

TROPICAL PUBLIC health news.

Tropical Public Health Services (Cairns)



Introduction



Welcome to our latest update. Our aim is to help primary care and public health service providers to keep up to date with locally relevant public health news and advice so you can be aware of emerging trends and respond in the best possible ways for your patients and clients.

This edition covers the latest changes to the **National Immunisation Program**, which commenced on 1 July and which for infants currently aged 6 months will probably take the next 6 -12 months to work their way through. As always, our staff will be happy to help if you call for advice; and thank you to the many who have already attended one of our popular after-hours education sessions.

Unfortunately, over the past month we have had to recommend the costly disposal of large numbers of NIP vaccines when they have become damaged by breaches of the **cold chain** (most often due to power outages). If you are uncertain how to handle one of these it is better to call our staff immediately for advice rather than making assumptions about what will or will not work. Some of these cold chain instances have highlighted the rather poor performance of certain types of refrigerator, or that

alarm systems have not been configured correctly to go off (including in newly purchased units).

This year to date in the Cairns area alone there have been 11 cases of **Acute Post-Streptococcal Glomerulonephritis**, particularly among Indigenous children. These require a high level of vigilance for diagnosis, careful management and close follow-up once discharged from hospital. Please give thought to and consider screening household members and contacts who may also have skin lesions requiring treatment to prevent APSGN and its potential for long-lasting sequelae.

Mumps is still with us, especially in the Torres Strait at present, and I encourage you to freely offer MMR vaccine when there is no documentation (or no readily-available) documentation of having received two doses of MMR vaccine. Unlike measles, the mumps component of the vaccine is demonstrably less able to confer long-standing protection and so it is possible to acquire mumps within 10 years despite having completed 2 doses of MMR.

*Dr Richard Gair
Director, TPHS*

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Ongoing **SYPHILIS OUTBREAK** and **HIV OUTBREAK**

Promoting the importance of regular testing through AFL



TPHS staff, Cherrie Glasson, Kel Browne and Grace Hermawan, promote STI testing at the Indigenous All Stars AFL game, June 2018

An outbreak of infectious syphilis was identified in North West Queensland in 2011, and since then has continued to spread across Northern Queensland to include Cairns and Hinterland, Torres and Cape and Townsville HHS areas, as well as the Northern Territory, Kimberley region of WA and South Australia.

There has also been a concerning increase in cases of HIV diagnosed in Aboriginal and Torres Strait Islander people in Far North Queensland - some of whom had syphilis co-infection. The presence of syphilis lesions significantly increases the risk of HIV transmission per sexual encounter.

Given the current epidemiology it is vital to be actively promoting testing for both conditions.

The TPHS Sexual Health team have been working with AFL Cairns to promote STI testing to people aged between 15 – 39 years, through their Playing the Field? Be Safe, Get Tested campaign.

This campaign promotes service models that improve testing rates of STIs in males by developing standardised programs for pre-season sexual health education and STI testing with players. The desired outcome of the campaign is more than simply ‘prevention’; the initiative aims to generate demand for clinical services by motivating health-seeking behaviour for those who may have been at risk of an STI.

The campaign engages AFL players, spectators and people of influence with the message that sexual health is a legitimate and important aspect of overall health and well-being and that testing is a normal activity for anyone who wants to maintain their health status and who could have been exposed to an STI.

In addition to fence signage at Cazaly’s AFL Stadium and posters in toilets and team change rooms, TPHS sponsored Men’s Health Week in June, which overlapped with the annual Indigenous Dreamtime by the Sea Festival, held at Holloways Beach. During this week we worked with AFL Cairns, Wuchopperen Health Service and Cairns Sexual Health Service.

Health Promotion can only be effective at increasing access to health services when we clinicians actively reduce barriers by providing professional empathetic evidence-based care that helps overcome clients’ fear of stigma or shame. Thank you to all who are proactively thinking “could this be syphilis?” when presented with a person in the priority populations with possible clinical signs of syphilis, and actively encouraging people accessing care to have a syphilis test. The best clinical tools we have are maintaining a high index of clinical suspicion and offering testing, including opportunistic syphilis and HIV serology to those asymptomatic people in the vulnerable population.

Take home messages:

- Offer syphilis and HIV testing to all Aboriginal and Torres Strait Islander people aged 15-39 years as part of a comprehensive STI screen.
- Opportunistic HIV, syphilis and other STI testing should be offered to all people in at-risk groups
- Ensure all clients who test positive for chlamydia or gonorrhoea are also tested for syphilis and HIV.
- HIV testing should be included in the assessment of all people newly diagnosed with hepatitis B or C.
- Provide information to clients about STI and blood borne virus risk reduction, and the need for testing if they change partners.
- Prompt treatment and contact tracing are critical to STI control.

