

Public health report

The Public Health Report is published in accordance with Section 454 of the *Public Health Act 2005*, which requires annual reporting on public health issues for Queensland.

Indigenous health

Indigenous Queenslanders experience a greater burden of ill health and early death than non-Indigenous Queenslanders. As well as the impact of risk factors, access to clinical services and the performance of the health system, health status is also affected by a range of factors outside the influence of the health system. These include social, cultural, historical, environmental and economic factors.

Sexually transmissible infections (STIs) and Blood-Borne Viruses (BBVs):—Infectious syphilis (less than two years duration) and HIV

Since January 2011, there has been an ongoing outbreak of infectious syphilis in Aboriginal and Torres Strait Islander people in North Queensland. It is currently affecting the four Hospital and Health Service (HHS) areas: Torres and Cape, North West, Cairns and Hinterland and Townsville.

As at 30 June 2019, there has been a total of 1336 infectious syphilis cases associated with the outbreak in Aboriginal and Torres Strait Islander people in North Queensland. The number increased from 94 cases in 2011, to a peak of 311 cases in 2017, followed by a decrease to 206 cases in 2018. For the first half of 2019, there were 100 cases notified. The notification rate of infectious syphilis in

Aboriginal and Torres Strait Islander people in Queensland has increased from 64 cases per 100,000 population in 2011 to 135 cases per 100,000 population in 2018. There has also been an increase in the notification rate of infectious syphilis in the non-Indigenous population, from five cases per 100,000 population in 2011 to 17 cases per 100,000 population in 2018. There were 287 infectious syphilis cases in Aboriginal and Torres Strait Islander people in Queensland in 2018, 206 (72 per cent) of which were from the four HHS areas in North Queensland.

In addition to the \$10 million invested by the Queensland Government to implement the *North Queensland Aboriginal and Torres Strait Islander Sexually Transmissible Infections Action Plan 2016–2021* as detailed on page 16, the Commonwealth Government is supporting the enhanced response to syphilis in Northern Australia through implementation of a syphilis test and treat model using Point of Care Testing (POCT) in affected communities.

Between 2011 and 2018, there were 16 congenital syphilis notifications in Queensland (12 in the Aboriginal and Torres Strait Islander population and four in the non-Indigenous population), eight of which resulted in death (all in the Aboriginal and Torres Strait Islander population). There were no congenital syphilis cases notified in the first half of 2019.

A Queensland congenital syphilis case review has been completed to provide recommendations to inform change at clinical, policy and systems levels. A *Queensland Syphilis in Pregnancy Guideline* has also been developed and is being implemented across the state.

There has been an increase in new HIV notification rates in Aboriginal and Torres Strait Islander populations in Queensland, from 4.2 cases per 100,000 population in 2011 (8 cases), to a peak of 9.4 cases per 100,000 population in 2016 (20 cases), followed by a decrease to 6.6 cases per 100,000 population in 2018 (14 cases). Half of these new HIV notifications in Aboriginal and Torres Strait Islander people (2011–2018) occurred in North Queensland. In comparison,

rates in non-Indigenous populations have decreased from 4.3 cases per 100,000 population in 2011 to 3.6 cases per 100,000 population in 2018.

From 1 January 2014 to 30 June 2019, 47 new cases of HIV were diagnosed in Aboriginal and Torres Strait Islander people in North Queensland. The majority (64 per cent) of these cases are in the Cairns and Hinterland HHS. Forty-four (44) of these HIV cases are still living in North Queensland, and all have been engaged in ongoing care, with 31 (70 per cent) achieving undetectable viral load based on their most recent laboratory test results.

An HIV response team was established in the Cairns Sexual Health Service (CSHS) in January 2018 as part of the enhanced response to the cluster of HIV cases in North Queensland. Cairns and Hinterland HHS has received some recurrent funding for an ongoing clinical and public health response to HIV across North Queensland. An overarching *North Queensland HIV Framework* has been developed and a supporting *North Queensland HIV Action Plan* is being finalised to guide the ongoing clinical and public health responses.

Environmental health conditions

The health inequalities experienced by Aboriginal and Torres Strait Islander people can be attributed in part to poor environmental health conditions, including inadequate environmental health infrastructure, water supply, housing, sewerage, waste management and food safety and supply.

The burden of disease of Aboriginal and Torres Strait Islander people is estimated to be 2.2 times that of the broader Australian population but is even higher for remote and very remote Indigenous communities across central and northern Queensland. It is estimated that 30 to 50 per cent of this health inequality experienced by Aboriginal and Torres Strait Islander people can be attributed to poor environmental health.

