Regional Public Health
Better Health For The Greater Wellington Region

The Public Health Post

Public Health for Primary Care in Wellington, Wairarapa and the Hutt Valley

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Enquiries regarding public health topics are welcome from primary care practitioners. Individual cases or urgent matters should always be discussed directly with the on call Medical Officer of Health.

Cryptosporidiosis Cases Perplexing

A sustained larger than usual number of cryptosporidiosis cases in the greater Wellington region is proving puzzling for the public health doctors and health protection officers at Regional Public Health.

No significant links between the cases have yet been identified despite careful analysis of the known risk factors and associations. In the past, swimming pools have been a focus of outbreaks. While some of the recent cases had attended swimming pools in the greater Wellington region there has been no pattern to suggest that a particular pool (or pools) was a principal source of transmission. Public swimming pools in the region display prominent advice to swimmers to avoid the water if there is any recent history (within the past 2 weeks) of diarrhoea and recommend showering prior to entering the pool. Public swimming pools also have filtration systems capable of removing cryptosporidium.

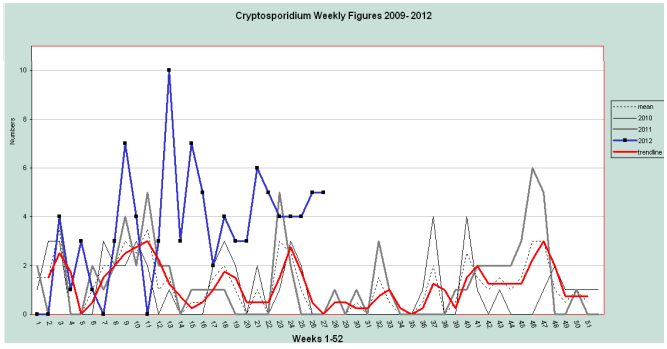

Figure 1. Cryptosporidium weekly figures 2009-2012

The cases have had a fairly even male female split (males 53 cases, females 40 cases from 1st January to 30th June 2012), and an ethnic distribution reflecting the general population. The age of affected people was spread from <1 year to over 65 years, with a slight predominance in the 1-14 year age group. The age of cases varies across the region as illustrated by the figure 2 which shows rates rather than numbers of cases. This confirms that Wellington City and the Kapiti Coast District are disproportionally affected in the 0 – 4 age group.

Cryptosporidiosis is a protozoan infection, usually with either cryptosporidium hominis (usually human host) or cryptosporidium parvum (usually animal host). The main symptom is diarrhoea which can be profuse and watery,

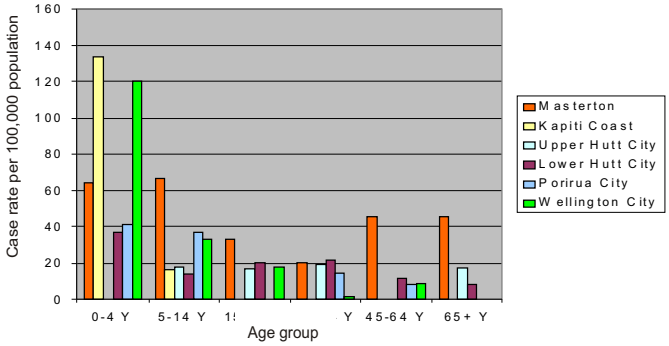

Figure 2. Cryptosporidiosis rates by age group and region 1/1/2012 to 30/6/2012

preceded by anorexia and vomiting in children. Cramping abdominal pain is usual. Malaise, fever, anorexia, nausea and vomiting occur less often. Symptoms usually resolve within 30 days in immunocompetent people. Symptoms of cholecystitis may occur with cryptosporidium biliary tract infections.

Transmission is faecal to oral including from person to person, animal to person, and via water or food. Outbreaks have been reported in association with early childhood centres, petting zoos, drinking water supplies, swimming pools, waterslides, lakes and with the consumption of contaminated drinks or food. Nationally there is usually an increase in Cryptosporidiosis notifications during spring predominantly driven by rural exposures during the main calving season.