Further information and assistance with contact tracing:

- Syphilis Register on 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- Your local Sexual Health Service, Men’s and Women’s health service or contact tracing officer
- Cairns Sexual Health Service on (07) 4226 4769 and Cairns Contact Tracing Officer CNC at Cairns
- Sexual Health Clinic: Deb Penney on 0427 562 645.



MUMPS Update

Over the past six months, between January and July, there have been 193 confirmed cases of mumps reported in the Cairns and Hinterland and Torres and Cape Hospital and Health Services regions.

This number compares with only 26 cases in 2017 and two in 2016. Most of the cases were individuals who had been vaccinated and most were between the ages of 10 and 40 years.

Over the past several years similar mumps outbreaks have been seen across northern Australia mainly in remote Aboriginal and Torres Strait Islander communities as well as in other regions of the world. The epidemiology of mumps appears to be changing. Traditionally, the provision of two Measles-Mumps-Rubella (MMR) vaccinations has been thought to be adequate for longer-term protection from infection against mumps. Most people born before 1966 are considered immune due to exposure to wild virus in that era. It now seems likely that vaccine derived immunity is waning in the absence of circulating wild mumps virus. The mumps component of the MMR vaccine is recognised as being less immunogenic than measles, and antibody (IgG) levels may decline within a decade of even two doses of MMR. Hence individuals with waning immunity along with individuals who are unvaccinated, plus potentially occasional cases of primary vaccine failure, are causing an increase in the pool of susceptible individuals.

Social determinant factors such as overcrowding and poor housing conditions, can increase the potential for infrequent and slowly evolving community outbreaks involving older children and adults. In the recent outbreaks it appears that complication rates are lower than classically described in the pre-vaccination era, when mumps infections were also described as more severe in adults. This shift in pattern warrants further research but may possibly be due to residual (anamnestic) vaccine derived immunity conferring some level of protection in cases resulting in milder symptoms and fewer complications.

It is important to remain on the lookout for mumps. Up to one third of cases can be subclinical so prior contact with identifiable cases may not be known. Aboriginal and Torres Strait Islander people, those living in hostels, boarding homes and residential care facilities are particularly vulnerable to acquiring the infection. Any person presenting with fever, headache, fatigue and swollen parotid (unilateral or bilateral) or other salivary glands may have mumps even if they've been vaccinated. The diagnosis is easily confirmed by ordering a mumps virus PCR throat swab.

Be sure to exclude suspected cases from work, school or child care for at least five days after the onset of parotid swelling or until the results of the PCR are known. Remember, mumps is easily spread by coughing, sneezing and direct contact with secretions of infected people. The provision of immunoglobulin is not indicated and MMR vaccination is unlikely to be of direct benefit once exposure to an infected case has occurred (unlike measles, where there is a narrow window of opportunity to provide post-exposure prophylaxis). However, ensuring that staff, patients and the community at large have received two documented doses of MMR can help to prevent further spread of infection, as well as protect against measles in the longer term.

Please reinforce the need for hand hygiene and ensure that case exclusion times are adhered to (see the Queensland Health Time Out Poster at https://www.health.qld.gov.au/__data/assets/pdf_file/0022/426820/timeout_poster.pdf)

Reassure patients that severe complications are rare. All cases are notifiable and if in doubt or further information is required, contact the TPHS for further advice.





Rheumatic Heart Disease Workshop

Griffith University's Professor Michael Good with RHD Program CNCs Erin Howell, Kylie McKenna and Louise Axford-Haines

In early May the Rheumatic Heart Disease Register and Control Program hosted a two-day workshop which was attended by a total of 140 health professionals.

The two-day workshop attended by Registered Nurses and Medical Officer's covered Rheumatic Heart Disease (RHD) and Acute Rheumatic Fever (ARF) diagnosis and management according the Australian Guidelines.

Rheumatic Heart Disease and ARF are preventable diseases that are often forgotten – yet Australia has some of the highest rates in the world.

The importance of secondary prophylaxis in the form of regular intramuscular Bicillin was promoted at the workshop. An uptake rate of 80 per cent (where a patient receives 80 per cent of their required injections each year) may sound positive however, this also translates to the patient potentially being vulnerable to Streptococcus infections for at least 60 days out of the year. .

