Regional Public Health
Better Health For The Greater Wellington Region

PUBLIC HEALTH POST

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

Also available online at www.rph.org.nz

October 2013

AN UNEQUAL DISEASE: RHEUMATIC FEVER IN GREATER WELLINGTON

Rheumatic fever is in the spotlight with its severe impact on individuals and families and its inequitable distribution. The government has set the challenge to reduce the number of cases throughout New Zealand by two thirds by June 2017.

The primary health care sector has a responsibility to use best practice to reduce the chance of acute rheumatic fever developing in practice populations. In addition, DHBs and their Public Health Services and other government departments also work to reduce the burden of rheumatic fever, including influencing the determinants of health. Regional Public Health (RPH) is co-ordinating the development of a Rheumatic Fever Prevention Plan, which will outline planned prevention and quality improvement activity from 2013 to 2017 across the Capital and Coast, Hutt Valley and Wairarapa District Health Board areas. The plan will be completed in late October and will be available on the Regional Public Health website once reviewed by the Ministry of Health.

While much is known about the complex pathophysiology of rheumatic fever, the exact underlying causes of individual cases and of the population distribution remain unclear.

History shows that in populations apparently prone to rheumatic fever, rates decrease once living standards improve.

Geographical location

Rheumatic fever case numbers are unequally distributed across the population. This is seen in the greater Wellington region, where there are geographical pockets with some of the highest rates in the world between suburbs where the disease is virtually non existent.

Figure 1. Number of acute rheumatic fever notifications for the Wellington region (Hutt Valley, Capital & Coast and Wairarapa DHBs) by year, 1 January 2002–31 Dec 2012

Acute rheumatic fever case numbers vary between five and twenty per year for our region.

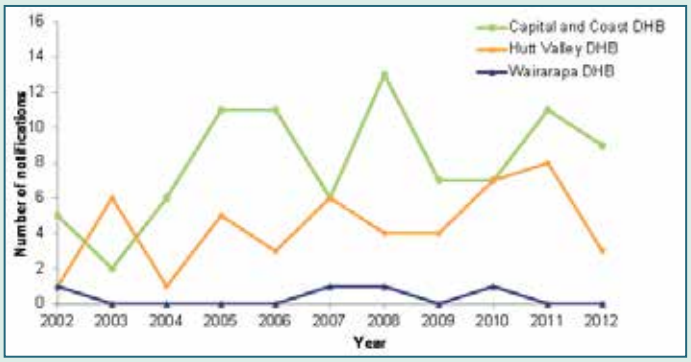

Figure 2. Number of acute rheumatic fever notifications for the Wellington region by DHB and year, 1 January 2002–31 December 2012

Of the 144 cases notified to Regional Public Health between 1/1/2002 and 31/12/2012, Capital & Coast DHB had the largest number of cases (90), with Porirua contributing 64 cases (44% of the total for the region), followed by Hutt Valley DHB with 50 cases (35%), and Wairarapa DHB with only four cases.

10 years of rheumatic fever cases to 30 June 2013

Rheumatic fever case numbers vary hugely even in neighbouring suburbs as illustrated by the following maps (Source: ESR, EpiSurv database of notifiable diseases – NB cases not mapped to exact street address).

