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Compendium of public health case studies, research and achievements

Chief Public Health Officer’s Report
2016-2018
Prepared by the Prevention and Population Health Branch

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About this compendium

The case studies, research and feature stories in this compendium compliment and extend on the stories presented in ‘Promote, Protect, Prevent – The Chief Public Health Officer’s Report 2016-2018’. They highlight some (but not all) achievements during the reporting period, of which many are ongoing. All of the stories exemplify how important partnerships are to achieving good outcomes and feature the cross coordination across many public health areas and sectors.

Aboriginal is used respectfully in this report as an all-encompassing term for Aboriginal, Torres Strait Islander people, health and culture.

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

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The Chief Public Health Officer’s Report 2016-18 are interactive and linked documents.

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Promoting healthier neighbourhoods and stronger communities

This section highlights some focus areas and examples of action happening addressing the determinants of health at a state wide and at the local level.

Many factors combine to affect the health of individuals and communities. Whether people are healthy or not is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health.

The determinants of health include the social, economic, physical and natural environment as well as individual characteristics and behaviours. Determinants of health act through complex and multidirectional pathways.
Aboriginal Environmental Health programs

Aboriginal Environmental Health programs have an important role in preventing disease and ill health in communities at a ‘grass roots’ level, with essential health services in many cases being delivered for the communities and by the communities. The services and activities delivered by such programs are developed specifically to target everyday living conditions in the home and community that can cause disease or injury, with key benefits such as:

- Improving health and wellbeing in Aboriginal Communities through disrupting the cycle of infection, treatment and reinfection by addressing the health harming environment that made the person ill in the first place.
- Providing opportunities for personal and economic development through training and meaningful employment of Aboriginal community members within their communities.
- Being highly culturally responsive, Aboriginal lead programs, where environmental health priorities are determined by the community and addressed by members of that community.

The Aboriginal Environmental Health Program was established in 2009 and operated successfully up until its closure in 2018. The Program was originally funded as part of the Council of Australian Government’s Closing the Gap in Indigenous Health Outcomes program and subsequently directly by SA Health grant funding in 2013 and 2016. The Program has had a broad reach across many rural and remote Aboriginal communities in South Australia and has been particularly well-regarded and highly valued at community and local health service level, being described by the latter as ‘clearly making a difference’. Central to the Program has been the employment of Aboriginal Environmental Health Workers (AEHW) by participating Aboriginal Community Controlled Health Organisations, with the AEHWs then delivering critical environmental health services directly to their own and surrounding communities. Needs-based, discreet environmental health projects and services were also regularly provided in Aboriginal communities not serviced by the AEHWs.

The program is based on the *Uwankara Palyanku Kanyintjaku* Report developed by the Nganampa Health Council (1987) that identifies nine healthy living practices for improved health and reduced illness in:

- Aboriginal communities
- Washing people
- Washing clothes/bedding
- Removing waste
- Improving nutrition
- Reducing crowding
- Separating dogs and children
- Controlling dust
- Temperature control
- Reducing trauma

The commitment of the Aboriginal Environmental Health Workers, Aboriginal Community Controlled Organisations and SA Health to the program has been key to its success, with partner organisations including:

- Nganampa Health Council (Anangu Pitjantjatjara Yankunytjatjara Lands)
- Nunyara Aboriginal Health Service Incorporated (Whyalla and surrounds)
- Pika Wiya Health Service Aboriginal Corporation (Mid and Far North)
- Umoona Tjutagku Health Service Aboriginal Corporation (Far North)
- Scotdesco Tjilkaba Incorporated (Far West)
- Ceduna Koonibba Aboriginal Health Service Aboriginal Corporation (Far West)
- Point Pearce Aboriginal Community (Yorke Peninsula)
- Gerard Aboriginal Community Council (Riverland)
- Murray Bridge Aboriginal Community (Riverland)
- Port Power and Adelaide Crows AFL Football Clubs
Alternative Transport: A beneficial aim for Adelaide

Looking into the near future, there is no end in sight yet for fossil-fuelled motor vehicle transport. Transport is the largest energy using activity in Australia after electricity generation, with this sector growing by 2% in 2015-16. Projections up to 2030 indicate that transport emissions will keep rising due to expected population growth and economic development. About 85% of the transport emissions are due to road transport which in turn is dominated by petrol and diesel (95%). A slight increase in electric cars and an increase in fuel efficiency are expected by 2025. This may slow down the growth rate of petrol and diesel vehicles, but altogether, this means likely increases in greenhouse gas emissions for the transport sector, which is also the third largest emitter.

‘Alternative transport’ is a term capturing transportation by alternatives to cars, including public transport and active transport’ modes of cycling, walking. In a recent study, projections for ‘business as usual’ and alternative transport scenarios by 2030 have been made for metropolitan Adelaide, taking environmental and health benefits into consideration.

The possible benefits to be expected from increasing active transport as key alternative transportation mode are not just related to a decrease in emissions of air pollutants and greenhouse gases, due to fewer vehicles being used, which will contribute to a small decrease in pollution-induced adverse health effects, but includes a large health benefit to health from increasing the activity of the population.

This win-win model of active transport for Adelaide took into account that 18% of people in Adelaide make private car trips that are shorter than five km, and 20% of trips that are 5-10 km. The exhaust-related emissions were calculated for the business as usual scenario and for a number of reduced vehicle kilometres travelled (VKT) scenarios ranging from increased cycling (5%- 10% reduced VKT), public transport use (20%-30% reduced VKT), and a scenario where both alternatives were combined. The latter resulting in a decrease in 40% of the VKT in Adelaide compared to business as usual in the year 2030. The emissions saved (tons per day) were translated into daily micrograms (µg) of particulate matter with a diameter of 2.5 micro meters or less (PM2.5) per cubic meter (µg/m³). Evidence from many studies worldwide provides estimates of the relationship between the daily exposure to PM2.5 and increases in health outcomes. This allowed for a quantitative estimation of the reduction in the number of people dying prematurely by the various transport scenarios compared to the business as usual scenario. Similarly, the quantitative relationships between physical activity levels (sedentary, insufficient and sufficient) and health outcomes for major diseases (Colon cancer, breast cancer, ischemic heart disease, stroke type 2 diabetes, falls and depression) are well known, and were used to calculate the decreased risks by the alternative transport scenarios.

The estimated annual 2011/12 South Australian net greenhouse gas emission was estimated to be 30 million tons of carbon dioxide (CO2) equivalent. A 5% VKT (1.7 million km) cycling-based reduction would reduce this number by 0.15 million tons of CO₂ and a 40% VKT (13.4 km) public transport and cycling-based reduction by 0.95 million tons by 2030. PM2.5 exposure would be reduced annually from 0.13 to 0.33 µg/m³. The PM2.5 decreases can be equated to 5-13 fewer annual deaths. The benefits in deaths reduction due to increased physical activity on the other hand is much higher and ranges from 160 to 542 fewer deaths annually compared to the business as usual scenario. Only mortality was considered in this study, but it is expected that there will be a very large reduction in morbidity from lower air pollution and greater physical activity.

The results for Adelaide indicated that a shift of 5-10% VKT to cycling would mean 200-450 additional cyclists per 1,000 people. This would make Adelaide comparable with cities like Copenhagen and Amsterdam, where at least half of the short commuting trips are bike- based.

Addressing food security and nutrition – City of Playford

Health and wellbeing are central to the City of Playford’s vision for its community, as reflected in its Strategic Plan, Public Health Plan, Walking and Cycling Strategy, and large range of initiatives to promote good health and social connectedness. The council-run Playford Food Co-operatives is part of the city’s comprehensive approach to healthy eating. It provides low-cost, essential groceries for people on low incomes, items packed down into smaller quantities and meal packs, and it responds to the key barriers of cost and access to local, quality fresh food for residents.

The Food Coops are open to the whole community ensuring that everyone has local access to healthy, low cost food and groceries and cooperative members receive a 5% dividend on purchases accrued for use.

Council’s 2014 review of the program indicated several changes to increase nutritional value, increase appeal and improve sales to the community. Less healthy options were removed and new meals trialled via in-store taste testing and trial meal kits. The meal packs were redeveloped to meet nutrition criteria and extensive re-branding and marketing of Easy Meals was implemented. Easy Meals contain a recipe and all ingredients needed to make a meal.

Easy Meals are simple to create and (serving four people for $10.00 or less) allow budget family meal-planning while meeting strict criteria for total kilojoules, saturated fat and sodium. Since the redevelopment and rebranding commenced, 28 Easy Meals are now available and average monthly sales of meal kits have increased by 43%.

The Playford initiative demonstrates successful community-level action to build sustainable, healthy approaches to food justice.
Baby Sling and Carriers Safety Campaign

Since 2010, there have been three infant deaths in South Australia associated with the use of baby slings. Babies can be at risk of suffocation if baby slings and carriers are not used correctly or if the wrong size or type is used. Falls can also be a concern. There are no safety standards in Australia for baby slings, yet they are a widely used consumer product. Many parents purchase baby slings and carriers over the internet and there are conflicting instructions about their safe use online. An intensive campaign was established in South Australia in late 2017 to address these issues. It was important to ensure parents and caregivers have access to reliable information to help understand and recognise the possible risks, and how to use baby slings and carriers safely.

Working closely alongside Kidsafe SA and other stakeholders, a number of campaign products were developed to promote the key messages on the safe selection and use of baby slings and carriers. Key to the campaign was a safety video with clear depictions of the types of slings available, signs of baby distress and easily understandable information on safe use.

The video received successful traction on Facebook, along with the other campaign messages, reaching over 5,700 people. The key messages incorporated were the widely recognised “TICKS” guidelines for safe sling use, and the “Visible and Kissable” memory aid. That means... CHIN UP, FACE VISIBLE, NOSE AND MOUTH FREE. The campaign also advised on specific populations at risk of harm, including babies less than four months of age and premature infants.

Providing safer physical and social environments for children, including raising awareness about the risk factors and impacts of child injuries is critical as many childhood injuries are preventable. Preventable injuries are higher amongst children compared with other age groups.

The partnership with Kidsafe SA highlights collaborative public health action and strengthens the development of prevention strategies to respond to emerging public health risks and trends.

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3 Child Death and Serious Injury Review Committee, 2017.
4 Visible and Kissable is a trademark of BCIA, registered in the USA.
Local liveability and safety: The City of Charles Sturt 40 km/h area speed limit project for local streets

The 40 km/h area speed limit project for local streets in the City of Charles Sturt is a council-led initiative to address ongoing community road safety concerns. Between 2010 and 2015 there were 487 casualty crashes and 1,500 property crashes on the local roads in the City of Charles Sturt.

The project was conceived in late 2015 in response to continued community requests for traffic management that provided an alternative to physical controls. Collaboration between council and residents identified the level of support and any underlying road-related issues, driving decisions to install lower speed limits in a particular area. The Project involved installation of speed limit signs at access points to selected local areas bounded by major traffic routes and other significant features, such as rail lines or geographical boundaries.

The project was delivered in nine 40 km/h areas within the City, in addition to the four existing 40 km/h areas. The project is part of council's commitment to meeting the State Government’s objective of reducing crashes by 30% by 2020. Delivery in three more adjoining suburbs is under review by the State government.

The project has already had an impact on the community with decreases of 79% and 29% of total crashes in the Woodville West and Bowden areas respectively.

Benefits will grow as more city areas have local speed limits reduced. The low cost of signs means that improvements render a very high cost benefit ratio. The project also helps to identify locations that still require physical works to address unacceptable safety and amenity issues.