Over the last 15 years, Queensland Health has concentrated its efforts on increasing the

health management capacity of Aboriginal and Torres Strait Islander local governments through the establishment of an environmental health workforce. The new *Aboriginal and Torres Strait Islander Environmental Health Plan 2019–2022* builds on achievements to date. The plan takes a multi-strategy approach to improving environmental health conditions in Aboriginal and Torres Strait Islander local government areas. Work under the plan is focused on supporting healthy living environments, developing partnerships between environmental health and clinical care and providing advocacy across government. It is built around influencing partners to ensure environmental health considerations are embedded in planning and delivery of services that influence healthy environments.

A key focus of the plan is to align clinical care with environmental health conditions in the home environment by developing a referral system to break the cycle of disease such as for repetitive infections.

As a result of successful liaison, the Queensland Department of Housing and Public Works is now working in partnership with Queensland Health to deliver healthy housing under the *Aboriginal and Torres Strait Islander Housing Action Plan 2019–2023*.

Water quality

During 2018–19, there were a number of significant drinking water quality incidents in Indigenous communities in Queensland. These included a boil water alert that was in place for the communities of Thursday Island, Horn Island and Hammond Island in the Torres Strait following detection of *Cryptosporidium* in the water supply in May 2018. This alert remained in place until interim infrastructure improvements were finalised in April 2019. In May 2019, in addition to a boil water alert that had been in place since 1 February 2019, the community of Palm Island was subject to a seven day 'do not consume' alert. Following the lifting of the 'do not consume' alert, the community returned to a boil water alert. This alert will remain in place into 2019–20 until improvements in water quality can be demonstrated and the safe

operation of the drinking water treatment plant sustained.

As indicated by the incidents highlighted above, remoteness, inadequate infrastructure, limited operational capacity and poor source water quality can all impact the ability of Indigenous local governments to provide a continuous supply of safe drinking water for their communities. In response, Queensland Health has been working in partnership with Aboriginal and Torres Strait Island Councils and other State Government agencies to deliver the *Safe and Healthy drinking water in Indigenous local government areas project*.

The aim of the project is to improve the operation and management of drinking water supplies in Indigenous communities to ensure public health is protected. It adopts a new approach to building the capacity of Indigenous water operators to assure the ongoing safety and quality of water supplied by Indigenous local governments and to improve regulatory compliance. This approach includes an intensive six month mentoring program where Queensland Health environmental health staff are placed week-on/week-off in community.

By 30 June 2019, the intensive delivery phase of the project had been rolled out in 14 Aboriginal or Torres Strait Island communities in far north Queensland. During the year, the expansion of the project was identified as a key initiative under the Minister for Health and Minister for Ambulance Services' *Rapid Results Program* and *Keep Queenslanders Healthy* priority within the whole of Government *Our Future State, Advancing Queensland Priorities* (2018). As such, the 2019–20 state budget included a Queensland Health commitment to reprioritise \$9.9 million over the next four years to expand the project to a total of 31 Indigenous communities across the state.

Immunisation coverage

The *Queensland Health Immunisation Strategy 2017–2022* aims to achieve 95 per cent immunisation coverage for all Queensland children.

In 2018–19, coverage rates for Aboriginal and Torres Strait Islander children at one, two and five years of age improved from 2017–18. There remains a gap between Aboriginal and Torres Strait Islander and non-Indigenous childhood immunisation rates for children at both one and two years of age.

Annualised data for 2018–19 indicate that the coverage rate for Aboriginal and Torres Strait Islander children (91.9 per cent) at one year of age is 2.4 per cent lower than for non-Indigenous children (94.3 per cent), compared with 2.5 per cent in 2017–18. The coverage rate for Aboriginal and Torres Strait Islander children (89.8 per cent) at two years of age is 2.2 per cent lower than for non-Indigenous children (92 per cent), which is also a slight improvement compared with 2017–18 (2.8 per cent). At five years of age the gap is reversed, with the rate for Aboriginal and Torres Strait Islander children (97.1 per cent) 2.6 per cent higher than for non-Indigenous children (94.5 per cent).

Delayed or incomplete vaccination puts children at risk of contracting vaccine-preventable diseases. Timeliness is a major concern for vaccines due at two, four and six months of age, as this is when children receive vaccines that protect against many serious diseases including pertussis, pneumococcal, *Haemophilus influenzae* type B (Hib) and rotavirus. Infection caused by these organisms can be severe, lead to hospitalisation, and can be fatal.