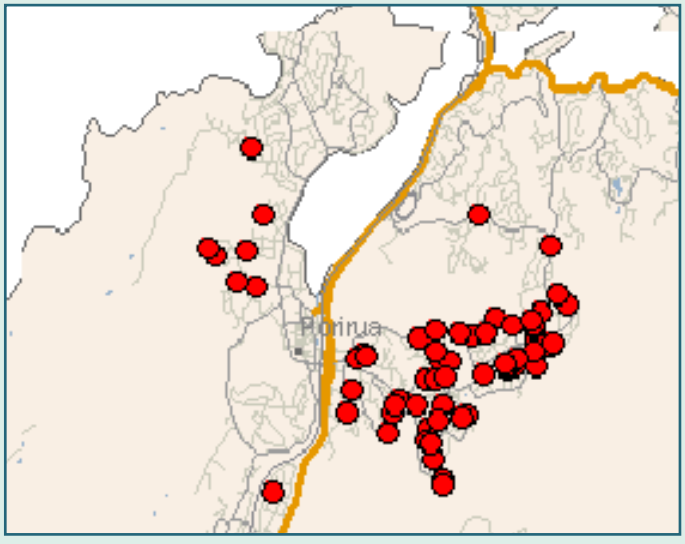

Figure 3. 10 years of Acute Rheumatic Fever Notifications Porirua by suburb

In Figure 3 similar population size suburbs have very different numbers of notified cases, e.g. Cannons Creek in Eastern Porirua compared with Titahi Bay/Onepoto in the top left of the map); Elsdon/Takapuwahia (Western Porirua) compared with Papakowhai (top right of the map).

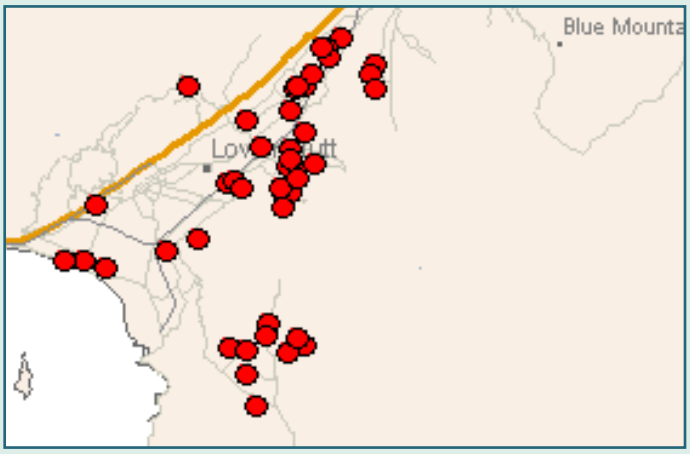

Figure 4. 10 years of Acute Rheumatic Fever Notifications Lower Hutt by suburb

In Figure 4 the numbers of cases in different suburbs with comparable population size also vary, e.g. Taita/Naenae (Eastern Hutt) compared with Waterloo/Epuni (Central Hutt); North Wainuiomata (base of map) compared with Korokoro/Maungaraki/Normandale (Western Hills above the motorway)

Age and ethnicity

The acute rheumatic fever burden is unequal by age and ethnicity, predominantly affecting young Maori and Pacific populations.

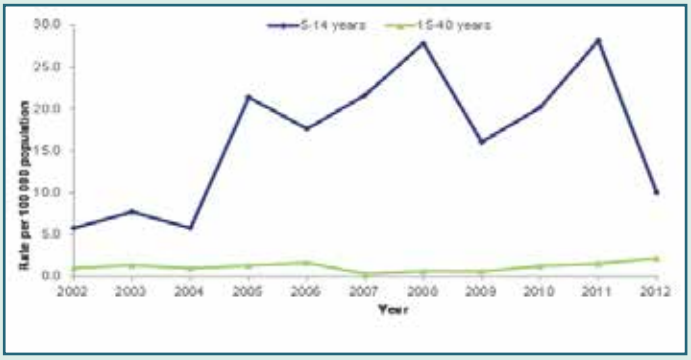

Figure 5. Number and rate of acute rheumatic fever notifications in the 5-14 and 15-40 age groups for Porirua City, Wellington City, Upper Hutt City and Lower Hutt City by year, 2002 to 2012

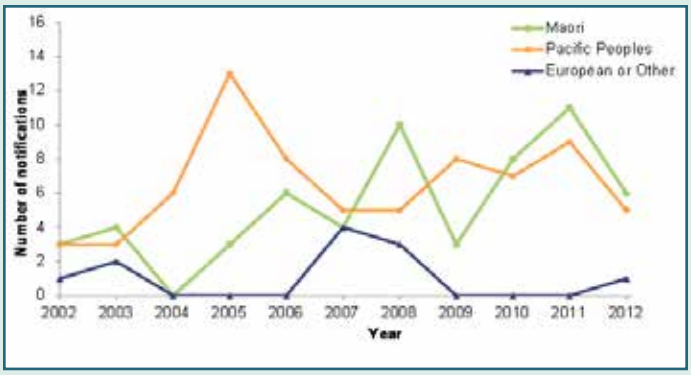

Figure 6. Number of acute rheumatic fever notifications by ethnic group and year, 1 January 2002–31 March 2013.