The 40 km/h area speed limit project for local streets was implemented on a smaller, more targeted scale; however the City of Charles Sturt has approached the neighbouring councils of Port Adelaide Enfield and West Torrens, to work together to lower speed limits in suburbs that are shared between multiple road authorities.
Connection to Country for Aboriginal Health and Wellbeing

Connection to Country is one of the seven focus areas of the Healthy Parks Healthy People SA initiative, focusing on promoting the health and wellbeing benefits of nature for all South Australians. This focus area recognises that Connection to Country is an important determinant of Aboriginal people’s health and wellbeing.

The collaborative project comprises representatives from the Department for Health and Wellbeing, Department of Environment and Water, Department of Premier and Cabinet – Aboriginal Affairs and Reconciliation and the SA Aboriginal Chronic Disease Consortium.

We know that connection and/or re-connection to Country is a significant determinant of health and wellbeing for Aboriginal people, and is part of Aboriginal peoples’ self-determination. Aboriginal people have long understood and benefited from a strong relationship with the land. Importantly, ‘Country’ is more than a geographical area: it encompasses the values, places, resources, stories and cultural obligations associated with Aboriginal people’s rights and identity.

In June 2018 a ‘Connection to Country for Aboriginal health and wellbeing’ workshop was attended by over 80 people, representing a number of different communities and organisations, from across the health, environment and Aboriginal community sectors. Most of the speakers at the workshop were Aboriginal.

The purpose of the workshop was to gain a deeper understanding of how Connection to Country can be better promoted and integrated into research, policy and programs across the health and wellbeing, environment and Aboriginal sectors. Participants were asked to reflect on their own personal experiences with Connection to Country initiatives, and to provide advice on what they perceived to be the critical factors that could support more Aboriginal South Australians to connect with Country, and reduce inequity for Aboriginal people.

Joint Statement of Action

One of the aims of the workshop was to consult with and seek input from workshop participants to inform the development of a Joint Statement of Action for Connection to Country.

The statement will articulate the importance of Connection to Country as a cultural determinant of health; highlight the key themes which emerged from the workshop; and include a number of calls to action for government agencies, the non-government sector and the community. The statement is currently being developed in collaboration with a Statement Reference Group, comprised of Aboriginal Elders, community leaders, policy-makers and people working in service/program delivery.

Photos courtesy of Healthy Parks Healthy People SA
Coorong District Council: Coorong Healthy Highways initiative

Coorong Healthy Highways (CHH) is transforming food outlets across the Coorong District Council area. Coorong Council has lead a partnership with local businesses, the Heart Foundation, TAFE, Flinders University, UNISA, SA Health (through the Premier’s Healthy Kids Menu Taskforce) and others to increase nutritional dine-in and take-away options in cafes, restaurants, hotels, supermarkets and service stations. CCH has improved access to nutritious food at cafes, restaurants, hotels, supermarkets and service stations across the Coorong District Council area. Twenty three healthier food and drink menus have been created including 80 new nutritious menu items - adding vegetables and fruit, using wholegrain products, removing fried foods and sugar sweetened drinks, choosing healthy oils and cooking methods and using low fat dairy products.

CCH specifically targets the Murray and Mallee LGA Regional Public Health Plan 2013-2018 (MMPHP) through its priority towards ‘Boosting opportunities for physical activity and access to healthy food’. Council’s championing of this project, extended its scope from traditional Public Health priorities of immunisation, infrastructure, ageing strategies and environmental health to increasing awareness, access and affordability for local people who want to make nutritious choices about what they eat outside of home, targeting road stops as eateries for locals and travellers alike.

CCH has used a range of strategies including education through healthy menu training, marketing through merchandise such as postcards, tabletop menus and roadside banners and community events to build support with local residents as well as tourists passing through the area.

A simple but popular website has also been developed which is well utilised by travellers and locals. With 23 CHH outlets now across the Coorong, people’s travel times for healthy foods is drastically cut, and early reports indicate that families are especially grateful for the healthy kids options when they’re commuting throughout the district.

The project evaluation by Flinders University revealed that CHH not only benefitted travellers, but is popular amongst shop owners. Businesses have not only seen an increase in sales of their healthy products, they also noted a positive change in their community.

One business noted it is now “passionate about healthier foods”.
DeadlyKidsSA Achievements

DeadlyKidsSA is a Closing the Gap initiative previously known as Promoting Health for Aboriginal Children and Families.

Branding

In 2017, a creative brief was written with SA Health Media & Communications by the Aboriginal Children’s Health Promotion team to better promote initiatives and raise the profile of their programs. A piece of artwork was drawn by Aboriginal artist Allan Sumner and from that a coordinated look and feel was developed and in 2018 DeadlyKidsSA officially became a brand with their own logo and a suite of templates available for health promotion resources.

A DeadlyKidsSA webpage was created on the SA Health website and undergoes regular updates with the intention of increasing downloadable resources for parents as well as early learning centres, schools and medical centres to be able to access and download.

Resources were re-branded using the new name and artwork including The Right Start for your little one’s health and the healthy messages magnet and a pull-up banner was designed using the new artwork and covering the nine health priorities of DeadlyKidsSA which include:

- Child development
- Injury prevention
- Ear Health
- Healthy eating
- Immunisation
- Oral health
- Physical activity
- Safe sleeping
- Reducing exposure to tobacco smoke

Since the launch of the brand in April, DeadlyKidsSA has been invited to participate as a stall holder at six community events; two requests have been made for onsite training by the DeadlyKidsSA team; and numerous requests made for resources to be delivered and used in various community parenting programs and events.

Expo

In 2018 the 7th Annual Strong Aboriginal Children’s Health Expo was held on 19 April 2018 and the new DeadlyKidsSA resources and artwork was launched. Aboriginal artist Allan Sumner who designed our logo was also the MC for our Expo.

An online booking system (Eventbrite) was used for this first time this year to collect registrations for this event which was advertised on social media including the link to Eventbrite. In previous years the Expo has attracted up to 500 Aboriginal children and families and this year increased to a record number of 800.

For the first time this year a post-Expo evaluation is being undertaken on “Healthy behaviours changed since attending the 7th Strong Aboriginal Children’s Health Expo”. Applications were submitted to the DHW Human Research Ethics Committee (HREC) and the Aboriginal Human Research Ethics Committee (AHREC). Approval from both of these committees has been granted and an online Survey Monkey has been designed to be circulated via email to those Expo attendees who provided an email address as part of the registration process (approximately 153 people).
Following the closure of the Survey Monkey a summary report will be written and will be emailed to participants who have chosen not to “opt out” of our email mailing list. We are also keen to submit our findings to a peer reviewed journal to ensure that our learnings can benefit other Aboriginal communities.

Social Media

In early 2018, a 12 month Social Media Content Planner was written to ensure a regular presence on social media using the hashtag #DeadlyKidsSA. Posts are written aligning with the program’s health priorities and initiatives with national health events. The success of our social media messaging is evident in the statistics provided by the Media & Communications team showing our average reach of each post is approximately 6,000+ people.

Awards

In 2017 applications were sent to approximately 30 early learning centres across South Australia who underwent “The Right start for your little one’s health” training during 2015 and 2016 conducted by the DeadlyKidsSA (at the time known as Promoting Health for Aboriginal Children and Families) team. There were four prizes being Winner and Highly Commended for both Metropolitan and Regional centres who were able to showcase initiatives they have implemented in their centres as a result of the training they had received by the DeadlyKidsSA team. The Awards were a cash prize and the centres let us know they were each using the money for initiatives such as transport to assist families to attend playgroup and community events; community gardens for children to grow produce in their centre; holding community events themselves and arranging for staff to attend the “Improved literacy outcomes for Aboriginal pre-school learners” conference.

Get Set, Go Backpacks

The Get Set, Go! Backpack program provides a healthy start for 500 Aboriginal children each year commencing their journey into preschool or primary school for the first time. Our backpacks contain practical items and resources to support healthy behaviours at school and are suitable for 4-6 year olds. Backpacks orders are coordinated through enrolments at early learning centres and are distributed in early December each year in time for the new school year.

Partnering with Consumers

In a joint project with Watto Purrunna Aboriginal Primary Health Care Service (NALHN) an Aboriginal Consumer Reference Group is being developed to provide both DeadlyKidsSA and Watto Purrunna Aboriginal PHCS access to an Aboriginal specific consumer group for the purpose of consultation on health messages and resources based on interests and capacity individuals nominate themselves for.
Digital inclusion and healthy ageing: The Tech Savvy Seniors SA Project

The online world is now a central part of modern life. Engaging with information and communications technology (ICT) facilitates access to social networks, information and services that improve personal wellbeing and give people greater control over their lives. Digital inclusion is about providing all Australians with access to digital infrastructure, services and products; and increasing confidence and ability to maximise their use and value. We know that the least frequent users of ICT in South Australia include people living in regional and remote areas and that lack of access and use can exacerbate the cycle of disadvantage experienced in regional communities.

The funding and delivery of library services by councils is a significant, local-level social inclusion strategy, with associated health benefits. Libraries support health and wellbeing by promoting greater social connectedness and lifelong learning. There are approximately 90 public libraries in South Australia owned and operated by local councils. In 2017, Tech-savvy Seniors, a joint initiative of the SA Office for the Ageing, Libraries Board of South Australia, Telstra, and Service SA, commenced to deliver digital literacy training in participating public libraries in SA, with the goals of increasing participation and confidence of seniors to actively participate in the digital community.

The SA pilot of Tech-savvy Seniors ran for six months across the Riverland region – identified via the 2017 Australian Digital Inclusion Index as an area for significant digital inclusion improvement. The pilot delivered 232 training sessions to 877 individuals across five library sites. It was run free of charge, and each participating council nominated suitable library staff to deliver group training sessions for seniors in the community. The group sessions were underpinned by a one-on-one technology assistance program whereby members of the community could book time with a library staff member or volunteer to explore a particular device or digital application. Libraries were provided with resources including guidelines, communication tools and an evaluation framework to help with the delivery of the program.

Immediate and sustained benefits of the program were reported by participants to the initiatives national evaluation. These included greater confidence and skills in technology use and increased frequency of technology use, strengthened family relationships and community engagement, broadening information and social networks, and greater access to goods and services (including government services).

This digital literacy training program has been run, or is poised to commence across multiple councils areas across regional SA, including Mount Gambier, Kingston, Murray Bridge, Bordertown, Naracoorte, Millicent, Mid Murray Mannum and Morgan, Port Lincoln, Port Pirie, Port MacDonnell, Whyalla, the Copper Coast – Kadina, Wallaroo, Moonta and Port Augusta. By May 2018 nearly 2000 training places had been provided, with continuing positive digital and social inclusion results.

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'Feeling Hot Hot Hot! at Onkaparinga and Marion

Engaging community members in an empowering, interactive conversation about preparing for heatwaves is part of broader regional commitments to preparing for climate change.

A Heatwave Hypothetical, 'Feeling Hot Hot Hot! Dealing with Heat-waves in Southern Adelaide' was held at the Marion Cultural Centre on 7 February 2018, to build community knowledge and capacity for responding to heat-waves, and to foster strong working relationships across organisations in southern Adelaide to respond to climate change.

Attendees learned about the impacts of extreme heat – including impacts on schools, business, transport and energy networks, councils and hospitals, and highlighted the importance of sustainable housing and design, urban forests and water sensitive urban design for cooling cities.

The event highlighted the work of many organisations that are working together to plan for and manage heatwaves, the strong, effective partnerships already in place and the role of different organisations in responding to extreme heat. The theme of volunteers and connected communities was explored to support those most 'at risk', with discussion about heat refuges in council buildings, services such as Telecross REDi and the importance of hydration and reduced exposure.

