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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Formerly published as the 'Communicable Disease Bulletin', we have changed the name to reflect that our content is not always about communicable disease. We retain a focus on infectious disease issues relevant to our region and the country. 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.

Plague's cousin Yersiniosis not stopped by the cold

Yersiniosis is a bacterial gastrointestinal infection, most often caught from infected animals and in particular, but not exclusively from, pigs. It is notable (and notifiable) because it can multiply at refrigeration temperatures and can cause serious disease.

There were 2299 cases of yersiniosis notified in New Zealand in the five years to 22/11/2010. The peak incidence was in the 1-4 age group with moderate numbers of cases through adult ages. Males and females were equally affected.

In the Wellington, Hutt Valley and Wairarapa region over the five years there were 406 cases: 102 in the Hutt Valley, 10 from the Wairarapa and 294 from Wellington.

In February 2011 a 74 year old woman with multiple comorbidities contracted yersiniosis, presenting twice to the emergency department with abdominal pain. Multiple investigations including ultrasound and gastroscopy did not identify the cause for the pain, with the stool microbiology result finally giving the answer.

Yersiniosis is caused by yersinia enterocolitica or by yersinia pseudotuberculosis. These bacteria are present in animals, especially pigs, and may be found in household pets. They are from the same genus as the other pathogenic yersinia species – yersinia pestis – which causes bubonic and pneumonic plague and which is not discussed in detail here. They are all part of the enterobacteriaceae family of bacteria and are gram negative rods or coccobacilli.

The incubation period for the illness is less than 10 days and usually between three and seven days. Transmission is by faecal – oral means, via contaminated food or water, or by contact with infected people or animals. Yersinia has been found in many pork products and can multiply under refrigeration temperatures. Other possible infected sources include unpasteurized milk, water, tofu, other meats, fish and shellfish. In the past yersinia enterocolitica has also been spread by blood transfusion.

Mimics Acute Appendicitis

Yersiniosis typically causes an acute febrile diarrhoeal illness especially in young children. Associated mesenteric adenitis may cause pain and examination findings suggestive of acute appendicitis, especially in older children and adolescents in whom up to 20% of infections may present in such a way. Outbreaks of yersiniosis have been detected in some instances by locally increased rates of appendicectomy.

10% of cases may present with erythema nodosum. This feature is more common in women. A reactive arthritis lasting for several months may be evident, especially in HLA-B27 positive people who are also more likely to develop glomerulonephritis, myocarditis or Reiter syndrome.

The gastroenteritis symptoms are usually more severe in younger children. Other symptoms such as the post infectious arthritis are more common in adolescents and older adults.

In this issue

Plague's cousin Yersiniosis not stopped by the cold cont...

Rarely, septicaemia can develop with resulting metastatic infections to multiple body sites and a mortality of 34-50%. Septicaemia is more common in people with diabetes mellitus, other immunosuppression and in people with alcoholism. Elderly people and patients with iron overload or chronic haemolysis (and those on deferoxamine therapy) are also especially susceptible to severe infection.

Symptoms may last for two to three weeks and the disease is communicable for at least this length of time. Untreated cases may be infectious for two to three months, even after symptoms have settled down.

Yersinia pseudotuberculosis more often affects males while yersinia enterocolitica affects males and females equally.

The diagnosis is made by stool culture and is routinely tested for on stool specimens.

For uncomplicated disease, treatment is supportive, especially with fluid and electrolyte replacement. Individuals with severe disease may be treated with antibiotics, in particular aminoglycosides, cotrimoxazole, ciprofloxacin or doxycycline. There is a high level of resistance to penicillin based antibiotics and to cephalosporins[1].

Sources

1. Heymann, D.L., *Control of Communicable Diseases Manual.* 18th ed. 2004, Washington DC: APHA.
2. ESR Episurv database of notifiable disease. Accessed November 2010.
3. www.emedicine.medscape.com/article/232343-overview accessed 7 February 2011.
4. Picture: httpc1.cleantechnica.comfiles

Do as I do...

As health professionals we are sometimes guilty of the "do as I say, not as I do" syndrome. We know the evidence (more on that below), we "know" what is good for our patients, but we often don't heed our own advice.

