



PUBLIC HEALTH POST

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

Also available online at www.rph.org.nz

October 2014

CAMPYLOBACTERIOSIS OUTBREAK LINKED TO UNPASTEURISED (RAW) MILK

A recent outbreak of campylobacteriosis in the Wellington region was associated with consumption of unpasteurised (raw) milk. Six confirmed cases of campylobacteriosis between March and June 2014 had consumed raw milk. In five cases the milk was supplied from the same farm, and in three cases no other potential source of the campylobacter was identified. Additional contacts of the cases reported symptoms of diarrhoea but had not had any testing. The confirmed cases were spread across the Wellington Region; from South Wellington, Western suburbs, Eastbourne, Porirua to the Kapiti coast. Four of the six cases were children under the age of five years. Cases were predominantly of New Zealand European ethnicity^{1,2}. The farm involved has been informed of the associated campylobacter cases and provided with recommendations to review processes.

This comes in the context of other recent New Zealand outbreaks associated with consumption of raw milk, including seven confirmed cases of campylobacter linked to raw milk in Timaru during March 2014^{5,6}. A Ministry of Primary Industries discussion document³ reported eight outbreaks associated with raw milk consumption in New Zealand in 2013 (Figure 1). Campylobacter and *E. coli* were the pathogens of most concern in relation to the consumption of raw milk in New Zealand³.

Listeria and shigatoxin producing *E. coli* have also been identified in New Zealand raw milk⁴.

Internationally, raw milk has been linked to outbreaks of campylobacteriosis, salmonellosis, yersiniosis, listeriosis, tuberculosis, brucellosis, staphylococcal enterotoxin poisoning, streptococcal infections, and *Escherichia coli* O157:H7 infection.

No milk is entirely free of bacteria. Pasteurisation by heating milk for a short time (72 degrees Celsius for 15 seconds³)

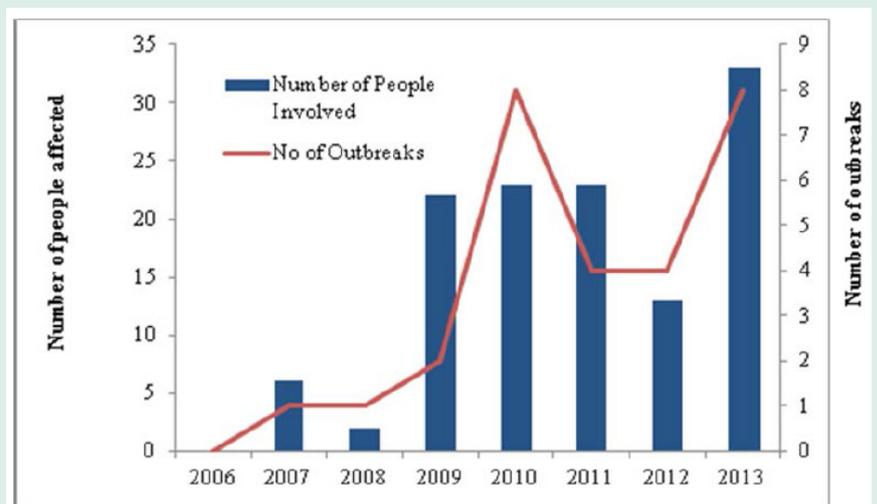


Figure 1. Reported outbreaks of illness from 2006-2013 where raw milk consumption was identified as a risk factor³.

reduces the bacterial load to such a degree that specific bacteria responsible for illness become undetectable. No chemicals are added to the milk. The fat structure of the milk is not changed, proteins are minimally affected and mineral composition and availability are not significantly affected. The specific pasteurisation recommended in New Zealand has minimal effect on enzymatic activity⁴.