This joint initiative was delivered under a highly sustainable model that is integrated into ongoing council business via the City of Onkaparinga's participation in Resilient South, a partnership between southern Adelaide councils (Cities of Holdfast Bay, Marion, Mitcham and Onkaparinga) and the Government of South Australia. Resilient South partners have worked together since 2011 to strengthen the region and build resilience to climate change.
Healthy Kids Menu – D3 Challenge

In 2015, a co-design process was launched to develop solutions to increase the availability of healthy menu options for children in South Australian food venues. Since that time, SA Health has led the implementation of the Healthy Kids Menu Initiative (HKM). The potential for developing a commercially viable business model to ensure the long term sustainability of the initiative was raised as a result of ongoing conversations with industry partners, nutrition experts and HKM Executive Taskforce members.

In early 2018, SA Health led a D3 Digital Challenge focused on the Healthy Kids Menu initiative. The D3 Challenge process is an exciting and innovative model which enables entrepreneurs and start-ups to work with government to shape programs and address complex societal problems. Developed by ICT and Digital Government, Department of the Premier and Cabinet, the D3 Challenge model uses a time-intensive competitive process to bring together topic experts and those affected by the problem with the start-up sector.

The Healthy Kids Menu D3 Challenge invited entrepreneurs to think of new ways to foster an environment where the community, venues and the industry take active roles in promoting Healthy Kids Menu’s, and therefore shape broader change in healthier eating behaviours among children and families. The long term intended outcome of the initiative is to foster population wide behaviour change by increasing the amount of healthy food choices available for children in venues in an innovative way that benefits both families and venues. A total of eight teams or individuals competed in the challenge. Following a pitch and awards night, two teams received funding to further develop their prototype over a four week grant period. At a final pitch session one team, Taste Studios secured further funding to build their business over a 12 month grant period.

The winning pitch - Taste Studio’s Eat Active initiative

The winning idea – Taste Studio’s Eat Active initiative - is focused on addressing the supply side of this challenge. The initiative will provide easy to prepare, healthy children’s meals to food venues. The price point of these meals is similar to that of less healthy foods. This means the profit margin for venues is viable and there is no financial incentive for parents and children to choose less healthy menu items. Initial trials have already garnered positive feedback from four sites. Venues involved in the trial have requested that the meals be available again based on demand from parents and children.

Whilst still in its early stages, the Eat Active initiative has demonstrated adaptability and scalability. Over the next 12 months the grant funding provided to this winning idea will help to upscale the trial by manufacturing and distributing the meals more broadly.
Through the Healthy Parks Healthy People SA nature-based population health initiative, the Health and Environment sectors are working together towards implementing innovative approaches to promote the health and wellbeing benefits of contact with nature. Healthy Parks Healthy People SA draws on the growing evidence base demonstrating that nature can play a vital role in enriching physical, psychological, social and spiritual wellbeing. Since the launch of the initiative in 2016, action has progressed across three program focus areas, based on state-wide strategic opportunities and the recommendations of the Executive Leadership team.

The Five Ways to Wellbeing in Nature

The 5 Ways to Wellbeing in Nature Campaign uses simple language and uplifting and inspiring visuals to demonstrate ways that every South Australian can look after their mental health and wellbeing, and the positive mental health benefits of spending more time in or with nature. As life becomes busier, people are becoming more and more stressed in their daily lives and the incidence of mental health problems continues to rise. Whilst most people know the simple things they can do to protect their physical health, people are less likely to know what they could do regularly to protect their mental health. The five ways are evidence based and universally applicable activities – Connect, Be Active, Take Notice, Keep Learning and Give. The campaign has been developed and promoted in partnership with a broad range of stakeholders and partners in the mental health and environment sectors, in particular, with the Mental Health Commission and South Australia’s Suicide Prevention Networks.
The Littlehampton and Blakiston Neighbourhood Plan - Health in All Policies at the local government level

Mount Barker District Council, a fast-growing peri-urban area in the Adelaide Hills, is implementing initiatives to establish the foundational infrastructure for healthy communities and to strengthen community wellbeing. Strategic local area planning for the small townships of Littlehampton and Blakiston showcases council’s approach to addressing key determinants of health through its core business functions.

The Littlehampton and Blakiston Neighbourhood plan was developed in response to community concerns about the quality of the public realm in the main street, heavy traffic, pedestrian safety, and access to public open space in the local area. The plan involves a range of projects to update and improve the public realm, encourage use of rejuvenated public space, boost walkability, active travel and leisure. It addresses the challenge of developing main streets (which have been traditionally been dominated by cars) for a people-centric future.

The Neighbourhood Plan is a ‘Health in All Policies’ approach in the Local Government context, incorporating a number of strategies to improve community health and wellbeing, that strategically link areas not traditionally recognised for delivering ‘public health’ value, in addition the Plan responds to public health priorities in the Southern and Hills Regional Public Health Plan “Wellbeing in our Community” (2015)

The Plan has already delivered local level open space and will deliver new pedestrian crossings, walking/cycle routes and dedicated trails, redevelopment of the Main Street, and public realm renewal into the future. Local improvements will make it easier to move about, improve village character and facilitate quality development and provide places for people, support community life and protect the things that the community values.
Heat health intervention: an evaluation of the Extreme Heat Warning for metropolitan Adelaide

In recent years, Adelaide’s residents have become used to extreme heat warnings during the height of the summer months, but do the warnings work? That is, does the system prevent adverse health outcomes for metropolitan Adelaide? Further questions can be asked: What do people and agencies do when SA State Emergency Service (SES) issues a warning that a heatwave is imminent, and is this action appropriate or can it be improved? Research into answering these questions has been conducted and the following outlines what was found.

South Australia has had its share of extreme heatwaves. The 2009 heatwave stood out for its excessive heat and long duration. During this unprecedented event, total emergency presentations increased by 2%, ambulance call-outs by 16% and mortality by 11%. The actual number of ambulance call-outs in excess of what is normally expected was 518 for the period. Kidney and direct heat-related (heat stroke, dehydration) emergency presentations were particularly affected with an additional 125 renal and 304 direct heat related emergency-related patients admitted.

Following this event, an extreme heat warning system (HWS) was implemented which built on experiences in other countries and was collaboratively arranged across government and non-government organisations. When an extreme heat event is imminent, the government activates interventions that support vulnerable people and undertakes a communications program to warn of the impending event. The Red Cross, funded by government, operates Telecross Redi during an extreme heat event which is a register for people at risk who are contacted on a daily basis during the period. Clients can be registered by family, friends, doctors, government and non-government organisations based on a vulnerability assessment. Acute health services are monitored, and if overburdened, extra staff, beds and ambulances are provided. The general public are warned, informed and educated through government communications using various media.

In 2014, two extreme heatwaves in similar proportions to 2009 took place in quick succession, but, unlike in 2009, a HWS was in operation. Statistical assessment thereafter showed a vast improvement on the overall morbidity. In comparison to 2009, ambulance call-outs were reduced by 297 cases, emergency-related renal outcomes by 134 and heat-related by 145 cases. Mortality however, was not reduced and stayed much the same as in 2009, with an excess of 38 deaths in 2014 compared to 35 in 2009, the majority occurring in the 15-64 year age group.

Therefore, it has been shown that the Adelaide metropolitan heat wave warning system reduces morbidity, but has does not reduce mortality. What we are learning from a study examining risk factors of people who died during the 2009 heatwave and comparing them with risk factors from a community control should help to improve the how the heat warning system is conducted. The results of this study, which SA Health was a co-contributor, show that those who died were more likely to have had pre-existing heart disease, depression, and dementia, were in need of assistance for daily activities and were living alone. Also, those who died were much less likely to have air conditioning in their bedrooms and their social activities were markedly reduced.

It will be important to further modify the heat wave warning system and to keep up with the emerging evidence over time. Constant evaluation of the health impacts of extreme heatwaves will be necessary to counteract possible further climatological extremes.

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Improving individual and household food security outcomes in South Australia

Improving the food security and nutritional intake for vulnerable populations was identified as a key theme under the Public Health Partnership Authority MOU with the Department of Human Services (formerly Department of Communities and Social Inclusion). While charitable food relief is a growing part of South Australia’s welfare response it was recognised that there was limited empirical research about how charitable food relief assists people to move out of food insecurity, and how – or if – the charitable food sector supports positive health outcomes for its clients.

A food relief research project was completed in 2016. The research report found that the average time an individual accesses emergency food relief services is seven years, indicating this is a chronic, not acute, problem. The report concluded that there is significant scope for food relief services to improve the nutritional quality of the food provided, and to support those accessing the services to learn about healthy eating, shopping, and cooking, improving their nutritional intake and reducing their risk for long-term health problems.

In 2017 the collaboration team undertook a food relief sector engagement project. The project aimed to engage with key stakeholders and build a shared vision for a charitable food system that addresses food insecurity in SA. This included engagement with stakeholders such as Foodbank, Uniting Care Wesley Bowden, and SACOSS through round table discussions. A publicly released discussion paper to establish a shared understanding of the current food relief system received 14 submissions plus research including:

- a survey of food relief providers to better understand the charitable food system, e.g. number of providers, models, roles. The survey received responses from 90 organisations across SA.
- qualitative research seeking the perspectives of food relief recipients’ lived experiences of accessing food relief services.

The project found that food relief is an invaluable service for South Australians in need, both in crisis situations and for those chronically food insecure. Chronic food insecurity is commonly due to people simply not having enough money. While all South Australians have a right to safe, nutritious, and culturally appropriate food, food relief clients are less likely to be able to access this as often the food is from food rescue providers. Many organisations (many of them small) provide food relief across SA – and this number is growing. Coordination and collaboration could help this network have a greater impact on food insecurity. Food relief also needs to link to opportunities and services that provide a pathway out of food insecurity. Sector-wide standards for best practice are required, as are resources to help meet growing demand.

Eleven recommendations were developed at a RoundTable, taking into consideration the key findings. The recommendations are categorised under four themes:

- Building a collaborative, efficient, and integrated charitable food system (System);
- Creating opportunities for people to build skills and capacity to move out of the system (Capacity);
- Improving health and nutrition outcomes (Nutrition); and
- Clarifying the role of government (Government).

The DHW and DHS are working to develop a road map for implementing the recommendations.

For further information refer:
Public Health Partnership with the South Australian Council of Social Service to tackle inequities

The South Australian Council of Social Service (SACOSS) was the first Public Health Partner Authority (PHPA) in South Australia, recognising the important role of the community services sector in promoting health and wellbeing.

It is well documented that the experiences of poverty and disadvantage and poor health are inextricably linked. As the peak body for the health and community services sector and advocate for the interests of disadvantaged South Australians, the partnership with SACOSS is working ‘upstream’ to address the factors which shape health and wellbeing, known as the social determinants of health.

In 2017, SACOSS renewed their PHPA Agreement with the Department for Health and Wellbeing (DHW) for five years (2017 to 2021). The renewed Agreement has a strengthened focus in addressing the social determinants of health and supporting the public health planning and implementation system.

Joint Policy Statement

One of the outcomes from the first PHPA Agreement was the development of a Joint Policy Statement between SACOSS and DHW entitled, “A shared vision for improved community health and wellbeing”. Finalised in late 2016, the Statement expresses the shared commitment and vision of continuing to work in partnership to support improved community health outcomes and reduce inequities. Guided by the intent of the Statement, the partnership aims to progress the work of the recently established Health and Wellbeing Alliance, bringing together sector organisations and other stakeholders to advance public health interests.

A study of lived experiences

As part of the PHPA collaboration, SACOSS recently completed a project report, A Study of Lived Experiences, Service Interactions and Social Determinants of Health in South Australia. The report included three in-depth case studies of disadvantaged individuals from three different council areas and their health outcomes, within their local service system and policy context. The project developed an analytical model that could be scaled and used for public health or service planning focusing on health equity at a regional level.

