on providing health messages to South Australians in a timely, relevant and easy to understand way. Many of these communications focused on public health messaging around stopping the spread, testing, physical distancing, self-isolation, discouraging complacency and providing advice around local restrictions. Encouragingly, South Australians are heeding COVID-19 prevention messages:

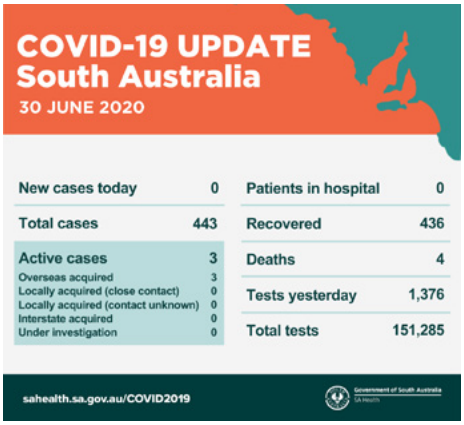
- 83% took measures to stop the spread of COVID-19
- 98% stayed home when unwell
- 99% regularly washed hands
- 97% undertook physical distancing
- 97% tested when unwell
- 70% had seen at least one of the ads.

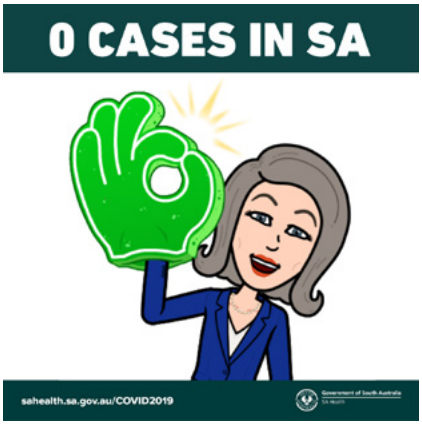
Partnerships with SA Police (SAPOL) and local government ensured consistency of public communications across key agencies. SA Health also worked closely with community organisations and leaders to guide communication and engagement with Aboriginal and CALD communities, recognising leaders' insights into community health and wellbeing needs, strengths, and information requirements.

Government communications protocols require rigorous evaluation of public-facing advertising campaigns. Research conducted in July 2020 showed the communications response increased public confidence in SA Health and the broader South Australian health system, and had prompted the community to increase positive behaviours to stop the spread of COVID-19.

- 74% of people said SA Health ads made them stop being complacent about COVID-19 advice and restrictions
- 97% of people believed SA Health is effectively managing the pandemic
- 96% of people thought it is important that SA Health keeps providing COVID-19 information
- 85% of people still look for and notice SA Health's communications about COVID-19
- Since March 2020, more people were turning to SA Health websites, advertising and social media channels for up-to-date information on COVID-19.







PREPARING THE HEALTHCARE SYSTEM

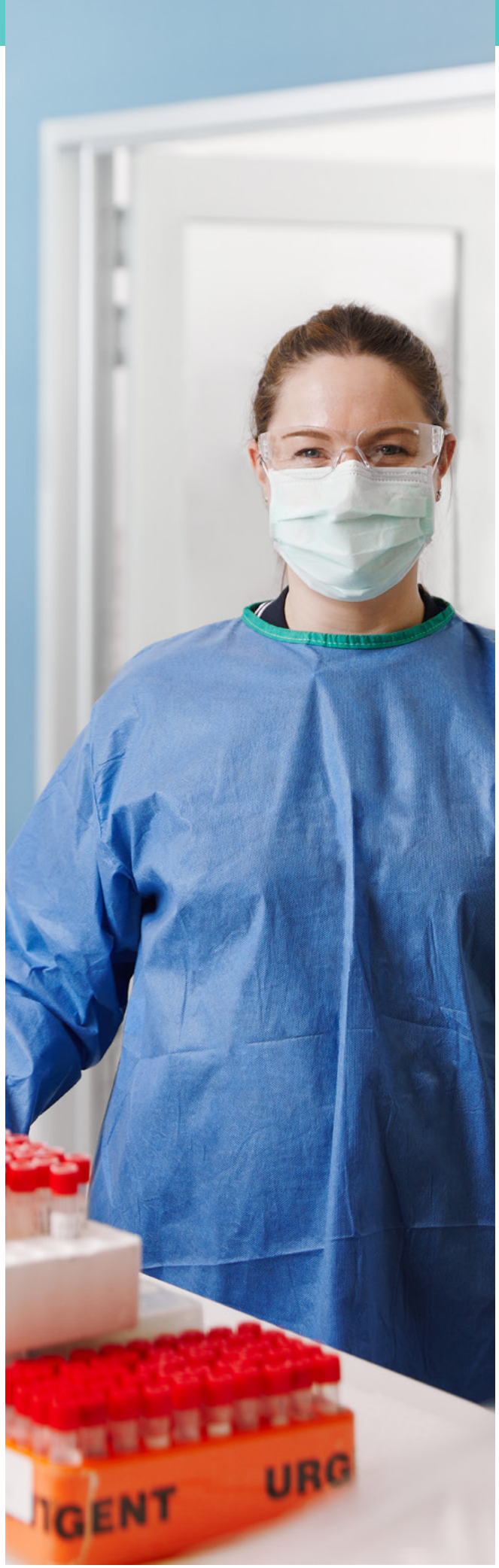
Faced with the challenge of COVID-19, the healthcare system adopted measures to prepare for a major influx of COVID-19 patients and preserve access to high-quality essential health services.

The cancellation of all non-urgent elective surgery was authorised under the *Emergency Management Act* to preserve personal protective equipment (PPE). Planning was undertaken to secure additional intensive care unit (ICU) and ventilator capacity using both private hospitals and the use of recovery areas in operating theatres. Up to 375 ICU ventilators and 325 ICU beds were identified. Additional ventilators and life support machines [Extracorporeal membrane oxygenation (ECMO)] were also purchased. With the cancellation of elective surgery, public hospital staff were trained in assisting in Intensive Care.

Temporary closure of rural accident and emergency services with co-located aged care facilities was put in place on 18 March 2020. This action was authorised under national restrictions on entry to residential aged care facilities announced by the AHPPC and was consistent with the Communicable CDNA *National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia (2020)*[81].

Medi-hotels were established at several Adelaide Central Business District (CBD) sites up to 30 June 2020 in order to provide safe environments for essential quarantine purposes. These were staffed by SA Health, SAAS, SAPOL and other agencies including the Australian Defence Force (ADF). SA Health staff (including LHN nurses) provided ongoing wellness and physical symptom checks for people in quarantine as well as COVID-19 testing.

South Australia has a uniquely networked health system that has brought together the COVID-19 Integrated Inpatient Strategy as a whole-of-system plan to utilise the most appropriate hospitals for COVID-19 patients. The Plan outlines how the public, private and community health sectors can work together to manage a 'worst case scenario' outbreak and decrease the likelihood of the health system being overwhelmed. This includes transferring all positive patients who need hospitalisation to the Royal Adelaide Hospital (RAH), curtailing or ceasing elective admissions (especially surgery) and decanting non-COVID patients away from the RAH to other metropolitan hospitals. This plan also places South Australia in good stead for any future outbreaks in residential aged care facilities.



PUBLIC HEALTH EVIDENCE

Population health monitoring

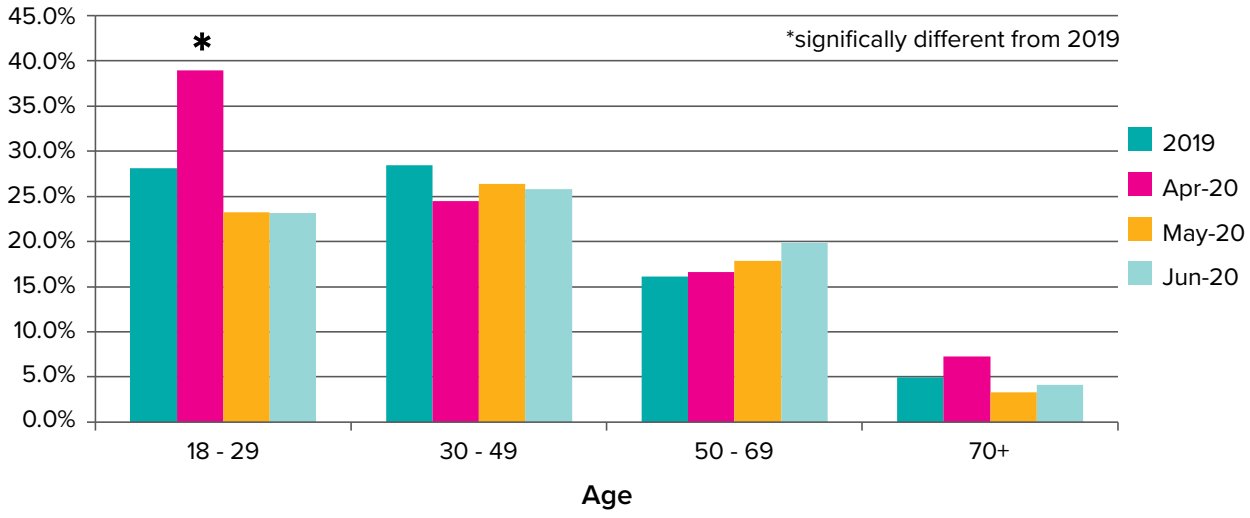
Wellbeing SA routinely collects data about the health and wellbeing of South Australian adults in the SAPHS. In direct response to the COVID-19 outbreak, from April 2020, Wellbeing SA tripled the weekly number of interviews to 400 per week to enable weekly reporting of data to monitor health outcomes in light of the restrictions introduced under the Major Emergency declaration. The survey interviews included questions about COVID-19 symptoms, whether health advice was sought, and if respondents presented for testing. These data will continue to be collected throughout the course of the pandemic. Reliable data are enablers for well targeted responses to immediate and future public health concerns. For example, sub-group analysis of the SAPHS survey data (Figure 22) revealed that psychological distress (and poor wellbeing) among adults aged 18 -29 years was significantly worse in April (compared to the 2019 average), before returning to within normal ranges in the following months. This surge in poor mental health and wellbeing was not observed in any other age group.

Evidence reviews

The absence of definitive public health evidence about COVID-19 was an urgent, early challenge for South Australia. The SAHMRI-based Health Policy Centre collaborated with SA Health's Commission on Excellence and Innovation in Health and Health Translation SA to gather and assess best evidence on COVID-19. At the time of reporting, the collaboration (which continues to publish) had prepared 15 evidence reviews addressing questions such as:

- Should schools remain open?
- How does your level of exposure impact the severity of COVID-19 infection?
- What is COVID-19's impact on pregnancy?
- What countries have dealt best with COVID-19 and why?

Figure 22: Proportion of adults reporting psychological distress by age group



Data source: South Australian Population Health Survey

PROTECTING VULNERABLE POPULATIONS

Some individuals and population groups are particularly vulnerable to outbreaks and/or to the impacts of COVID-19. Factors that contribute to heightened vulnerability include pre-existing health conditions and co-morbidities that heighten the risk of serious complications from COVID-19 infection, relative to the general population. Family and living arrangements, social and economic circumstances, and environmental risk may also add to health vulnerabilities, for example:

- Household overcrowding, making it difficult to maintain physical distancing when needed
- Infection control limitations, and movement between facilities and communities that widens onward transmission risk
- Language barriers and other factors impacting upon health literacy and awareness, access to health care services and support networks
- Casual employment or employment in high-risk settings, as well as associated economic hardships that make it difficult for individuals who are directed to isolate or quarantine to do so.

Additional measures were introduced to support vulnerable groups during the pandemic, and these were largely focused on:

- Aboriginal communities
- CALD communities
- Homeless people
- Aged care residents
- Prisoners.

SA Health has been working to develop COVID-19 responses that are inclusive, appropriate, and facilitate community participation in priority-setting and decision-making. This has been in collaboration with other state government and non-government agencies, Commonwealth and Local Governments, and affected communities. Highlights of key actions are provided here.

Older adults

On 13 March 2020, the CDNA published the *National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia.*[82] Restrictions on the entry of visitors, staff, and contractors to residential care facilities (RCFs) were introduced, supported by a range of other measures; PPE and staff training requirements; COVID-19 workforce management and infection control plans; active COVID-19 surveillance of RCF staff, contractors and residents, and development of a standard operating procedure to support a rapid, effective, coordinated response to COVID-19 outbreaks in RCFs. Councils supported initiatives to protect vulnerable ageing residents in their homes with care parcels, food and other essentials, and contactless home services.

Aboriginal South Australians

Planning for the prevention, detection and response to COVID in an Aboriginal community was progressed through:

- Support and leadership of Aboriginal community councils and Community Controlled Health Services (ACCHS), setting priorities and strategy since the beginning of the pandemic
- The early decision taken by some remote communities to restrict movement in and out of communities. This was initially strengthened through amendments to the *Commonwealth Biosecurity Act*, and became largely managed under local Aboriginal community permit systems with state-based legislation available if needed
- Engagement and collaboration with range of government, state-wide, and non-government services, including SA Health, Department of Premier and Cabinet (DPC) (Aboriginal Affairs and Reconciliation), SAPOL, and the Aboriginal Health Council of South Australia.

Action to June 2020 also included:

- Community education
- Local health service capacity building and preparedness
- Increased access to rapid testing. With Commonwealth government support, COVID point of care testing was made available to most remote ACCHS
- Linkage between ACCHS and the State PPE stockpile to enable timely access to the full suite of PPE.

Culturally and Linguistically Diverse Communities

SA Health has been working closely with partner organisations and communities to develop a COVID-19 response that is culturally and linguistically appropriate and inclusive, and tailored to the strengths and needs of South Australian CALD communities, including:

- Sourcing and supporting interpreters/translators and development of translated resources to support engagement with COVID-19 cases and close contacts for people with language other than English
- Developing protocols to ensure that SA Health COVID-19 operations meet the needs of CALD communities, including coordination of appropriate support for CALD COVID-19 cases and close contacts, and new arrivals who were required to isolate or quarantine.

Relationships Australia and South Australia's ASKPEACE delivered tailored mental health support service for CALD people impacted by COVID-19, and the Salisbury Council partnered with Intercultural Community Alliance (SICA) leaders to identify community needs, and support effective communication with Salisbury's interfaith community about COVID-19 public health information and support.