Raw milk proponents argue that unpasteurised milk tastes better and is better for you⁸, with an emphasis on increased digestibility, vitamins, enzymes and mineral availability. It has been suggested that drinking raw milk reduces allergies

and asthma. Some cheese-makers believe strongly that unpasteurised milk makes superior cheeses⁹. These claims have not been investigated for the purposes of this article, and the relative risks and benefits are currently under discussion. The Ministry of Primary Industries released a discussion paper in May 2014 requesting submissions regarding the sale of raw milk³. The comprehensive discussion paper is available at: <http://www.mpi.govt.nz/Default.aspx?TabId=126&id=2259>

The recent Wellington outbreak is not unexpected in the context of popular consumption of unpasteurised milk. Those people who may have less immunity to infection should avoid the consumption of raw milk. This includes the elderly, pregnant women, immunocompromised people, young children and babies. (See Resource Update)

Sources

1. Regional Public Health case notes
2. Episurv database of notifiable disease. Accessed: 1/9/2014
3. Ministry of Primary Industries 2014. The sale of raw milk to consumers. MPI Public Discussion Paper No: 2014/22. Available at: <http://www.mpi.govt.nz/Default.aspx?TabId=126&id=2259>
4. <http://www.foodsmart.govt.nz/food-safety/high-risk-foods/raw-milk/rawmilk.htm> - accessed 22/9/14
5. <http://www.stuff.co.nz/timaru-herald/news/9881896/Raw-milk-blamed-for-illness-outbreak>
6. <http://www.cdhb.health.nz/News/Health-Alerts/Pages/Illnesses-lead-to-raw-milk-warning-.aspx>
7. M L Headrick, S Korangy, N H Bean, F J Angulo, S F Altekruise, M E Potter, and K C Klontz 1998. The epidemiology of raw milk-associated foodborne disease outbreaks reported in the United States, 1973 through 1992. *American Journal of Public Health* 88 (8), 1219-1221
8. <http://www.cheeseslave.com/drink-raw-milk/>
9. http://cheese.about.com/od/advancedknowledge/tp/Unpasteurized_Cheese.htm
10. Cow image: Dave Young. Available at: http://commons.wikimedia.org/wiki/File:Nose-licking_cow_near_Okato.jpg
11. "Milk glass" by Stefan Kühn - Own work. Licensed under Creative Commons Attribution-Share Alike 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Milk_glass.jpg#mediaviewer/File:Milk_glass.jpg

DISEASE NOTIFICATION – HOW YOUR GENERAL PRACTICE CAN HELP

In 2013 Regional Public Health launched the *Public Health Disease Notification Manual* to assist in the disease notification process.

Updates for this manual are located at <http://www.rph.org.nz/content/510fd7e9-eba9-4e7b-93f2-3e2718b13838.html>

To enable our staff to promptly initiate disease follow up we need your help in the following ways:

1. Inform your patient of the illness they have been diagnosed with or exposed to and that public health staff may be in contact
2. Notify Regional Public Health of the disease within a timely fashion (after the case has been informed) - by phone for urgent notifications (as soon as you are aware), or by faxing a case report form for non-urgent (within one working day). For a list of urgent vs. non-urgent notifications go to <http://www.rph.org.nz/content/77725edc-9633-4143-b161-75a4ca3d2c2b.cmr>
3. Complete all sections of the form found at <http://www.rph.org.nz/content/9bb56554-2f2d-4b09-ad05-bc22074eb102.html>, especially:
 - work/school/early childhood centre information
 - name of parent or guardian for a child under 16 years old.

The 3D HealthPathways includes a pathway on reporting notifiable diseases: <http://3d.healthpathways.org.nz>

ONE YEAR OF SERIOUS ENTERIC INFECTIONS IN THE HUTT VALLEY, WELLINGTON AND WAIRARAPA

All serious enteric infections are routinely investigated and monitored by Regional Public Health. For these conditions there may be periods of low or no activity followed by outbreaks that require investigation. A number of these infections are not endemic in New Zealand (e.g. hepatitis A, typhoid, paratyphoid, shigellosis) and it is important to know about recent overseas travel and international food exposures. Others are endemic infections to NZ with certain at risk groups where there are opportunities to prevent illness. For example: listeriosis and food safety for immunocompromised groups; leptospirosis and occupational exposures; legionellosis and risks for gardeners especially those with underlying respiratory disease or current smokers. This article illustrates the recent pattern of serious enteric infections over one year from September 2013 to August 2014, and where possible, comparison to a trend-line representing the average number of cases from the previous two years.