The infection has an incubation period of one to twelve days with an average of seven days. Infective oocytes appear in faeces once a person is symptomatic and may persist for several weeks. In the environment the oocytes can remain infective for at least 2-6 months. The oocytes are highly resistant to chemical disinfectants. This makes cryptosporidium a particular problem for public swimming pools. Fine filters have been developed which can screen out the oocytes and are now widely used.

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The reservoir of cryptosporidium is potentially large and includes humans, cattle and other animals, domestic and wild.

Immunocompetent people may have asymptomatic or self limited infections. However, immunocompromised people may have prolonged illness and are more likely to clear their infections once their immunosuppression improves. There is no specific antimicrobial treatment for cryptosporidiosis.

Prevention involves hygiene measures to avoid faecal to oral transmission. This includes:

- Personal hygiene education.
- Hygiene around calves and other animals with diarrhoea is especially important (careful hand hygiene).
- Boiling potentially contaminated drinking water supplies (untreated water or water with no effective protozoal control - chlorination alone is not effective).
- Water filtration: only filters capable of removing particles 0.1 – 1.0 micrometres are effective.
- Excluding infected people from work that requires handling ready to eat food, or which requires close contact with vulnerable people (such as hospital or rest home work) until no longer infective.
- Excluding infected children from day care facilities until diarrhoea stops.
- Avoid swimming until at least 2 weeks after the last occurrence of symptoms.

Regional Public Health is continuing to monitor and investigate the sustained increase in cryptosporidiosis for common patterns of risk factors or associations.

For more information please follow these links to useful factsheets on cryptosporidiosis and swimming pool use:

https://www.healthed.govt.nz/resource/you-take-water

https://www.healthed.govt.nz/resource/cryptosporidium

Sources:
1. Heymann, D.L., Control of Communicable Diseases Manual. 19th ed. 2008: APHA.
2. Regional Public Health Case disease surveillance notes.
3. ESR Episurv database of notifiable diseases and conditions, accessed 9/7/2012

What are you reporting?

Three months of notifiable cases in the Hutt Valley, Wairarapa and Wellington.

	Hutt	Wairarapa	Wellington	Totals
Campylobacteriosis	37	12	100	**149**
Cryptosporidiosis	11	2	42	**55**
Dengue fever			5	**5**
Gastroenteritis - unknown cause			2	**2**
Gastroenteritis / foodborne intoxication			2	**2**
Giardiasis	12	5	18	**35**
Hepatitis A	1		2	**3**
Hepatitis C			2	**2**
Invasive pneumococcal disease	5	1	5	**11**
Lead absorption	1	1	6	**8**
Leptospirosis	1			**1**
Meningococcal disease			3	**3**
Paratyphoid fever			1	**1**
Pertussis (probable in brackets)	18 (44)	5 (7)	59 (108)	**82 (159)**
Rheumatic fever - initial attack	1		3	**4**
Salmonellosis	6	1	6	**13**
Shigellosis			5	**5**
Tuberculosis disease - new case	1		4	**5**
Typhoid fever	1			**1**
VTEC/STEC infection	1			**1**
Yersiniosis	4		10	**14**
Total	**100**	**27**	**275**	**402**

Source:
1. ESR. Episurv database of notifiable diseases, accessed 02/7/2012.
2. Regional Public Health case notes.

Notes:

Data is from the 3 months to 30/06/2012.

1. Pertussis continues to be reported at high rates consistent with national statistics. The figures given are for confirmed cases with additional 'probable cases' in brackets for which no test results are expected as per the current testing guidelines.
2. Cryptosporidiosis cases are at much higher rates than usual and now have been for an extended period of time. This presents an ongoing investigative challenge for Regional Public Health as discussed in the accompanying article.
3. Four of the five shigellosis cases represented an outbreak within a two family linked group with no identified initial source of infection. The other case was thought to have contracted shigella from a contaminated food item brought in from overseas.
4. The five cases of Dengue fever were all overseas during the incubation period for the disease. Two had been in Kiribati and three had been in Thailand.

Meningococcal Disease Expected

There have been three cases of meningococcal disease in the Wellington region this year. With cases of influenza now on the rise and mid-Winter behind us we can expect more cases over the coming months.