	Capital & Coast		Hutt Valley		Wairarapa	
Ethnic Group	Cases	Rate	Cases	Rate	Cases	Rate
Māori	26	9.8	25	11.6	2	-
Pacific Peoples	50	26.3	19	19.3	0	-
European/Other	6	0.3	3	-	1	-

Figure 7. Number of notifications and annualised notification rate by ethnic group and DHB, 2003–2012

Notes:

a. Total number of cases notified from 1 Jan 2003 to 31 Dec 2012.

b. Annualised rate per 100 000 population, based on the 2006 census data from Statistics New Zealand. Rates are not presented for categories with fewer than five cases.

Nuts and bolts

Primary Care Role

Primary care doctors and nurses can make a difference to factors relevant to rheumatic fever:

1. **Treat sore throats appropriately** (see www.rph.org.nz *Rheumatic Fever* under *Health Professionals* tab).
2. **Be alert for the possible diagnosis of rheumatic fever and refer for paediatric or adult specialist acute care.**
3. **Check for the start of antibiotic prophylaxis. Each subsequent attack of rheumatic fever has more chance of causing heart damage.**
4. **Maintain effective secondary prophylaxis with intramuscular benzathine penicillin for adults enrolled at general practices.**
5. **Advocate on behalf of patients to landlords for healthy housing.**
6. **Remind patients how to access services such as local linen banks, curtain banks and home insulation services and subsidies** (see www.rph.org.nz *Healthy Housing* under *Public Health Topics* tab).
7. **Refer to budgeting or social work services where appropriate.**

Public Health Role

Public Health Units accurately monitor the incidence of disease, and target population health interventions where incidence statistics suggest they will be most effective. Public Health Nurses provide routine sore throat swabbing in twelve schools in Eastern Porirua, and follow up children identified to have group A streptococcal infection with a ten day course antibiotics (usually amoxicillin) dispensed under standing orders. Regional Public Health also maintains a rheumatic fever register which monitors the provision of secondary prophylaxis and provides reminders to clinicians when patients have not been receiving timely intramuscular benzathine penicillin injections.

Secondary Prophylaxis – division of responsibility

Secondary prophylaxis with monthly penicillin injections is delivered by paediatric outreach nurses up to age 16 years, by primary health organisation (PHO) based rheumatic fever outreach nurses from 16 years to 21 years, and by primary care practices from age 21 until prophylaxis is no longer necessary.

Population cardiac screening

Echocardiography screening has been trialled in parts of the country (including some schools in Porirua) to identify hidden cases of heart valve damage caused by rheumatic fever, in order to reduce subsequent attacks. This intervention has not yet been proven to meet the criteria for a population based screening tool.

Research and advocacy

Researchers investigate the epidemiology and pathophysiology of rheumatic fever to improve our understanding and to look for better prevention and treatment options, including the possibility of a vaccine. All involved have a role to advocate for their patients, and more broadly, for the most vulnerable communities.

The respective roles of primary care, public health, housing services and social services will change as more becomes known about rheumatic fever aetiology and prevention. For now we all need to look to best practice in our areas of specialty and responsibility.

TURTLES, TROPICAL FISH, WASH HANDS

Paratyphoid fever is usually a milder form of typhoid fever. Cases sometimes present to primary care after returning from overseas with imported infections. Infection severity depends on factors including strain virulence, the amount of inoculum ingested, time until onset of antibiotic treatment, and age. The most severe forms present a similar clinical picture to typhoid fever: sustained fever, headache, malaise, anorexia, dry cough, relative bradycardia, and hepatosplenomegaly. Less commonly there may be rose spots on the trunk, abdominal pain, constipation, diarrhoea, and cerebral dysfunction. Compared with typhoid fever, paratyphoid fever is usually of shorter duration and the case-fatality rate is much lower. It may present as an acute gastroenteritis.