The 'hands-on' component of the workshop focussed on how to reduce pain when administering IM Bicillin. With the use of specialised dummies, all attendees were instructed in using the ventrogluteal

(VG) site. This site is deemed to be the least painful site for the intramuscular injection of the required 3 to 4-weekly prophylactic Bicillin. For more details go to this link to the online Administering Bicillin video that was provided to all participants. (<https://vimeo.com/.rhdprogram>)

Workshop participants also learnt about the importance of oral health in the prevention of infective endocarditis. Signs of periodontal disease were explained and the importance of regular dental check-ups emphasised.

An evening seminar focussed on the progress of Streptococcus Group A vaccine development. Guest speaker Professor Michael Good explained that there are nearly 250 known strains of Strep A which has made vaccine development challenging. Furthermore, research has shown that within a given year, several strains can cycle through the same community.

Professor Good's team at Griffith University have developed a vaccine covering all strains, and a recently conducted trial on healthy volunteers was successful. A trial on a small section of an at-risk population is being planned for early next year. The RHD Program in Queensland will assist in the roll-out of this trial.

Cracking Crypto



We are all aware of the importance of having access to a safe supply of drinking water.

In 2010, the human right to safe drinking water was recognised by the United Nations General Assembly. In a developed country such as Australia, one would assume that the public water supply is safe to drink and most of the time, this is the case. However, Tropical North Queensland is a land of extremes and for a few months each year, the region is subject to heavy seasonal rainfall – aptly named ‘the wet season’.

Due to the availability of reliable and usually pristine rivers and creeks, many Drinking Water Service Providers (Local Governments) utilise surface water to supply their communities. During periods of heavy rainfall especially in the wet season, these rivers and creeks can be impacted by large surface runoff which usually includes clay, silt and other organic matter such as unappealing animal faeces!

This influx of debris negatively impacts the quality of the water supply in a number of ways including increased turbidity. Turbid water occurs when suspended particles of clay, silt and organic matter make the water appear cloudy and murky. Higher turbidity can lead to problems with filtration systems clogging up, reducing the effectiveness of disinfection. Often highly turbid water results in elevated risks of pathogens (disease causing bacteria and protozoa) remaining in the drinking water supply.

Cryptosporidium (Crypto) and Giardia lamblia, which causes Giardiasis, are the most common pathogenic protozoa (both are parasites) that can contaminate drinking water supplies in Far North Queensland. The presence of Crypto in a drinking water supply coincides with faecal contamination from mammals and birds, and can remain in the supply if not appropriately treated. Crypto infections result in Cryptosporidiosis, a condition which usually causes diarrhoea and stomach cramps and is normally

self-limiting but can be much more severe and long lasting in immunocompromised people. It is a notifiable condition under the *Public Health Act 2005*.

Due to their hard cell wall, protozoan oocysts, such as Crypto, are generally more resistant to disinfection than other parasites making them more persistent in drinking water supplies if the appropriate treatment steps are not in place. Treatment of the supply using ultraviolet light is effective in ‘cracking’ the protozoan cell wall which then allows the disinfection step to kill the oocyst. Giardia will be killed if it has sufficient contact time with disinfectant. The *Australian Drinking Water Guidelines* recommend that Drinking Water Service Providers utilise multiple appropriate barriers (treatment steps) to prevent the entry and transmission of pathogens to ensure the provision of safe drinking water. Effective barriers include filtration and or ultraviolet light in addition to disinfection.

Unfortunately, some of the water supplies in the far north do not contain the multiple barriers required to effectively remove the protozoa risk from the drinking water.

Protozoans are a risk on systems that have disinfection treatment only. In times of heavy rainfall or where Cryptosporidium oocysts are detected, a Boil Water Alert will be issued to the community that is supplied the water. Boiling water will effectively manage Crypto in the absence of appropriate treatment steps. Although a Boil Water Alert will address the risk of contamination in drinking water, it also presents other risks including burns and scalds. Where a Boil Water Alert is issued it is strongly recommended that the advice provide by the Drinking Water Service Provider and Tropical Public Health Services Cairns is closely followed.

Tropical Public Health Services Cairns is a co-regulator for drinking water supply, and have recently issued and maintained a number of Boil Water Alerts across the region due to the unacceptable health risks posed to consumers of drinking water which has not been appropriately treated. These Boil Water Alerts will remain in place until such time that the Drinking Water Service Provider can demonstrate that they can effectively manage the risk from protozoans in their water supply.