Figure 5: Cases in Wellington, Wairarapa and the Hutt Valley have been sporadic since a peak in September 2011:

This chart of national monthly incidence of meningococcal disease illustrates the seasonal peaks in incidence:

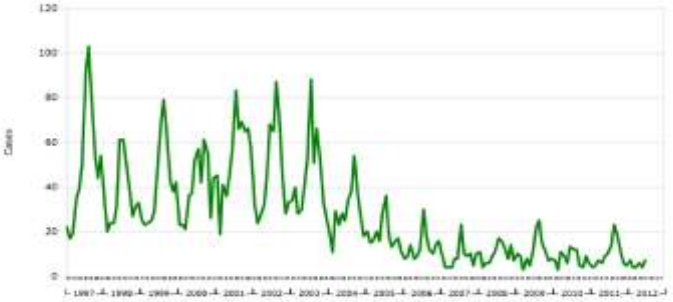

Figure 6: National monthly incidence of meningococcal disease:

General practitioners are on the front lines for diagnosing and providing pre-hospital antibiotics for this severe infection. Public Health Nurses and the Medical Officers of Health follow up contacts of cases to provide antibiotic prophylaxis if it is required, and offer expert advice to reduce transmission of the infection.

Sources:
1. ESR Episurv database of notifiable diseases and conditions. Accessed 9/07/12
2. Meningococcal Disease image: http://phil.cdc.gov/phil/details.asp?pid=1334

First Wellington Hepatitis E Case – international exposure

Regional Public Health received a notification in March 2012 of a confirmed case of hepatitis E in a 48 year old Wellington man. He had been unwell with jaundice and highly elevated liver function tests and had been hospitalised for seven days. Once other usual serology was found to be negative he was treated as a case of presumed hepatitis E and this virus was later confirmed by laboratory tests.

This is the first case of hepatitis E notified in the Wellington region. He had travelled to India with his family during the incubation period and it is very likely that he became infected there. He was aware that the local drinking water was considered to be unsafe and usually all the family members drank bottled water. However on one occasion he consumed water from a household tap.

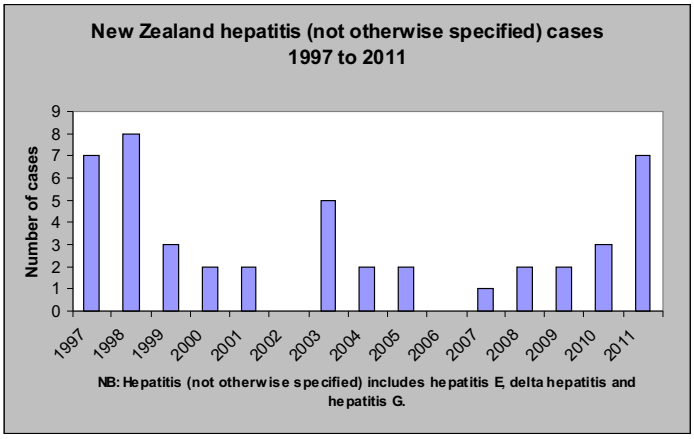

Figure 3.

His family who travelled with him remained well. Prophylaxis could not be provided as human immunoglobulin is not thought to be effective and no vaccine has yet been marketed.

He recovered well with conservative management after a short admission to hospital. No specific treatment is available for hepatitis E.

ESR records show that hepatitis E has been notified in New Zealand at a frequency of one or two per year since 2003. However, in 2011 there were five cases notified in the Auckland region (and six nationally). Of the five, four were reported as having travelled overseas (with one case to India), and the fifth case was reported as having unknown overseas travel. Since 2003 there have been seven cases in New Zealand who had travelled to India, including our Wellington region case.

Hepatitis E virus is the major causal agent of enterically transmitted non-A, non-B hepatitis worldwide. It should be suspected when a case presents with a clinically compatible illness with negative hepatitis A, B, and C serology and a history of overseas travel, particularly to an area where hepatitis E is endemic. This may include India, Pakistan, Nepal, many countries in Africa, Greece, Southern Russia, Myanmar, Indonesia, and China.