Helped on by Wellington's excellent February weather, many people have taken up the Bike Wise month challenge and made active travel part of their day. At Regional Public Health we have also looked at our own workplace to make sure we too are walking the walk not just talking the talk.
Driving a car becomes a habit. Of course there are utilitarian benefits, as anyone with a young family will attest to, but many people drive either because it is part of the daily routine or because they haven't considered other options.

The list of health benefits of cycling, or other physical exercise, is probably well known to most[1]. In addition to such benefits as cardiovascular health, diabetes prevention and improved mental status there are many co-benefits from cycling. Replacing a car journey with a bike trip reduces carbon emissions and also production of other air pollutants. Trips can be less expensive without fuel costs. And a number of studies show it is cyclists who actually end up enjoying their journey to work the most and are happier workers[2].

There have been a number of high profile cycling fatalities in recent times; motor vehicles will always be a risk to cyclists on the road. Yet the health benefits long term still outweigh the risk of serious injury[3], and the risk is likely to decrease as the number of cyclists increases. In economic terms, it is estimated that the health benefits for a new cyclist equate to $2.14 per kilometre[4].

At Regional Public Health we have celebrated Bike Wise month by having our own 'Bike to Work Day', where we found confidence in numbers for a ride from Thorndon to Lower Hutt (and breakfast when we arrived at work). Our workplace also has great facilities for cyclists; there are showers and safe places to leave bikes. In fact, there are also work bikes on site to use for short journeys.

So, take a moment to make sure your workplace is cycle-friendly and to reflect on your own journey to work. Then get out there and tell your patients to get on their bikes too.

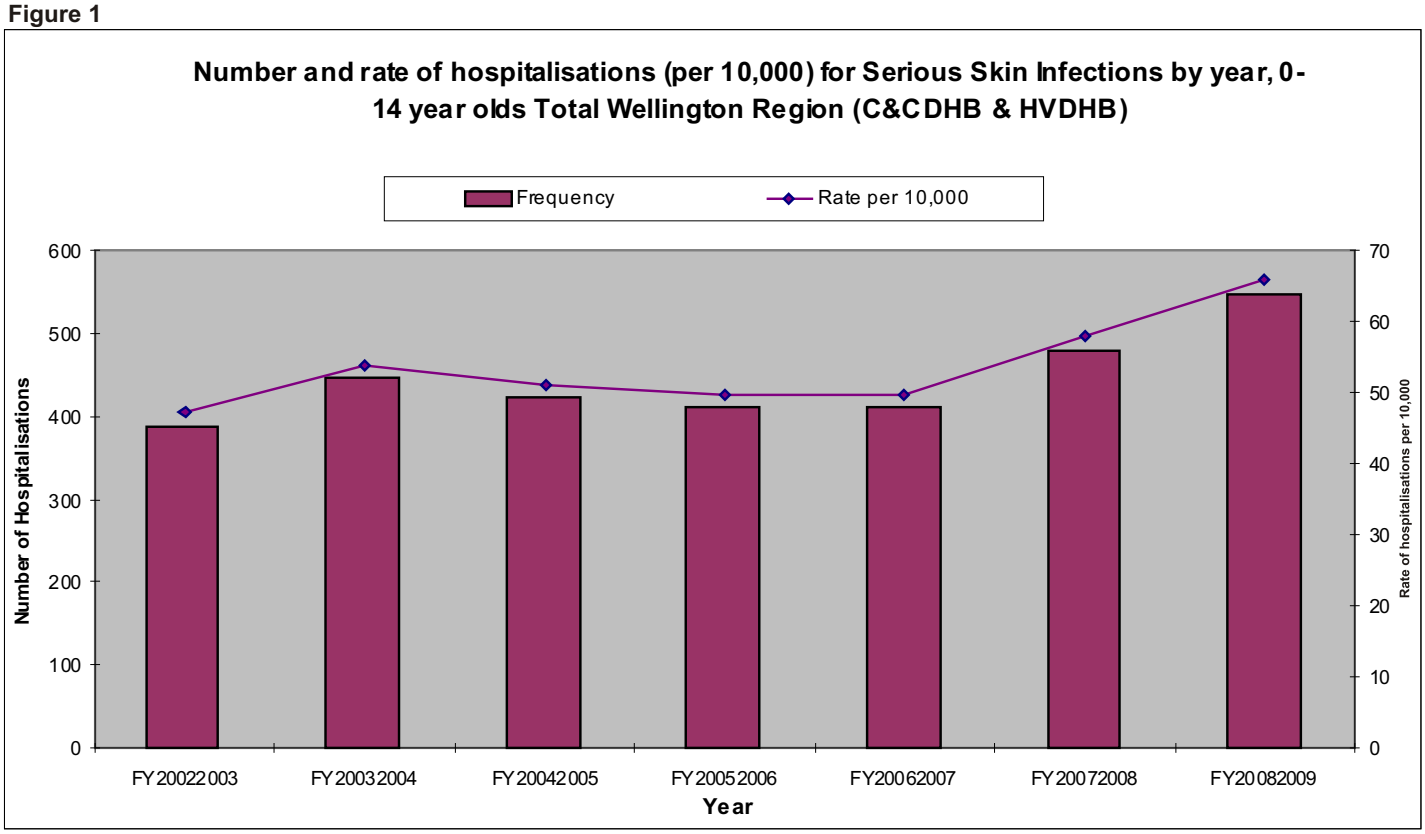
Medical Officer of Health Jill McKenzie, who has recently started at Regional Public Health, leads the way on bike to work day, with Service Manager Peter Gush and the team close behind.

