

# TROPICAL PUBLIC health news.

Tropical Public Health Services (Cairns)



## Introduction

Public health focusses on protection against and prevention of disease. When considering communicable diseases, account needs to be taken of the varying modes of transmission in designing strategies to prevent disease. In this newsletter we consider some of the different ways communicable diseases can be transmitted and what strategies can be adopted to mitigate transmission.

Influenza is transmitted very easily from person to person, which is why there are annual peaks in the number of cases of flu across the world involving millions of people. When the flu virus shifts to a new strain then a worldwide epidemic, known as a pandemic, can occur. Although hygiene measures can play some part in controlling flu, the fact that it spreads so easily from person to person means that the only effective prevention strategy is vaccination. Vaccination is highly effective in controlling the spread of established flu strains, however when a new strain appears it takes time to mass produce the vaccine.

Dengue fever does not spread directly from person to person, it requires the presence of intermediary vector mosquitoes capable of transmitting the dengue virus (usually *Aedes aegypti*). An infected mosquito infects a person who then infects another mosquito which then infects another

person, and so on. Transmission of dengue fever does not occur unless the relevant mosquitoes are present. Outbreaks of dengue in Far North Queensland occur as a result of importation from overseas. The recent introduction of direct flights from Cairns to Bali and Singapore increases the risk of such importations. Anyone travelling to areas where Dengue, Chikungunya, Zika are endemic should take adequate precautions to ensure that they are not bitten by mosquitoes. This not only protects them from contracting one of these diseases but also reduces the risk of bringing it back to Australia.

Food poisoning may occur as the result of contamination of food from various sources, including from other people. Recently we have seen increased numbers of cases of Salmonella and Campylobacter food poisoning. Salmonella food poisoning is often due to the consumption of food containing raw eggs. It may also result from contamination of other foods by people who have a Salmonella infection. Campylobacter infection is rarely transmitted directly from person to person. It is usually acquired by eating undercooked meat, particularly chicken, or food which has been cross contaminated by uncooked or undercooked food.

Communicable diseases may also be transmitted to people from the environment, for example from contaminated water supplies or the soil. Melioidosis is contracted



from mud or muddy water, often by people who have cuts or abrasions on their skin and is often seen in people who already have some form of chronic illness. It can be prevented by ensuring that exposure to possible sources, particularly in those who are vulnerable, is kept to a minimum. This newsletter also highlights the increase in the number of cases of Melioidosis so far this year in Far North Queensland.

*Dr Richard Gair, Director  
Tropical Public Health Services  
(Cairns)*

## Surge in Melioidosis

*There has been a marked increase in the number of Melioidosis cases in the Far North with 20 cases confirmed so far this year.*

This is an unusually high number - typically there are about 10 to 12 cases every year.

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## Surge in Melioidosis

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Melioidosis is caused by a soil-borne bacterium typically found in muddy surface waters.

The majority of infections occur when skin abrasions or wounds come into contact with wet soil or water contaminated by the bacterium *Burkholderia pseudomallei*.

Melioidosis is very uncommon in healthy adults and rarely seen in children however those with certain underlying diseases and conditions like diabetes, chronic lung or

kidney disease and cancer are considered more vulnerable.

Other risk factors include excessive alcohol consumption, advanced age and impaired immunity.

Symptoms of acute Melioidosis include fever, cough and difficulty breathing; the effects can be very severe and almost always result in hospitalisation. Sometimes the disease may present as superficial skin infections or abscesses in various part of the body.

There is no vaccine to prevent Melioidosis. During the Far North Queensland wet season, adults particularly those with an underlying medical condition,

should take the following precautions:

- Wear protective footwear when outdoors,
- Wear gloves while working in the garden, on the farm, etc.
- Cover abrasions and sores with waterproof dressings,
- Wash thoroughly (preferably shower) after exposure to soil or muddy water, and after working outdoors,
- Diabetics should maintain optimal foot care, with help from a podiatrist if necessary.

## Think Syphilis!

*There has been a change in the demographic profile of people notified with infectious syphilis in the Cairns region since 2007.*

Case notifications were previously predominantly in non-Indigenous gay men and men who have male sexual partners, however in recent years notifications have increasingly occurred in Aboriginal and Torres Strait Islander heterosexual young people.