Hepatitis A

There were ten cases of hepatitis A in the year, with most of the cases occurring in February 2014 as part of an outbreak with links to travellers from Samoa. The other cases also had overseas links with likely acquisition from Fiji, Thailand and India.

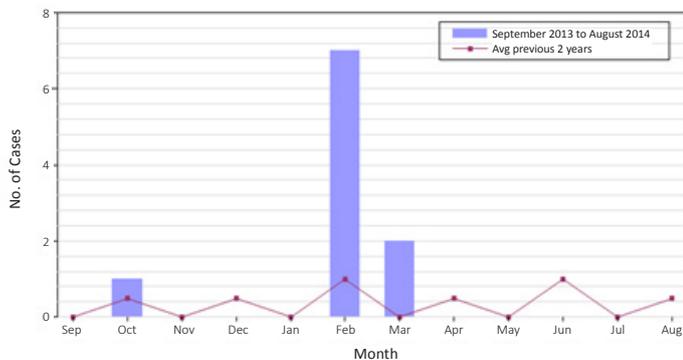
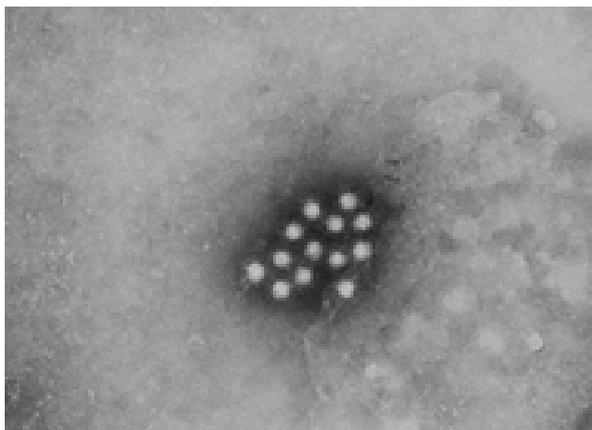


Figure 1. RPH hepatitis A cases 09/2013 to 08/2014.



Partin 2014. Hepatitis A virus³.

Legionellosis

There were three cases of legionellosis, two of which were *Legionella longbeachae* infections with a history of exposure to gardening or potting mix. The third was a case of *Legionella pneumophila* which was suspected to be contracted from an air conditioning cooling tower in China.

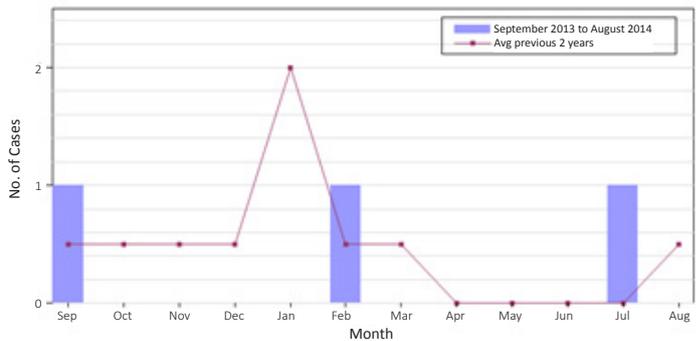
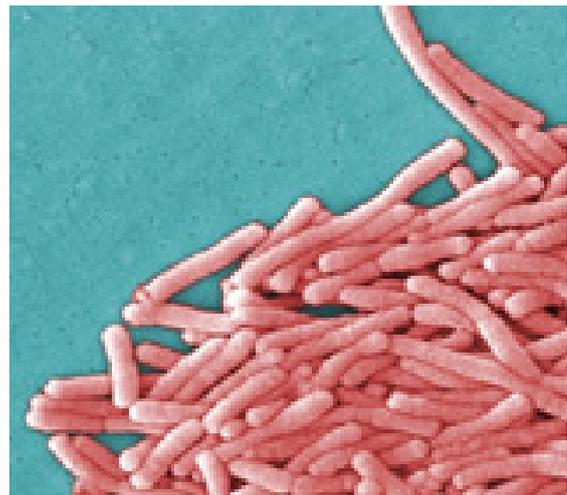


Figure 2. RPH legionellosis cases 09/2013 to 08/2014.



Carr 2009. *Legionella pneumophila*⁴.