The clinical course of hepatitis E is similar to that of hepatitis

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A in that there is no evidence of a chronic form. The case fatality rate is similar to that of hepatitis A **except in pregnant women**, where it may reach **20%** amongst those women infected during the third trimester of pregnancy.

Hepatitis E virus is mainly transmitted via the faecal-oral route. Faecal contamination of drinking water is the most commonly documented source of transmission. Person-to-person transmission probably also occurs by this means, but unlike with hepatitis A, it has not been common to identify secondary household cases of hepatitis E in overseas outbreaks.

Humans are the natural hosts for hepatitis E virus, although some primate monkeys and chimpanzees can become infected, and also possibly cows, sheep, and goats. Zoonotic infections of humans may occur from these animals. Some studies have suggested that hepatitis E may be a zoonotic infection with coincident areas of high human infection.

The incubation period is usually 15 – 64 days. The period of communicability is not clear.

Wellington is likely to see more cases of hepatitis E. Over time, no doubt there will be developments in knowledge and understanding of the virus, and vaccination or treatment may become possible. However, given the mode of transmission, **good hygiene and sanitation will remain the most important part of any prevention strategy.**

Sources:
1. Regional Public Health case records.
2. ESR – Episurv database of notifiable diseases. Accessed 25/6/12.
3. ESR – Annual Reports: Notifiable and other diseases in New Zealand 2011. April 2012.
4. Heymann DL Control of Communicable Disease Manual 19th Edition 2008. 298-300
5. New Zealand Ministry of Health. Communicable Disease Control Manual 2012. Hepatitis (viral) – not otherwise specified
6. http://upload.wikimedia.org/wikipedia/commons/e/ef/TapWater-china.JPG

New refugees arrive in the Wellington region

As part of our international humanitarian obligations and responsibilities New Zealand has accepted refugees for resettlement since World War II. Currently under the United Nations High Commissioner for Refugees (UNHCR) Quota Programme New Zealand accepts 750 refugees annually.

On arrival in New Zealand, refugees spend six weeks at the Mangere Refugee Resettlement Centre in Auckland, where they take part in a full orientation programme which includes comprehensive health screening.

Karen refugees from Myanmar in a refugee camp in Thailand – photo courtesy of UNHCR

When they arrive in the Wellington region a Public Health Nurse will visit newly arrived refugees in their home to ensure that they are enrolled with a general practitioner and that they understand and can access health services. The nurse will check that any referrals to secondary services initiated by the Mangere Refugee Resettlement Centre are sent to the appropriate hospital department and that a copy is sent to the general practitioner.

Public Health Nurses support arrivals with treatment for latent or active tuberculosis and follow through other public health issues as required. The nurses make referrals to support agencies and provide ongoing support and advocacy as needed on a case by case basis, depending on the complexity of the health needs and on the refugees' ability to independently access health services.

One complex, high needs family is having intensive Public Health Nurse input. This has been needed as the children are on treatment for latent tuberculosis and difficult social adaption due to cultural differences and post-traumatic stress disorder has been disrupting the family. There has been excellent collaboration to support the family from the general practice, Refugee Services Aotearoa (social worker and cross cultural workers), volunteers, the school public health nurse, Plunket and the Child Youth and Family Social Worker.

The most recent intake of refugees to the Wellington Region is illustrated below:

Arrival date	Area of resettlement	Number of people	
June 15	Wellington City	4	Burmese who speak *Chin* language.
June 15	Hutt City	18	Three Burmese families who speak *Karen* and *Chin* language and a Colombian family who speak *Spanish*
June 15	Porirua City	14	Four Burmese families who speak *Karen* and *Chin* language

Further intakes this year are expected in August, October, and November with details still pending.

In June the Ministry of Health released the latest edition of Refugee Health Care: A Handbook for Health Professionals which contains useful information for all health professionals who are working with refugees. The handbook can be downloaded or ordered as a hard copy. For more information go to: http://www.health.govt.nz/publication/refugee-health-care-handbook-health-professionals

Sources:
1. Regional Public Health notes and case files.
2. Photo: http://www.unhcr.org

Ordering Pamphlets and Posters:

To order any Ministry of Health resources, please contact the Health Information Centre on 04 570 9691 or email laurina.francis@huttvalleydhb.org.nz

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