The report highlighted the need for greater collaboration between NGOs and government in tackling health inequity and the social and environmental factors that lead to poor health.
The Quality Green Open Space Project

Urban greening is recognised as an important public health issue providing multiple benefits including improved physical activity, mental health, social, cultural, environmental and biodiversity outcomes. For example, planting trees in parks, gardens or streets can have many benefits:

- Help to cool cities
- Filter air pollution
- Provide habitat for some animals
- Make people happier; and
- Encourage walking.

The Quality Green Open Space project aims to have a shared understanding of the value of quality green open space and identify strategies for preserving green open space in the context of a changing urban environment. Many partners are involved recognising the many sectors involved in the design, development and long-term management of green open space. The Australian Institute of Landscape Architects, SA Chapter are facilitating the development of design principles which advocate for early integration and collaboration between design, planning and governance of Quality Green Public Open Spaces. These principles respond to the multiple benefits which green spaces can provide including promoting health and wellbeing, supporting biodiversity, and mitigating the effects of climate change.

Discussions are also continuing to embed principles for Green Infrastructure and Water Sensitive Urban Design (WSUD) in new development through changes to the planning system.
Regional morbidity and mortality during heatwaves in South Australia

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Abstract

Heatwaves can be a common occurrence in Australia, and the public health impacts can be severe. Heat warnings and interventions are being adopted widely to reduce the preventable health impacts. This study examines the effects of heatwaves on morbidity and mortality in different climatic regions in the state of South Australia, to inform the targeting of heat warnings according to regional needs. Heatwaves were defined using the excess heat factor (EHF), an index based on mean daily temperature indices that quantifies heatwave severity relative to the local climate. In all regions, there were increases in morbidity (daily rates of ambulance call-outs and heat-related emergency presentations and hospital admissions) on heatwave days compared to non-heatwave days, which increased with heatwave severity. This study demonstrates that a consistent measure for heatwave severity, based on EHF, can be used to underpin public health warnings for climatically diverse areas.
Smoke-free Henley Square and Bowden Town Square

Legislation under the *Tobacco Products Regulation Act 1997* enables local councils and other incorporated bodies to apply to the Minister for Health and Wellbeing to have particular outdoor areas or events in their area declared smoke-free. By doing so, local councils are able to reduce public exposure to passive smoking and reduce the visibility of smoking to children. It is also an important way to support smokers who are trying to quit.

The City of Charles Sturt decided to commence this process for Henley Square in 2016 and in 2017 for the Bowden Town Square. These squares were identified by the Council as two areas that would benefit in becoming smoke-free under the legislation as they are popular outdoor spaces with families. The Council also recognised that declaring the areas smoke-free would contribute to improved public health and increase the comfort and enjoyment of the areas. It also aligns with the Council’s strategic direction and their community, corporate and public health plans.

The successful declaration of these smoke-free areas can be attributed to the careful planning that the City of Charles Sturt undertook. This included conducting community consultation to ascertain the views of residents, business owners and visitors to these popular community precincts. Survey results showed a high level of community support with over 80 per cent of respondents saying they would be more likely to visit these spaces if they were smoke-free.

The City of Charles Sturt also conducted a significant community education and media campaign to ensure that the community was aware of the smoke-free status of these areas. Additionally, the Council has developed enforcement strategies to ensure compliance, including the appointment of authorised officers under the *Tobacco Products Regulation Act 1997*. While these officers have the ability to issue expiations for breaches of the smoke-free areas, the Council takes an educative and awareness raising approach to enforcement which is working well.

By arranging for these community precincts to be declared smoke-free, the City of Charles Sturt has increased the comfort, enjoyment and safety for all people visiting Henley Square and Bowden Town Square.
Secombe Street Reserve Project: free or low cost sport and physical activity - City of Playford

Cost is a significant barrier to participation in organised sport for people on low incomes, and this impact upon physical activity levels.

The City of Playford has a 15% higher rate of physical inactivity than the Adelaide metropolitan average. Utilising sport as the vehicle, the Secombe Street Reserve Project worked within the local socio-economic environment to impact upon public amenity, social inclusion, and equity. The City of Playford partnered with the Roger Rasheed Sports Foundation and local construction company ‘BluBuilt’ to bring the Secombe Street Reserve Project to fruition, including sport and recreation infrastructure enabling diverse sporting activities, play space and other facilities for community use.

Council engagement with the community was essential to the project’s success and sustainability, building ownership of the site proposal, and support for activation strategies, including free coaching clinics, introduced at the site in July 2016. These clinics provide local children with exposure from an early age to sports facilities and equipment in their local community and opportunities to influence ongoing programming and site usage has also increased dramatically outside of clinic times.

The Secombe Street Reserve Project has successfully reached particularly vulnerable children, with positive health and social outcomes and has transformed a neglected and underutilised physical space into a well-used community sport and recreation resource for the Playford community, now and into the future.
Targeting Health and Social Vulnerability to Heat Events with Urban Heat Mapping

The Cities of Charles Sturt, West Torrens, and Port Adelaide Enfield are implementing the Adapt West Climate Change Adaptation Plan so that communities, environment, businesses and industries of the Western Adelaide Region remain productive, connected and strong and can respond positively to the challenges and opportunities presented by a changing climate.

Partnerships with the Department for Environment and Water, Adelaide and Mount Lofty Ranges Natural Resource Management Board and the Coast Protection Board recently funded the AdaptWest regional coordinator to deliver on several priorities outlined in this plan. The AdaptWest Urban Heat Mapping initiative is one of the strategies.

Urban Heat Mapping provides evidence of where heat accumulates in the urban environment can be used to drive policy and funding decisions across multiple tiers of government regarding:

- **Emergency response planning**: for local government and the health system – (hospitals, ambulance services)
- **Investigating and responding to heat islands at individual lot level** (including private homes), devising cooling strategies, tree preservation, plantings, energy use, water sensitive urban design
- **Communication** for multiple stakeholder engagement including the incidence of both heat and cooling pockets through to heat mapping as a communications tool for enabling stakeholders to see evidence of different street treatments, green infrastructure or materials choice.
- **Action to retrofit the urban environment**, especially through water sensitive urban design, greening and cooling the environment,
- **Longer term adaptation planning by**:
  - Planning system (state and local government), built environment and higher density living, design, retrofitting and development for cooling the public realm, urban forestry approaches, tree preservation and canopy protection, development planning to address tree loss, water sensitive urban design, built environment materials selection
  - Other sectors, such as the housing sector – retrofitting homes for ageing in place, public housing passive design for energy efficiencies, the aged care sector and the energy sector

AdaptWest has sought support under the Natural Disaster Resiliency Program extreme heat category to inform and protect vulnerable members of the community and to plan for the climate warming future. By correlating pockets of social vulnerability against heat islands in the environment, the UHM project can enable:

- **Strategic targeting of social vulnerability in extreme heat events**
- **Better funding and planning decisions in relation to water sensitive urban design, targeted tree planting, and tree preservation**
- **Better understanding of the impacts of urban heat on health and wellbeing**

Urban Heat maps have been completed for Resilient South and AdaptWest, with Resilient East, Resilient Hills and Coast and Adapting Northern Adelaide also in progress. The Department for Water and Environment aims to have heat mapping for the entire Adelaide metropolitan area available online this October with significant benefits including economies of scale by monitoring under one process to make an entire picture available for metropolitan Adelaide.

https://www.westtorrens.sa.gov.au/CWT/content/Environment_waste/Climate_change/Urban_heat_mapping
The Summer Festival – City of West Torrens

West Torrens has comparatively higher numbers of people claiming non-English speaking ancestry, and a larger percentage of overseas arrivals living in the West Torrens area, compared to Greater Adelaide. The City of West Torrens Council recognises that one of the most effective ways to build social connectedness and reduce discrimination is through building vibrant and inclusive social and cultural environments that value diversity and enable established and new residents to meet and connect with each other.

Council’s portfolio of programs and services has a strong focus on community wellbeing and safety, social inclusion, social infrastructure and improved liveability, and these outcomes are strongly reflected in its Public Health Plan9. As part of this plan, the Council has been delivering a program called Summer Festival for more than a decade to its community which enables people to come together and make connections. Delivered during January and February of each year, the Summer Festival combines arts and cultural programs with community development in a diverse program of events including outdoor cinemas, live music, international food, workshops and interactive activities for children and young people.

In 2017, the Council introduced an event called ‘All Together Now’ which presented entertainment from a wide variety of cultures represented in West Torrens including Greek, Italian, Afro fusion, Afghan, Indian, Spanish, Chinese and South African. Community groups ran market stalls and movies were offered with captioning for people with disability.

The final event of that year’s Summer Festival program, ‘Fork by Fork West’, delivered gourmet mobile dining en masse, with 30 food trucks and approximately 4,500 attendees. Most of these events were free for the community, enabling people of all cultural and socio-economic backgrounds to enjoy themselves in an inclusive environment. Summer Festival proved especially popular with young families, who were attracted by the range of activities provided for children and flexibility in seating, food and timings.

The 2017 Summer Festival event was also used to launch a new vehicle for in-depth communication and consultation on community issues. A 1950s retro caravan which was purchased by Council saw officers use the van as a base for community engagement, with staff taking the opportunity to connect informally with individuals, run small events, showcase and seek people’s thoughts about Council actions to build wellbeing and the things that matter to them in their community.

Summer Festival continues to be the major annual event focus for the City of West Torrens and planning is well underway for the 2019 event.

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9 WTCC (2014). Public Health Plan. Adelaide, City of West Torrens
Protection against environmental hazards

This section highlights some focus areas and examples of action happening addressing the fundamental requirements for good health at a state wide and at the local level.
Air Quality Indicator report 2018

Good air quality is important for our health. A large body of research worldwide has shown that air pollutants can cause cancer and impact cardiovascular and respiratory health. Air pollution reached dramatic proportions in the post II World War industrial cities and prompted the introduction of air quality standards because of the severe health problems encountered. Since then, air pollution has been vastly reduced, but the ubiquitous exposure of large populations to air pollution has been found to cause measurable increases in mortality and morbidity.

Despite enforced standards, adverse health impacts from air pollution cannot be totally prevented. Impacts can be observed at levels well below standards, particularly in vulnerable populations, however, these standards do provide some health protection in a world which is largely dominated by fossil fuel combustion. With the setting of new health-based standards, the Australian National Environment Protection (Ambient Air Quality) Measure (NEPM air quality standards) includes an exposure-reduction target which allows for a gradual shift towards lower emissions over a 10 year period, permitting industries to make adjustments which are economically viable. This reduction in emissions can be quantitatively related to reductions in air pollution related mortality and morbidity.

The air pollutants for which standards are set in Australia are particulate matter (PM) with a diameter of 10 microns and less (PM10), and PM with a diameter of 2.5 microns and less (PM2.5), nitrogen dioxide (NO₂), ozone (O₃) and sulphur dioxide (SO₂). They have been targeted due to their ubiquitous nature and are emitted during industrial, transport, domestic and bushfire related combustion. Evidence from more than 1000 studies worldwide, examining the population health impacts from air pollutants, is strong and consistent. As a result the World Health Organisation’s (WHO) International Agency for Research on Cancer (IARC) concluded that outdoor air pollution is carcinogenic to humans, with particular matter most closely related to increased cancer incidence. The WHO has also concluded that particular matter is causally related to respiratory and cardiovascular adverse effects in children and adults and is therefore the most widely used indicator on health effects of air pollution.