In 2012 there were 22 cases of paratyphoid fever notified in New Zealand, 16 of whom reported overseas travel during their incubation period. The countries they had visited were India, Nepal, South East Asian countries, Australia and USA. The serotypes identified were Salmonella Paratyphi A and S. Paratyphi B var Java. It is commonly assumed that these bacteria have humans as their only reservoir. However, there are a number of case reports of paratyphoid infections associated with reptile or tropical fish contacts.

The most recent case of infection by S. Paratyphi B var Java investigated by RPH was a Lower Hutt man who went on holiday to Bali and became infected. The initial suspected source was food or drink contaminated by an infected food handler in one of the many bars and cafes he had visited. However, these were visited by the other eight members of his group, none of whom became ill. Eventually, it was found that each morning he had taken a turtle out of its aquarium tank and played with it before having breakfast without washing his hands. It is likely that he became infected from touching the turtle or by contact with the aquarium water.

Two cases investigated by RPH in 2004 had not been overseas nor had contact with overseas travellers. A nine year

old had contact with siblings who in turn had contact with water from a turtle tank at home. A 21 year old case had used his mouth to siphon water from a turtle tank. In 2004 a two year old from Auckland had contact with water from a turtle tank at home and became infected, as did a child who sucked on the neck of a turtle while playing with it. All these cases developed infections of S. Paratyphi B var Java.

Since 1995-96 turtle imports into New Zealand were stopped, so all turtles now present were imported before this time or have arrived outside of normal importing processes.

The story of animals infecting people in New Zealand with paratyphoid fever does not stop with turtles. Between January 2004 and May 2005 there were ten cases in NZ who acquired paratyphoid fever from handling the water in aquaria that housed tropical fish. Three adult cases were from the Wellington region, and one had mouth siphoned water from a home aquarium. Tropical fish carry paratyphoid fever and non-typhoidal salmonellae usually without becoming unwell, so there is likely to be no external appearance of the infection risk.

Pulsed-Field Gel Electrophoresis (PFGE) studies were carried out on six of the 2004-2005 cases. The PFGE patterns of

paired human and aquaria isolates of S. Paratyphi B var Java were indistinguishable.

Tropical fish importers have transitional tanks on-site where fish are held in quarantine for three to six weeks. Healthy fish at the end of their quarantine period are sold to pet shops after which the tanks are sanitised prior to the arrival of the next shipment of tropical fish.

Apart from the recent case of the Bali tourist there have been no further cases of paratyphoid fever reported to RPH known to be associated with either turtles or tropical fish.

It is worthwhile enquiring about contact with tropical fish or reptiles in cases with confirmed or possible paratyphoid fever, especially without a history of overseas travel.

Reported by: Dr Quentin Ruscoe, Health Protection Officer, Regional Public Health

Sources

1. Regional Public Health case notes
2. New Zealand Public Health Surveillance Report September 2005, 4-5
3. Photo credit: NASA/Kim Shiflett http://www.nasa.gov/centers/kennedy/images/content/468790main_turtlehand.jpg

SOLARIA AND SUNBEDS

In June 2013 twenty-three solaria operators in the greater Wellington region were visited by a Ministry of Health contractor on behalf of Regional Public Health. The visits were to assess the basic levels of compliance with, and improve awareness among operators of, the voluntary standards AS/NZS 2635:2008 Solaria for Cosmetic Purposes. Aspects reviewed at visits included: appropriate skin type assessment; appropriate signage with no claims of benefits; informed consent, age check and exclusion of high risk clients; protective eyewear; hygiene and cleaning.

Since 2012 these solaria visits and inspections are a new role for Public Health Units. The standards are not legally enforceable, but the second round of visits in June 2013 identified an overall improvement in compliance when compared to the first round of visits in the second half of 2012. Improvement was highly variable between operators.