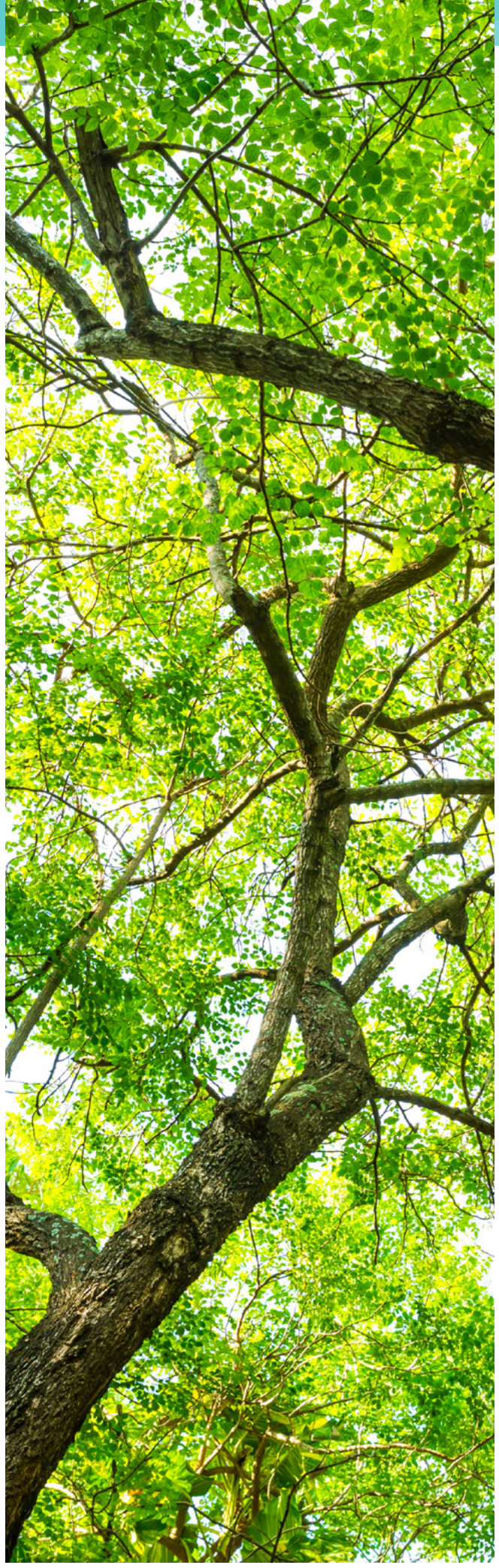
People experiencing homelessness, and people sleeping rough

With no place for self-isolation and poor access to adequate sanitation, medical supplies and food, people experiencing homelessness, and people sleeping rough are at severe risk from COVID-19:

- The SA Housing Authority acted with its 'Adelaide Zero' Project partners to ensure a rapid accommodation response for homeless people in the Adelaide CBD, through the COVID Emergency Accommodation Response Service (CEARS). This initiative assisted 542 people into hotel and motel accommodation, with case management support offered to all participants
- Councils met shelter and living needs with outreach services, assistance with securing accommodation, access to hot meals, shower and laundry facilities, and providing safe, free spaces for connecting with peers and services. Proactive and preventative policy included the Salisbury Homelessness Strategy, which recognises links between COVID-19 and increased homelessness in the region.[83]

Prisoners

On 31 March 2020, the CDNA published the *National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Correctional and Detention Facilities in Australia*.[84] South Australian agencies have worked in partnership to operationalise the CDNA guidelines in South Australia, and to establish clear, evidence-based, localised protocols for effective prevention, detection and response to outbreaks of COVID-19 in custodial settings.



RESPONSE TO WIDER COMMUNITY IMPACTS

To address broader impacts of COVID-19, the South Australian government rolled out significant initiatives addressing physical and mental health and wellbeing, emergency measures buffering community agencies and businesses from immediate impacts, and funding to assist with recovery. Highlighted here:

- The South Australian Government progressively implemented a one-billion-dollar stimulus and recovery package to save jobs, businesses and industries directly affected by COVID-19. Among the raft of measures were emergency cash, food and rent relief provisions, financial counselling, vocational education training support, and local maintenance stimulus funding targeting local contractors
- The Virtual Support Network was established to provide a localised service for people needing additional mental health support. SA Health's network of telephone and online mental health support services, including tailored services for specific communities, was part of this response. Mental health support was also been incorporated into the suite of services available to people in hotel quarantine
- The Open Your World State-wide Wellbeing Strategy was launched by Wellbeing SA to build community resilience and physical, social, mental and community wellbeing.

The local government response

Councils across South Australia reported a range of community impacts of COVID-19 through March and early April 2020, with the greatest concern expressed about increased isolation and concerns about financial stress, disruption or cessation of employment, limits on essential goods and services, welfare and wellbeing of older South Australians and other vulnerable residents. As public health authorities for their local areas councils were well-placed for rapid response to community impacts, in addition to the compliance and monitoring work of public and environmental health officers. Their activities included:

- Adaptation to online and non-contact service delivery modes to ensure that many council closures were temporary, and critical functions and projects (for example waste and sanitation services, and immunisation) were maintained
- Meeting local emergency information needs and coordinating resources through social media, council inquiries, and team support
- Ensuring safe access to services for people extremely isolated by COVID-19
- Ensuring human contact and care through hundreds of programs, thousands of care parcels, community outreach, and training in online communications supporting individuals and groups with digital service transitions
- Reorienting and expanding existing services targeting very vulnerable residents, including ageing communities, people who lost their jobs due to COVID-19, young people and homeless people/rough sleepers
- Immediate and longer-term stimulus and support for social and economic recovery in their areas, and continuing to respond to the challenge of COVID-19 for their communities in diverse, innovative ways.

WHERE TO FROM HERE

At 30 June 2020, South Australian action has led to remarkable success – virtually eliminating COVID-19 infection and greatly minimising the pandemic's broader impacts. However, the risk to our population is not eradicated, as was demonstrated by the Thebarton and Parafield Gardens clusters that occurred in mid and late 2020. Elsewhere in Australia and overseas, we have seen how quickly second and subsequent waves of infection can develop if outbreaks are unchecked. The risk of COVID-19's re-emergence means that as restrictions unwind further, a new norm is needed to support future prevention into the future. Transitioning to the new 'COVID-normal' therefore requires assessment of foreseeable health, economic and social impacts of COVID-19 restrictions and controls relative to the risks of further outbreaks.

CHAPTER FIVE
PUBLIC HEALTH ACTION 2018-2020

Chapter Five reports on a select summary of state-wide and local level public health action over the reporting period. The actions presented here are a snapshot of our overall effort and that of our partners, and are also included to show alignment with priorities, actions, and emerging issues identified by the State Public Health Plan. Brief commentaries for a diverse range of programs and issues are interspersed with case studies showcasing public health action. The full suite of case studies is contained at the compendium of public health case studies, research and achievements.

PROMOTE

Health promotion fosters good health and prevents disease, disability and premature death through individual, community, institutional and system strategies. It targets health knowledge, attitudes, skills and behaviour.

This section highlights health promotion action over the reporting period, aligned with add State Public Health Plan directions to:

- Support health and wellbeing through promotion and prevention
- Develop key settings and place-based responses to avoidable health risks
- Strengthen mental health and wellbeing
- Act on the determinants of health
- Empower communities to prevent suicide

SUPPORTING HEALTH AND WELLBEING IN KEY SETTINGS AND PLACES

The settings-based approach to health promotion involves holistic, multi-disciplinary methods that integrates action across risk factors. SA Health's approach is informed by population health data and evidence-based research, and is achieved in partnership with key stakeholders in a range of organisations and settings. Examples of settings-based health promotion innovation are supplemented by case studies in the compendium.

Healthy eating - ensuring food security for vulnerable South Australians

Individual and household food security is the ability to acquire safe, appropriate and nutritious food on a regular basis, using socially acceptable means, to live an active and healthy life. Food insecurity exists whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable food in socially acceptable ways is limited or uncertain. Food security has three key components:[85]

- Food access: the capacity to acquire and consume a nutritious diet
- Food availability: the supply of food within a community affecting food security of individuals, households or an entire population
- Food use: the appropriate use of food based on knowledge of basic nutrition and care.

The food supplied by food relief providers can significantly contribute to the overall dietary intake, diet quality and health of food relief recipients, particularly for long-term recipients.

CASE STUDY

NUTRITION GUIDELINES FOR THE FOOD RELIEF SECTOR IN SOUTH AUSTRALIA

An important part of food security is access to nutritionally adequate and safe foods. The provision of food relief represents a valuable opportunity to support vulnerable individuals and households, and improve their health outcomes. *The Nutrition Guidelines for the Food Relief Sector in South Australia* were co-designed with the food relief sector to improve the availability of healthy, nutritious food to recipients of food relief.

The Nutrition Guidelines categorise food as green (everyday), amber (other) or red (not recommended) with the percentages of stock volume to aim for in each of the category being green (at least 70%), amber (up to 20%) and red (0-10%). As well as providing guidance on the nutrition quality and quantity of food items to provide, the Nutrition Guidelines provide strategies for placement, promotion and pricing to support a healthy environment and encourage the purchase of healthy products.

Supporting resources have been co-developed which assist the sector to implement the Nutrition Guidelines, including a self-audit tool to assist providers to assess their progress against the Nutrition Guidelines and make goals to increase the availability of healthy options.

The Guidelines can be tailored to various food relief provision models including food hampers, food pantries, vans, seated meal services and food vouchers (for major supermarket chains or for Foodbank Food Hubs).

Sector representatives have established a community of practice to support the exchange of knowledge and best practice to implement these Guidelines.

While enabling easy access to a range of healthy food options supports food relief recipients in making healthy choices, it is acknowledged that the South Australian food relief sector faces a number of challenges including sourcing enough food to meet demand, particularly sourcing enough healthy options.

Wellbeing in the workplace

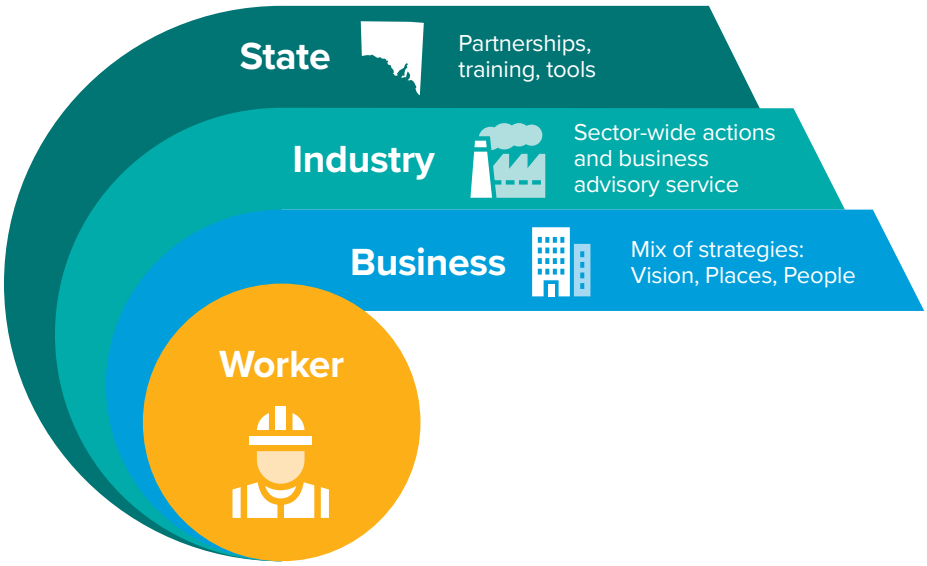
The World Health Organisation has identified the workplace as one of the priority settings for health promotion in the 21st century as it 'directly influences the physical, mental, economic and social well-being of workers, and in turn the health of their families, communities and society. It offers an ideal setting and infrastructure to support the promotion of health of a large audience.'[86]

CASE STUDY

HEALTHY WORKERS HEALTHY FUTURES INITIATIVE

Over four years from July 2014, the Healthy Workers Healthy Futures initiative used workplaces as a setting to create healthy work environments, programs, policies and cultures. It encouraged healthy lifestyle choices in relation to smoking cessation, healthy eating, safe alcohol consumption, mental health and physical activity.

The Healthy Workers Healthy Futures initiative in South Australia involved a multi-level, capacity building approach.



State-level actions included:

- Establishing strategic partnerships
- Developing training embedded into Registered Training Organisations and
- Creating a range of resources to help build the capacity of workplace champions and leaders to drive successful health and wellbeing programs in the workplace.

The industry-led approach engaged four peak industry bodies to provide sector-wide strategies and business advisory services via healthy worker advisers. It reached over 49,000 workers within the manufacturing, defence, civil construction and apprentice industries. In partnership with the Department of State Development, a comprehensive evaluation was implemented finding:

- Increased capacity and capability of workplaces to implement workplace health programs reported
- Knowledge and behaviour change.

Smoking Cessation

The Minister for Health and Wellbeing launched two South Australian-produced smoking cessation television advertisements in July 2019. The first demonstrates harms from smoking affecting every part of the body. The second shows the health benefits of quitting smoking over time – from the first few minutes through to five years later. The advertisements increase the stock of available advertisements in the two key genres – threat appeal and motivational/encouragement. The threat appeal advertisements aim to persuade individuals to consider making quit attempts while motivational/encouragement advertisements attempt to increase confidence in successfully quitting.

The advertisements were received positively by smokers, and are achieving strong results against the campaign metrics. The campaign was also supported through the launch of the besmokefree.com.au website in November 2018.

CASE STUDY

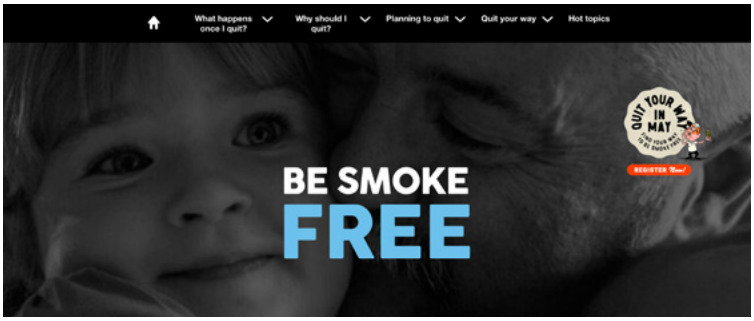
SMOKING CESSATION – BE SMOKE FREE WEBSITE

Be smoke free was developed in response to focus group findings that smokers wanted to quit smoking their own way. It is designed to share information and tools to assist smokers to find a method of quitting smoking that suits them.

In response to findings from website focus testing in May 2019, changes were made to besmokefree.com.au to improve usability and encourage greater engagement with the website.

These changes included adding:

- A smoking cost calculator that calculates how much a smoker has spent on cigarettes during their lifetime
- A one-minute smoker quiz that helps smokers better understand the main reason they smoke – addiction, habit or emotions – and provides quitting strategies for each type of smoker
- A webchat function where smokers can chat online to a Quitline counsellor
- Stories and videos about how other people have quit smoking
- A scrolling banner of 'hot topics' on the homepage.



Age-friendly communities – 'Mindset for Life'

The Office for Ageing Well contributes to the vision of a healthy, connected, equitable and sustainable community. Office for Ageing Well takes a whole of life approach to fostering many years of living well, and supports death with dignity, in line with personal wishes. It works to build communities that value older people and can see the opportunities of an ageing population, through implementation of *South Australia's Plan for Ageing Well 2020-2025*. Its multifaceted approach focuses on delivery of strategic priorities for ageing well, including navigating change for active participation throughout all life's transitions. This priority underpins the Mindset for Life program, which helps older people successfully steer through transition from working life to retirement. The program, which has been running since 2018, is:

- Co-designed by older people for older people, targeting people in the second half of life
- Delivered in workshops facilitated by older volunteer peer convenors, and
- Focused on decisions about work, volunteering, social life, retirement, daily habits and activities.

An evaluation survey was conducted with 2020 Mindset for Life program participants. Before participating in the program, 17% of participant said they felt positive or very positive about this stage of their life. Seventy six percent felt positive or very positive after participation in the program, and of these 91% indicated that Mindset for Life had contributed to that change. Participants also reported an increase in life satisfaction, positive relations with others, social integration, actualisation and contribution, decreased stress and depression, following the workshops.