In collaboration, the University of Adelaide and SA Health have conducted an air pollution study for Adelaide in 2012 using the commonly accepted research methodology. The results show that, similar to other city-based studies, that PM10 and PM2.5 was positively associated with hospitalisation, for example, an increase in PM2.5 by 10 micrograms per cubic meter (m³) air increased hospitalisation for cardiovascular disease by 4.5% and for PM10 by 1.5% in winter. Respiratory hospital admissions were increased in relation to PM10 in winter in the 15-64 year age group by 3%.

The quantitative relationships between exposure and health outcomes based on selected Australian and overseas studies assisted in the setting of the health-based NEPM air quality standards. Percentage increases of health effects related to particulate matter increases allow for calculation of attributable health outcomes at current and future exposures. A cost benefit analysis, weighing up the health and intervention costs necessary to reduce air pollution to a standard that allows for reasonable protection is part of the standard setting process. If the health benefits are higher than the intervention costs it is easier to lower the standards. Vice versa, if the intervention costs majorly outweigh the health benefits, relevant standards may not be lowered accordingly. For example, for PM10 and PM2.5, new standards have been legislated in 2015:\(^{10}\):

- PM10 24 hours: 50 µg/m³
- PM10 annual: 25 µg/m³
- PM2.5 24 hours: 25 µg/m³
- PM2.5 annual: 8 µg/m³

Including a goal (by 2025) PM2.5: 24 hours: 20µg/m³; annual: 7µg/m³

The cost benefit calculations for reductions in particulate matter concluded that if by 2036 the standards for particulate were to be met, the Australian health benefits would be around $20.7 billion to $21.7 billion, and the net benefits after the costs of abatement measures were included were

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estimated to be around $6.4 billion to $7 billion. Further cost-benefit analyses are currently being undertaken which will inform the setting of standards for NO₂, O₃ and SO₂.

**More detailed information: Impact analysis of PM**

The figures below show PM-related air quality over recent years for Adelaide, Port Pirie and Whyalla in SA, in comparison to other interstate monitoring stations. It can be gleaned that annual levels of PM10 in SA (Whyalla, Port Pirie and Adelaide) are now tracking under 20 µg/m³, the goal for 2025.

The annual levels for PM2.5 in 2015 have recently increased in all cities, mostly due to a change in the measurement method which is reportedly more accurate. Increases in wood smoke, motor vehicle exhaust, weather inversions in winter and bushfire-related smoke in summer may also be part of the problem. The graph of daily PM2.5 by month for 2015-2017 shows levels above 8 µg/m³, the annual NEPM standard for PM2.5. This increase has to be watched over the next years considering that a goal of 20 µg/m³ is to be achieved by 2025.

**Figure 1: PM10 annual exposure in South Australia compared to interstate cities**

![Graph showing PM10 annual exposure in South Australia compared to interstate cities](image1.png)

**Figure 2: PM2.5 annual exposure in South Australia compared to interstate cities**

![Graph showing PM2.5 annual exposure in South Australia compared to interstate cities](image2.png)
Alexandrina wastewater - sustaining and improving public and environmental health protection

Onsite wastewater systems treat your wastewater and dispose of it on site. These systems need maintenance, and when things go wrong you need to fix them. Non complying wastewater systems are a key public health issue for Alexandrina Council. With only two streets in the entire Council on a SA Water Sewer, a large proportion of the council’s Environmental Health Team’s work is focused on wastewater management. The team assesses on average 380 wastewater applications per year – many of them for onsite systems – with around 500 inspections called in annually. Approximately 7000 aerobic service reports are received and assessed annually.

New owners often inherit old owner’s wastewater issues and solutions (legal or illegal) and can be unaware of the potential health risks to them and their families, and the impact of non-compliant systems on neighbours and the environment. Council invests in educating owners as early as possible about installation, care and maintenance of their wastewater systems. Aerobic wastewater systems require servicing at regular frequencies to ensure the wastewater is treated to a satisfactory level that is safe for the disposal method. Without follow up from Environmental Health Officers, many systems were not serviced and for those that were, there was limited confidence that the systems were serviced correctly. Educating owners about the systems they have means there will be less issues to resolve in the future. Council has also supported servicing agents to undertake each service thoroughly, giving their role value and encouraging them. Increased consumer knowledge and pressure also improves the level of service from all agents.

Through its proactive, multi-faceted and long-term approach to reduction of non-complying systems within the Council area, the Environmental Health Team reduces the public health risk presented by onsite wastewater management systems, minimises the number of new owners inheriting non-complying systems, and increases community understanding of onsite wastewater management systems. Alexandrina Council has received fantastic feedback from owners and occupants, aerobic servicing companies, plumbers and the wider community.
Lead paint awareness campaign

Exposure to lead from sources such as lead paint poses a significant health risk. There is no safe level of lead exposure and the risk of health effects is highest for unborn babies, infants and children. Paint containing lead was used in many Australian homes prior to 1970s. Although the use of lead in paint was reduced during the 1970-1990's, there is still likely to be a many homes that contain lead paint. Use of lead paint continued, although at lower concentrations during this period, but more importantly, older homes usually have not had their old lead based paints removed.

The increasing popularity of DIY renovations of old houses is increasing the public health risk of exposure to lead as people remove old paint and renovate homes. Following an unfortunate incident of a South Australian a toddler who was hospitalised for exposure to high levels of lead from lead paint because of a DIY home renovation, SA Health carried out a lead paint awareness campaign from 22-28 October 2017.

Coinciding with the International Lead Poisoning Prevention Week (an initiative of the Global Alliance to Eliminate Lead Paint), the main message of the campaign was “Be lead paint aware”. A lead paint awareness poster, an infographic and a short video featuring the family of the toddler who had been affected by lead paint exposure were developed. These resources featured on SA Health’s Facebook page during International Lead Poisoning Prevention Week and were included on the SA Health webpage on lead paint.

Following on from the 2017 campaign SA Health is exploring other avenues to further promote lead paint awareness for the second half of 2018-19. This includes a piece in the Channel 9 Building Ideas Program raising awareness of lead paint in older homes (to be aired 19 August 2018). Plans are in place to increase lead paint awareness within local Councils by distributing the department’s existing posters.

11 Paint containing more than 0.1% (100 ppm) lead is banned in Australia.
Mosquito Control and Arbovirus Prevention

Ross River virus and Barmah Forest virus are endemic in many parts of South Australia. These viruses are spread from animals to humans by mosquitoes and infection can result in flu-like symptoms, headache, muscle aches, swelling and pain, and stiffness of the joints. Occasionally, large outbreaks of disease caused by these viruses occur in South Australia. SA Health has several programs in place to reduce the incidence of mosquito borne disease in South Australia.

> **South Australian Mosquito Subsidy Program**

Since the summer of 2000-2001, SA Health has operated a subsidy program to assist local councils with their mosquito management activities, including surveillance and control, on public land (including crown land) within their jurisdictions. The subsidy program retrospectively funds up to half of the costs of mosquito management undertaken by or on behalf of any South Australian local council on public land with most funding directed towards larval and adult mosquito surveillance.

> **Globe Derby Park Mosquito Management Program**

Since 2010, SA Health has coordinated an ongoing proactive mosquito management program in a small area of intertidal salt marsh adjacent Globe Derby Park. The program aims to reduce the adult mosquito population within Globe Derby Park, by disrupting larval development and preventing the subsequent emergence of adult mosquitoes within the treatment site. During the 2017-18 mosquito season, two trials of mosquito larvicides were undertaken by fixed wing aircraft in the intertidal salt marsh adjacent to Globe Derby Park. The success of these trials has resulted in the ongoing replacement of the ground based management program.

> **The South Australian Sentinel Chicken Surveillance Program**

Sentinel chicken surveillance programs are used nationally and internationally to monitor for viruses which can cause serious mosquito borne diseases. In South Australia, the viruses of concern are Murray Valley encephalitis virus and Kunjin virus. The South Australian Sentinel Chicken Surveillance Program consists of six backyard flocks of five chickens located in the Murraylands and Riverland regions, who are tested monthly from October to April each year. The blood samples are sent to New South Wales for testing for Murray Valley encephalitis virus and Kunjin virus antibodies, which if present indicate that the chicken has been bitten by a mosquito carrying the virus. No seroconversions for Murray Valley encephalitis virus and Kunjin have been recorded to date.
Protection against Environmental Hazards - Per- and polyfluoroalkyl substances (PFAS)

PFAS are a class of manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water.

The two main areas where PFAS has been found in South Australia are:

- RAAF Base Edinburgh
- Adelaide and Parafield Airports

There have been concerns interstate regarding PFAS, primarily where they have been found in groundwater which is used for drinking.

In South Australia, drinking water supplies are not at risk from PFAS contamination as potential sources are all downstream of water catchment areas. Testing of our major recycled water supplies has demonstrated compliance with health-based guideline values.

**The Per- and polyfluoroalkyl substances (PFAS) Story -**

Per- and poly-fluoroalkyl substances, or “PFAS”, are a class of manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water.

The two most well-known PFAS are PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid).

Products that may contain PFAS include furniture and carpets treated for stain resistance, foams used for firefighting, fast food or packaged food containers, make up and personal care products and cleaning products.

Because of their widespread use, people in Australia commonly have some PFOS and PFOA in their body. PFOS and PFOA are readily absorbed through the gut, and once these chemicals are in a person’s body it takes about two to nine years, depending on the study, before those levels go down by half, even if no more is taken in.

In humans, research has not conclusively demonstrated that PFAS are related to specific illnesses, even under conditions of occupational exposure. Recent studies have found possible associations with some health problems, although more research is required before definitive statements can be made on causality or risk. SA Health maintains a watch in brief on the evolving nature of the national and international toxicological advice related to PFAS.

While there is uncertainty related to the health effect of PFAS they are a recognised environmental concern around the world because they are not readily broken down in the environment and so can persist for a long time. Their widespread use and persistence means that many types of PFAS are ubiquitous global contaminants and can be found in soils, surface water and groundwater in low concentrations in many areas.

Where larger quantities of PFAS have been released into the environment, concentrations may be elevated.
Salmonella Havana

During June 2018, an increase in Salmonella Havana notifications were detected through routine surveillance by the Communicable Disease Control Branch. No increase in cases was noted in any other Australian states. Human infections with S. Havana are relatively infrequent in Australia and no previous outbreaks have been attributed to S. Havana in Australia. Internationally, only one other outbreak was reported – a 1998 report from the United States of America which linked S. Havana to alfalfa sprouts.

Figure 3 - Notifications of Salmonella Havana, by week of illness onset, 1 January 2018 to 30 August 2018, South Australia

Data source: SA Health's Communicable Disease Control Branch notifiable disease dataset.

A total of 31 cases of Salmonella Havana were reported between 1 June 2018 and 9 July 2018. Cases were from both rural South Australia (17 cases) and metropolitan Adelaide (14 cases).

The median age of cases was 65 years and eleven cases were hospitalised.

Initial interviewing of cases by trained Communicable Disease Control Branch staff was conducted using a hypothesis generating questionnaire. Interviews identified that several people had eaten at a particular food service business, and a higher than expected number of people reported they had consumed alfalfa sprouts during their incubation period.

Trace back investigation by local council environmental health officers identified sprouts as a frequently used ingredient in meals consumed by cases at the food service. Further trace back and sampling was also completed by local council environmental health officers from other food service businesses and retail grocers implicated by cases. Investigations were conducted at alfalfa sprout producers by SA Health in conjunction with Biosecurity SA, Primary Industries and Regions SA (who are the regulators of the primary producers).