Sunbeds using ultraviolet radiation lamps for cosmetic purposes were invented in the early 1970s with many assertions made about their health benefits. All of these claims have been debunked and it is now widely accepted that artificial tanning using UV radiation is harmful to health. In particular the risk of skin cancers is greatly increased, and skin ages appreciably as a result of the UV exposure.

Certain skin types have a much higher risk of skin cancer and are even more strongly advised not to use sunbeds than the rest of the population. Types I and II of the Fitzpatrick skin phototype classification fit into this category:

Skin type	Typical features	Tanning ability
I	Pale white skin, blue/hazel eyes, blond/red hair	Always burns, does not tan
II	Fair skin, blue eyes	Burns easily, tans poorly
III	Darker white skin	Tans after initial burn
IV	Light brown skin	Burns minimally, tans easily
V	Brown skin	Rarely burns, tans darkly easily
VI	Dark brown or black skin	Never burns, always tans darkly

The Cancer Society of New Zealand produces an information sheet that can be printed out for patients who enquire about sunbed use, available at: www.cancernz.org.nz/assets/files/info/SunSmart/IS_Sunbeds&Sunlamps_12Aprl2012.pdf

Dermnet also provides an excellent summary of the current science, regulation and myths surrounding sunbed use: http://dermnetnz.org/procedures/sunbeds.html

Sources

1. Regional Public Health notes and reports.
2. Dermnet http://dermnetnz.org/procedures/sunbeds.html accessed 23/9/13
3. Cancer Society of New Zealand www.cancernz.org.nz accessed 23/9/13
4. Sunbed image from: www.periscopepost.com
5. Hand image credit: Dr A.R. Young at: http://ec.europa.eu/health/opinions2/en/sunbeds/index.htm#il1

PUBLIC HEALTH NURSES TO USE STANDING ORDERS FOR SKIN INFECTIONS

Regional Public Health, in response to the high incidence of skin infections in primary school children, is establishing standing orders for Public Health Nurses. The content of these standing orders is guided by the protocols for the management of skin infections in children and young people developed by Regional Public Health, Capital and Coast DHB, Hutt Valley DHB and Wairarapa DHB in September 2012 [1].

The standing orders are restricted to the treatment of impetigo, small boils not requiring drainage, uncomplicated cellulitis, scabies and head lice. The purpose of these standing orders is to improve access to treatment and reduce serious skin infections and associated hospitalisations.

When a school refers a child to the Public Health Nurse the family may be advised to go to their general practitioner for treatment, or may be offered treatment under the standing orders depending on the severity of the presenting condition and other factors[2]. Patients are assisted to enrol with a general practice if they are not already enrolled. If the patient receives treatment under the standing orders their general practice is contacted prior to commencing treatment to check if there is any relevant past medical history or medication allergies.

Six Public Health Nurses have completed the initial training and will take part in this pilot use of standing orders. The on-line training package, developed by Massey University, is supported by Capital and Coast Health. The pilot will include the six schools with the highest number of skin infection referrals received by their School Public Health Nurses.

The standing orders are signed off and overseen by a Regional Public Health Medical Officer, Dr Jonathan Kennedy.

Sources

1. Healthy Skin in Greater Wellington Protocols for the Management of Skin Infections in Children and Young People, in Community and Primary Health Care Settings, Wellington Sub-Region September 2012
2. Regional Public Health Healthy Skin Standing orders document (available on request and soon to be posted on www.rph.org.nz)

WARM UP NEW ZEALAND: HEALTHY HOMES REFERRALS TO BE MADE EASIER

The Wellington Regional Healthy Housing Coalition, representing over 30 organisations in the region, has designed a single referral system for health professionals to link eligible households to Warm Up New Zealand insulation providers in the greater Wellington region.

Warm Up New Zealand offers under floor and ceiling insulation delivered through the Energy Efficiency and Conservation Authority (EECA). Free insulation can be provided for up to 3000 households in the greater Wellington area over the coming year. Eligible households need to meet criteria of financial hardship and health need.