Leptospirosis

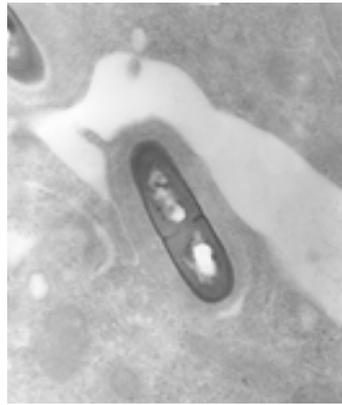
There were two notified cases of leptospirosis in the year, both with *Leptospira hardjo*, and both in the Wairarapa. One case had a history of exposure to possum skin and urine, and the other case was a dairy farmer.



©Institut Pasteur M. Picardeau, E. Couture Tosi. <http://www.pasteur.fr/Leptospira>⁵.

Listeriosis

There were two non-linked cases of listeriosis, both in immunocompromised individuals and both were fatal. Both patients had cancer and one also had type 2 diabetes mellitus. Investigations as to the sources of infection were inconclusive, with suspect foods including ham products.



Swaminathan 2002. *Listeria monocytogenes*⁶.

As a result of these two cases, reminders were provided to health professionals about discussion of food safety with immunocompromised individuals.

Shigellosis

Eleven cases of shigella infection, one of which was fatal, were notified in the year, with increased numbers from May to August 2014. Cases ranged in age from six years to 77 years. Six of the cases had been travelling during the incubation period to South East Asia or the Pacific. Four cases were thought to have been acquired in New Zealand from infectious contacts. One case had consumed sea cucumbers sourced from the Pacific Islands prior to becoming unwell.

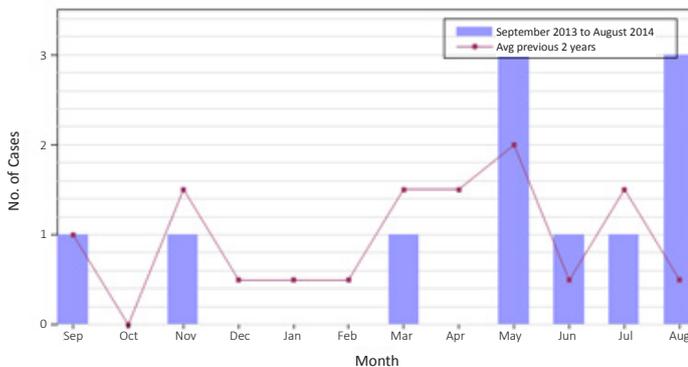
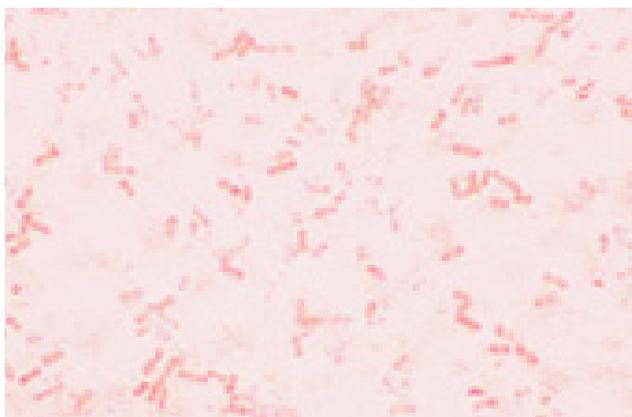


Figure 3. RPH shigella cases 09/2013 to 08/2014.



Tambe 2005. *Shigella flexneri*⁷.

Typhoid Fever and Paratyphoid Fever

Two cases of *Salmonella* Paratyphi causing illness were identified during the year, one each of *Salmonella* Paratyphi A and *Salmonella* Paratyphi B var Java. Both had travelled in South-East Asia during the incubation period. Three cases of typhoid fever were notified, all of whom had travelled from India within the incubation period, and no other source was identified.



Reading 2013. *Salmonella* species⁸.

VTEC/STEC (Vero-toxigenic *E. coli* infection or shigatoxin producing *E. coli* infection)

There were ten cases of VTEC/STEC notified with an age range of 22 months to 58 years with clustering in March to August 2014, following a long period with few or no cases per month. There was a wide variety of potential sources identified for the cases; from farm or veterinary work and contact with animals, to contact with animal faeces while gardening, undercooked meat, swimming in or drinking potentially contaminated water and unpasteurised milk consumption. No likely source was identified for two of the cases.