STRENGTHENING MENTAL HEALTH AND WELLBEING

Good mental health is a state of wellbeing in which individuals can thrive in their chosen community, have meaning and purpose, meet their needs, and navigate adversity in life. Long-lasting harm to mental health, including mental health problems and mental disorders, is associated with the trauma of natural disasters and extreme weather events, such as the 2019-2020 bushfires in South Australia. The recently concluded Royal Commission into National Natural Disaster Arrangements has highlighted mental health during and after natural disasters as a priority.[87]

The South Australian bushfire response

During the bushfires, their immediate aftermath, and extensively through recovery, SA Health has deployed multiple services to support response and recovery. This includes assignment of Liaison Officers to the State Emergency Centre during the bushfire event, and coordination and provision of nursing, medical and public health staff during the fires and recovery.

Mental health services have been at the forefront of this response, and SA Health has worked in collaboration with state recovery operations, emergency services, LHNs, local Bushfire Recovery Centres, and other agencies to ensure access to mental health support and services. Most mental health services to bushfire-affected communities were delivered in person, but were provided via telehealth and video consultations during the COVID-19 restrictions. COVID-19 may have had further impact on mental health and wellbeing recovery of the communities affected by the bushfires.

The recently-commenced Bushfire Recovery Mental Health Project reflects increased understanding of the unfolding impacts of bushfires and other disasters, of how affected communities' needs change over time, and the role and scope of services for the short, medium and long term. The two-year project aims to:

- Reduce the incidence of preventable Post Traumatic Stress Disorder (PTSD) in communities affected by bushfires or other disasters
- Improve management of people with mental health conditions that may be exacerbated by the bushfire trauma
- Improve treatment and rehabilitation of people with PTSD and other trauma related disorders related to the fires.

The project covers the Adelaide Hills and Kangaroo Island regions, with flexibility to respond to emerging needs throughout the recovery phase.

ACTING ON HEALTH DETERMINANTS – URBAN GREENING; CONNECTION TO COUNTRY

Evidence gathered on key social determinants of health and wellbeing show the ways in which social, economic, political and cultural conditions create health inequities.[88-90] These determinants include socio-economic position, early life circumstances, social exclusion, social capital, employment and work, housing and the built environment. Public health action focused on the built environment is important, as a direct relationship exists between way the built environment is planned and designed, and people's ability to be part of a connected healthy and sustainable community.[88, 91] Connectedness to culture and caring for Country are positive social determinants of health for Aboriginal people, supporting identity, family, community functioning, participation in cultural activities and access to traditional lands.[92, 93]

Urban greening, health and wellbeing

As part of the built environment, urban greening contributes to individual and population health and wellbeing, with multiple human health, social, and environmental benefits. Work undertaken through the Healthy Parks Healthy People SA initiative focuses on the role of green infrastructure in the urban setting (GIUS) in supporting positive environmental, health and wellbeing outcomes for communities and has delivered a number of outcomes:

- A review of health, wellbeing and environmental co-benefits of green infrastructure in urban settings
- The first GIUS Action Plan
- Collaborative development of six evidence-based best-practice principles for quality green public space – Creating Greener Places for Healthy and Sustainable Communities: Ideas for quality green public space in South Australia.

Local government invests significantly in urban greening.[94] Partly as a consequence of urban infill, tree and shrub canopy (and green space more generally) are declining across our city and suburbs, a trend being experienced across most of urban Australia. In recognition of the contribution of trees and green spaces to urban greening and healthy cities, the updated *30-Year Plan for Greater Adelaide* set an urban green cover increase target of 20% in metropolitan Adelaide by 2045.

Connection to Country for Aboriginal Health and Wellbeing

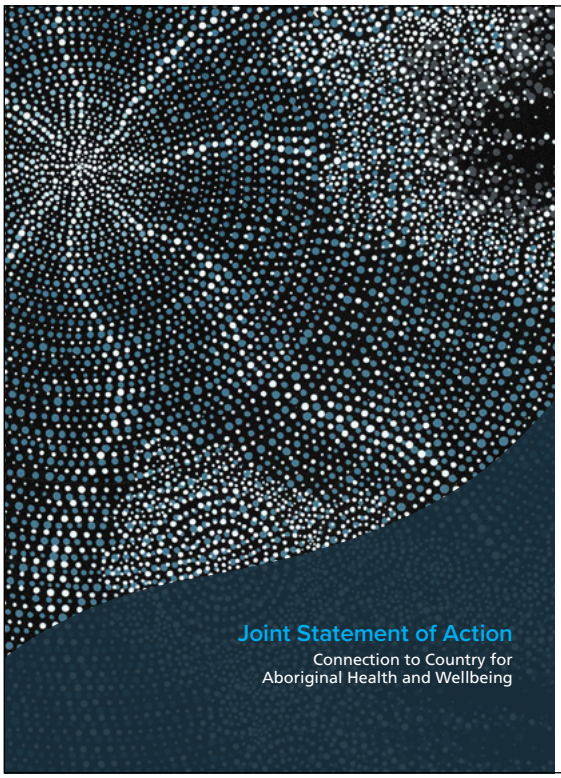
Aboriginal Australians highlight the centrality of relationships with culture and Country to their health. Policy and service silos are increasingly seen as barriers to recognising the relationship between Aboriginal people and Country that must be overcome.[92] The Joint Statement of Action is one example of partnership to achieve this.

Felixstow Reserve Redevelopment – City of Norwood Payneham & St Peters, in association with ASPECT Studios, Kaurna Nation Culture Heritage Association, Paul Herzich, Oxigen and Integrated Heritage Services.

CASE STUDY

JOINT STATEMENT OF ACTION – CONNECTION TO COUNTRY FOR ABORIGINAL HEALTH AND WELLBEING

The Joint Statement of Action: Connection to Country for Aboriginal Health and Wellbeing was launched in Reconciliation Week 2019 and reflects the voices of over 80 representatives from communities and organisations across the health, environment and Aboriginal community sectors.



The story of this painting comes from a series of paintings titled 'Family'

"In Aboriginal culture caring for Family includes caring for Country as Country is considered a key element of Aboriginal family responsibilities.

It's an acknowledgement to Leaders in our community, not only past and present but also our next generation leaders. Also to those who inspire others to be the best version of themselves.

It suggest the importance of how our present choices have impact on the people and environment now and into the future. That we are connected. It's about empowering ourselves through empowering others."

Tony Wilson – Narungga/Ngarrindjeri

Culture is central to the health and wellbeing of Aboriginal people and connection (and/or reconnection) to Country is a key determinant of Aboriginal culture. For Aboriginal people connection to Country includes activities that reinforce and support relationships with physical, cultural, social, economic and spiritual environments.

A co-design process brought representatives together to document an agreed understanding of the importance of Connection to Country for Aboriginal health and wellbeing.

The Statement articulates principles to guide how Aboriginal people in South Australia can be better supported to connect to Country through the combined action of government, the non-government sector and the community. It provides a basis for promoting and supporting projects and programs that demonstrate the principles of Connecting to Country.

EMPOWERING COMMUNITIES TO PREVENT SUICIDE

Suicide Prevention Networks.

The *South Australian Suicide Prevention Plan 2017-2021* comprises three key action areas: making people a priority, empowering communities, and translating evidence into practice.

Oversight of the Plan sits with SA Health's Office of the Chief Psychiatrist (OCP), encompassing the following key areas:

- Development and support of Suicide Prevention Networks (SPNs)
- Administration of the Suicide Prevention Community Grants Scheme
- Education and training of mental health services and other organisations
- Collaboration with the South Australian Suicide Prevention Council, and with the Office of the Premier's Advocate for Suicide Prevention.

SPNs aim to empower communities to take local action on suicide prevention, and are a key deliverable of the Suicide Prevention Plan. They are formed through collaboration between OCP, local government and community members who want to prevent suicide in their community. Membership is diverse, and each SPN is supported to develop an Action Plan that is within its capacity, and specific to its community. During 2018-2020 nine SPNs were established, taking the total number across South Australia to 33.

In operation since 2014-15, the Suicide Prevention Community Grants Scheme assists community groups, NGO and businesses to carry out suicide prevention activities and projects. Targeting suicide risk and vulnerabilities, the grants aim to:

- Improve awareness of suicide and suicide prevention, reduce myths and stigma
- Support a diverse cross section of vulnerable communities, including young people, males, Aboriginal people, multicultural communities, members of the LGBTQIA+ communities, at-risk professions, and those bereaved by suicide.

Thirty-eight applicants were successful in the 2018-19 and 2019-20 grant rounds. Grants funded included performances and art exhibitions, local community awareness campaigns, culturally informed events, camps and expeditions, training drives, and sporting activities.

Principal Aboriginal Mental Health Advisor

The Principal Aboriginal Mental Health Advisor builds capacity to respond and reduce Aboriginal suicide incidence and impacts across South Australia, including the development of Suicide Prevention Networks. In 2018-19 ten Aboriginal trainers in Deadly Thinking and twenty trainers in Aboriginal Mental Health First Aid were funded across country South Australia to deliver Aboriginal community-based suicide prevention awareness programs across South Australia.

PROTECT

Foundational public health services protect us every day. These contribute to public health outcomes such as improved food safety and water quality and the safe and effective disposal of waste

Action included under 'Protect' highlights leadership, coordination, collaboration and innovation – aligned with State Public Health Plan priorities and actions for protecting public health and safety that:

- Ensure objectives and obligations of relevant public health legislation are met
- Rapidly identify and respond to detections from environmental monitoring, or cases of disease in the community
- Improve community resilience to the impacts of climate change.

INDICATORS AT A GLANCE

2
drinking water priority Type 1 incidents
(2018-2020)

AIR QUALITY
Annual PM2.5 and PM10 levels are below NEPM standards
(2019)

16
foodborne disease outbreaks in South Australia
(July 2018-June 2020)

The proportion of SA children >5 years EXPOSED to lead levels above NHMRC guidelines has increased over the last 5 years
2015/16 **(42.2%)**
2019/20 **(58.5%)**

53%
of calls to the Poisons Information Centre were for cases about people aged less than 20
(2019)

ENSURING REQUIREMENTS FOR PROTECTING PUBLIC HEALTH AND SAFETY ARE MET

Chapter One described the range of public health legislation administered by the Minister for Health and Wellbeing. A number of public health services that meet these requirements are included here, with the full range of reported health protection indicators covered in the data compendium.

Ensuring safe drinking water for all South Australians

All water providers submit water quality results with their audit and inspection reports to SA Health. Over 2018 to 2020 SA Water performed more than 93,000 tests of drinking water with results showing a very high level of compliance with the Australian Drinking Water Guidelines. *E. coli* was absent in 99.98% of 20,600 samples, while 99.91% of chemical tests complied with health-related guideline values.

SA Water reported two *Priority Type 1* and 90 *Type 1* incidents to SA Health. The *Priority Type 1* incidents were triggered by a misconnection between the drinking water supply and high-quality recycled water supply to a single residence in 2018, and the fire damage to the Middle River Water Treatment Plant during the 2020 Kangaroo Island bushfires. Appropriate remedial action was taken to deal with both incidents. Other drinking water providers reported 23 incidents.

CASE STUDY

MIDDLE RIVER TO KINGSCOTE DRINKING WATER SUPPLY: AN ADAPTIVE RESPONSE

During January and February 2020, catastrophic fires and a heavy rain event presented substantial threats to the supply and safety of drinking water delivered by the Middle River–Kingscote system. SA Water, with support from the Australian Defence Force, and advice from SA Health's Health Regulation and Protection (HR&P) and System Performance (SP) Divisions, kept this supply safe.

In January 2020 catastrophic bushfires on Kangaroo Island caused substantial damage to the Middle River Water Treatment Plant which supplies drinking water to Parndana and Kingscote. In accord with the existing Water/Wastewater Notification and Communication Protocol, SA Water notified SA Health that the treatment plant had been disabled. Drinking water supplies to Parndana and Kingscote were being maintained by treated water held in storage tanks at Middle River and Kingscote. It was estimated that the tanks had the capacity to continue supply for at least 24 hours.

Contamination sources and causes were identified, and the following contingency plans were immediately set in motion to maintain safe supply of drinking water:

- A mobile temporary chlorinator was delivered to Middle River and installed on 5 January 2020 – disinfected but unfiltered water was pumped into the drinking water system
- The Australian Defence Force provided a portable water treatment plant and additional water carting vehicles to augment drinking water supplies for Kingscote
- SA Health issued emergency approvals under the *Safe Drinking Water Act 2011* to the Australian Defence Force for supply of drinking water from the treatment plant and for the delivery of carted water
- An approval was also issued by SA Health to the New Zealand Defence Force for the supply of drinking water from a second portable water treatment plant.

The Middle River Water Treatment Plant was returned to service on 17 January 2020. However on 1 February 2020 heavy rain (33-560 mm) washed large amounts of bushfire-related debris into Middle River Reservoir. This increased the biological load, decreased dissolved oxygen and led to the release of manganese from reservoir sediments. The treatment plant struggled to deal with the poor-quality water, and elevated concentrations of manganese were detected in the drinking water supply on 9 February 2020. Major changes to treatment and enhanced aeration of the reservoir reduced concentrations of manganese in the drinking water supply.

By March 2020, the treatment plant had largely returned to normal operation and drinking water quality was within normal bounds.

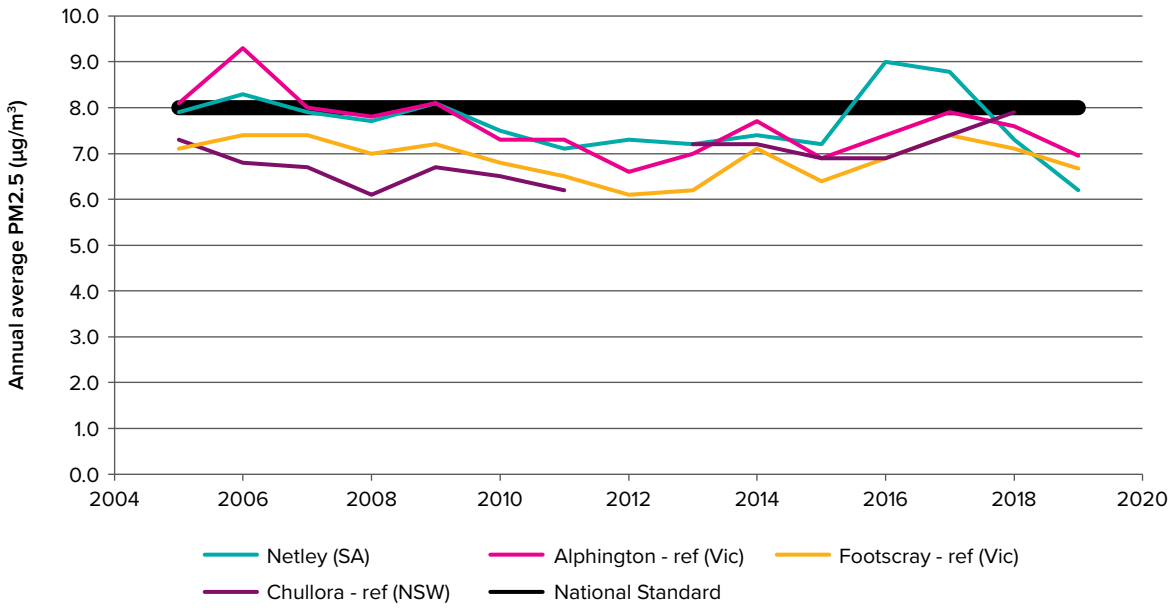
Air quality monitoring

Air quality is important for our health; with a number of pollutants having an impact. Those of importance in Australia are particulate matter (PM), and the gases nitrogen dioxide, sulfur dioxide and ozone. PM is a complex mixture of organic and inorganic substances. The size of the particle is important. Those that can affect the respiratory system have a diameter of 10 micrometres or less (and are called PM10) while particles with a diameter of 2.5 micrometres or less (PM2.5) can reach deep into the respiratory system. Even smaller particles can cross the air-blood barrier and enter the blood stream – these are smaller than 100 nanometres.