Syphilis infection is of considerable public health importance because pregnant women can transmit it to their baby, resulting in congenital syphilis, foetal growth restriction or stillbirth. Syphilis infection can also increase the risk of HIV transmission. Early syphilis is highly infectious, even when there are no symptoms.

### Key messages to doctors

- Increase testing, particularly in Aboriginal and Torres Strait Islander people aged 15 to 39 years.
- Test for syphilis in all people diagnosed with another STI.
- Treat people with genital lesions on the day of presentation. Do not wait for a

positive test result.

- Test and treat all sexual partners of people who have infectious syphilis. Do not wait for a positive test result.
- Test all pregnant women for syphilis at first presentation. Pregnant women at increased risk, including Aboriginal and Torres Strait Islander women should also be tested at 28 weeks and 34-36 weeks gestation. If a woman has had little or no antenatal care or has had syphilis or another STI treated during the pregnancy, test for syphilis at delivery.
- Ensure contact tracing is discussed with everyone who is diagnosed with syphilis.
- Encourage condom use.

Symptoms of secondary syphilis may include condylomata lata (raised flat-topped lesions), rash – especially on the palms and soles of feet - patchy hair loss, fever, lymphadenopathy and flu-like illness. If you see these symptoms please test for syphilis.

*Further information - Syphilis Register: 1800 032 238; Cairns Sexual Health Clinic 4226 4769.*

### Case study

A young man attended a regional hospital after a fall. During examination, the clinician noticed a genital sore. The lesion was purulent with surrounding inflammation. It was swabbed for herpes, syphilis and donovanosis (PCR and micro and culture). Testing was performed for other STIs, including syphilis serology and urine PCR for gonorrhoea and chlamydia. The patient was treated for the genital ulcer with LA bicillin 1.8g IM and azithromycin 1 gm orally.

On return of positive syphilis results, the man was recalled and asked about his recent sexual partners including the best way for them to be informed of the need for testing and treatment. The patient agreed to inform one directly but requested that an anonymous message be sent to the other two contacts. Two people were subsequently found to have syphilis.

This case highlights the importance of treating people with genital ulcers at first presentation and effective contact tracing, as these are essential for the control of onward transmission of syphilis.

# Flu season is here

*Flu season typically peaks between July and August but significant activity can occur all year in Far North Queensland.*

Tropical Public Health Services is encouraging all people from 6 months of age who have not yet been vaccinated this season to get vaccinated now.

For millions of people every season, the flu can mean a fever, cough, sore throat, runny or stuffy nose, muscle aches, fatigue, and miserable days spent in bed.

In Australia, influenza causes about 18,000 hospitalisations and 300,000 GP consultations each year on average. In 2014, there were 695 cases of laboratory confirmed flu in the Cairns and Hinterland region and 14,642 in Queensland.

The flu can be deadly. From 2009 to 2014 there were over 10,000 hospitalisations and between 2009 and 2013, 129 deaths caused by influenza in Queensland. Locally we have an average of 100 hospitalisations every year.

For certain groups in the community, catching flu results in excess morbidity and mortality. The government provides the influenza vaccine for free to these “high risk” people.

The influenza vaccine is free for:

- Everyone from 6 months of age with medical conditions which increase their risk of severe influenza,
- Everyone over 65 years of age,
- All pregnant women,
- All Aboriginal and Torres Strait Islander children from 6 months to their 5th birthday,



Queensland Health

## Flu vaccination reminder

The flu vaccine is free for all pregnant women

- The flu can cause severe illness in pregnant women
- The flu vaccine protects both mother and baby from severe flu
- Vaccinated mothers can protect their babies for up to six months
- The flu vaccine is safe for mother and unborn baby

To learn more visit [www.qld.gov.au/vaccinate](http://www.qld.gov.au/vaccinate)



- All Aboriginal and Torres Strait Islanders aged 15 years and over.

Although not included in the Government’s free flu vaccine program, children who are under the age of 2 years and who are otherwise healthy with no underlying medical conditions or known risk factors are also at risk of hospitalisation and death from severe influenza.

Flu vaccination can reduce flu illness, the expense of a doctor’s visit, missed days off work and school, as well as prevent flu-related hospitalisations and deaths.

Being vaccinated also helps prevent the spread of disease to family, friends and loved ones.

If you have questions about influenza vaccines, give Tropical Public Health Services a call on 4226 5555.