Samples of alfalfa sprouts collected from retail grocers and an alfalfa sprout producer tested positive for S. Havana. An epidemiological study was completed and supported alfalfa sprouts as the most likely source of the outbreak. A recall on the implicated brand of alfalfa sprouts was undertaken. Several follow-up inspections of the producer were conducted by the Food and Controlled Drugs Branch and Primary Industries and Regions SA.
The investigation into this outbreak was successfully managed as a result of partnerships established between multiple teams within SA Health, across the state and across the nation, namely:

> SA Health
  
  o Food and Controlled Drugs Branch
  o Communicable Diseases Control Branch
  o Media and Communications Branch
  o Legal Governance and Insurance Services

> Local Government Council environmental health officers

> Other State Departments
  
  o Biosecurity SA, Primary Industries and Regions SA
  o Food & Environmental Laboratory, SA Pathology
  o Salmonella Reference Laboratory, SA Pathology

> National Food Investigation Networks
  
  o National Food Incident Response Protocol – Food Regulators
  o OzFoodNet – Epidemiologists

A critical part of any outbreak investigation is to find the balance between protecting the health of the public, as the main aim, and ensuring there is solid evidence to prove the source of an outbreak. This requires significant involvement of several areas within SA Health to discuss the risks and to also establish a clear message to be communicated to the public. Media releases and social media included recommendations for the public to not eat these sprouts, return them to the place of purchase for refund or throw them away.
Preventing chronic and communicable diseases

This section highlights some focus areas and examples of action working on preventing chronic and communicable diseases at a state wide and local level.
Cancer screening

Public Health and Clinical Systems delivers on South Australia's requirements under the Australian Health Ministers’ Advisory Council (AHMAC) agreed national cervical and bowel screening programs. The team utilises population health approaches to promote cervical and bowel screening, targeting vulnerable populations particularly Aboriginal, Culturally and Linguistically Diverse (CALD) and low income communities. BreastScreening services are delivered through Central Adelaide Local Health Network at three mobile screening units travelling to country regions around South Australia and seven clinics based in Adelaide.

Screening detects cancer before symptoms appear which increases the chances of successful treatment and improved survival. While the data show that South Australian screening participation in all three cancer screening programs has been consistently higher than the national average, further improvements in health outcomes and avoidance of hospital admissions would be achieved by increasing participation in screening above the current South Australian levels which are 47% for bowel screening, 57.7% for cervix screening and 58.5% for breast screening.\(^\text{13}\)

The team uses systems approaches to understand the local barriers to screening and develop strategies to increase participation in cancer screening, with a particular focus on engaging communities that are vulnerable and/or at risk of not participating in cancer screening from a geographical and priority population perspective. Recent actions to support screening participation include:

- **Monitoring, evaluation and reporting data** is used to plan community education activities, policy and research. For example, the *Getting to Zero* Project is exploring the feasibility, acceptability and cost effectiveness of inviting the Aboriginal population to screen for bowel cancer from 40 years of age, because the data shows that Aboriginal South Australians are approximately 10 years younger at diagnosis of cancer, and that the stage of the disease is more advanced which impacts on morbidity and mortality.\(^\text{14}\)

- **Governance** - In 2017 the Statewide Screening Advisory Group was established provides policy advice for breast, bowel, cervix, newborn bloodspot and hearing screening as well as emerging screening issues such as lung screening and genomics.

- The bowel, breast and cervix screening teams have worked in **partnership** with the two Primary Health Networks and Cancer Council on a number of initiatives including: workforce capacity; a single marketing campaign which covers all three programs. Currently these partners are working with additional experts in Aboriginal health including The SA Aboriginal Chronic Disease Consortium to plan a One Stop Screening Shop initiative which will offer comprehensive screening on the same day linked to the BreastScreen mobile service.

- **Development of local resources** in partnership with under-screened groups to ensure widespread awareness of the benefits of screening and how to access it.

- **Grants** to increase cervix screening outcomes in services (community groups or clinics) that have a direct connection with under screened groups eg newly arrived migrants.

**Case Study: Cervical Screening Test Awareness Campaign**

In March 2018, a comprehensive awareness campaign promoted public awareness and uptake of the new Cervical Screening Test. The campaign was planned and coordinated with expertise from media and communications staff, and included a suite of media approaches to achieve maximum community reach, increase awareness of the benefits and normalise screening behaviours. This campaign delivered a mix of digital, radio, online and internal promotions, as well as professional communiques disseminated through partnership with Adelaide and Country PHN’s. The campaign’s digital impressions totalled 2,427,547 (1,101,095 on Facebook and 1,326,452 on native placements) which reached 285,902 people on Facebook alone. Digital promotions achieved click through rates that are comparatively high for SA Health content (1.96% compared to average of 0.4% or 21,598 clicks to website). The campaign was also the most value for money of any SA Health campaign ever.

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promoted with the cost per click almost half of the next lowest campaign. An increase in cervical screening participation rates was not observed during, or for 6 weeks after the campaign although screening rates during that period are likely to have been influenced by the introduction of the new Cervical Screening Test and potential confusion around transition to a five year screening interval.

**Case Study: Aboriginal Well Women’s Screening Program**

Nationally, Aboriginal women have a much higher incidence of cervical cancer. The Aboriginal Well Women’s Screening Program aims to reduce morbidity and mortality from cervical cancer by encouraging Aboriginal women in the target population to have regular well women’s checks. This is achieved by:

- providing advice at national, state and local levels
- increasing the provision of health promotion and education activities to community women in remote, rural and metropolitan regions
- identifying current issues that affect communities in relation to Aboriginal well women’s screening and Aboriginal women’s wellbeing
- working in partnership with health providers to improve screening participation rates

The Aboriginal Well Women’s Screening Program employs Aboriginal staff to lead and co-ordinate the state-wide program. The team actively works in partnership with a range of community organisations, Government and non-Government organisations and health service providers to improve health outcomes for Aboriginal women. Face to face visits are made each year to health services across the state including remote locations.

The annual minor grants funding initiative enables the program to support local agencies to continue to provide culturally respectful health promotion, education and cultural safety when providing clinical services for Aboriginal women.

**Case Study: Cultural Ambassadors**

It is well established that the current systems for cancer screening may present particular barriers to people from CALD backgrounds. The SA Screening and Innovation team, BreastScreen SA and Cancer Council collaborated to develop and deliver a pilot project aimed at increasing engagement with vulnerable CALD groups through peer education. The model was successful in developing the health literacy capacity of participants who then advocated among their networks to break down barriers to screening participation. The staff from each agency were able to draw on the credibility and influence of local leaders to build rapport with cultural groups that were previously hard to reach, which led to several projects aimed at breaking down barriers to screening participation including the collaborative development of video content, testimonials and promotional materials.

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Infection control and preparedness for outbreaks of winter illness (influenza).

Influenza A and B viruses cause influenza which is a contagious respiratory illness. Influenza occurs year round with seasonal increases each winter and spring. Influenza can cause mild to severe illness, including hospitalisation and death. Some people, such as older people, young children and people with certain health conditions are particularly at risk of serious influenza complications. Risk of influenza can be minimised by annual vaccination and appropriate infection control.\(^{17}\)

During 2017 Australia experienced the highest levels of influenza activity since the 2009 pandemic year. The impact of the influenza season included high levels of absenteeism, substantial burden on primary healthcare and hospitals and a number of deaths, with most occurring in the elderly. Admissions with confirmed influenza to sentinel hospitals in 2017 were 2.3 times the 5 year average.\(^{18}\) Similarly to the national influenza activity, the people of South Australia were significantly impacted by the incidence of influenza. The Communicable Disease Control Branch (CDCB) of SA Health received 28,486 influenza notifications during the 2017 influenza season, compared with 7,851 in 2016 and 15,659 in 2015.

Following the 2017 influenza season, the Infection Control Section (ICS) of the CDCB, SA Health in conjunction with other SA Health Departments and acute, non-acute and community health care providers undertook a number of activities aimed at evaluating influenza data and the impact and response to the influenza season.

There are two key infection control related committees facilitated by the ICS, these are the South Australian Network of Infection Control Teams (SANIT) which represents the acute health care setting and the Non-acute Infection Control Special Interest Group (NICSIG) representing infection control interests in non-acute, residential and aged care, community based and more recently remote healthcare settings. As part of the post 2017 influenza season actions the ICS initiated a collaboration involving SANIT and NICSIG members as well as cross government units and interrelated healthcare settings to discuss influenza season preparedness actions. The collaboration included facilitation of an Infection Prevention and Control Winter Outbreak Planning forum as well as review and development of associated resources.

On the 1st February 2018, the Infection Prevention and Control Winter Outbreak Planning forum meeting was held, this involved over 40 attendees from the SANIT and NICSIG groups, representatives from other SA Health Units as well as representatives from acute, non-acute and community health care settings. The forum included, review of the 2017 influenza data provided by the Disease Surveillance Investigation Unit (DSIU) of CDCB as well as presentations from the SA Health Operational Service Improvement and Demand Management Unit which is responsible for the SA Health Winter Strategy.

Additionally, “stories from the field” highlighting issues, challenges and achievements were provided by clinicians from a large metropolitan public hospital and also from a regional private residential aged care facility, both of which experienced a surge in demand for services and impacts on the health and wellbeing of patients/residents in their care. Infectious diseases experts from the CDCB provided attendees with information regarding influenza virus, key clinical and public health issues and appropriate response initiatives. The Worker Health and Safety Unit also

\(^{17}\) Centers for Disease Control and Prevention (CDC) https://www.cdc.gov/flu/about/index.html

\(^{18}\) Australian Government Department of Health Information Brief (updated on 22nd November 2017) Influenza Season in Australia, A Summary from the National Influenza Surveillance committee.

provided an update regarding recommendations for staff suffering from influenza as well as staff vaccination recommendations and strategies to promote uptake. An expert panel then held an interactive question and answer session with attendees to promote communication and collaboration.

In response to the feedback and discussions held at the forum, the ICS developed a healthcare professional information sheet “Winter outbreaks Influenza infographic calendar”. The aim of the document was to provide healthcare facility staff with a quick reference guide regarding key infection prevention and control preparedness actions for seasonal influenza.19 The infographic calendar represents an adjunct to the extensive existing resources available via the SA Health internet. Evaluations from attendees at the forum were overwhelmingly positive, with 84% of respondents indicating they felt more prepared for winter illness outbreaks as a result of attending the forum and there was 100% support for repeating the meeting annually as part of pre influenza season preparations. A winter outbreak preparedness forum will be scheduled in February 2019.

Pre-exposure prophylaxis for HIV: a biomedical prevention strategy available to South Australians at risk of HIV

The achievement of the Commonwealth Government goal of virtual elimination of HIV transmission by 2020 is supported by two critical biomedical prevention options available in Australia:

> **Treatment as prevention (TasP)** is HIV treatment that renders the risk of an HIV-positive person with an undetectable viral load sexually transmitting HIV to effectively zero; and

> **HIV pre-exposure prophylaxis (PrEP)** is a once-a-day medication (i.e. co-formulated tenofovir and emtricitabine) for people who do not have HIV, to reduce their risk of becoming infected with HIV.

Effective 1 April 2018, HIV PrEP was subsidised through the Australian Pharmaceutical Benefits Scheme (PBS) for people at medium and high risk of HIV. This approval followed significant advocacy efforts to provide affordable, accessible PrEP to communities at risk of HIV by national and state peak HIV organisations, affected communities, clinicians and researchers in South Australia and Australia.

**Effective**

Research has demonstrated that PrEP is highly effective at preventing HIV transmission among population groups at risk of HIV infection including sexually active gay men and men who have sex with men, transgender people and heterosexual people with an HIV positive partner who does not have an undetectable viral load.20

**PrEPX-SA access trial**

On World AIDS Day 2016, prior to PBS listing of PrEP, the South Australian government announced that South Australians at high risk of HIV would have access to PrEP through an access trial. Accordingly, the PrEPX-SA access trial, an extension of the Victorian PrEPX trial, was launched in May 2017.