Sources

1. Thomson H, Jepson R, Hurley F, Douglas M (2008). "Assessing the unintended health impacts of road transport policies and interventions: translating research evidence for use in policy and practice" BMC Public Health;8:339.
2. Gatersleben, B. and D. Uzzell (2007). "Affective appraisals of the daily commute: Comparing perceptions of drivers, cyclists, walkers, and users of public transport." Environment and Behavior 39(3): 416-431.
3. Woodward, A. and G. Lindsay (2010). Changing modes of travel in New Zealand cities. Sizing up the City: Urban form and transport in New Zealand. P. Howden-Chapman, K. Stewart and R. Chapman. Wellington, Steele Roberts Publishers.
4. Genter, J. A., S. Donovan, et al. (2008). Valuing the health benefits of active transport modes. NZ Transport Agency research report 359. Wellington, New Zealand Transport Agency.

Serious skin infection hospitalisation rates high in the Wellington region

Figure 1



Regional Public Health has recently completed a report on serious skin infection hospitalisations among children in the Wellington region. We found that rates in our region are high, above the national average, particularly among disadvantaged communities. Reducing the high rates of skin infections in children in our region requires a collective and strategic response.

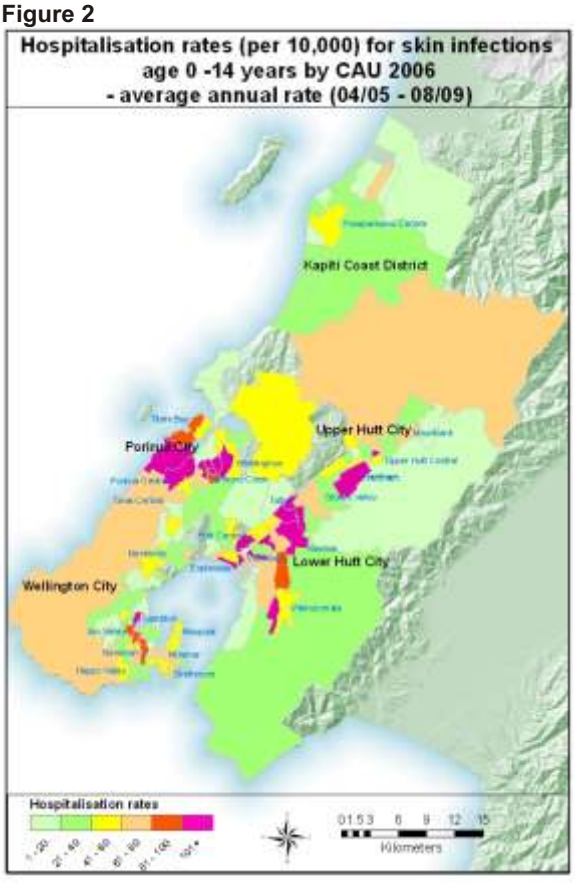
We firstly looked at how best to define serious skin infections – what conditions to include and exclude in the analysis. Previously, reports on skin infection hospitalisations have included diagnoses like cellulitis and abscesses of certain "typical" body sites only, impetigo and pyoderma. We considered a more comprehensive definition including cellulitis and abscesses of all body sites, erysipelas, impetigo and skin or subcutaneous infections due to varicella, scabies, eczema, insect bites and wound infections. This definition more accurately captures the burden of skin and subcutaneous infection in children and has been validated against a "gold standard" clinical definition.