To address this issue, the Department of Health:

- expanded the *Bubba Jabs on Time* initiative delivered through the Health Contact Centre to follow up Aboriginal and Torres Strait Islander children up to five years of age overdue for immunisations
- funded a project located within the Queensland Aboriginal and Islander Health Council (QAIHC) to support Aboriginal and

Torres Strait Islander Community Controlled Health Services to improve immunisation data quality and to provide strategic leadership, information and advice

- continued funding for immunisation follow-up and outreach projects, *Boots on the Ground*, developed by Townsville HHS and *Connecting Our Mob*, developed by Cairns and Hinterland HHS, to address low coverage childhood immunisation rates for Aboriginal and Torres Strait Islander children.

Childhood immunisation

- Queensland's childhood immunisation coverage is high and comparable to national rates for children at one, two and five years of age.
- Data provided by the Australian Immunisation Register show Queensland's annualised rates for childhood immunisation coverage increased marginally over the past 12 months for children in all three age cohorts measured.
- The rate for one-year-old children improved from 94.0 per cent in 2017–18 to 94.1 per cent in 2018–19. For two-year-old children the rate improved from 91.6 per cent to 91.8 per cent and for five-year-old children from 94.3 per cent to 94.7 per cent.
- Queensland continues to progress towards the goal of 95 per cent fully immunised coverage for all children under five years of age.

Chronic disease and cancer

Many Queenslanders are living longer. However, living longer can also mean spending more time with illness that is largely caused by chronic diseases such as cardiovascular disease, type 2 diabetes, high blood pressure and some cancers. Tobacco smoking, poor diet, physical inactivity, overweight and obesity all significantly contribute to chronic diseases and reduced life expectancy in Queensland.

Chronic diseases impact on the health system, the health and wellbeing of the community, and the economy. Health expenditure costs in Queensland associated with chronic diseases were estimated to be \$9.6 billion in 2011–12 (most recent estimate). Reducing unhealthy behaviours and increasing healthy habits across the population is an effective way of reducing the chronic disease burden.

Tobacco smoking

Queensland is increasingly becoming smoke-free. The adult daily smoking rate has halved since 1998 and youth smoking is at its lowest recorded level. The adult daily smoking rate is 11 per cent and the teenage smoking rate is 5 per cent.

However, tobacco smoking remains a leading cause of chronic diseases such as cardiovascular disease, chronic lung disease and many cancers. Two-thirds of deaths in current smokers can be directly attributed to smoking. One-third of smokers die in middle age, losing at least 20 years of life. Exposure to second-hand smoke also causes diseases and premature death in children and adults who do not smoke.

While there has been a substantial reduction in smoking rates over recent years, significant challenges remain. The number of people who smoke is still too high—in 2018, there were 424,000 adult daily smokers. Furthermore, some groups such as Indigenous Queenslanders continue to have much higher smoking rates than the whole population. For the improved health and wellbeing of all Queenslanders, the smoke-free cultural change needs to be strengthened and sustained.

In response to this challenge, the Department's *Smoking Prevention Strategy 2017 to 2020*, under the *Health and Wellbeing Strategic Framework*, sets priority actions to help smokers to quit, prevent young people from starting smoking and expand smoke-free environments. In 2018–19, key actions included:

- delivering more than 33,500 tailored quit support sessions to smokers via Quitline
- over \$2.75 million allocated for expansion of free Quitline programs providing intensive tailored quit smoking interventions for groups with high smoking rates or at high risk of harm, including disadvantaged groups, Indigenous people, those from regional, rural and remote areas, blue collar workers, pregnant women, their partners and women who are planning a pregnancy. Individuals who complete an intensive quit support program achieve a quit rate of 23 per cent at 12 months post program completion
- strengthening primary healthcare services for Indigenous smokers by increasing brief intervention skills of health professionals and access to culturally effective resources
- strengthening the capacity of Aboriginal and Torres Strait Islander Councils to create local smoke-free environments and events
- providing quit smoking support and advice to public hospital inpatients, dental and community mental health clients
- support to the higher education and training sector to create smoke-free learning environments. From 1 July 2018, all public universities and TAFE Queensland have implemented smoke-free policies banning smoking on all campuses
- encouraging and supporting workplaces to establish smoke-free policies and access to quit smoking programs
- delivering a mass and social media campaign to raise awareness of the new Quit HQ website which is designed to provide people with the tools and resources they need to quit smoking for good.