The South Australian Health and Medical Research Institute (SAHMRI) delivered the PrEPX-SA trial in partnership with Alfred Health in Victoria and local sexual health clinics and general practitioners including: Adelaide Sexual Health Centre (formerly Clinic 275); O’Brien Street General Practice; SHINE SA Davoren Park; Hyde Street Practice; and Riverside Family Medical Practice.

PrEPX and PrEPX-SA were implemented to provide access to PrEP and to monitor the impact of large-scale access to PrEP on the rate of new HIV infections. Key aims of the trials were to:

> reduce the incidence of new HIV infections;
> expand access to PrEP; and
> build capacity in the health service system so that the use of PrEP will become a routine option for preventing HIV infection.

Between May 2017 and June 2018, 659 South Australians at risk of HIV enrolled in PrEPX-SA. PrEPX-SA trial participants were predominantly male (99 per cent) and gay men and men who have sex with men (86 per cent). Almost three per cent of participants identified as Aboriginal and Torres Strait Islander.

**Decline in new HIV diagnoses**

Evidence of access to PrEP, along with increased HIV testing and treatment, reducing HIV infections at a population level has come from New South Wales (NSW) where between 2016 and 2018, over 9,400 people enrolled in the NSW PrEP trial, EPIC. By comparing HIV notifications in NSW in the year before the EPIC trial was implemented (March 2015 to February 2016) to HIV notifications in the year after the first phase of the trial (November 2016 to October 2017), NSW reported a 32 per cent

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decline in newly acquired HIV infections and a 25 per cent overall statewide decline in new HIV diagnoses.\textsuperscript{21,22}

**X-PLORE Cohort**

At the conclusion of the PrEPX-SA access trial in June 2018, Victoria in partnership with South Australia and Tasmania initiated a PrEP cohort study. The X-PLORE Cohort will examine aspects of long term PrEP use in terms of adherence, toxicity, behaviour, STI incidence and ancillary benefits of quarterly appointments with a clinician such as opportunistic diagnosis of other medical issues that require further management.

**Timeline of access to HIV PrEP in South Australia**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>• Advocacy to provide access to affordable HIV PrEP to communities at risk of HIV by national and state peak HIV organisations, affected communities, clinicians and researchers in South Australia and Australia.</td>
</tr>
</tbody>
</table>
| 2016 | • Australian Therapeutic Goods Administration (TGA) lists Truvada® for PrEP, in combination with safer sex practices, to reduce the risk of sexually acquired HIV.  
• On World AIDS Day, South Australian government announces people at high risk of HIV will have access to PrEP through an access trial. |
| 2017 | • PrEPX-SA access trial launched in South Australia with 659 South Australian participants enrolled between May 2017 and June 2018. |
| 2018 | • Pharmaceutical Benefits Advisory Committee (PBAC) recommends listing HIV PrEP on the Pharmaceutical Benefits Scheme (PBS) effective 1 April.  
• PrEPX-SA access trial concludes and X-PLORE Cohort, including South Australia, Victoria and Tasmania commences through to 2022. |

Responses to Meningococcal W disease in South Australia: 2016 to 2018

Meningococcal disease is a serious infection caused by the bacterium *Neisseria meningitidis* (often called the meningococcus). There are 13 known serogroups of meningococcus, with five serogroups causing most cases of disease in Australia: A, B, C, W and Y. The meningococcus is carried, usually harmlessly, in the nose and throat of around 10-20% of the population (carriers), with higher carriage in some specific groups. The meningococcus is spread when an infected person (patient or carrier) talks, coughs or sneezes small droplets containing infectious agents into the air and is also spread by close contact with nose or throat secretions.

The meningococcus causes non-invasive disease such as conjunctivitis and invasive disease such as meningitis and septicaemia. In Australia, 5 to 10% of people with invasive meningococcal disease die, despite rapid treatment. In survivors, there is significant morbidity associated with invasive meningococcal disease with up to 40% of cases developing necrosis of the skin and gangrene of the limbs requiring extensive skin grafting and amputation, and others having permanent neurological deficits.

Nationally the number of invasive meningococcal disease cases and overall risk remains low; however, since 2013, serogroup W (MenW) and more recently serogroup Y (MenY) have emerged as significant causes of invasive meningococcal disease. While cases of MenW are more common in adults, there has recently been an observed increase in cases in children aged less than 10 years since 2015.

**Ceduna meningococcal W vaccination program**

From December 2016 to February 2017 three cases of meningococcal W in children (age range 2 to 12 years) were notified in the Ceduna area, with two cases of invasive meningococcal disease and one case of conjunctivitis. Close contacts of all three cases were given antibiotic clearance and 301 people received vaccination and a community-wide vaccination program against meningococcal W for all people living in Ceduna, Thevenard, Denial Bay, Koonibba, Smoky Bay, Yalata, Oak Valley, Scotdesco and Penong was implemented.

From 6 March 2017 through to 30 June 2017, multiple clinics, Aboriginal health services, local government and non-government agencies were involved in delivering the program. Beginning at the Ceduna Town Hall for two weeks, the program continued at Penong Town Hall (including Scotdesco), Koonibba Clinic, Smoky Bay Community Club, Tullawon Health Clinic (Yalata), Oak Valley Health Clinic, Ceduna Koonibba Aboriginal Health Centre, and Ceduna Medical Practice.

By the end of June 2017, approximately 3,600 people were vaccinated. The estimated population in the affected area was approximately 4,000 to 4,500 people, representing population vaccination coverage of an estimated 80% to 90%. Although minor expected reactions occurred, there were no serious adverse events following vaccination.

No further cases had been reported in the 12 months after the vaccination program.
APY Lands meningococcal W vaccination program

The Anangu Pitjantjatjara Yankunytjatjara Lands (APY Lands) Meningococcal W Vaccination Program was a time limited vaccination program against meningococcal serogroup W (MenW) disease that commenced in October 2017 initially offered to all people two months of age to 19 years of age and eventually expanded to all people resident on the APY Lands in the far north of South Australia.

The program was implemented in response to three cases of invasive meningococcal disease in Aboriginal residents of the APY Lands in September 2017 and was also prompted by an increase in preceding months of meningococcal infection caused by serogroup W in the broader Central Australia region. The wider outbreak was declared by the Communicable Disease Network of Australia (CDNA) as a Communicable Disease Incident of National Significance and was closed by CDNA on 7 March 2018. The last case associated with the outbreak was diagnosed in late December of 2017.

In conjunction with Nganampa Health Council, the Aboriginal Community Controlled Health Service on the APY Lands, SA Health offered a meningococcal W vaccination program (using available meningococcal ACWY vaccines) on the APY Lands from October 2017 to the end of September 2018. This required delivery of vaccine always maintained between two and eight degrees Celsius to seven clinics across the APY Lands, an undertaking which was achieved in major part through collaboration with the Northern Territory Department of Health to leverage existing distribution mechanisms through Alice Springs Hospital Pharmacy.

As of the end of August 2018, 3,510 doses of meningococcal ACWY vaccine have been distributed to the clinics on the APY Lands for the purposes of the program, resulting in an estimated coverage of 96% for those defined as ‘current’ residents of the APY Lands (those who reside on the APY Lands for 6 months or more of each year), noting that children and very young infants required multiple (two to three) doses depending on age.

As of August 2018, there have been no further cases of meningococcal W notified in residents of the APY Lands.

Aboriginal Meningococcal W Immunisation Program

Subsequent to the Ceduna and APY Lands programs outlined above, and on the basis of geographical proximity, cultural/family ties between Aboriginal people living in these areas and other rural/remote regions of South Australia, SA Health expanded the ACWY program for all Aboriginal people aged 12 months of age to 19 years of age living in the Eyre and Far North, and Flinders and Upper North regions of South Australia (as defined by the Country Health SA Local Health Network regional map).

The Aboriginal meningococcal W immunisation program was planned as a time limited and focussed once-off vaccination program (from February 2018 to until December 2018) against meningococcal serogroup W disease, targeting an estimated total eligible cohort of 3,822 people in the regions defined above.

This program is ongoing, and final coverage data will be reported as part of the evaluation of the program.

Note - during the period of this program rollout, meningococcal ACWY vaccine was introduced onto the national immunisation program (NIP) schedule for all children at 12 months of age further enhancing coverage against meningococcal W.
South Australian Prisoner Blood Borne Virus Prevention Action Plan 2017-2020

The prevalence of blood borne viruses (BBV) is disproportionately high in Australian custodial settings, with hepatitis C (HCV), hepatitis B (HBV) and HIV prevalence estimated to be 30-40, three to four, and two times higher than in the broader community respectively.23

In South Australia an estimated 886 people living with HCV were admitted to a correctional facility in 2016, constituting 9% of the state’s overall HCV epidemic24,25,26. This is indicative of the correlation between injecting drug use and HCV infection, and disproportionate incarceration of people who inject drugs. In 2016, 46% of Australian prison entrants surveyed reported having injected drugs, 63% of whom had injected in the past month.27

In addition, the significant prevalence of HCV in prisons is also reflective of transmission of HCV within prisons predominately attributed to sharing injecting equipment, and presents a risk to prisoners, the prison workforce and the wider community once infected prisoners are released.

This significant prevalence presents a risk to prisoners, the prison workforce and the wider community once infected prisoners are released. Incarceration represents an opportunity to engage highly marginalised and high risk populations into health services. Prisons are identified as priority settings for achievement of Australian elimination goals for HCV, HBV and HIV.

The Department for Correctional Services and the Department for Health and Wellbeing established a joint departmental project Steering Committee in 2015 to translate the evidence-base for this public health issue into a strategic framework, the nation’s first South Australian Prisoner Blood Borne Virus Prevention Action Plan 2017-2020.

Several key successes have been identified through monitoring implementation of this Action Plan, including:

Prisoner BBV education and workforce development for staff working in correctional settings:

- Prisoner and prison workforce education programs drive demand for BBV prevention, testing, management, care and support. From July to December 2017, Hepatitis SA engaged with 449 correctional officers and 389 prisoners, almost double the number of prisoners engaged during the corresponding period in 2015.
- With support from Department for Correctional Services, Ilbijerri Theatre Company will provide HCV education at two prisons in 2018.

Testing, vaccination, treatment, care and support of prisoners living with BBVs:

- SA Prison Health Service audited BBV testing and seroprevalence across all SA prisons to inform targeted strategy and resource allocation and implemented various innovative clinical models to enhance linkage to care for prisoners.
- Relationships Australia SA provided case management and counselling support to 30 prisoners living with BBVs from July to December 2017.

Evidence-based harm reduction strategies:

- Enablers and barriers toward implementing all BBV harm reduction strategies available to the wider SA community in prison settings are being investigated by Department for Correctional Services and SA Health.

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24 Blood borne virus testing data provided by South Australian Prison Health Service, July 2018
Ex-prisoners are at increased risk of death, particularly immediately post-release, often due to drug-related causes. Drug and Alcohol Services SA is working in partnership with SA Prison Health Service, Hepatitis SA and related stakeholders to enhance linkage to BBV harm reduction, prevention services and care post-release.

Governance and partnerships:

With governance structures established, partnerships between Department for Correctional Services, SA Health and other stakeholders continue to strengthen through collaboration to implement the Action Plan.