Tropical Public Health Services Cairns is working with the drinking Water Service Providers and the Department of Natural Resources Mines and Energy to resolve these matters and manage the risks associated with protozoa in local water supplies.

If there is a noticeable a spike in gastro like illnesses in a particular area, especially during the wet season, it is suggested to check if the patient has been adhering to the Boil Water Alert if one has been issued. If Cryptosporidiosis is suspected, obtain a faecal sample from the suspected case for the detection of Cryptosporidium oocysts or crypto-specific antigen and advise the ill person not to engage in food handling or child or patient care for 48 hours after the diarrhoea has stopped.



Cryptosporidium cyst breaking open and trophozoite emerging (Photo sourced from Centres for Disease Control and Prevention)

People with Cryptosporidiosis should not enter swimming pools until 14 days after symptoms have ceased. Advise ill patients and their families about the importance of personal hygiene and hand washing. If a suspected case has occurred in the absence of a Boil Water Alert, attempts should be made to identify a potential source including water, food or animal contacts. Always consider drinking water as a potential source of illness, especially during the wet season. Further information on this can be obtained from Tropical Public Health Services Cairns or your Drinking Water Service Provider.

Should you require any further information or advice regarding this, please contact Tropical Public Health Services Cairns.

Buying a vaccine fridge? Call us for advice!



Purpose Built Vaccine Fridges (PBVF) are specifically designed to store vaccines and represent the best-practice storage option, however with all the choices available it can be difficult to know which one is best suited for your practice?

Great news! TPHS Cairns are here to help and offer advice on PBVFs so please feel free to give us a call before purchasing your next vaccine fridge.

Some features to consider:

- **The size of the fridge:** Ensure it is large enough to meet the facilities vaccine storage needs particularly during flu season
- If considering a glass door vaccine fridge, it should be **double glazed, non-condensing safety glass**
- Alarm systems vary between manufacturers and alarm settings are not always programmed correctly at purchase, therefore we recommend that you verify the following alerts before purchase:
 - an alarm system which would clearly alert staff to the fact that the temperature is, or has been, outside the required 2°C to 8°C range; and
 - a 'door left open' alarm
- **An inbuilt temperature recording system** ensuring the minimum and maximum can be easily read. You may also want to consider a brand that has a data logger that automatically downloads data.
- **PBVF door should be self-closing**

Wolbachia a novel vector control approach in Far North Queensland

Tropical Public Health Services (TPHS) Cairns is working to partner with the World Mosquito Program (WMP) (formerly known as Eliminate Dengue) to protect communities in the Torres Strait Islands and far North Queensland from mosquito-borne diseases.

Pioneered by Australian researchers, the WMP method uses safe and natural bacteria called *Wolbachia* to reduce the threat of mosquito-borne viruses such as dengue, Zika and chikungunya. WMP have successfully evaluated their method in parts of North Queensland using *Wolbachia* since 2011, and partnering with TPHS Cairns will be another

great step towards protecting Queensland from communicable diseases.

Wolbachia naturally occur in up to 60% of all insect species, but not usually in the mosquito *Aedes aegypti* – the primary species responsible for transmitting dengue, Zika and chikungunya viruses. WMP successfully transferred *Wolbachia* from other insects into *Aedes aegypti*, where they discovered its ability to block viruses. Laboratory research has shown that *Wolbachia* inhibits virus replication and dissemination in *Aedes aegypti* by boosting the natural immune system of the mosquitoes and competing for key molecules (such as cholesterol) required for virus growth. *Wolbachia* also induce reproductive changes called cytoplasmic incompatibility in *Aedes aegypti*, which can facilitate the spread of *Wolbachia* into mosquito populations.



♂ Male ♀ Female ● *Wolbachia*

When male mosquitoes with *Wolbachia* mate with wild female mosquitoes without *Wolbachia*, those females will lay eggs but they won't hatch.



When male mosquitoes with *Wolbachia* mate with females with *Wolbachia*, all of their offspring will carry *Wolbachia*.



When female mosquitoes with *Wolbachia* mate with males without *Wolbachia*, only the female's offspring will carry *Wolbachia*.

*Reproductive changes called cytoplasmic incompatibility induced by *Wolbachia**

The WMP method has been subjected to rigorous independent assessments. The results concluded that there is negligible risk associated with the release of *Wolbachia* carrying mosquitoes and that *Wolbachia* is safe for people, animals and the environment. The World Health Organization has recommended further pilot deployments of the WMP's *Wolbachia* method.