Healthy weight

The challenge of reducing overweight and obesity is a global problem. Latest data show that 66 per cent of Queensland adults and 25 per cent of Queensland children are overweight or obese in 2017–18.

Carrying excess weight places individuals at higher risk of cardiovascular disease, type 2 diabetes, high blood pressure, musculoskeletal conditions and some cancers. Children who are overweight or obese have higher rates of asthma, bone and joint complaints, sleep disturbances and early onset of diabetes.

Many factors increase the likelihood of people gaining and retaining too much weight. Our sedentary environments and modern lifestyles have contributed to inactivity and high consumption of high-energy, nutrient-poor foods. Encouragingly, in recent years there has been gradual societal change. This includes a greater awareness of overweight and obesity than a decade ago, although as yet there has been no reduction in the population prevalence.

Healthy weight is a public health priority as overweight and obesity is the second largest cause of total disease burden (second to tobacco) and the largest contributor to the disability burden in Australia. Overweight and obesity has substantial human and financial costs and compromises the potential of affected individuals, families and communities.

Unhealthy weight gain results from the complex interplay between food (energy in), physical activity (energy out), genetics and environmental factors which favour the consumption of more energy than needed. Cheap, energy-dense and nutrient-poor foods and drinks are highly marketed and readily available in many of the settings where Queenslanders live, work, learn and play, while work and leisure are largely sedentary. Given this environmental profile, it is not surprising that only 44 per cent of Queensland adults described their lifestyle as very healthy. Increasing the number of Queenslanders with a healthy weight requires a blend of actions that empower individuals and adjust environments

to make it easier for Queenslanders to eat a healthier diet and move more.

The *Keep Queenslanders healthy* priority within *Our Future State: Advancing Queensland's Priorities* (2018) aims to increase the proportion of adults and children with a healthy body weight by 10 per cent by 2026. The Department of Health is leading this priority, which includes:

- establishing a health promotion agency, *Health and Wellbeing Queensland*, to work in partnership with others to reduce risk factors such as poor nutrition and low physical activity (2019)
- increasing the availability of healthy food and drink choices in public healthcare facilities
- guiding what food and drink is promoted on government-owned advertising spaces
- improving the accessibility, affordability and acceptability of healthy food in remote Aboriginal and Torres Strait Islander communities using a community-led approach.

In addition, under the *Healthy Weight Strategy 2017 to 2020*, the Department is driving 30 actions: 11 targeting people at higher risk of unhealthy weight; and 19 designed to nudge all Queenslanders towards healthier choices. Programs associated with some of these actions include:

- supporting individuals' positive lifestyle changes to prevent diabetes and chronic disease through *My health for life*, a risk assessment and lifestyle modification program
- increasing physical activity and healthy eating by continuing community programs including *Heart Foundation Walking*, *10,000 Steps*, *Jamie's Ministry of Food* and the *Queensland Country Women's Association Country Kitchens*
- supporting schools and amateur community sporting clubs to promote healthy behaviours and provide healthy food and drink options through the *Healthy Tuckshop Support*, *Good Sports Healthy Eating* and the *Life Education* programs

- trialling a new Patient Wellness Clinical Pathway in orthopaedic specialist outpatient departments to improve health and wellbeing prior to surgery
- collaborating with Workplace Health and Safety Queensland to embed a health and wellbeing culture across industry and employer groups in the public and private sectors
- through the Council of Australian Government's Health Council, the Queensland Department of Health is leading:
 - the development of the national obesity strategy (to guide coordinated action to increase healthy weight for all Australians)
 - the *National Childhood Obesity Prevention Project* (to develop resources and approaches to limit the effects of unhealthy food and drinks on children, e.g. the *National Interim Guide to Reduce Children's Exposure to Unhealthy Food and Drink Promotion*).

Cancer screening

Cancer screening programs help to protect the health of Queenslanders by providing prevention and early detection of cancers. Screening tests look for particular changes and early signs before cancer develops or symptoms emerge. Queensland supports the delivery of the three national cancer screening programs for breast, bowel and cervical cancer. All eligible people are strongly encouraged to participate.