### References

1. Newall A, et al. Economic report into the cost of influenza to the Australian health system. March 2007
2. Australian Influenza Surveillance Report, [www.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2015.htm](http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2015.htm)
3. Influenza Fast Facts, [www.isg.org.au/index.php/clinical-information/influenzafast-facts/](http://www.isg.org.au/index.php/clinical-information/influenzafast-facts/)
4. Queensland influenza data [www.health.qld.gov.au/ph/cdb/sru\\_influenza.asp](http://www.health.qld.gov.au/ph/cdb/sru_influenza.asp)

## Recent gastroenteritis outbreaks

*Since early 2014, there has been a considerable increase in the number of Salmonella and Campylobacter food related illness occurring across North Queensland.*

The rate of foodborne illness attributed to *Salmonella* and *Campylobacter* has continued to exceed background levels while the occurrence of outbreaks is becoming more common.

Health professionals are advised to be aware of the rise in numbers and encouraged to request samples from persons presenting with symptoms of food poisoning and to report any positive results to Tropical Public Health Services (Cairns).

Public health nurses and environmental health officers involved in investigations into the outbreaks and the spike in cases have identified poor food handling practises as one of the contributing factors.

### Campylobacter

Undercooking and cross-contamination are the main ways *Campylobacter* is contracted and spread. This can be avoided by simple hygiene measures:

- Cover and chill raw chicken and other meat,
- Cook chicken and other meat thoroughly,
- Don't wash raw chicken as this spreads *Campylobacter* via splashing water,
- Wash used cutting boards and utensils.

### Salmonella

Recent *Salmonella* outbreaks have been linked to products containing raw or undercooked eggs, and cross contamination from poor hygiene.

- Care is needed when using eggs, particularly when foods have been prepared using uncooked or undercooked eggs. Examples of foods that contain raw egg include mayonnaise, mousse and cheesecake.
- Foods containing raw egg should never be left out of the fridge for longer than two hours and, if not consumed within a day, should be thrown out.

### Food safety tips

As with all food, good hygiene procedures should always be followed when handling eggs and egg products.

Some more tips to avoid food poisoning illness and outbreaks from occurring include:

- Always wash hands before and after handling eggs and raw chicken.
- Prevent cross contamination

by using separate chopping boards, tongs, knives, containers and other equipment when storing, preparing, handling and cooking raw and ready to eat food,

- Cook chicken thoroughly so that there is no pink meat and the juices run clear,
- Uncooked food that contains raw eggs present a high risk, therefore consider using pasteurised egg products,
- Ensure food is stored below 5 degrees Celsius and is returned to the refrigerator within two hours.

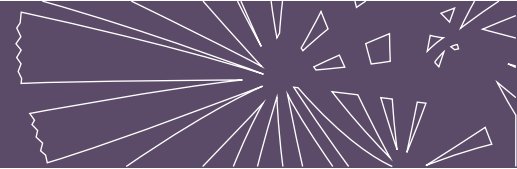
For advice on *Salmonella*, *Campylobacter* and safe food handling, visit the Queensland Health website: <http://www.health.qld.gov.au/news-alerts/health-alerts/gastro/>

*Campylobacter* fact sheet: [www.health.qld.gov.au/publications/news-alerts/health-alerts/campylobacter-factsheet.pdf](http://www.health.qld.gov.au/publications/news-alerts/health-alerts/campylobacter-factsheet.pdf)

*Salmonella* fact sheet: [www.health.qld.gov.au/publications/news-alerts/health-alerts/salmonella-factsheet.pdf](http://www.health.qld.gov.au/publications/news-alerts/health-alerts/salmonella-factsheet.pdf)



An Environmental Health Worker checks the temperatures of takeaway meals sold at a local football carnival.



## Boil water alerts

Boil water alerts are public announcements advising that drinking water should be boiled (or otherwise disinfected) before being consumed or used to wash uncooked food (e.g. salad vegetables and fruit), make ice, gargle or clean teeth.

They are generally issued on the basis of suspected or confirmed contamination by potentially pathogenic micro-organisms.

Boil water alerts can be issued for a number of reasons such as:

- Damage to, or failure of, water treatment plants,
- Contamination of distribution systems,
- Deterioration in physical or microbiological quality of source waters that overwhelms treatment capability,
- Loss of power, which results in treatment processes failing to work.