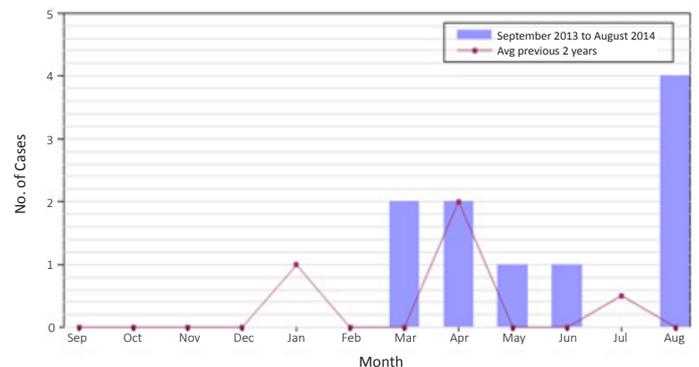
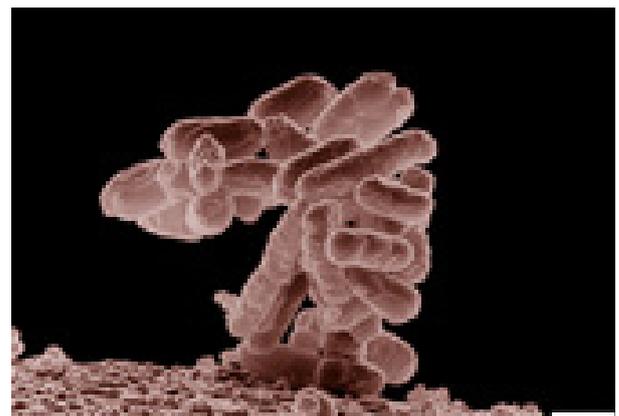


Figure 4. RPH VTEC/STEC cases 09/2013 to 08/2014.



Erbe 2005. *E. coli*⁹.

Sources

1. ESR. Episurv database of notifiable conditions. Accessed September 2014.
2. Regional Public Health case notes.
3. "Hepatitis A virus O1": CDC/Betty Partin - Centers for Disease Control and Prevention's Public Health Image Library (PHIL), ID #2739. Licensed under Public domain via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Hepatitis_A_virus_O1.jpg#mediaviewer/File:Hepatitis_A_virus_O1.jpg
4. Janice Haney Carr; Margaret Williams; Claressa Lucas; Tatiana Travis 2009. Colorized scanning electron micrograph depicting a large grouping of Gram-negative Legionella pneumophila bacteria Centers for Disease Control and Prevention's Public Health Image Library (PHIL), ID #11150.
5. Leptospira image reproduced with permission: ©Institut Pasteur M. Picardeau, E. Couture Tosi. <http://www.pasteur.fr>
6. Listeria image: CDC/Dr. Balasubr Swaminathan; Peggy Hayes (PHIL #2286), 2002. http://commons.wikimedia.org/wiki/File:Listeria_monocytogenes_O1.jpg
7. Shigella image: Y Tambe 2005. Shigella flexneri. Gram staining, magnification: 1,000. http://commons.wikimedia.org/wiki/File:Shigella_flexneri_Gram.jpg
8. Salmonella image: Nathan Reading 2011. Salmonella species growing on XLD agar. http://commons.wikimedia.org/wiki/File:Salmonella_species_growing_on_XLD_agar_-_Showing_H2S_production.jpg
9. E coli image: Eric Erbe, Christopher Pooley 2005. Low-temperature electron micrograph of a cluster of E. coli bacteria, magnified 10,000 times. http://commons.wikimedia.org/wiki/File:E_coli_at_10000x.jpg

RESOURCE UPDATE

OCTOBER 2014

New or revised resources are stocked in the Health Information Room, Regional Public Health, Level 1, Community Health Building, Hutt Hospital, High St, Lower Hutt. You can view all resources on the Regional Public Health website at <http://www.rph.org.nz/content/1b70dad2-7906-46b3-a09f-ec89e0500977.html>

To order please contact Laurina Francis:

phone: 04 570 9691, fax: 04 570 9211 or email: laurina.francis@huttvalleydhb.org.nz

Food Safety When You Have Low Immunity

Learn how to stay food safe when you have lower immunity. With on-going illness, medication, a recent hospital stay, pregnancy, being very young or frail, your risk of getting sick from food is higher than normal.