WMP have been conducting trials in communities affected by mosquito-borne diseases since 2011, which have shown they can successfully deploy the method without posing risks to natural ecosystems or public health. Furthermore, in areas where high levels of *Wolbachia*-carrying mosquitoes are present, there has been no significant local transmission of dengue, Zika or chikungunya. Unlike other initiatives – such as sterile or incompatible insect techniques – the WMP method is natural and self-sustaining.

The World Mosquito Program is currently operating in 12 countries around the world – including Australia, Brazil, Colombia, Indonesia, Sri Lanka, India, Vietnam, Kiribati, Fiji, Vanuatu, New Caledonia and Mexico. Over the last few years they have implemented strategies, with independent assessment, to measure the reduction in mosquito-borne diseases brought about by their *Wolbachia* method. These strategies include a gold-standard randomised controlled trial in Indonesia.

The WMP method has already been implemented in Townsville, Charters Towers, Cassowary Coast, Cairns and Port Douglas regions, and TPHS Cairns hope that by partnering with WMP we can extend the strategy to more areas of far North Queensland which are at risk from the severe diseases of dengue, Zika and chikungunya.

National Immunisation Program Schedule Changes

The 1st of July 2018 saw the start of a new National Immunisation Program schedule (NIP).

The July 2018 NIP schedule is a 5-page document, with three divisions:

- Children under 10 years
- Adolescents 10-19 years
- Adults above 19 years

The three main changes for children are:

1. The introduction of Nimenrix (meningococcal ACWY) given at 12 months of age.

2. Routine infant pneumococcal vaccine (Prevenar 13) will be given at 2, 4, & 12 months of age. For Aboriginal and Torres Strait Islander and medically at-risk children an extra dose is given, making the schedule for Prevenar 13 - 2, 4, 6, & 12 months of age.
3. The fourth and final Hib vaccine will now be given later, at 18 months of age, because Nimenrix is replacing Menitorix (Hib-MenC).

Meningococcal Vaccine

The Meningococcal ACWY vaccine (Nimenrix) provides protection against four serotypes A, C, W, & Y. The previous meningococcal vaccine only protected against the meningococcal C vaccine. Previously, people with an infection from meningococcal types W and Y were rarely seen in Australia, but these have been increasing in recent years. Since 2013, the occurrence of meningococcal W disease has been increasing rapidly in Australia. A smaller yet steady rise in the occurrence of meningococcal Y disease has also been seen since 2016. Together, these two serotypes cause close to half of all recently reported cases of meningococcal disease. Young children aged under two years old have the highest rates of new cases reported. Nimenrix (meningococcal ACWY vaccine) will broaden the protection of young Australian children.

Pneumococcal Vaccine

The total number of Prevenar 13 pneumococcal vaccine doses has remained the same. The change in the schedule is expected to improve the protection provided by the childhood vaccination program. ATAGI considers there to be clear evidence that a dose of 13vPCV at 12 months of age rather than 6 months of age will reduce pneumococcal disease even further. Other countries that provide a dose

of 13vPCV during the second year of life are seeing greater benefits from herd immunity than is currently being achieved in Australia.

For some children with specific risk factors as listed in the Australian Immunisation Handbook, four doses of Prevenar 13 are recommended at 2, 4, 6 and 12 months (medically at risk children will continue to receive Pneumovax 23 at 4 years old).

The incidence of invasive pneumococcal disease (IPD) remains higher in indigenous children than in non-indigenous children. For this reason, Aboriginal and Torres Strait Islander children will also receive 4 doses to be given at 2, 4, 6, & 12 months.

Haemophilus influenzae type b (Hib) vaccine

Children will continue to receive 4 doses of Hib vaccine but the 4th dose now occurs later, at 18 months instead of 12 months. This change to booster dose timing is designed to provide longer-lasting protection against the disease later in childhood. Previously, a Hib vaccine booster was given in a combination vaccine with meningococcal C to children at 12 months of age. In the new schedule Hib vaccine will continue to be given at 2, 4, and 6 months in the combination vaccine – Infanrix Hexa then the 4th dose will be a monovalent vaccine Act-HIB given at 18 months of age.