Bringing water to a rolling boil is sufficient to inactivate enteric micro-organisms. Water should be boiled before being used for drinking, mixing of cold beverages, washing of uncooked food (e.g. salad vegetables and fruit), making

ice, brushing teeth and gargling. Water should be cooled before use.

Boil water alerts are left in place until the microbial risk in the water has been rectified. A boil water alert will not be lifted without water testing and laboratory results confirming the water is again potable.

Should you require further information in relation to boil water alerts and actions required please contact Environmental Health at Tropical Public Health Services (Cairns) on Ph: 4226 5555.

## Asian Tiger Mosquito control

*Tropical public health experts in Cairns are working to control and prevent the spread of the aggressive Asian tiger mosquito in the Torres Strait.*

The aggressive daytime-biting mosquito, also referred to as *Aedes albopictus*, is capable of transmitting dengue, chikungunya and a range of other arboviruses.

“Detected in the Torres Strait for the first time in 2005, a prevention and control program was established in 2006 with the objective of minimising the risk of vector-borne diseases and preventing the spread of this exotic vector beyond currently infested areas,” Senior Medical Entomologist Dr Odwell Muzari said.

The Asian tiger mosquito has caused explosive outbreaks of chikungunya virus in various countries - including an outbreak involving more than 250,000 people on the Indian Ocean island of La Reunion in 2005-2006 and over 1500 cases in PNG in 2013.

“Between January and May 2015,

we introduced a new rotational roster of Vector Control Officers who maintained an operational presence on Thursday Island and Horn Island during the extended wet season,” Dr Muzari said.

During each visit to Thursday Island and Horn Island, vector control teams inspected the yards of up to 850 properties where thousands of potential breeding sites were identified and treated. For example in February 2015, the officers treated 2,527 containers on Thursday Island of which 175 were found containing mosquito larvae. Among them, 69 were positive for larvae of *Ae. aegypti* and none had *Ae. albopictus*. In March 2015 only one container with larvae of *Ae. albopictus* was detected on the island.

“While the intervention techniques have proved very effective against *Ae. albopictus* over the past few years, the continued presence of *Ae. aegypti* in relatively high numbers has been a cause for concern as it poses a significant risk to the community in the event of a dengue outbreak. Additional

measures to address this issue have recently been put in place and initial results are encouraging,” said Dr Muzari.

Collaboration with a range of stakeholders in the Torres Strait has been essential in the successful implementation of the *Ae. albopictus* prevention and control program. Tropical Public Health Services (Cairns) acknowledges the support of: the Torres Shire Council, the Thursday Island Environmental Health and Vector Control section of the Torres and Cape Hospital and Health Service, NPA Regional Council, and Kaurareg Aboriginal Council.

*Look out for the stripe! The Asian Tiger Mosquito has a distinctive single white stripe on its back.*



## Notifiable conditions reported in Far North Queensland:

TOTAL	Cairns & Hinterland	Torres Strait & Cape York	TOTAL
(1 January 2015 – 31 March 2015)			
Acute Rheumatic Fever	4	<5	≈8
Barmah Forest Virus	12	<5	≈16
Campylobacter	136	<5	≈140
Chlamydia (STI)	560	219	779
Cryptosporidiosis	11	0	11
Dengue Fever	65	<5	≈69
Gonorrhoea (STI)	114	50	164
Hepatitis A (All)	<5	0	<5
Hepatitis B (All)	26	<5	≈30
Hepatitis C	58	<5	≈62
HIB	0	0	0
Influenza (Lab Confirmed)	133	16	149
Group A Streptococcal	12	7	19
Leptospirosis	13	0	13
Malaria (All)	0	0	0
Measles	<5	0	<5
Melioidosis	8	6	14
Meningococcal Infection (Invasive)	0	0	0
Pertussis	15	0	15
Pneumococcal Disease (Invasive)	<5	<5	≈5
Q Fever	7	0	7
Ross River Virus	256	22	278
Rotavirus	7	0	7
Salmonellosis (All)	122	26	148
Shigella (All)	9	13	22
Syphilis (Infectious <2 yr duration)	14	<5	≈18
Varicella (Chicken Pox and Unspecified)	90	9	99
Varicella (Zoster)	<5	0	<5
Yersiniosis	13	0	13

≈ approximate total to avoid identifying numbers less than five.

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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 \(Cairns\)](#)