We then used the new definition to look at trends in skin infection hospitalisations. When all serious skin infections were considered for the years 2002/03-2008/09, annual rates of hospitalisation for children aged 0-14 years were 61.4 per 10,000 children in the Hutt Valley DHB area and 48.8 per 10,000 at Capital and Coast DHB. This compares with an annual average rate of 51.3 throughout New Zealand. Rates in the Wellington region increased over the time period reviewed (see Figure 1), while nationwide hospitalisations have remained steady.

There were marked inequalities in the incidence of serious skin infections: rates were highest for Maori and Pacific children and among children from the most socio-economically deprived areas (see Figure 2). The gaps between groups appeared to be widening.

We are concerned about such high and increasing rates of avoidable hospitalisations among the youngest and most vulnerable members of our communities.

Figure 2



Serious skin infection hospitalisation rates high in the Wellington region cont...

The wider implications of high rates of skin infections are also an issue; Group A streptococcal skin infections could be linked to Acute Rheumatic Fever incidence, for example.

The causes of skin infection are multi-factorial, so our response needs to involve multiple agencies working in partnership with families and communities. Understanding what is happening in primary care is an important next step. RPH is working on specific initiatives with PHOs in high risk areas – a three-pronged approach of best clinical practice, health promotion and data collection is being developed. We will also build on existing early intervention work in Early Childhood Education centres and schools. Clinicians should continue to promote good personal hygiene practices and "treat the whole family/ whānau" when people with skin infections present.

The RPH website www.skininfections.co.nz contains useful updates on skin infections, such as Skin Treatment Guidelines, resources and programme updates. More in depth data collected as part of this review are available on our website www.rph.org.nz, under Resources.

Source

Thompson, Imogen. Serious Skin Infection Hospitalisations in Children, Wellington Region 2010 Update. Regional Public Health

In Brief - VTEC (not to be confused with the car engine)

In February 2011 a thirteen year old girl presented to her general practitioner with a diarrhoeal illness and a specimen was sent to the laboratory. This was notified by the laboratory to Regional Public Health as bloody diarrhoea caused by e. coli 0157 and several days later confirmation that this was a toxigenic strain gave the diagnosis as VTEC. Verotoxigenic e. coli is so named because it produces a toxin that is cytotoxic to vero cells in the intestine. VTEC is important because it has a relatively high mortality and hospitalisation rate compared to more common gastrointestinal infections, and may have complications such as haemolytic uraemic syndrome.

It may take a number of days for final results to be available at Regional Public Health, so advice is usually given by a health protection officer to the patient as soon as there is initial identification of a suspicious strain such as e. coli 0157.

Patients are advised:

- That they may need to be excluded from work / school / preschool depending on their age and occupation.
- That they shouldn't prepare food, or drinks for others.
- Personal hygiene measures including careful handwashing especially around toileting and meals, and a second line measure such as taking hand gel to school may be recommended.
- To disinfect their toilet regularly, for example twice daily.
- To use a personal rather than shared towel at home.

General practitioners and primary care nurses are better placed to give the initial advice regarding diarrhoeal illness than the public health officers who often receive the information well after the illness has started. Please contact Regional Public Health on 5709002 for any questions about recommended lengths of time for exclusion from activities, work or schools.

VTEC often presents as sporadic cases from inadequately cooked foods such as at barbeques, but there may be clustering. For example there were three cases from the same area of the Wairarapa over the last two to three years. There, the clustering is thought to be more a result of the rural location and high predominance of dairying in the area.

Sources

Regional Public Health, Surveillance notes and individual case notes 2011.

Picture: upload.wikimedia.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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