Queensland Health provides breast screening services that aim to reduce deaths from breast cancer and are targeted at women aged 50–74 years. The program is delivered through BreastScreen Queensland screening and assessment services, including 11 main sites, 21 satellites and nine mobile vans covering more than 220 locations across the State. The latest available data identifies that 55.6 per cent of Queensland women aged 50 to 74 years participated in the program for the 24-month period 2016–17. In the 2018–19 financial year, 249,039 breast screens were performed.

Queensland Health also supports the *National Cervical Screening Program* (NCSP). The program aims to reduce the number of women who develop or die from cervical cancer through screening which currently detects early changes in the cervix before cervical cancer develops. The NCSP underwent changes from 1 December 2017, including a change of test, an increase in screening interval and an increase in screening commencement age from 18 to 25 years. These program changes were a result of new evidence and better technology. Approximately 53.2 per cent of Queensland women participated in the program for the 24-month calendar period 2015–16. In 2018, 360,550 Queensland women aged between 25 to 74 years undertook a Cervical Screening Test.

The *National Bowel Cancer Screening Program* (NBCSP) invites eligible Queenslanders aged 50 to 74 years to screen every two years for bowel cancer using a free, simple test at home. Queensland Health supports the NBCSP through the delivery of the Participant Follow Up Function (PFUF) for participants who received a positive faecal occult blood test and were not recorded on the NBCSP Register as having attended a consultation with a relevant health professional. The total number of follow-up interactions in Queensland that were delivered for the 2018–19 financial year was over 15,700. The latest available data identifies that 40.8 per cent of eligible Queenslanders participated in the program for the 24-month calendar period 2016–17.

Queensland Health recognises the significant impact and benefit of improving participation by eligible Queenslanders in cancer screening programs and as a result continues to prioritise and invest in a range of collaboratively developed State and local level strategies. These strategies aim to increase participation rates and ensure that those participants requiring follow up are seen in a timely manner.

Environmental health

Impacts on human health from environmental risks arise from a range of sources, including physical, chemical and biological factors and the related factors impacting behaviours. In 2015, it was estimated that two per cent of the total burden of disease in Australia was due to occupational exposures and hazards, including injuries, loud noise, carcinogens, particulate matter, gas and fumes, asthmagens and ergonomic factors (Australian Institute of Health and Welfare, 2019).

The natural environment can influence physical and mental health through factors such as the quality of air and water, soil in which food is grown, positive and negative effects of exposure to ultraviolet radiation (adequate exposure protecting against Vitamin D deficiency and excessive exposure being linked to skin cancer) and the potential impact of extreme weather events (Australian Institute of Health and Welfare, 2018). The built environment also encompasses several determinants of health, including housing, neighbourhood conditions and transport routes, which shape the social, economic and environmental conditions that are needed for good health (Glasgow Centre for Population Health, 2013).

Pressures on the natural environment, including more frequent, adverse weather events, climate change, population growth and design of the built environment can contribute to an unhealthy environment and negatively influence people's physical and mental health and wellbeing (Australian Institute of Health and Welfare, 2018). The ability to effectively identify, assess and respond to threats from environmental sources is a critical part of a proactive and integrated health protection response to safeguard and improve the health of Queenslanders.

Climate adaptation and health system sustainability

The risks posed by changing climate have been identified by the World Health Organization as the biggest global health threat of the 21st century. This has significant health risk implications for Queenslanders and for Queensland Health as the major health service provider in Queensland.

The public health implications of changing climate are of particular concern for the aged, the young, those with existing preconditions including heart, respiratory and kidney disease, isolated communities such as our remote Indigenous communities, and coastal communities exposed to sea level rise and inundation. Other areas of climate risk to health include increasing temperatures; rainfall changes and impacts to water supply and water quality; ongoing and multiple weather events as seen in north Queensland earlier this year and their effects on mental health and resilience; reduction of air quality; maintenance of food safety; and potential for increases in vector borne disease.

These risks are exacerbated through changing demographics including our aging population, population shifts to urban heat sinks, as well as shifts to more vulnerable locations such as low lying coastal areas, or areas with an established history of riverine flooding, cyclones and bushfires. While individual climatic events are critical, there is also concern regarding long term health implications and increases in chronic conditions, morbidity and longevity.

Queensland Health has an imperative to adapt to these challenges while maintaining and improving on the current levels of service provided to the broader Queensland community. In response to these public health challenges, Queensland Health is working towards establishing a Climate Risk Framework and Strategy which recognises the need to mitigate and reduce our greenhouse emissions while embedding sustainability and adaptation into our day to day business. This ranges from how we plan for and build our future hospitals,

through to how we manage our waste, energy and water use, and support and train our staff.