All of South Australia's annual PM10 levels are below the annual PM10 standard of 25 µg/m3. Figure 23 shows an upward trend in PM2.5 levels for 2016-17, which was reversed in 2018. This has been explained by the EPA as being a result in the way PM2.5 was measured, which now been corrected.

The levels at the Netley station (blue line) indicate a lower exposure than in other jurisdictions and indicate levels well below the annual National Environment Protection (Ambient Air Quality) Measure (NEPM) air quality standard of 8 µg/m3 and provides a realistic outlook to achieving an annual of 7 µg/m3 by 2025.

Figure 23: Annual PM2.5 levels in South Australia compared to other Australian jurisdictions



Data source: Environment Protection Authority SA
Note: The horizontal black line denotes the 1-year NEPM standard for PM2.5.

Ensuring the food we consume is safe

In South Australia, food safety is a shared responsibility between SA Health, local government, food businesses and other government agencies. Food businesses must comply with South Australia's *Food Act 2001* and the Australia New Zealand Food Standards Code to ensure that all food for sale is safe, suitable and correctly labelled.

Local government Environmental Health Officers are responsible for monitoring and enforcement against the Food Safety Standards of the Australia New Zealand Food Standards Code for food businesses within their local area, including manufacturers and food service businesses (e.g. restaurants, cafes and takeaway). Monitoring and enforcement of food businesses undertaking food service to the vulnerable population is a shared responsibility between local government and SA Health. SA Health's HR&P Division is responsible for working with other government agencies to:

- Ensure that food for sale in South Australia is safe
- Investigate major food poisoning and other food safety incidents
- Monitor labelling compliance of packaged foods
- Manage food recalls.

During 2020 this responsibility included communicating with and providing advice to other regulators and stakeholders as part of the South Australian response to COVID-19.

Over the reporting period SA Health invested significant resources in contributing to national and state-based programs to address foodborne illness rates. This included the introduction of the Food Safety Rating Scheme, state-wide commitment to implement and report against the South Australian Food Business Risk Classification, and engagement in *Australia's Foodborne Illness Reduction Strategy 2018-2021+*.

These programs have a strong focus on the root cause of outbreaks, which in South Australia have been related to the consumption of raw or minimally cooked egg products, poor egg handling, and skills and knowledge when handling eggs and egg products within food businesses. In the 2016-18 reporting period, 20 outbreaks related to the consumption of raw egg products, minimally cooked eggs, egg handling and cross contamination or cleaning and sanitising when using raw eggs. In the 2018-20 reporting period, there were nine outbreaks linked to these factors.

CASE STUDY

ALLERGEN MANAGEMENT IN SOUTH AUSTRALIAN FOOD BUSINESSES

Recent Australian data indicate that 10% of children aged less than one year have a proven food allergy. For the last ten years, undeclared allergens have been the main reason for recalls of packaged foods that have occurred in Australia, with three recalls being conducted by South Australian businesses during the reporting period. Local government Environmental Health Officers play an important role in monitoring the effective removal of affected products from the point of sale.

In Australia, food allergy is estimated to affect 1-2% of adults and 4-8% of children aged under five years. SA Health has responded to the increasing prevalence of people with food allergies and the consistently high number of recalls of packaged foods due to undeclared allergens.

From September 2019 to February 2020, information sessions were rolled out to Environmental Health Officers about monitoring allergens and investigating allergen complaints in food businesses. These covered:

- The importance of allergen management
- Real life examples from Australia and South Australia of allergic reactions due to incorrectly labelled food, poor communication and/or lack of allergen controls within food service businesses
- Interpretation of 'unsafe food' under the *Food Act 2001*
- Enforcement actions available under the *Food Act 2001*
- Successful prosecutions in Australia
- Investigating allergen complaints
- Questions to ask a business about providing allergen free meals (food service)
- What to look for in manufacturing businesses
- Resources available to regulators, food businesses and consumers including the Food Safety Standards of the Australia New Zealand Allergen Portal, Allergy Anaphylaxis Australia and National Allergy Strategy.

Allergen information for consumers and food business is now included on the SA Health website. SA Health continues to work with other jurisdictions, local government, Allergy Anaphylaxis Australia, National Allergy Strategy and Australasian Society of Clinical Immunology and Allergy to improve food safety for allergenic consumers.

Protecting against lead exposure

Port Pirie is the location of one of the world's largest primary lead smelters and is also the world's third largest silver producer. Over a long period (the first smelting operations began in 1889, with continuous operation since) airborne lead-contaminated dust produced during smelting operations has been transported by wind and deposited throughout the city and in houses and on properties. This environmental contamination is an ongoing source of lead exposure for the Port Pirie community, and exposes its children to unacceptable levels of lead.

Table 10 shows a marked increase in the number of children, especially in 2018, exposed to a level where they exceed the National Health and Medical Research Council (NH&MRC) exposure investigation level of 5 micrograms per decilitre (µg/dL). This represents a disappointing increase in exposure of children living in Port Pirie to lead dust. The upper and lower bounds are the 5th and 95th percentiles and represent the best estimate for the whole population. The confidence intervals provide an indication of what the true value could have been, had every child in Port Pirie been tested. Approximately 80-85% of the population of children are tested yearly.

Lead in air emissions increased during the Port Pirie smelter redevelopment, combined with efficiency shortfalls encountered during the commissioning phase led to a series of spikes in emissions and higher than expected annual lead in air averages in the years 2016 to 2018. To avoid breaching the Environment Protection Authority (EPA) licence conditions, the smelter shut down various processes in 2018 which substantially reduced emissions. However, in August to November 2019 the old decommissioned sinter plant was re-utilised, which in the past had contributed to significant lead in air levels. Drier than average conditions in 2018 to 2019 are likely to have also played a role in increasing lead exposure.

Table 10: Number of children under five years of age (or aged 0-4 years) who exceed the NH&MRC guideline of 5 micrograms per decilitre for financial year periods

Period	Tested	No. >5 µg/dL	Lower confidence interval	% tested who exceeded 5 µg/dL	Upper confidence interval
2015-2016	626	264	40.7	42.2	43.6
2016-2017	636	300	45.9	47.2	48.4
2017-2018	571	262	44.2	45.9	47.6
2018-2019	609	383	61.6	62.9	64.1
2019-2020	603	353	57.3	58.5	59.7

Data source: Port Pirie Lead Implementation Program Quarterly reports

CASE STUDY

PORT PIRIE BLOOD SCREENING PROGRAM

Annual lead in air limits set by the EPA for the Nyrstar smelter at Port Pirie have been revised downward, effective from 1 July 2020.

This resulted from collaboration between the EPA and SA Health to improve measures that related to children's exposure and to reduce overall emissions. The revised licence with the smelter establishes a new shorter term (three month) average lead in air target, aimed at reducing spikes in emissions and a lower (by 20%) 12 month moving average lead in air compliance level.

During this reporting period, Yorke and Northern Local Health Network (Y&NLHN) established new arrangements for laboratory analysis of blood lead samples for SA Health's community blood lead screening program which took effect from 1 January 2019. This enabled access to contemporary analytical technology, with higher precision, ability to re-analyse if required, along with access to two laboratories with the same technology thereby improving quality control procedures.

CASE STUDY

REGULATION OF E-CIGARETTES IN SOUTH AUSTRALIA

In 2019, the South Australian government amended tobacco control legislation to restrict the advertising and sale of electronic cigarettes (e-cigarettes) in line with the regulation of tobacco products.

From 31 March 2019, these new laws prohibit:

- Sale of e-cigarettes to children
- Retail sale of e-cigarette products without a licence
- Sale of e-cigarettes from temporary outlets, sales trays and vending machines
- Use of e-cigarettes in areas that are smoke-free under the Act
- Provision of, or the offering of, free samples, prizes, gifts or other benefits, including through sponsorship, competition and rewards, in connection to the sale of e-cigarette products.

From 1 October 2019, the new laws prohibit:

- Display, advertising and promotion of e-cigarettes products
- Display of e-cigarettes at the point of sale
- Sale of e-cigarette products by indirect orders, including internet sales.

This regulatory approach is broadly aligned with the *Final Report of the South Australian Select Committee on E-cigarettes*[95] and is similar to most other states and territories.

Preventing Zoonotic disease: the 'One Health' partnership

The One Health South Australia Working Group (OHSAWG, previously 'Zoonoses Working Group') was formed in 2009 as a cross-agency information sharing and advisory group between SA Health, Biosecurity SA and DEW. The OHSAWG provides an important service to disease surveillance and control in South Australia. In 2018-2020, the group was responsible for:

- Participation in the planning, execution and evaluation of multi-agency (government and non-government) operations to prevent excessive animal mortality and disease risk during heatwave events in early 2019, at the grey-headed flying-fox colony located in the Botanic Park and River Torrens area. A key element of this involved minimising public health risks associated with human exposure to bats potentially carrying Australian Bat Lyssavirus (ABLV)
- Involvement in Exercise Nosoi II – a cross-government exercise focusing on a biological incident involving response and recovery, as part of the State's Chemical, Biological, Radiation and Nuclear training program
- Development of 'data maps' for important zoonotic diseases such as Arboviruses (e.g. Ross River virus), Avian Influenza ('bird flu'), ABLV and Q Fever.

Reducing smoking environments regulating point of sale

Legislation regulating how tobacco products are sold continues to contribute to the decline of smoking rates in South Australia, and to a growing awareness of the harm associated with smoking and second-hand smoke. In South Australia the sale, supply, promotion and use of tobacco and e-cigarettes are regulated by the *Tobacco and E-Cigarette Products Act* 1997.

Disaster Preparedness and Resilience

Within the South Australian Government's emergency management arrangements, SA Health is the Control Agency for human epidemic, and food and drinking water contamination, and the Hazard Leader for human disease, and Health and Medical Support Group (when not the control agency).

SA Health fulfils its responsibilities for state arrangements through a comprehensive Prevention, Planning, Response and Recovery (PPRR) approach, including development of response and recovery plans and implementation of education, training and exercise programs. SA Health's Disaster Preparedness and Resilience Branch (DPRB) provides strategic leadership and direction in preparing for, responding to and recovering from major incidents, emergencies and disasters that occur in South Australia as well as nationally or internationally.

CASE STUDY

EXERCISE NOSOI – PREPARING FOR POTENTIAL DISASTERS

Education, training and exercise programs ensure valuable preparedness for potential disasters, and SA Health is required to regularly exercise its disaster arrangements, including major incidents and public health emergencies.

In November 2018 Exercise Nosoi, comprising a mass casualty and public health emergency exercise, was conducted involving all areas of SA Health, external health organisations, and other government agencies (SAPOL, the Metropolitan Fire Services, Primary Industries and Resources (PIRSA) and the-then DPTI). One hundred and thirty participants attended.

The 'mass casualty' scenario was a terrorist attack at Outer Harbour, involving both a passenger train bomb explosion and armed terrorists shooting and stabbing bystanders.

This scenario exercised and tested communication processes for the activation of the *SA Health Major Incident Plan* (MIP), command and control arrangements between key emergency services and other government agencies, casualty management on a massive scale, and out of hospital strategies for extended mass casualty incidents.

Executive participation in Exercise Nosoi.

The 'public health emergency' scenario was conceived around an attack following the Outer Harbor emergency – this time at a motor sport event in Adelaide, where anthrax was dispersed across hundreds of spectators. This scenario exercised capability for threat determination, safe and rapid public health incident management, mass testing and pathology response, logistics to ensure pharmaceutical and antibiotics acquisition and vaccination in vast quantities, demand management in the hospital system and managing communications and public alarm during such an event.

Exercise Nosoi followed the notification, activation and implementation of extraordinary measures outlined in the MIP and the *Public Health Emergency Management Plan* (PHEMP). Each scenario was run, debriefed and evaluated to identify key learnings for future response preparedness, which highlighted:

- Health sector capacity to enable appropriate casualty transport and distribution across trauma centres and other facilities
- Requirement for public and strategic communications, particularly to members of the public
- Meeting demand for PPE, pharmaceutical and medical supplies in extraordinary surge scenarios
- Partnerships and interactions with the private healthcare sector to add emergency clinical capability.

Learnings from Exercise Nosoi have been used to inform the SA Health MIP, the PHEMP, and SA Health disaster preparedness policy and plans more broadly.

HEALTH PROTECTION INNOVATION

Cutting edge information and practical resources are essential health protection tools. Communication, monitoring, and management innovations developed over the reporting period respond to ongoing and emerging risks.

CASE STUDY

‘EVERYONE PLAYS A PART’ AUGMENTED REALITY – INNOVATIVE PUBLIC HEALTH MESSAGING

In 2019, SA Health, Y&NLHN, and the Port Pirie Environmental Health Centre (EHC) embarked on a collaborative project with UniSA to develop a new way to message that would re-engage at-risk community members, in particular young people and families.

It is a constant challenge for public health practitioners to find new ways to battle ‘message fatigue’ about lead contamination especially in a city such as in Port Pirie which has had more than a century of living with this environmental risk. To ensure low lead exposure is maintained, residents still need to be reminded about protective and precautionary behaviours. The Augmented Reality tool embraces new technology to help keep lead messages fresh and engaging, particularly for younger community members and residents who may have stopped listening to health advice.

The Augmented Reality resources were developed with the theme “Everyone Plays a Part” and consists of postcards, posters and pull-up banners that come to life when viewed through the camera of a mobile device such as a smart phone or tablet.

Port Pirie community members feature in the videos talking about lead exposure reduction actions people can take around the home and community to reduce their lead exposure.

Messages feature activities of daily life in Port Pirie encouraging healthy eating, handwashing, minimising lead dust exposure indoors as well as outdoors, lead-awareness around rainwater usage and keeping pets as well as general encouragements for families to enrol in the EHC’s blood lead screening program.

The EHC will be launching new interactive material that present lead-awareness messages in Pitjantjatjara, Arrernte and Warlpiri, languages which have been identified as the main indigenous languages spoken within the Port Pirie community.