Keep an eye out for details on upcoming promotional sessions on the referral process. Further details and the referral form can be found on www.rph.org.nz *Healthy Housing* under *Public Health Topics* tab.

SPECIAL WORKSHOP FOR HEALTH PROFESSIONALS: COMMUNICATING WITH NON-ENGLISH SPEAKING CLIENTS

Interpreting Wellington and Regional Public Health invite you to a RNZCGP endorsed workshop on how to use interpreters in a clinical context, in order to meet the requirements of human rights and sign language legislation. This workshop is one of a series offered under the Regional Action Plan for Refugee Health and Well-Being.

Date: **Thursday, 7 November 2013, 8:30am – 11:00am**

Venue: **Conference Room, Kenepuru Education Centre, Kenepuru Hospital**

Cost: **$25 includes morning tea**

Please RSVP by 1 November 2013 to: Carol Young, Regional Public Health, carol.young@huttvalleydhb.org.nz

WHAT ARE YOU REPORTING JUN - AUG 2013

Notifiable Condition	Number of cases (confirmed cases only)			
	Hutt	Wairarapa	Wellington	Total
Campylobacteriosis	34	16	107	157
Cryptosporidiosis	4		8	12
Dengue fever	1		3	4
Gastroenteritis / food-borne intoxication	12		18	30
Giardiasis	8	4	43	55
Hepatitis C	1			1
Invasive pneumococcal disease	2	2	8	12
Lead absorption	1	1		2
Listeriosis			1	1
Paratyphoid fever			1	1
Pertussis (additional probable cases in brackets)	8 (8)	6 (3)	25 (37)	39 (48)
Rheumatic fever - initial attack	2		1	3
Ross River virus infection			1	1
Salmonellosis	6		12	18
Shigellosis			3	3
Tuberculosis new cases	1	1	3	5
Typhoid fever			1	1
VTEC/STEC infection			1	1
Yersiniosis	6		13	19
Total	**86**	**30**	**249**	**365**

Notes:

- Pertussis notifications have decreased compared with the preceding three months.
- Cryptosporidiosis notifications are greatly reduced (12 cases in the last 3 months compared with 101 cases in the three months to 31/5/13), resulting in Regional Public Health advising swimming pools to return to their usual signage with respect to diarrhoeal illness and swimming.
- Campylobacter notifications have increased once again, an ongoing problem for the whole Wellington region, and accounting for a large proportion of total notified cases.
- Note the absence of meningococcal disease cases, probably reflecting the late and low influenza season peak this year. Since August there have been two cases of meningococcal disease reported in the Wellington region so far. These will be reported in statistics in the next Public Health Post.

Sources

1. ESR. Episurv database of notifiable diseases, accessed 16/9/2013.
2. Regional Public Health case notes.

Correction: The June 2013 Public Health Post 'What are you reporting' notes referred to a case of leprosy being the 8th case in New Zealand since 1999. This should have read the 8th case in the greater Wellington region since 1999.

PUBLIC HEALTH ALERTS

Regional Public Health communicates public health alerts to primary care practices by fax and by email. These communications often contain information that needs to be urgently taken on board by general practitioners and primary care nurses.

Please contact Regional Public Health on 04 570 9002 if you have not been receiving alerts, or to check and confirm that we have your correct details.

If you are not yet receiving alerts by email, and would like to, then you can provide your email address via phoning the number above.

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

Produced by: Regional Public Health
Private Bag 31-907, Lower Hutt 5040
ph: 04 570 9002 Fax 04 570 9211

For enquiries regarding the Public Health Post, please contact Dr Jonathan Kennedy, Medical Officer, Regional Public Health **jonathan.kennedy@huttvalleydhb.org.nz** or by phone **04 570 9002**. Alternatively contact one of the regional Medical Officers of Health: **Dr Jill McKenzie, Dr Margot McLean, Dr Annette Nesdale and Dr Stephen Palmer**