Foodborne illness– Salmonella and Campylobacter

It has been estimated that there are approximately 4.1 million cases of foodborne illness in Australia each year, with contaminated food causing approximately 30,800 hospitalisations and 80 deaths every year. Among the notifiable pathogens, Campylobacter is the major cause of human gastrointestinal illness in Australia, while Salmonella is the leading cause of foodborne illness outbreaks in Australia.

In April 2017, the Australia and New Zealand Ministerial Forum on Food Regulation (the Ministerial Forum) agreed that the food regulation system is producing strong food safety outcomes overall and identified three priority areas for 2017–2021 to further strengthen the system. One of these priorities is to reduce foodborne illness, particularly related to Campylobacter and Salmonella, with a nationally-consistent approach. A national foodborne illness strategy has been endorsed by the Ministerial Forum and focuses on food safety culture; national engagement; sector-based initiatives; consumer and industry education; monitoring and surveillance and research.

In Queensland, the reduction of foodborne illness is a priority and is achieved through a legislative framework focused on through-chain, risk-based principles. The framework is comprised of several pieces of legislation, each addressing food safety at different levels of the food supply chain and administered by several regulators.

The Queensland co-regulatory approach aims to reduce the number of food-related human cases of campylobacteriosis and salmonellosis in Queensland, while aligning with and supporting the national approach.

Key components of the Queensland co-regulatory approach include:

- undertaking research to better understand the organism, epidemiology and impact on food safety
- the development and implementation of through-chain control strategies
- engagement with industry to identify appropriate interventions
- improving capabilities and practices of local government environmental health officers
- the continued engagement and communication with relevant stakeholders including retailers, food service and consumers.

Lead in the environment

Lead and lead compounds are not beneficial or necessary for human health and can be harmful to the human body. Health effects resulting from lead exposure differ substantially between individuals. Factors such as a person's age, the amount of lead, whether the exposure is over a short-term or a longer period, and the presence of other health conditions, will influence the symptoms or health effects experienced. Lead can be harmful to people of all ages, but the risk of health effects is highest for unborn babies, infants and children. Blood lead level is an accurate way of monitoring lead exposure.

The Mount Isa Lead Health Management Committee, a Ministerial committee chaired by the Chief Health Officer continues to support the *Point of care testing program* (PoCT) undertaken by the NWHHS Child Health Services. This program utilises a simple finger prick blood lead test, which is less painful than the more invasive venous blood test, at the same time as their scheduled immunisations—at age 6 months, 12 months, 18 months and 4 years. There has been a strong community uptake of the *PoCT program*, with approximately 552 tests being undertaken during the 2018–19 year. Therefore, 'at risk' children are being more readily identified through this program and referred to their 'GP' for a more accurate venous test and follow up case management if necessary.

Former clandestine drug laboratories at residential premises

Premises that have been used as a former clandestine drug laboratory have the potential to pose a significant public health risk due to the hazardous and ongoing nature of chemical contamination arising from the manufacture of illicit drugs. Currently, the Queensland Police Service notifies the owner of the premise and the relevant local government when they have removed clandestine drug laboratory chemicals and/or equipment from a residential property.

Contamination of domestic premises used in the production of illegal drugs is a public health risk and is a local government responsibility under the *Public Health Act 2005*. An amendment to the legislation which came into force on 29 March 2019 further strengthens actions that can be taken to remediate former clandestine laboratory sites. The training of local government officers to remediate public health risks caused by the contamination of former clan lab sites has also been undertaken. The guideline '*Clandestine Drug Laboratories—A management guideline for public health regulators*', is also now available to support local government officers.

PFAS

The historic use of aqueous film forming foams has resulted in per- and poly-fluorinated alkyl substances (PFAS) contamination at multiple sites in Queensland including Defence Force bases, airports, ports, fire stations and mines. Queensland Health works collaboratively with other government agencies to ensure that PFAS contaminated sites are properly assessed and that any emerging risks are managed appropriately. The response to identified contaminated sites follows a response framework based on assessed health risk which prioritises assessment and management of exposures to drinking water, followed by food, recreational water and then environmental risk assessment.

Communicable disease prevention and control

Over the last century, considerable progress has been made in reducing communicable disease related morbidity and mortality. However, communicable diseases remain relatively common and are a significant public health priority in Queensland. There were almost 100,500 communicable diseases reported in Queensland during the 2018–19 financial year, representing about one notification per 48 Queenslanders.