ScriptCheckSA – Real-time prescription monitoring

Real-time prescription monitoring (RTPM) systems are needed because of the increasing impact of prescription drug dependence, misuse and related overdoses. Over the past decade, drug-induced deaths were more likely to be due to prescription drugs than illegal drugs, and there has been a substantial increase in the number of deaths with a prescription drug present.[96]

Unintentional deaths of South Australians involving pharmaceutical opioids such as oxycodone, increased by 47% over a 15 year period (2004 - 2018).[97] In 2018 alone, of the 1,740 Australians who died as a result of drug harms, pharmaceutical opioids were responsible for 655, and benzodiazepines were present in 883.[96] A system that provides doctors and pharmacists with real-time information about a person's access to potentially harmful prescription drugs will allow them to make safer clinical decisions and potentially reduce the risk of death caused by preventable overdose.

In 2018, the State Government committed $7.5 million to implement **Script**Check**SA**, a RTPM system for South Australia to help reduce misuse, and to ensure that patients who genuinely need these medicines can still get them. **Script**Check**SA** will monitor all Schedule 8 medicines (drugs of dependence) and some Schedule 4 (prescription only) medicines that present an increased risk of harm, overdose or addiction when co-prescribed with drugs of dependence. Pain medications such as oxycodone and fentanyl, and some medications used to manage anxiety, narcolepsy or ADHD including dexamfetamine and benzodiazepines will be monitored.

ScriptCheck**SA** will play an important role in helping prevent drug-related deaths in the future.

Mosquito surveillance trapping for public health

Vectors are living organisms that can transmit infectious pathogens between humans, or from animals to humans.[98] Vector control is an important component in the prevention and control of diseases, specifically for transmission control. Globally, mosquitoes are vectors of many diseases throughout the human and animal populations, and because of this, adult mosquito surveillance is undertaken by public health authorities and researchers. SA Health and many local councils conduct routine mosquito trapping throughout the peak mosquito season, which usually spans the months of September through to April. Trapped mosquitoes can be tested to indicate whether viruses including Ross River virus, and Barmah Forest virus are actively circulating in the trapping location.[99]

CASE STUDY

3D PRINTED MOSQUITO SURVEILLANCE TRAPS

SA Health Officers have designed a prototype encephalitis vector survey trap that overcomes many issues with existing traps while being relatively inexpensive to produce.

The most commonly used commercially available mosquito surveillance trap used in Australia is the encephalitis vector survey trap. The commercially available encephalitis vector survey traps are effective and reliable but also expensive, and require regular maintenance and repairs. The model most preferred in South Australia also ceased production, ahead of the 2019/20 mosquito surveillance program. SA Health responded with a design solution.

The SA Health-designed traps are printed at the desktop in the office premises. They are completely 'snap together', can be serviced quickly, replaceable if required using cheaply available hobby motors, and cost a fraction of commercially available equivalents. They were trialled and finalised in time to deploy in SA Health's Northern Adelaide mosquito surveillance program and those of local councils along the River Murray in September 2019.

Traps performed flawlessly during the 2019-20 mosquito season. Switching to a plastic product of greater strength and temperature tolerance (around 75°C) overcame problems for units exposed to very hot conditions (45°C).

Many dozens have now been produced and provided free of charge to local councils for their trapping programs. SA Health is able to provide these traps to public health authorities and researchers at a very reasonable price upon request. Alternatively, the 3D design files will be provided to anyone who wishes to print these traps using their own desktop 3D printer.

Safe and sustainable blood supply

A safe, reliable and sustainable blood supply meets clinical and public health emergency needs for the whole community. It is a constant challenge to have the right blood products available at the right time, while making optimal use of blood product and limiting expiry. SA Health is responsible for the strategic oversight of the supply and use of blood and blood products and organ and tissue services throughout South Australia. BloodMove, managed by SA Health's Blood, Organ and Tissue Programs Branch, facilitates best practice for the sustainable use of generously donated blood and blood products.

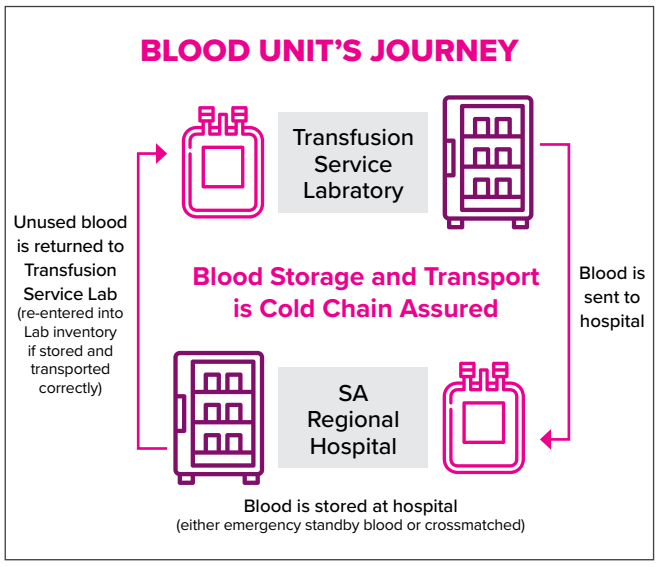
O Negative (O Neg) blood can be used in an emergency for any patient. While only around 9% of the population are O Neg, 17% of the blood issued in SA during 2019-20 was O Neg. This means that O Neg blood donors are asked to donate more frequently to keep up with demand.

During 2019 and 2020, BloodMove worked with program partners (Country and Metropolitan Public Hospitals, SA Pathology and Australian Red Cross Lifeblood) to improve the use of, and access to, O Neg blood.

Examples of excellence from the reporting period include:

- Achieving increased holdings of emergency stocks in remote areas without an increase in expiry, through expansion of the stock rotation system with metropolitan hospitals
- Enhancing emergency blood supply, exchange and rotation processes through the installation of a fully monitored dedicated blood fridge at MedSTAR's airport base
- This has also allowed better access to blood products for retrieval missions. MedSTAR's ability to replenish blood stocks in remote areas during retrieval missions was particularly important when transport routes were disrupted by COVID-19
- The introduction of an automated linked blood fridge system by the Royal Adelaide Hospital Trauma Service. This has reduced rotations of emergency O Neg blood, allowed higher stock levels and more accurate tracking of usage.

In spite of the geographical and logistical challenges presented by the size of our state, SA's wastage rate for O Neg red cells of 2.6% (2019-20) was lower than the national average of 3.7%.



RESPONDING TO CLIMATE CHANGE

it is clear that our climate is changing.[100] Population health is already affected by climate change. Intensified climate risk means increased health risk and mortality – from heatwaves, CVD and asthma, increased risk of some vector-borne, food and water-borne diseases, poorer mental health from more frequent drought and bushfires – and increased demand on hospital and emergency services.

Projections for South Australia indicate warmer and drier conditions and rising sea levels across much of the state, with an increased risk of severe weather events. In addition to its effects on individual health and wellbeing, climate change will impact upon key industries and resources that underpin the state's economy. Adapting to climate change involves planning and action by individuals, communities and businesses to cope with the effects of a changing climate.[101]

The *State Public Health Plan 2019-2024*, and the *Health and Wellbeing Strategy 2020-2025* provide directions for the public health response to climate change. Whole-of-health portfolio actions to prepare services, programs, infrastructure and assets for the changing climate will be implemented through the *South Australian Government Climate Change Strategy 2021-2025*.

Mapping urban heat and tree canopy

Local councils are implementing multiple adaptation and mitigation strategies and projects through regional climate adaptation planning. This includes urban heat mapping, which indicates where heat accumulates in urban environments during hot weather. Mapping areas of excessive heat assists with policy, planning and funding decisions about managing climate risk in urban design, and green infrastructure. The **Envirodata urban heat mapping viewer** is an outcome of three mapping projects that were commissioned by the four regional climate change adaptation groups of Resilient South, Adapt West, Resilient East and Adapting Northern Adelaide.

Green infrastructure, urban cooling strategies and technologies significantly contribute to heat and climate resilience. Apartment living, small lot housing and increased urban density offer greater housing choice, reflecting population trends and changing lifestyle demands. Increasingly, we are seeing smaller residential allotment sizes with limited greening which are covered by largely impermeable surfaces. Consequently, tree and shrub canopy, and general green space, are declining across our city and suburbs, a trend being experienced across most of urban Australia.

Tree canopy mapping is undertaken by both individual councils[102] and the South Australian Government, the latter having recently conducted a whole of Adelaide mapping process for the 30 Year Plan for Greater Adelaide Update. Achieving an increase in tree canopy in South Australia engages state and local government, regional partnerships particularly those focused on climate adaptation, community groups (such as environmental and volunteer groups) and individual community members.

Alternative Water Use

Threatened by drought and planetary warming, water is the state's most precious resource. SA Health monitors – and is an active supporter of the use of – alternative sources of water (stormwater and recycled water) for municipal and residential irrigation. SA Health also collaborates with, and provides public health advice to, alternative water source proponents including SA Water and councils.

Heatwave planning

Extreme weather (including heatwaves) is one of the ten key hazards for South Australia, and heat-related death is now the biggest cause of death from natural disasters in Australia. On a per-capita basis Adelaide is the nation's hardest-hit capital city,[103] with the weight of impact felt by our most vulnerable residents.

The State Emergency Service (SES) is South Australia's extreme weather hazard leader and control agency. The SES coordinates the multi-agency approach to heatwave planning, and is responsible for issuing heat-related advice and warnings. Supporting this, SA Health's ongoing Healthy In The Heat public health campaign and its resources raises community awareness about the dangers of heatwaves and their serious health effects, and provides advice about preparing for and coping with hot weather, including what to do during a heatwave.

CASE STUDY

TARGETED HEATWAVE WARNINGS FOR REGIONAL SOUTH AUSTRALIA

Heat warnings and interventions are being adopted widely to reduce the preventable health impacts. This study demonstrated that a consistent measure for heatwave severity, based on the Excess Heat Factor, can be used to underpin public health warnings for climatically diverse areas.

This study – which is a collaboration between SA Health, SA Bureau of Meteorology and the State Emergency Service – examined the effects of heatwaves on morbidity and mortality in different climatic regions in South Australia, to inform the targeting of heat warnings according to regional needs.[104]

South Australia has adopted the heatwave service of the Bureau of Meteorology[105] which developed the Excess Heat Factor based on statistical calculations using historic and current (acclimatisation) temperatures unique for specific areas. Excess Heat Factor can indicate heatwave severity by regions across Australia making the previous Adelaide-based heatwave threshold indicators redundant. This enabled the region-based heatwave forecast across South Australia's six regional areas as well as for the Adelaide metropolitan area.

PREVENT

Preventable chronic and communicable diseases threaten our health, mental wellbeing and the productivity and vitality of our communities.

This section highlights select state-wide and local-level actions that:

- Address risk factors, including health inequities, access, identification, screening, and treatment
- Strengthen holistic approaches and partnerships for prevention
- Minimise the impact of infectious and communicable diseases
- Maintain vaccination rates.

ADDRESSING RISK FACTORS

The risk of new disease outbreaks (such as COVID-19) demand constant vigilance, but the 'slow burn' pandemics of heart disease, stroke, diabetes, cancer and other chronic diseases still exact the greatest cost in disease burden deaths and disability, in Australia and globally, yet are largely preventable. Modifying risk factors that reduce individual risk of developing a chronic disease can result in large population health gains. Individual choice plays a strong role in this, as does a focus on underlying disadvantage.

Promoting nutrition in correctional facilities

There is considerable overlap between the determinants of health and wellbeing, and the risk factors for imprisonment. Contemporary custodial practices aim to prevent further entrenchment of the social and health disadvantages that contribute to imprisonment. Prior to imprisonment, prisoners may have limited or no engagement with the healthcare system. Prisons provide a unique opportunity to provide preventative health care to hard-to-reach populations that are often disadvantaged and marginalised. Improving nutrition quality in all prison food services has been a successful strategy for addressing dietary health risks.

CASE STUDY

IMPROVING NUTRITION THROUGH FOOD PROVISION IN SOUTH AUSTRALIAN PRISONS

The Public Health Partnership Authority Agreement between DCS and Wellbeing SA aims to improve health and wellbeing outcomes for prisoners, and contribute to reducing re-offending through a range of collaborative measures. Improving nutrition is one of the areas of mutual interest and is the initial focus of the partnership.

- Wellbeing SA assessed nutrition quality of all prison food services menus against the Australian Dietary Guidelines
- Strategies were co-developed to achieve a consistent, nutritious food service across South Australian prisons. These focussed on priority areas to ensure food provision supports the Australian Dietary Guidelines, are nutritionally adequate and accurate for all prisoners
- Additional strategies included promoting efficient food service practices involving relevant procurement opportunities and food waste reduction, and providing relevant nutrition and health promotion education to staff and prisoners.

Through the partnership, DCS and Wellbeing SA are continuing to implement the suite of recommended strategies across South Australian prisons in order to meet the nutrition requirements of prisoners through food and drink options.

Boosting physical activity for vulnerable adults

Eating well and being physically active are staples of good health and wellbeing for a lifetime. Ageing is associated with a decline in health and functioning, with health conditions and linked impairments – such as weight gain, muscle loss, and arthritis, becoming more common as people get older.

Diet and physical activity have a key role in reducing chronic disease and its impact. Regular physical activity and good nutrition help people age more slowly and live longer, healthier, more vigorous lives. Regular physical activity that strengthens balance and strength can reduce falls risks, some cancer risks associated with chronic disease, and reduce or slow some forms of dementia.

Two programs targeting older South Australians respond to barriers to their health improvement, including social disadvantage.

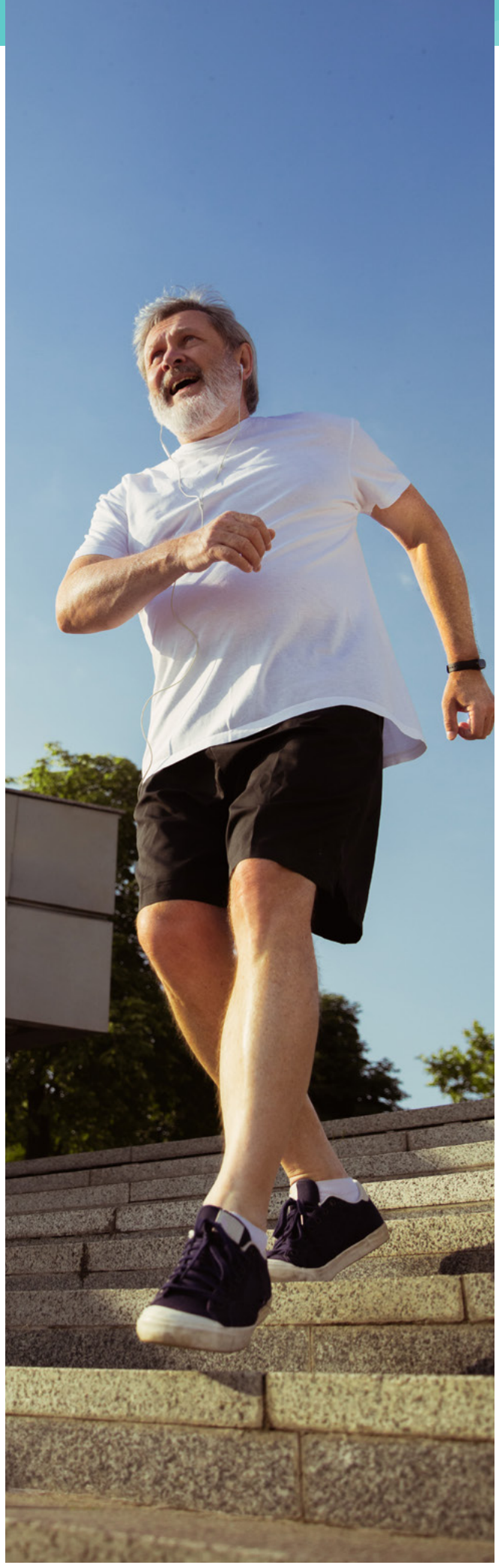
- The 'Get Healthy' Information and Coaching Service© (Get Healthy) aims to support adults to identify their key health goals, consider actions to make healthy behaviour changes, help maintain motivation and teach strategies to deal with setbacks.
- 'Strength for Life' is an evidence-based strength and balance fitness program developed and implemented by COTA SA over the past 15 years. Now funded by Wellbeing SA, the exercise program aims to support South Australians, aged 50 years or over, to improve their muscle strength and balance to help them remain physically active, healthy and reduce falls.