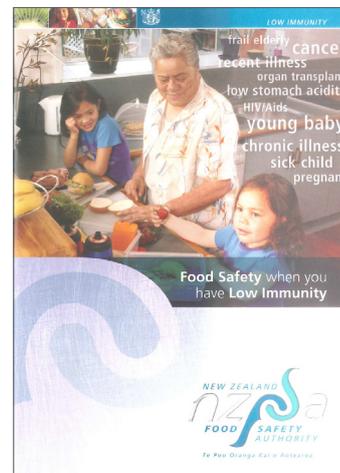
Layout: A5 Booklet

Source: Ministry for Primary Industries (MPI) - Food Smart

View information page here:

<http://www.foodsmart.govt.nz/information-for/people-low-immunity/>

Hard copy available by contacting Laurina Francis.



Water Collection Tanks and Safe Household Water

Information on how to keep tank water safe from contamination, including the use of water filters.

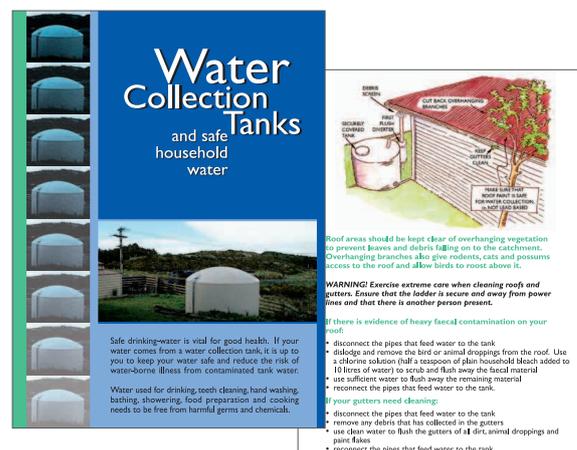
Revision concerning bleach addition to water for storage.

Revised - Sept 2014

Layout: A5 Pamphlet

Source: Health Promotion Agency - HealthEd

Code: HE10108



WHAT ARE YOU REPORTING

THREE MONTHS OF NOTIFIABLE CASES IN THE HUTT VALLEY, WAIRARAPA AND WELLINGTON

Notifiable Condition	Number of cases (confirmed cases only)			
	Hutt	Wairarapa	Wellington	Total
Campylobacteriosis	37	14	123	174
Cryptosporidiosis		2	7	9
Dengue fever	1		4	5
Gastroenteritis/foodborne intoxication	10		31	41
Giardiasis	11	4	39	54
Hepatitis C	1		1	2
Hepatitis NOS	1			1
Invasive pneumococcal disease	4	2	10	16
Legionellosis	1			1
Paratyphoid fever	1			1
Pertussis (additional probable in brackets)	2 (3)	1 (0)	9 (22)	12 (25)
Rheumatic fever - initial attack	1		1	2
Salmonellosis	3		7	10
Shigellosis	1		3	4
Tuberculosis disease - new case			2	2
Typhoid fever	1		1	2
VTEC/STEC infection	2	1	2	5
Yersiniosis	2		10	12
Totals	79	24	250	353

Notes:

- Campylobacter and other enteric infections continue to dominate notifications across the region.
- Pertussis notifications remain low.
- Most cryptosporidiosis cases were associated with animal contact, but with the year coming up to swimming season it should be noted that cryptosporidiosis cases can be infectious for up to 2 weeks after symptoms finish and that people should not swim during this time.
- Note that these statistics pre-date the *Yersinia pseudotuberculosis* outbreak in September 2014.

Sources

1. ESR. Episurv database of notifiable conditions accessed 1/9/2014.
2. Regional Public Health case notes.

Figure 1. Notifiable cases in the Hutt Valley, Wairarapa and Wellington 1/6/2014 to 31/8/2014

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

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