Contemporary communicable disease challenges are increasingly complex with new and re-emerging communicable diseases inevitable due to changing interactions between humans, animals and the environment. A One Health approach to minimise the acute and long term impacts of communicable diseases is supported by comprehensive surveillance systems, maintenance of sufficient capacity for early assessment of potential threats and comprehensive response plans.

Exotic Mosquitos

The primary dengue mosquito, *Aedes aegypti*, is found in coastal north Queensland and parts of central and southern Queensland. A secondary dengue mosquito, *Aedes albopictus*, is only found in the Torres Strait. This mosquito can establish itself quickly in new locations and if it reaches mainland Australia, has the potential to spread as far south as Victoria. These species are invasive and are not known to be present in the Brisbane region. In addition to dengue viruses, they can also transmit Zika and chikungunya viruses.

There were six detections of *Ae. aegypti* or *Ae. albopictus* at international first points of entry or approved arrangements in Queensland in the 2018–19 financial year. These mosquitoes are most likely to arrive in oversized tyres, other water-holding sea cargo, or passenger aircraft. Furthermore, there were five detections of *Ae. Japaonicus* in oversized tyres from Japan.

While *Ae. Japaonicus* is not considered an important disease vector, limited overseas studies suggest there is a potential for it be involved with the transmission of some arboviruses. All detections were successfully treated at the site of detection with no further incursion detected. Routine surveillance continues, and there is currently no evidence that these mosquitoes have established at the locations where they have previously been detected.

Infection control

There are over 165,000 healthcare associated infections in Australian acute healthcare facilities every year and they are the most common complication affecting patients in hospital. Healthcare associated infections can occur in any healthcare setting.

The Queensland *Public Health Act* (2005) aims to protect and promote the health of the Queensland public. Chapter 4 of the *Public Health Act* (2005) requires that providers of declared health services minimise the risk of infection.

Following amendments made to the *Public Health Act 2005* in 2017 that strengthened the existing infection control regulatory framework for health care facilities, the Department of Health has continued to provide advice and guidance to HHS Public Health Units investigating complaints in relation to breaches of infection control standards, as requested.

The Department has provided strategic leadership to healthcare providers through the development and maintenance of a range of evidence-based resources to inform best practice in preventing and controlling the transmission of pathogenic organisms in hospital and community-based health care settings.

Influenza—2018 season

The influenza season in Queensland usually occurs annually in the southern and central areas, typically between May and October. In the tropical region, the pattern can be more variable and may include clusters outside this

period. In 2018, the Queensland season showed a bimodal distribution, with peaks in the week beginning 3 September, with a total of 688 notifications, and the week beginning 10 December, with 516 notifications.

From 1 January to 31 December 2018, there were 15,685 notifications. The number of 2018 notifications was 1.7 times lower than the previous five year mean. The notifications by type were:

- 12,670 (81 per cent) were typed as influenza A
- 3015 (19 per cent) were typed as influenza B
- 2088 influenza A were subtyped: 1060 (51 per cent) were A/H1N1 and 1028 (49 per cent) were A/H3N2
- subtype was unavailable for 10,582 influenza A cases.

From 1 January to 31 December 2018, there were 1715 admissions to public hospitals with confirmed influenza, including 200 Intensive Care Unit admissions. The number of hospitalisations in 2018 was 1.6 times lower than the five year mean. The 1715 admissions to public hospitals included Queensland residents (1650), interstate residents (34), and overseas visitors (31). Of the 1650 admissions of Queensland residents, 1447 (88 per cent) were due to influenza A. Public hospital admissions peaked in the week beginning 3 September (69 patients admitted with laboratory confirmed influenza) and in the week beginning 24 December (70 patients admitted with laboratory confirmed influenza).

Higher than expected interseasonal activity has been observed since the beginning of 2019. The number of notifications from 1 January to 30 June 2019 was 21,465, which is five times the previous five year mean for the same period. Eighty-eight per cent of notifications (18,855) during this period were typed as influenza A. Of the subtyped Influenza A notifications, 1112 (58 per cent) were H3N2, while the remaining 42 per cent were H1N1. There have been 1414 influenza-associated public hospital admissions to 30 June 2019, including 137 that required intensive care.

The Department of Health distributes vaccine funded under the *National Immunisation Program* for individuals considered high risk for

influenza disease. Given the increased risk of complications in young children from influenza, in 2018 the Department of Health commenced providing funded influenza vaccine for all Queensland children aged six months to less than five years.