Get Healthy is the only free government support service to address diet, physical activity and weight available to all adults. Get Healthy participants are offered up to 13 calls over a six-month period with the option for a further six-month SMS message support service to help people keep on track to maintain new healthy behaviours. All participants have a professional health coach assigned to support them across the six-month service.

Analysis of participant data for the period 2014 through 2017 shows 69% of participants are obese and 22% overweight, 63% have insufficient physical activity and 86% don't consume enough vegetables and 56% don't eat enough fruit.

Over the period July 2018 - June 2020 more than 660 South Australian adults took part in coaching. At June 2020, almost 50% of participants were enrolled in the type 2 diabetes prevention module, access to which is based on an "at risk" score on the AUSDRisk screening tool. Since January 2018, weight and waist circumference change is reported for participants who have completed their Get Healthy program. These data show positive outcomes for participants with the service resulting in:

- Average weight loss of 2.49 kg
- Average waist circumference loss of 3.39 cm.



CASE STUDY

STRENGTH FOR LIFE

COTA has collaborated with many local councils to bring Strength for Life to their community fitness centres as part of their contribution to the health and wellbeing of their communities.

- Each week more than 400 classes are offered and are attended by at least 4,500 people. Almost 19,000 older South Australians have participated in Strength for Life at some time
- In early 2020 the first Strength for Life classes for Aboriginal adults, aged 40 years or more, commenced at the Port Adelaide Athletics club.

Through March to June 2020 all classes were suspended due to the COVID-19 pandemic. COTA SA and Wellbeing SA collaborated to produce a series of videos demonstrating the key components of Strength for Life classes, so that older people could continue to maintain their strength and balance at home. These videos were viewed approximately 21,000 times while classes were suspended.

CHILD INJURY PREVENTION

Unintentional child injuries are a major public health issue in Australia. Most can be prevented, and preventable injuries are higher amongst children compared with other age groups. Legislative change safety initiatives (such as child-proof medicine containers, swimming pool fencing, bike helmets) and mechanical safety advances (such as rear-review cameras in vehicles) contribute to child injury prevention, reducing injury severity, and increasing survival following traumatic injury.[106]

Kidsafe SA

Kidsafe SA is a not-for-profit NGO dedicated to preventing unintentional death and injuries to children aged less than 15 years. Working with SA Health, Kidsafe SA has developed a number of well-received and highly successful child safety campaigns.

- Working with SA Health, the Child Injury Prevention Translation Project made key poisoning prevention and injury prevention messages available in the top 20 language resources for paediatric visits and admissions to the Women's and Children's Hospital. kidsafesa.com.au/translated-resources
- The baby walkers and exercise jumpers warning launched in October 2018, included an information brochure and poster to warn parents about the potential dangers of baby walkers and exercise jumpers, including injury and developmental delays
- Launched in October 2018, the key messages of the driveway safety campaign are 'don't go if you don't know' and to 'Supervise, Separate and See' before leaving the driveway
- Promotion and cross-sharing of Kidsafe SA and SA Health public health messages throughout 2018-2020.

Safely Sleeping Aboriginal Babies in SA – Doing it together

Unsafe sleeping is a major cause of infant death in South Australia and nationally. 'Safely Sleeping Aboriginal Babies in SA – Doing it together' is working towards reducing the gap between Indigenous and non-indigenous rates of Sudden Infant Death Syndrome (SIDs) (3:1) and Sudden Unexpected Death in Infancy (SUDI) (4:1) in Australia.

We have adapted and are translating a culturally safe, alternative sleep space program – the 'Pēpi-Pod®' program – in South Australia. Evidenced by two randomised control trials in New Zealand, the program is being offered as an alternative to infant-adult bedsharing, to increase mothers' and families' knowledge of sleeping babies safely.

The research is funded by a Medical Research Future Fund (MRFF) Rapid Applied Translation Impact Grant, led by Professor Julian Grant (Flinders University) and supported by a research team. The project's partners include the Women's and Children's Local Health Network (WCHN), SA Health, the Aboriginal Health Council of South Australia, and Flinders University.

Additional health services involved in the research include Flinders and Upper North Local Health Network (FUNLHN) and the Lyell McEwin Hospital, Northern Adelaide Local Health Network (NAHLN).

'Safely Sleeping Aboriginal Babies in SA – Doing it together' project team. L–R: Dr Nina Sivertsen, Sharon Watts, Julian Grant, Carolyn Gregoric and Anna Dowling (absent – Wilhelmine Lieberwirth)

The project is being delivered in three phases:

- **Phase one.** This comprised an education blitz for health professionals about safe infant sleeping, and culturally safe and respectful health care. Two hundred and thirty five professionals took part in the online education module with 119 completing the post education survey
- **Phase two.** In this, the Pēpi-Pod program is offered to families identifying as coming from Aboriginal or Torres Strait Islander backgrounds who are birthing at one of the participating health services. To the end of June 2020, 32 families had taken part in the program
- **Phase three** is an on-line acceptability and feasibility survey administered to health professionals across all participating health services.

Information can be found at sites.flinders.edu.au/ssabsa. For questions about the study please contact Professor Grant at jugrant@csu.edu.au

PREVENTING AND REDUCING ALCOHOL, TOBACCO AND OTHER DRUG RELATED HARMS

SA Health's Drug and Alcohol Services South Australia (DASSA) is responsible for developing and progressing evidence-based population-wide approaches to reduce harms associated with substance misuse. DASSA's comprehensive suite of tobacco control strategies has contributed to a general downward trend in smoking prevalence in South Australia over a number of years, including the reporting period. Highlights over the reporting period include:

- Strong social marketing campaigns, including an Aboriginal-specific campaign
- Enhancements to tobacco control regulations in South Australia in 2019, including the introduction of e-cigarette laws
- Contracting of cessation services, such as the Quitline, supporting smokers to quit
- Advice and support provision for the DCS 'smoke-free prisons' initiative.

Other action over 2018-2020 includes:

- Developing a range of resources, in collaboration with its Community Advisory Council, to enhance awareness of the impact of stigma on those with lived experience of alcohol and other drug use
- Commissioning the National Centre for Education for Training on Addiction to produce online training modules and an online portal to support employers to better respond to alcohol and other drug use in the workplace
- Participating in the Pharmaceutical Benefits Scheme 'Subsidised Take Home Naloxone' Pilot project - providing people who may be at risk of an opioid overdose, or are likely to witness an overdose, with free and easy access to naloxone; a lifesaving medication that reverses the effects of opioids
- Collaborating with Consumer and Business Services within the Attorney General's Department to inform the Community Impact Assessment process in relation to new liquor licences in South Australia. This includes assessing the potential for alcohol-related harm that may arise from the granting of a licence, to help identify and prevent impacts on the community.

CASE STUDY

ALCOHOL AND DRUG FOUNDATION

Celebrating more than 60 years of service to Australian communities, the ADF is committed to inspiring positive change and delivering evidence-based approaches to minimise alcohol and drug harm.

The Alcohol and Drug Foundation (ADF) was established as a PHPA in September 2018. It participates in public health planning undertaken by the State Government as well as by relevant local councils, assisting local councils to address key public health Issues outlined in their RPHPs. Its approach to partnerships and collaboration supports evidence-based policies, capacity, co-design, and practise for long-term impact in the community.

Participants at 'Changing the Game' hosted by the Northern Adelaide LDAT, Northern Sport and Recreation Network and the ADF on 3 November 2020.

ADF's Good Sports Program is Australia's largest preventative community health sports program, with almost 10,000 clubs participating nationally, and over 1,100 in South Australia.

The Local Drug Action Team (LDAT) Program is a key national initiative, with 239 active LDATS across the country, and 20 based in South Australia.

LDATs support organisations in building local partnerships and evidence-based action to prevent and minimise harms caused by alcohol and other drugs.

2019-2020 saw collaboration with Iceland's successful, multi-country 'Planet Youth' alcohol and other drug prevention initiative, and trialling of the 'Planet Youth' model nationally, through the LDAT Program. This includes three South Australian sites – City of Mt Gambier, District Council of Grant, and the Rural City of Murray Bridge.

Under the national initiative, the ADF coordinated the Local Government Prevention Capacity and Infrastructure Survey during 2019-2020, to measure Local Government's prevention capacity, infrastructure, and readiness to implement long-term, sustainable alcohol, tobacco and other drug prevention work. This identified a number of opportunities for action, and system enablers to improve prevention capacity within South Australia, which the ADF is now progressing with councils, and the SA Government.

SOUTH AUSTRALIAN CANCER SCREENING PROGRAM PARTICIPATION

Cancer screening programs aim to detect cancers earlier, at a less advanced stage, so that treatment options are greater, the treatment itself is more effective, and survival rates improve. South Australia participates in national breast, cervical and bowel screening programs with the objective of increasing participation in these programs. Reports show we have among the highest rates of breast, cervical and bowel screening in the country.

CASE STUDY

ABORIGINAL ONE STOP SCREENING SHOP

The Aboriginal One Stop Screening Shop is a key initiative under the Premier's *South Australian Aboriginal Affairs Action Plan 2019-2020* and aims to increase participation in cancer screening among Aboriginal South Australians.

The Screening Shops were delivered in collaboration with Watto Purruna Aboriginal Primary Health Care services in Port Adelaide and Elizabeth as well as Pangula Aboriginal Health Service in Mt Gambier. Consultation with local communities shaped the plan for events at each site. Separate event days were held at each site for men and women, providing a culturally sensitive opportunity for informal discussion to explain the screening process and address questions.

- More than 100 people have attended One Stop Screening Shops to 30 June 2020 which represent large improvements on previous years
- Joint planning and problem solving has created the space to share resources and knowledge which has increased the confidence of all staff to build cancer screening into the everyday work of the service
- One of the greatest learnings from this process has been the power of stories shared by participants. In many cases, the experiences of Elders provided the inspiration for others to take action and participate in cancer screening
- SA Aboriginal Heath Research Ethics approval has been granted for the project evaluation, and ongoing learnings from this process will assist in refining the approach into the future.

MINIMISING INFECTIOUS AND COMMUNICABLE DISEASE IMPACT

Minimising infectious and communicable disease is a core public health function. It requires general public awareness and participation (for example, through regular handwashing, safe sex practices and vaccination) and continued public health action by state and local government authorities. This includes compliance with public health legislation, monitoring investigation and prevention of food, water, vector and blood-borne risks, conducting public health programs, campaigns, and effective treatment.

Increasing awareness and public understanding of antimicrobial resistance

Antimicrobials are substances that kill or inhibit the growth of microorganisms including bacteria, viruses, and parasites. Antimicrobial resistance (AMR) occurs when such microorganisms change over time and no longer respond to medicines. AMR is an increasing global threat to public health, and Australia's consumption of antimicrobials is among the highest in the developed world.

The South Australian expert Advisory Group on Antimicrobial Resistance (SAAGAR) was established in 2008 to champion antimicrobial stewardship (AMS) in South Australia, to assist in limiting the prevalence and impact of antimicrobial-resistant organisms. SAAGAR includes representation from the private sector, as well as the community, in order to optimise antimicrobial prescribing and increase public awareness of antimicrobial resistance across all healthcare settings.

Antimicrobial Programs, based in the Specialist Services of SA Health's HR&P Division, provides executive support to SAAGAR. In addition, Antimicrobial Programs manages the National Antimicrobial Utilisation Surveillance Program (NAUSP) that monitors the use of antimicrobials in Australian hospitals. There are currently over 220 hospitals contributing data to NAUSP across all states and territories, which enables hospitals to benchmark their usage against other similar hospitals. This allows hospitals to identify areas where antimicrobial prescribing can be improved, and to monitor the effectiveness of their AMS strategies.

Participation in the surveillance of antimicrobial use assists hospitals in complying with the National Safety and Quality Health Service (NSQHS) Standards by enabling the review and evaluation of antimicrobial prescribing.

Treating and preventing hepatitis C

Hepatitis C is a liver disease caused by the hepatitis C virus, which is transmitted by blood-to-blood contact. Infection is often asymptomatic, although some people living with hepatitis C will experience symptoms ranging from mild to severe. Left unmanaged, hepatitis C can lead to chronic liver disease and cirrhosis, and along with hepatitis B is the predominant cause of liver cancer, the fastest increasing cause of cancer-related mortality in Australia.[107] Nationally, liver cancer is the second most common cause of cancer-related mortality amongst Aboriginal people.[108]

CASE STUDY

HEPATITIS C IN SOUTH AUSTRALIA – PATHWAY TO ELIMINATION

South Australia currently leads the nation in rates of hepatitis C direct-acting antiviral treatment uptake and progress towards the WHO elimination 2030 target.

Direct-acting antiviral therapies offer significant improvements in efficacy (more than a 95% cure rate) and tolerability relative to previous interferon-based therapeutic options, and have contributed to significantly improving outcomes for people living with chronic hepatitis C, hospital avoidance, and reducing onward transmission.

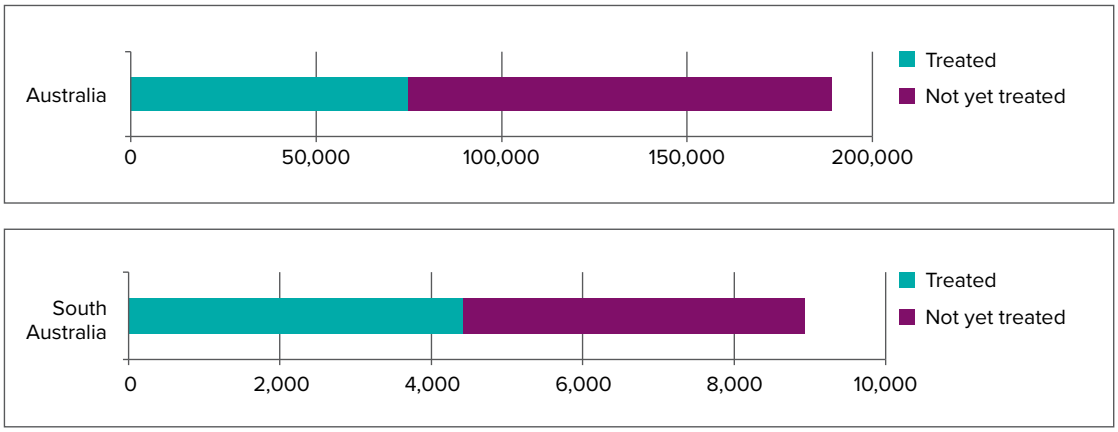
In 2016, the Australian government endorsed the WHO goal of elimination of viral hepatitis as a major public health threat by 2030. This announcement coincided with significant investment by the Australian Government in direct-acting antiviral therapies for the treatment of hepatitis C infection, allowing unrestricted access to these drugs through the Pharmaceutical Benefits Scheme.