Summary of Changes to the NIPS July 1st 2018

| | 6weeks (2mths) | 4mths | 6mths | 12mths | 18mths | 4 years |
|---------------------|---|---|---------------|--------------------------------|---------------------|--------------|
| Routine schedule | Infanrix hexa Prevenar 13 Rotarix | Infanrix hexa Prevenar 13 Rotarix | Infanrix hexa | MMR Prevenar 13 Nimenrix | MMRV DTPa Hib | DTPa-IPV |
| ADDITIONAL VACCINES | | | | | | |
| Indigenous | | | Prevenar 13 | Hep A (dose 1) | Hep A (dose 2) | |
| Medical at risk | | | Prevenar 13 | **** | | Pneumovax 23 |

**** Additional Hepatitis B booster for infants born <32 weeks gestation &/or 2000g birth weight

Please use this in conjunction with the Australian Immunisation Handbook (<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>) and the Queensland NIPS.

This advice may differ from individual AIR history statements.

The ATAGI's document regarding the schedule changes can be found at: <https://beta.health.gov.au/resources/publications/atagi-advice-to-support-changes-to-the-national-immunisation-program-from-1>.



NAIDOC ‘Connecting Our Mob’

In other immunisation news - Friday the 6th of July was the NAIDOC march followed by the NAIDOC ‘Friday in the Park’ in Cairns.

TPHS set up a stand promoting indigenous immunisations with their new Project ‘Connecting Our Mob’. *Connecting our mob* aims to help vaccination providers improve indigenous immunisation coverage - particularly in the urban Cairns area where rates are lower than elsewhere.

Our Public Health Nurses reviewed over 100 immunisation histories. Each child was presented with a card either stating that they were up to date or advising them which vaccines they were due or overdue. This was a great opportunity to discuss vaccines with families and promote the free meningococcal ACWY vaccine to our local indigenous population.

Many attending the stall were unaware that Meningococcal ACWY vaccine is still being offered as a time limited program to ATSI people from the age of 12 months to 19 years old. Please promote this to your clients and contact TPHS with any further queries you may have regarding the program and vaccine eligibility.



NAIDOC Family Day at Fogarty Park stall, Friday 6th July (L to R) Nancy Goncalves (Clinical Nurse Imms/CDC), Angelina Boswell (Public Health Nurse Imms) and Gabrielle McGuigan (Clinical Nurse for Connecting Our Mob Project)

Count of notifications for selected conditions for Far North Queensland

TOTAL

(1 January 2018 – 30 June 2018)

| | Cairns & Hinterland | Torres Strait & Cape York | TOTAL |
|----------------------------|---------------------|---------------------------|-------|
| Acute Rheumatic Fever | 6 | 5 | 11 |
| Barmah Forest Virus | 16 | 6 | 22 |
| Campylobacter | 222 | 12 | 234 |
| Chlamydia (Sti) | 956 | 343 | 1299 |
| Cryptosporidiosis | 77 | 8 | 85 |
| Dengue Fever | 13 | 2 | 15 |
| Gonorrhoea (STI*) | 248 | 95 | 343 |
| Hepatitis B (All) | 37 | 14 | 51 |
| Hepatitis C | 85 | 7 | 92 |
| Influenza (Lab Confirmed) | 378 | 30 | 408 |
| Group A Streptococcal | 14 | 12 | 26 |
| Leptospirosis | 30 | 0 | 30 |
| Melioidosis | 11 | 8 | 19 |
| Meningococcal (Invasive) | 3 | 0 | 3 |
| Mumps | 194 | 3 | 197 |
| Pertussis | 66 | 5 | 71 |
| Pneumococcal (Invasive) | 10 | 4 | 14 |
| Q Fever | 14 | 1 | 15 |
| Ross River Virus Infection | 114 | 8 | 122 |
| Rotavirus | 30 | 6 | 36 |
| Salmonellosis (All) | 128 | 14 | 142 |
| Syphilis (Infectious) | 83 | 15 | 98 |
| Varicella | 235 | 22 | 257 |
| Yersiniosis | 19 | 1 | 20 |

Data extracted and correct as of 25/7/2018

NOTE figures for Gonorrhoea and chlamydia are for number of positive tests not number of individuals with the disease (one person may have multiple tests)

Weekly notifiable conditions reports are available at:

www.health.qld.gov.au/clinical-practice/guidelines-procedures/diseases-infection/surveillance/reports/notifiable

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Useful web links:

- [Travel Vaccination advice for GPs](#)
- [Communicable Disease Control Guidance and Information](#)
- [Immunisation information for health professionals](#)
- [RHD and ARF guidelines](#)
- [Clinical guidelines for sexual health](#)
- [Homepage for Tropical Public Health Services \(Cairns\)](#)