Queensland Health developed and implemented the statewide *Call to Arms* campaign to raise awareness of the importance and safety of the annual influenza vaccine. Healthcare providers and parents of children aged between six months and under five years were the primary target audience, as flu is the leading cause of hospitalisation for children of this age. The campaign ran before and during Queensland's typical flu season and was supported by traditional and social media communication activities, raising awareness amongst all Queenslanders of the benefits of being vaccinated annually, as well as flu hygiene and other prevention messages. A year-round Search Engine Marketing (SEM) campaign was also implemented to continue to direct traffic to the Vaccination Matters website and engage with Queenslanders.

Key audiences addressed in this year's flu prevention communication activities included parents of children aged six months to under five years, healthcare and immunisation providers, Queensland adults, pregnant women and Aboriginal and Torres Strait Islander people. Due to the increased risk of influenza transmission in residential aged care facilities, schools and childcare facilities, Queensland Health actively promoted vaccination and hygiene messages during the influenza season to staff, parents and carers, children and residents.

There has been a high number of laboratory confirmed influenza cases reported to date this year compared to previous years. Much of the burden of disease has been in those aged 65 years and older, who have also had the highest rate of deaths. Residents of nursing homes are at particular risk of influenza transmission. In response to this, the Department of Health has made antiviral medication available to HHSs for use in nursing homes to support influenza outbreak management.

Tuberculosis

Tuberculosis (TB) is a notifiable condition in Queensland and throughout Australia. Despite TB being well controlled in Queensland, new cases are regularly diagnosed. The majority of these cases contracted their infection in countries other than Australia. In Queensland, the risk to the general public of developing any kind of TB is very low, with around 4.0 cases of TB diagnosed per 100,000 people each year. Multi-drug resistant TB (MDR-TB) can be caused by poor treatment compliance or transmission from another case of MDR-TB.

There have been 209 cases of TB notified in Queensland in the 2018–19 financial year, including eight cases of laboratory confirmed multi-drug resistant tuberculosis TB (MDR-TB). The demographics of TB cases in the 2018–19 financial year were similar to previous years, where the majority were born overseas (82 per cent), mostly from countries with a high incidence of TB (78 per cent).

The vaccine recommended for children at high risk of TB infection is Bacille Calmette-Guérin (BCG) vaccine. There is strong evidence that BCG vaccination in infancy provides over 70 per cent protection against severe disseminated forms of TB, including miliary TB and TB meningitis. BCG vaccine is not recommended for adults. There has been short supply of BCG vaccine since 2015 which has resulted in eligible children being unable to access vaccine. Vaccine supply is expected to improve in July 2019.

Services for the clinical diagnosis, management and public health follow-up of people with TB, and BCG vaccination services are provided by HHSs through a network of TB Control Units (TBCUs) in Metro South, Cairns, Torres and Cape, Townsville, Mackay, Rockhampton and Toowoomba.

Antimicrobial resistance

Resistance to antimicrobial agents is a significant challenge at all levels of the health system, and in agriculture. Queensland Health

has undertaken a project on developing a strategy to counter the increasing incidence of antimicrobial resistance. The strategy was developed as a result of a summit attended by key stakeholders in the health and veterinary sectors in May 2019, and is designed to achieve the following objectives:

- Communication, Education and Training—there is increased awareness of the current situation regarding AMR and development of skills for the actions that can be taken to address it, for consumers and professionals.
- Coordinated antimicrobial resistance surveillance and response—the response to outbreaks, and current and emerging AMR threats, is increasingly coordinated and effective and is informed by timely and meaningful surveillance information to support decision-making for the response.
- Antimicrobial stewardship and monitoring of antimicrobial usage—the use of antimicrobials is increasingly judicious and appropriate and there is access to timely and useful information to support decision-making on antimicrobial stewardship (AMS).
- Prevention and control of infection—action taken for the prevention of infection in the community, healthcare, animal health and agriculture settings is increasingly effective, is coordinated and timely, and is risk-based as informed by surveillance information and evidence.
- Research—targeted, high quality research is being undertaken into AMR, AMS, the prevention of infection and implementation science which is translatable into clinical, public health and animal health practice.
- Governance and partnerships—successful implementation of the strategy is achieved because responsibility and resources are allocated for achievement of the strategy actions, and there is designated accountability for outcomes.