As of June 2019, 49.5 % of the estimated 8,934 South Australians living with hepatitis C in 2016 had initiated treatment. Prior to the introduction of direct-acting antiviral therapies, annual subsidised treatment uptake never exceeded 2% of the prevalent population per annum.[109]

Table 11: Estimated number and proportion of individuals living with chronic hepatitis C including treatment, South Australia, March 2016-June 2019

Estimated No & %	South Australia	Australia
Est. no. individuals living with hepatitis C, 2016	8,934	188,951
Est. no. individuals initiating treatment, 2016-2019	4,419	74,704
Est. % initiating treatment, 2016-2019	49.5%	39.5%

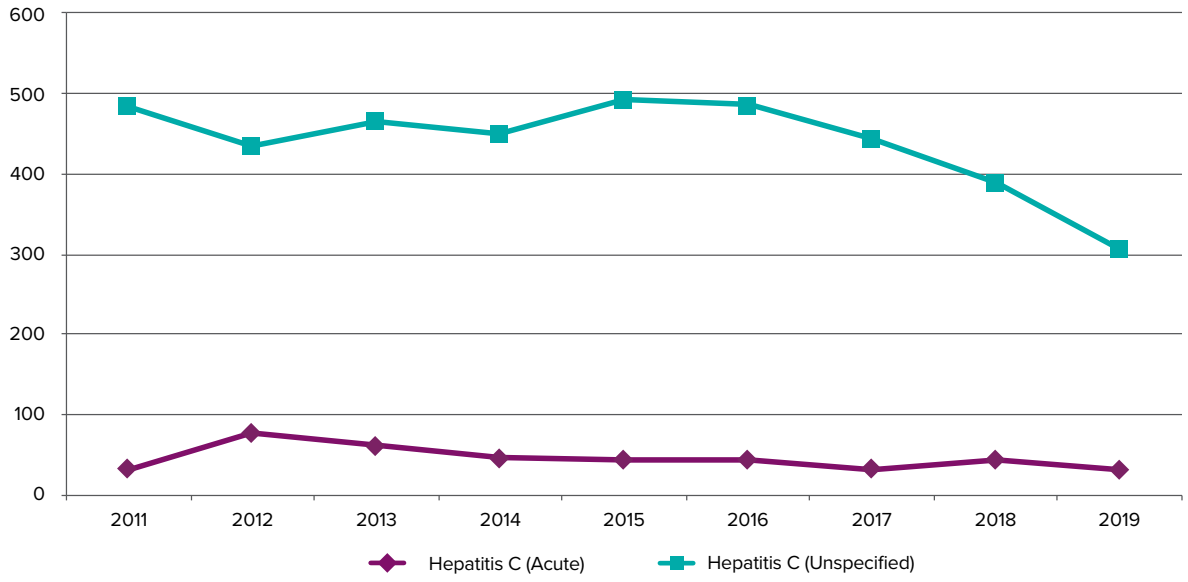
Figure 24: Treatment numbers South Australia and Australia at 2019



Data source: WHO Collaborating Centre for Viral Hepatitis, Doherty Institute, ASHM. (2020). *Viral Hepatitis Mapping Project: National Report 2018-19.*

Indicative of the efficacy of this treatment as a prevention approach at a population level, a reduction in new hepatitis C diagnoses has been observed both nationally and in South Australia since 2016.

Figure 25: Hepatitis C notifications, South Australia, 2011-2019



Data source: Communicable Disease Control Branch, SA Health

MAINTAINING VACCINATION RATES

Immunisation is a safe, highly effective way of protecting children and adults from harmful diseases before they come into contact with them, and one of the best ways to protect our community at a population level. It's estimated that vaccinations save up to 2.5 million lives worldwide each year.

Immunisation programs are run by a range of providers including General Practices and local councils, supported under the National Immunisation Program. The national program provides free vaccines for children, adolescents and adults who hold or are eligible for a Medicare card and consists of a number of programs

- Childhood and school Immunisation Programs and catch-up schedules
- The annual Influenza Program
- The national Shingles Vaccination Program
- High Risk Hepatitis B Immunisation Program
- New Arrival Refugee Immunisation (NARI) Program.

The first state-wide Meningococcal B Immunisation Program in Australia commenced in our state on 1 October 2018

Influenza vaccination

Vaccination against influenza has the primary aim of reducing severe influenza. The influenza vaccine is recommended for any person aged six months and over who wishes to reduce the likelihood of becoming ill with seasonal influenza. Due to changes in circulating strains and waning immunity, and to minimise the chance of developing influenza, vaccination is required each year.

Making influenza vaccines available and accessible to highly vulnerable homeless people is a critical public health issue. Over the reporting period SAPHC progressed the provision of influenza vaccines to homeless people. The broad range of homelessness experience was in scope – from sheltering in improvised dwellings, tents, or sleeping rough, living in supported accommodation for the homeless, living in boarding houses or other temporary lodging, or in severely crowded dwellings.

Mapping of vaccine providers, costing of vaccine coverage for an estimated cohort of 6,200 was undertaken, with consideration of targeted delivery options. The resultant South Australian government-funded influenza vaccine program for homeless people has now commenced, with 2020 uptake of approximately 65%. This is the first time in South Australia that a funded influenza program has been implemented for people who are homeless.

Meningococcal B vaccination

Meningococcal infections can swiftly progress causing serious disease or death in previously healthy individuals. Approximately one third of children and adolescents who survive the infection develop loss or deformity of limbs, skin scarring, deafness and other neurological complications and learning difficulties.[110] In Australia, meningococcal B causes about half of all cases of invasive meningococcal disease and is the most common strain in South Australia.[110] South Australians aged from birth to less than four years of age and those aged from 16 to less than 21 years have a higher than average annual incidence rate of meningococcal B disease.

CASE STUDY

SOUTH AUSTRALIAN MENINGOCOCCAL B PROGRAM

The South Australian government announced the implementation of a state-funded meningococcal B immunisation program in July 2018. The program is the first of its kind in any state or territory in Australia and a global first with regard to its focus on protecting both the infant and adolescent higher risk groups.

As at 30 June 2020, over a quarter of a million doses of South Australian government funded Bexsero® vaccines had been distributed to immunisation providers across South Australia.

The childhood and adolescent Year 10 programs are currently funded until September 2021 and final coverage data will be reported as part of the evaluation of the program. In the interim (as at 26 June 2020) it is encouraging to note the below data indicating high uptake of the vaccine, especially in the most vulnerable groups/cohorts.

Cohort	Uptake (At least one dose)
Six weeks to 12 months of age	95%
Over 12 months of age to less than four years of age	70%
15 and 16 years of age* (2019 Year 10 cohort)	79%
16 and 17 years of age* (2019 Year 11 cohort)	74%
17 years of age to less than 21 years of age	42%

Data source: Immunisation Records Inventory System (IRIS) School Immunisation Program database

- The vaccine effectiveness for ≥ one dose of meningococcal B vaccine was 94.1%. The vaccine effectiveness was for two doses was 100% in infants and young children
- There were no meningococcal B cases in any adolescents or young people who had been vaccinated with meningococcal B vaccine during the first post-vaccination year. The vaccine effectiveness was 100% in adolescents and young adults.

Note - All results need to read with relevant confidence levels and cautions outlined in the full case study provided in Compendium of Case Studies, Research and Achievements.

STRENGTHENING HOLISTIC APPROACHES AND PARTNERSHIPS FOR PREVENTION

The SA Healthy Towns Challenge

The SA Healthy Towns Challenge (SAHTC) is a grants program for regional and rural towns to develop preventative health programs within their community. One-year grants of up to $50,000 each, totalling $1 million, are available over four years from 2018 to 2021. Successful projects aim to increase access or opportunity for the community to make healthier choices or participate in activities with a prevention focus. Across the first two grant rounds, 12 projects have received funding in areas from the Barossa to Wudinna and Yankalilla to Leigh Creek. Projects have included constructing walking paths, cycling programs and bike maintenance, community gardening, and providing outdoor gym equipment.

At the end of each grant funding round the 'SA Healthy Towns Challenge Award' is presented to the town that achieves the most improvements towards healthier living. The 2018-19 Award winner was the Uniting Country SA, Port Pirie: FoodHub Health and Wellbeing Project, with a focus on healthy eating, disease prevention and minimising lead absorption, including the training of FoodHub volunteers in food hygiene, cooking and relevant points of referral.

The Under 8s Aboriginal Ear Health Program

Australian Aboriginal children have the highest rates of middle ear disease in the world with lifelong irreversible impacts on learning and academic achievement. The Under 8s Aboriginal Ear Health Program screens children in early education settings for ear health and hearing problems. Initially a pilot project based in NALHN with comprehensive evaluation, it has been expanded to Southern Adelaide LHN (SAHLN) and in 2018, a strong collaborative partnership with the WCHN to enhance referral pathways into tertiary services has been formed. A clinical register is being established which will improve service delivery for children across LHN boundaries and will also allow more timely reporting of outcomes. The longstanding clinical and cultural guidance provided by the SA Aboriginal Ear Health Reference Group will continue.

PROGRESS

Strengthening the systems and governance that support public health and wellbeing is essential for successful administration of the Act, and for addressing the broader determinants of health. Some of this work, for example Wellbeing SA's establishment in January 2020, is already outlined elsewhere in the report.

Examples of other State Plan-aligned action are included here that:

- Address the social determinants of health and health inequities
- Ensure appropriate leadership and governance structures
- Seek opportunities and foster links for aligned policies programs
- Build public health evidence.

ADDRESSING SOCIAL DETERMINANTS AND HEALTH INEQUITIES

Health in All Policies

South Australia is globally recognised for our Health in All Policies (HiAP) approaches to partnerships. HiAP catalyses cross-sectoral collaboration to:

- Deliver joined-up public policy for improved health and wellbeing outcomes
- Deliver co-benefits for the health sector, other areas of government, and ultimately to the South Australian community.

Employing principles and methodologies grounded in collaboration, partnership and co-design, HiAP works on the determinants of health to develop public policy focused on improving the health and wellbeing of the South Australian population, whilst producing co-benefits with, and for, cross-sectoral partners.

CASE STUDY

WORLD HEALTH ORGANISATION (WHO) COLLABORATING CENTRE FOR ADVANCING HiAP IMPLEMENTATION

In September 2019 SA Health was designated a WHO Collaborating Centre for Advancing HiAP Implementation. The Collaborating Centre provides Wellbeing SA, the broader Health portfolio, and the South Australian government with improved opportunities for knowledge and information exchange, as well as technical cooperation with national and international institutions.

A four-year work plan designed with the WHO is currently being actioned, with the following priorities:

- Increase capabilities for action on the determinants of health and health equity through HiAP approaches
- Contribute to the knowledge base on the critical success factors for collaborative practices to enhance systems for health
- Support the WHO in strengthening alignments between the determinants of health and Sustainable Development Goals, to drive collaborative action on the achievement of the Sustainable Development Agenda
- Support the WHO to strengthen research-to-policy translation on the determinants of health, to increase evidence-based strategies for prevention and population health.

CLOSING THE GAP

Closing the Gap is a formal commitment made by all Australian governments to achieve health equality for Indigenous Australians within 25 years. It aims to reduce disadvantage among Aboriginal people with respect to life expectancy, child mortality, access to early childhood education, educational achievement, and employment outcomes.[111, 112] In South Australia, many programs have been funded since Closing the Gap commitments commenced in 2008, with the addition of the SA Aboriginal Chronic Disease Consortium auspiced by SAHMRI in June 2016.

CASE STUDY

CLOSING THE GAP IN ABORIGINAL HEALTH IN SOUTH AUSTRALIA

The South Australian Government commitment to Closing the Gap in Aboriginal health enables SA to continue working towards achieving equitable health outcomes for Aboriginal South Australians, and the long-term Closing the Gap targets outlined in the National Indigenous Reform Agreement (NIRA).

In 2018-2020, SA Closing the Gap funding was allocated for programs across twenty preventative and clinical services. Due to COVID-19, eleven Closing the Gap programs were extended for twelve months based on ability to deliver programs in priority areas during the restrictions.

SA Health is applying an agile commissioning process to Closing the Gap funding for 2020-2021. This methodology supports a culturally responsive mainstream health system, and pilot programs targeting Aboriginal health priority areas. The commissioning framework is outcomes-focused and includes a co-design element with technical knowledge experts, sector and community participation. The commissioning process is guided by a Strategy Advisory Group with expert membership from Aboriginal health leads, academia, research, health economics and epidemiology. The approach represents a significant shift in how we do business in Aboriginal health working in partnership with the health system as a whole, including Aboriginal community-controlled organisations.

The Strategy Advisory Group has determined three Closing the Gap priority areas going forward:

- Maternal Child Family Health
- Chronic Disease
- Mental Health and Social and Emotional Wellbeing.

Restrictions relating to the COVID-19 pandemic also delayed the progression of Closing the Gap commissioning. It is planned that commissioning for all three priorities will be finalised with arrangements commencing in 2021-2022.

In line with the long term nature of the NIRA targets to close the gap, and in recognition of the progress made across health-related targets to date, South Australia's investment is crucial to ensuring gains achieved so far can be retained and progressed, and that improved health outcomes for Aboriginal people in South Australia can be achieved for current and future generations.

LOCAL LEADERSHIP – LOCAL COUNCILS

As the public health authorities for their areas, South Australia's 68 local councils have a mandate for protecting and promoting public health and mitigating public health risks. They lead local public health planning and action in their local areas (recognising the actions of other agencies in their areas), and advocate for their communities.

SA Health works with a range of partners, principally the LGA, to strengthen coordination and systematisation of local government planning and reporting under the Act. Over 2018-2020, publications produced to support local councils included:

- CPHO Guidance on reporting and RPHP review requirements under the Act
- The LGA Guide to regional public health planning, developed in collaboration with SA Health to assist councils with the renewal and development of RPHPs, supporting consistency in public health planning approaches across SA Councils
- Population Health Profiles to assist councils to meet requirements to assess population health changes for renewed RPHP, including emerging public health risks. These were prepared for local councils by Torrens University's Population Health Information Development Unit (PHIDU), auspiced by the LGA SA.

Minister for Health and Wellbeing Awards for Excellence in Public Health:

Councils' vital work to keep individuals, families, and communities safe, well and thriving are celebrated through the annual Minister for Health and Wellbeing Excellence in Public Health Awards. These Awards raise awareness about the importance of local public health action, and are a strategy for:

- Championing local government capacity to improve health and wellbeing and
- Increasing community awareness about public health leadership in Local Government Areas.

Councils across South Australia are invited to submit nominations in two categories – regional and metropolitan, with scope to also award commendations. Winners receive a trophy and cash prize to build on public health action in their areas. The 2019 and 2020 Awards occurred during the reporting period.