**Figure 4: People tested for blood borne viruses in South Australian prisons as a proportion of admissions by reporting period**

<table>
<thead>
<tr>
<th></th>
<th>Proportion of admissions tested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Testing rate (July 2014 to June 2015)</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>17%</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>23%</td>
</tr>
<tr>
<td>HIV</td>
<td>22%</td>
</tr>
</tbody>
</table>

Data Source – Blood borne virus testing data provided by South Australian Prison Health Service, March 2018

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** Blood borne virus testing data provided by South Australian Prison Health Service, March 2018


** Hepatitis C treatment uptake data provided by South Australian Prison Health Service, July 2018
Figure 5: People commencing treatment for Hepatitis C in South Australian prisons by treatment type and 12 month reporting period

School Dental Service - implementation of the Hall technique

Oral health is influenced by a range of factors, but the fundamental determinants are socio-economic, environmental, lifestyle and individual factors such as genetics. In addition, access to care and services, attendance patterns, health literacy and attitudes towards oral health and disease all impact on oral health.

Despite advances in health care the National Child Oral Health Survey 2012-14 found 42% of children aged 5-10 had experience decay in their primary dentition and 27% had untreated decay in the primary dentition, potentially due to the increased consumption of sugary food and drinks and the increased consumption of bottled non-fluoridated water. Dental disease is now one of the leading causes of preventable hospital admissions in Australia and South Australia.

Figure 6: 12 year old mean decay - missing - filled teeth of children attending the South Australian School Dental Service 1977 to 2017

Since the introduction of the Hall technique across the School Dental Service, approximately 600 stainless steel crowns are placed per month using the Hall technique. The number of children waiting for care under general anaesthesia within the public dental system has fallen from over 1000 children with an average wait-time of more than 12 months to less than 400 children waiting on average three months for care (July 2018).

The Hall technique does not require local anaesthesia or the use of a dental drill to manage dental decay in primary molar teeth and enables relatively quick and easy treatment of decay compared to the traditional method of restoring teeth. The introduction of the Hall technique has reduced the difficulty of providing care to children, resulting in increased compliance with treatment and improved outcomes for all concerned; dental practitioner, dental assistant and the parent or carer.

Since the introduction of the Hall technique, a significant number of these children have been successfully treated and have avoided the need for a general anaesthetic. Minimising the traumatic experiences traditionally associated with dental care will reduce avoidance of regular dental check-ups and potentially increase the uptake of preventative care.

Clinical trials have shown the Hall technique has better clinical outcomes than traditional fillings placed in primary molars and reduces the need for retreatment and or further restorative care.

Since the introduction of the Hall technique in February 2017, the School Dental Service has seen a significant change in treatment of primary molars, from direct restorations to Hall Crown restoration. In 2016, 81% of primary molars were restored with direct restorations, compared to 2018 where only...
33% of primary molars were restored with direct restorations and 67% were restored with stainless crowns, the majority of which were Hall Crowns (70%).

The table below shows the breakdown by restoration type for primary molars during the first 4 months of 2016 and a comparison with the same period in 2018.

**Table 1: Breakdown of restoration type for primary molars during the first four months of 2016 and 2018**

<table>
<thead>
<tr>
<th>Surfaces Restored</th>
<th>2016 Jan – Apr</th>
<th>2018 Jan – Apr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1401 (29%)</td>
<td>626 (14%)</td>
</tr>
<tr>
<td>2</td>
<td>2222 (47%)</td>
<td>846 (18%)</td>
</tr>
<tr>
<td>3</td>
<td>145 (3%)</td>
<td>50 (1%)</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>SSC</td>
<td>987 (21%)</td>
<td>943 (20%)</td>
</tr>
<tr>
<td>Hall</td>
<td>0</td>
<td>2157 (47%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4751</strong></td>
<td><strong>4623</strong></td>
</tr>
</tbody>
</table>

In 2018 the Hall technique was allocated an item code and fee under the federally funded Child Dental Benefits Schedule, further supporting its use within the dental profession. Successful implementation by the School Dental Service shows how a novel technique can fundamentally alter the way care is provided and improve not only patient outcomes, but the day to day practice of clinical teams and the use of health resources.
The South Australian expert Advisory Group on Antimicrobial Resistance (SAAGAR): 10 years’ progress and challenges

Excessive or unnecessary use of antibiotics increases the risk of bacterial infections that are resistant to multiple antibiotics, with the consequence that some infections will soon be incurable with the currently available medicines. A public health strategy known as antimicrobial stewardship (AMS) aims to improve antimicrobial prescribing, decrease the risk of antimicrobial resistance, and improve patient outcomes and safety by minimising the risk of treatment failure.

The role of AMS in minimising the emergence of bacteria with resistance to multiple antibiotics has been recognised for many years. South Australia (SA) was one of the first states in Australia to form a state-wide advisory group. SAAGAR first convened in 2008 to promote awareness of antimicrobial resistance and optimise antimicrobial prescribing in South Australian hospitals.

Initial membership consisted of doctors and pharmacists with expert knowledge of antimicrobial resistance and antimicrobial stewardship principles from each Local Health Network (LHN). Since then membership has expanded to include private hospital, SA Ambulance Service and community (residential care facilities) representation.

Since 2013 health services have been required to have an antimicrobial stewardship program in place, as outlined in the Australian Commission on Safety and Quality in Health Care (ACSQHC) National Safety and Quality Health Service Standards (NSQHS). Standard 3, Preventing and Controlling Healthcare Associated Infections, requires that all healthcare services act to improve antimicrobial stewardship, provide clinicians with clinical prescribing guidelines and monitor antimicrobial usage and resistance. SAAGAR has assisted South Australian health services in meeting the AMS standards through provision of AMS policies and guidelines that are applicable in all SA hospitals.

SAAGAR now has five major areas of activity. These are:

- standardisation of antimicrobial prescribing in SA through making available evidence-based state-wide guidelines,
- monitoring of antimicrobial usage and resistance in SA, with the provision of feedback to hospitals to guide stewardship interventions,
- provision of expert advice for antimicrobial-related issues including the state-wide medicines formulary and electronic prescribing software rollout,
- guidance for prescribers during national shortages of antimicrobials, and
- development of consumer information associated with some state-wide guidelines.

The group has provided coordination of state-wide AMS, and provided a forum for LHN AMS committees to raise and discuss local implementation challenges with engagement across public and private sectors.

Through these activities prescribers in South Australian hospitals are able to access guidelines and recommendations which are consistent across the state and which are evidence-based and consider local antimicrobial resistance patterns. Benefits to patients include limiting of unnecessary antimicrobial use, reducing of the risk of adverse effects and minimising prolonged hospital stays. The activities of SAAGAR are beneficial to public health through the minimisation of the emergence and risks associated with the development of multi-resistant bacteria. This has a positive impact on the population health as a whole.

Over 25 guidelines to assist SA prescribers have been developed since SAAGAR’s commencement. These are publicly available through the SA Health internet. Further guideline development and revision will be prioritised according to need and resources available. Seventeen guidelines for surgical prophylaxis were created with state-wide consultation which were tailored to local antimicrobial resistance patterns. Guidelines for many clinical conditions, such as treatment of urinary tract infections in adults and advice for switch from intravenous to oral antimicrobials, were also developed.

Early consultation with specialist clinicians / prescribers by SAAGAR has been essential in the development of guidelines, especially where there is little available published evidence. Engaging
specialists from each of the LHNs in the development process has helped ensure compliance with prescribing guidelines across all sites. Wider consultation was, and continues to be, sought via LHN Drug and Therapeutics Committees to ensure all prescribers with an interest in a particular clinical area have the opportunity to provide input.

SAAGAR resources are available online. Since 2015, when collection of statistics on website hits commenced, SAAGAR resources have been accessed from over 32 countries, with 77.3% of webpage visits were from Australia, 7.1% from Asian countries and 6.0% from Europe (including the United Kingdom); and visits to the SAAGAR website averaged 460 per month. SAAGAR guidelines were recognised internationally in the British Society for Antimicrobial Chemotherapy’s Antimicrobial Stewardship Ebook.

In 2017, SAAGAR was a finalist in the SA Health awards in the category of Improving Safety and Quality. A short video showing SAAGAR’s activities was produced and is available here.

The sustainability of AMS is dependent upon the ongoing education of new and current prescribers and the provision of feedback on antimicrobial utilisation and resistance. The shared goal of reducing antimicrobial resistance, to ensure medical procedures with a high risk of infection (e.g. surgery, chemotherapy and dialysis) continue to be safe to perform and that there are effective antimicrobials available, will ensure the sustainability of SAAGAR and ongoing AMS programs.
Using surveillance of infections and antimicrobial usage to combat antibiotic resistance

Knowledge of antibiotic usage rates in hospital is useful because inappropriate use is a major cause of multi-resistant organisms’ development in humans. To protect the ongoing usefulness of antibiotics a strategy known as antimicrobial stewardship promotes the safe and effective use of antimicrobials to limit inappropriate use. Indiscriminate use of antibiotics with a broad spectrum of coverage is one factor contributing to the emergence of multi-resistant organisms.

South Australia is fortunate to have an expert advisory group made up of doctors and pharmacists with specialist knowledge of antibiotics and antimicrobial stewardship strategies, who meet regularly to promote best-practice usage of antimicrobials in South Australian public hospitals.

Two surveillance programs managed by the Infection Control Service, Communicable Disease Control Branch, SA Health, currently provide information about the number and type of infections, and the use of antibiotics in South Australian hospitals, these are:

1. the Healthcare Associated Infection (HAI) Surveillance Program
2. the National Antimicrobial Utilisation Surveillance Program.

The HAI Surveillance Program

This program measures the rates of infections caused by various multi-resistant organisms in South Australian hospitals. Gram-negative bacteria are commonly found in the intestines of humans and most animals. The program has shown that infections caused by a group of multi-resistant organisms, called multi-resistant Gram-negative organisms, and a subset of these with a resistance known as extended spectrum beta-lactamase organisms, have steadily increased between 2007 and 2015 but declined slightly between 2016 and 2018.

The National Antimicrobial Utilisation Surveillance Program

This program collects antimicrobial usage data for over 200 hospitals throughout Australia, including 20 South Australian hospitals. This program is conducted by SA Health on behalf of the Australian Commission for Safety and Quality in Health Care, and forms part of the national Antimicrobial Use and Resistance in Australia (AURA) project. This program partners with hospitals by providing antimicrobial usage information which can be used to determine where to focus efforts to promote more appropriate prescribing. Figure 7 shows the usage rates of an antibiotic class known as carbapenems. These antibiotics are required to treat serious infections and as a broad spectrum antibiotic in seriously ill patients.

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29 The Australian Commission on Safety and Quality in Health Care provides funding for the development and coordination of NAUSP and analyses of NAUSP data and related reports NAUSP for the AURA Surveillance System.
Figure 7: Infection rates caused by MRGNs and ESBLs, and aggregated rates of carbapenem usage in five South Australian hospitals and national comparator hospitals over an eleven year period

Data source: South Australian Healthcare Associated Infection Surveillance Program + National Antimicrobial Utilisation Surveillance Program
MRGN=multi-resistant Gram-negative bacilli, ESBL=extended-spectrum beta-lactamase

In South Australia, rates of usage of carbapenems increased between 2007 and 2012, in a similar fashion to multi-resistant organisms. After 2012 usage plateaued whilst infections with multi-resistant organisms continued to increase. The plateau in carbapenem usage may be partly explained by the increase in the regulation of the use of broad-spectrum antibiotics. However, since 2015 infection rates have plateaued whilst carbapenem usage rates have increased. Two plausible explanations are that, firstly, higher doses of these antibiotics are now sometimes needed to effectively combat illness, and secondly, carbapenems may be used to treat infections caused by organisms other than MRGNs and ESBLs.