2019 winners

- Regional: Mid-Murray Council for 'Fresh Frenzy' – a peer education and leadership program and partnership increasing healthy, sustainable eating among young local residents and families in the Mid-Murray council region
- Metropolitan: The City of Playford Elizabeth Grove 'Place-Based Community Development Project' – making a positive contribution to community health and wellbeing, sustainability and resilience through place-making, community engagement, and boosting access to tools for healthy living.

2019 commendations:

- City of Burnside 'Urban Forest Interactive' – strengthening human and environmental health and wellbeing through urban forest awareness, advocacy and action
- City of Onkaparinga for 'Hoarding and Squalor' initiatives – an integrated approach to reducing health risk and improve wellbeing in the community
- Wattle Range Council 'Celebrate Seniors October' Program and partnerships – bringing older residents together to reduce distress and depression, and to foster wellbeing.

2020 winners:

- Regional: District Council of Orroroo Carrieton for its 'Despite the Dust Community Muster', which responded to the serious impacts of drought on the mid-North region of South Australia, giving social and practical support to isolated farming families, boosting regional tourism, local business, and volunteering
- Metropolitan: City of Charles Sturt St Clair Immunisation Clinic. The Clinic, which has increased customer visits by 71% since 2017, runs 50 weeks of the year, for anyone who requires vaccinations, regardless of where they live, reflecting excellence, access, and equity in immunisation services.

2020 commendations:

- The Barossa Council 'Go Green' Campaign engaged community action on waste reduction, climate action and sustainable living, delivering a 40% increase in organic waste recycling in the Barossa
- The City of Mount Gambier AF Sutton Memorial Park Neighbourhood Engagement Project tapped local pride and know-how to restore open space that is inclusive, safe, sustainable and walkable
- The District Council of Mount Remarkable Northern Passenger Transport Network, honouring two decades of community transport service across the Mid-North region.

SEEKING OPPORTUNITIES AND FOSTERING LINKS – PHPAS

Partnerships are fundamental to effective public health action. The mandate, ability, and expertise required to address the social determinants of health do not sit in any one sector. Therefore, partnerships across sectors involving different levels of government, non-government organisations and communities are required to create the environments which support healthy, thriving communities. PHPAs are an important mechanism for establishing and recognising partnerships and collaboration on the determinants of health across sectors and different levels of government. Currently 18 of 19 PHPAs are active.

Table 12: Public Health Partner Authorities Key Outcomes, 2018-2020

PHPA	Key outcomes 2018-2020
South Australian Council of Social Service (SACOSS)	The agreement continues to facilitate ongoing discussions about health equity and vulnerable populations.
DPTI	Established with the former Department of Planning, Transport and Infrastructure (DPTI) and currently due for renewal through Planning SA Attorney General's Department (AGD). The partnership has facilitated collaboration with Wellbeing SA/SA Health on changes to the planning system due to the new Planning and Design Code.
Biosecurity SA	The One Health South Australia Working Group (OHSAWG, previously 'Zoonoses Working Group') was formed in 2009 as a cross-agency information sharing and advisory group between SA Health, Biosecurity SA and DEW. The OHSAWG provides an important service to disease surveillance and control in South Australia.
DEW	The renewed Agreement continues to underpin the Healthy Parks Healthy People SA approach. Key areas of work under this framework in the 2018-2020 period have included the Green Infrastructure in Urban Settings collaboration and the launch of the Joint Statement of Action: Connection to Country for Aboriginal Health and Wellbeing.
UniSA	UniSA researchers have continued to provide key support to the Food Security Project under the PHPA with the Department of Human Services (DHS). This included assistance in the development of: > The *Charter for the Food Relief Sector*, and > Sector Nutrition Guidelines – see DHS section below > A Renewed agreement was signed in September 2019, expanding focus from the Division of Education, Arts and Social Sciences, to the whole of UniSA.
National Heart Foundation (SA Chapter)	The aim of the PHPA is to improve the heart health of South Australians by working together to address the determinants of chronic disease. Wellbeing SA and the Heart Foundation are currently partnering on a Walking Strategy for SA.
Department of Human Services (DHS)	The key focus during this period has been implementing recommendations of the *Improving individual and household food security outcomes in South Australia Project Report* (2018). Actions include: > Development and launch of the *South Australian Food Relief Charter* and *Nutrition Guidelines for the Food Relief Sector (2019)*, and > Commencement of the 'Food Centre Social Supermarket' project in 2020.
Kidsafe SA	A number of well-received and highly successful child safety campaigns have been jointly developed by SA Health and Kidsafe SA, including: > The Child Injury Prevention Translation project > Baby walkers and exercise jumpers warning (launched October 2018) > Driveway safety (launched October 2018).

PHPA	Key outcomes 2018-2020
Renewal SA	Preliminary explorations are underway on how best to maximise the utility and application of the identified eight Guiding Principles for Urban Renewal to influence health and wellbeing outcomes.
Safework SA	This Agreement commits the three agencies to collaborate to improve the health and wellbeing of South Australian workers and contribute to healthy, safe and thriving workplaces in South Australia. Outcomes include: > Increased capacity of Safework SA Advisers to provide workplace health and wellbeing advice, development of a tailored workplace health training module for Safework SA Advisers > Embedding of health and wellbeing into over 35 Safework SA policies, plans, procedures and relevant job descriptions. A new tripartite agreement was signed in mid-2020 with Safework SA, ReturnToWorkSA.
DDF	Through this Agreement the Department for Health and Wellbeing and Wellbeing SA have contributed to several of the Don Dunstan Foundation's flagship projects, including the Adelaide Thinker in Residence program, Admental and the 'Adelaide Zero' project.
ADF	The PHPA aims to identify ways to address alcohol and other drug misuse by youth, in collaboration with local government. This has supported the ADF trial of the Planet Youth Initiative, which is an evidence-based program from Iceland with its Australian pilot conducted in collaboration with all three tiers of government https://adf.org.au/insights/planet-youth-lands-australia/
COTA SA	The PHPA generated key data for people over 50 years about health behaviours, health issues, social isolation and loneliness. COVID-19 highlighted the importance of support for social isolation, and a sub-group was formed to network with relevant NGOs to identify and share information about social support for older adults.
PHN	Under this PHPA, a data-sharing process facilitates access to data sets held by the three members. Establishment of a joint project supporting action on obesity through primary care is progressing.
DE	The PHPA has been focused on supporting schools to create environments where students are enabled and empowered to make informed healthy food and drink choices. The review and update of 'Right Bite' The Healthy Food and Drink Supply Strategy for South Australian schools and preschools is a key deliverable.
DCS	The vision of the PHPA between DCS and SA Health is to improve health and wellbeing outcomes for prisoners and correctional staff, and reduce reoffending through a range of collaborative measures.
The University of Adelaide (School of Public Health)	A Steering Group has been established and a work plan has been developed and endorsed, and is currently being implemented.
ReturnToWorkSA (with SafeWork SA)	Newly established in 2020, a work plan has been developed and endorsed for implementation over the next five years.

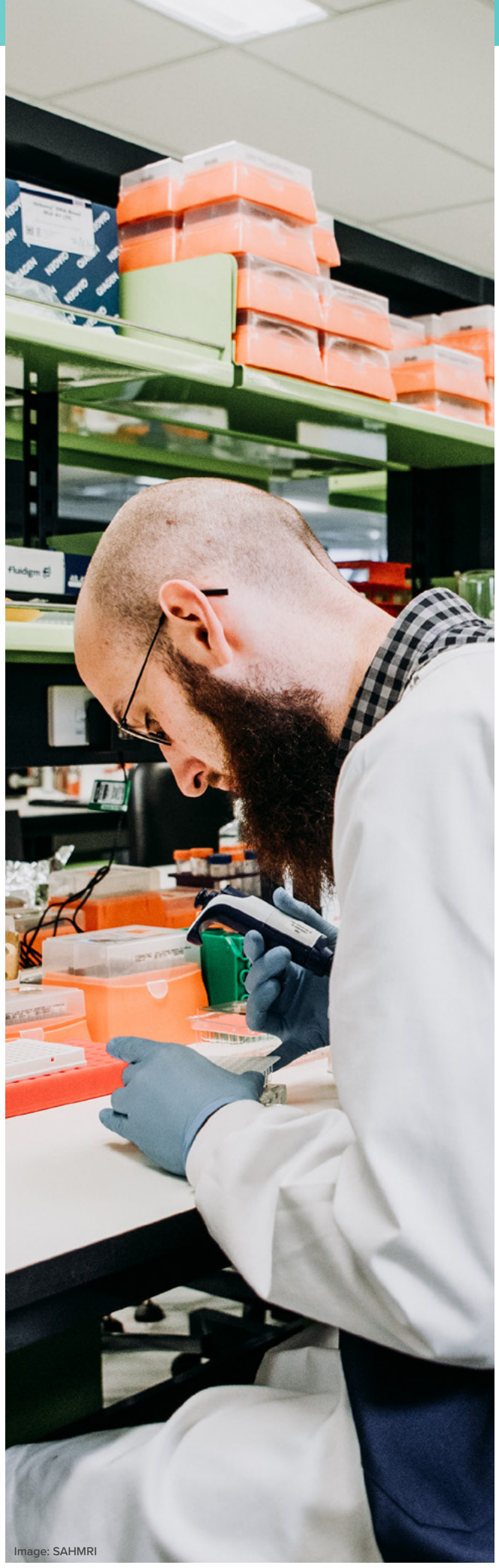


Image: SAHMRI

BUILDING PUBLIC HEALTH EVIDENCE

Public health monitoring, research and evaluation are system enablers for population health policy and public health practice. They add to knowledge about risks and impacts, what can be done about them, and how population health overall can be protected and improved. This area includes ongoing monitoring of population health status, inquiries into causes of disease and health inequities, process and outcome evaluations of interventions designed to change those causes, and research on governance and resources needed to implement future interventions and policies. The COVID-19 evidence reviews collaboration between SA Health and SAHMRI is described in Chapter Three. Other highlights from the reporting period are:

- Launch of the South Australian Population Health and Surveillance System in July 2018. Comprising SAPHS (as the principal South Australian Population Health Survey), and the complementary Population Health Survey Module System (PHSMS), and managed by Wellbeing SA, the system maintains regular, rigorous data on the health and wellbeing of South Australians
- SA Water and SA Health initiated a joint project to develop methods to monitor SARS-CoV-2 RNA to enable wastewater surveillance to be undertaken in South Australia
- Supporting the WHO Collaborating Centre for Advancing HiAP Implementation, to increase evidence-based strategies for prevention and population health
- Consideration of a best practice rubric to support implementation of a social supermarket model in South Australia, to build capacity of the recipients and provide pathways out of food insecurity – a partnership between Wellbeing SA, DHS, UniSA, The Food Centre (TFC), and the Social Supermarket Project
- Commencement of the LGA's 'Community Wellbeing Indicators for South Australian Local Governments' project. This research and development initiative is exploring a credible affordable tool for monitoring and evaluation, designed with and for small to medium sized, and regional, councils, and will include council-generated community wellbeing data sources
- SA Health also contributes to knowledge generation through Australian Research Council (ARC)-Linkage research on heat events and most recently through a citizen science project exploring perceptions of quality green spaces across metropolitan Adelaide (over February-May 2020).

Most activity highlighted here is also reproduced in full detail in the Case Study Compendium.

APPENDIX 1

STATE PUBLIC HEALTH PLAN – SA HEALTH ACTIONS

PROMOTE

- Support health and wellbeing in settings such as schools, workplaces, community spaces, health facilities and correctional services
- Contribute to stronger communities and healthier environments for all, with a particular focus on action on the determinants of health
- Support the development of 'all-ages friendly' communities through policy, initiatives, research and resources
- Strengthen mental health and wellbeing through promotion, prevention and intervention strategies
- Empower communities to prevent suicide, including by establishing suicide prevention networks
- Develop place-based responses to alcohol-related problems in metropolitan, regional and remote communities.

PROTECT

- Ensure the objectives and obligations of the *South Australian Public Health Act 2011, Food Act 2001, Safe Drinking Water Act 2011, Controlled Substances Act 1983,* Tobacco and E-Cigarette Products Regulation 2019
- Protect the health and safety of individuals and the wider community through effective programs, monitoring and actions to respond to potential risks of harm associated with the legitimate use of controlled medicines and poisons
- Collaboratively develop, implement and monitor the effectiveness of public health regulations, guidelines, programs and policies
- Coordinate action to promote awareness of risk factors and implement measures to rapidly identify and respond to detections from environmental monitoring, or cases of disease in the community.
- Identify and address the interactions between human, animal and environmental health that result in disease
- Improve community resilience to the impacts of climate change

PREVENT

- Address risk factors including nutrition, physical activity, smoking and alcohol through evidence-based programs and the prevention policies
- Expand the Strength for Life program across the State with a particular focus on Aboriginal, CALD, regional and economically disadvantaged communities
- Support a state-wide approach to increase access to risk factor identification and screening for chronic disease for Aboriginal people
- Build and improve partnerships in local communities to prevent and reduce alcohol, tobacco and other drug related harms
- Implement the SA Healthy Towns Challenge in at least five regional towns
- Promote the uptake of breast, cervical and bowel screening, particularly amongst vulnerable populations
- Strengthen engagement between the clinical, prevention and health promotion elements of the health system to ensure holistic approaches to prevention
- Minimise the impact of infectious and communicable diseases, in the population as a whole and for groups at higher risk
- Maintain high levels of vaccination for vaccine preventable diseases
- Monitor, investigate and manage outbreaks of communicable disease
- Implement the Meningococcal B (MenB) Immunisation Program, providing free meningococcal B vaccines to children and young people
- Reduce the incidence and severity of poisoning, avoidable poisoning injuries and poisoning fatalities, particularly in children
- Develop and implement priority plans for communicable disease prevention (including the *SA Aboriginal Sexually Transmissible Infection and Blood Borne Virus Action Plan* and *SA Antimicrobial Resistance Action Plan*)
- Increase awareness and public understanding of antimicrobial resistance and implications for the community and the environment
- Establish the prevention agency known as Wellbeing SA.

PROGRESS

- Use a Health in All Policies (HiAP) approach across government and non-government agencies to address the social determinants of health and health inequities
- Further the existing partnership between SA Health and the Local Government Association, to strengthen the role of councils as public health authorities and support Regional Public Health planning, implementation and reporting
- Maintain current and identify new Public Health Partner Authorities to be established, and support collaborative work through this partnership approach
- Ensure appropriate leadership and governance structures are in place for implementation of the State Public Health Plan, including the establishment of Wellbeing SA
- Explore opportunities to enable the Minister for Health and Wellbeing to preserve, protect or promote public health utilising the provisions of Section 17 of the *South Australian Public Health Act 2011*
- Seek opportunities and linkages between the State Public Health Plan priorities and health and wellbeing outcomes in other relevant State Government strategies and plans
- Undertake or commission quantitative and qualitative research, when existing evidence is lacking in priority population health and health promotion areas

City of Charles Sturt Immunisation Program metropolitan winner 2020/21 Minister for Health and Wellbeing Award for Excellence in Public Health. From L-R: Jenny Kutyna City of Charles Sturt, Professor Nicola Spurrier, and the Hon Stephen Wade.

APPENDIX 2

INDEX TO COMPENDIUM OF CASE STUDIES, RESEARCH AND ACHIEVEMENTS

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