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Regional Public Health
Better Health For The Greater Wellington Region

PUBLIC HEALTH POST

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TUBERCULOSIS IN WAIRARAPA

Dr. Craig Thornley, Medical Officer of Health, Regional Public Health

Background

In the past 12 months there have been six tuberculosis (TB) notifications in the Wairarapa District Health Board (DHB) area, an increase from typical levels in recent years. All the patients were adults, and all were from the Masterton district. Five of the six have had pulmonary disease, with one extra-pulmonary case. Regional Public Health (RPH) has been investigating for possible links to determine whether cases of illness may have been recently acquired, in order to detect and treat others who have become infected as a result of exposure.

Investigations have made use of genotyping results provided by the national tuberculosis reference laboratory in Auckland Hospital. The reference laboratory uses MIRU-VNTR typing to determine a genetic signature for the TB bacteria. By comparing MIRU-VNTR codes from different isolates, it is possible to develop hypotheses about possible transmission pathways or clustering of cases.

Of the six TB cases in the last 12 months, four had unique MIRU-VNTR codes that were not matched to other cases. The remaining two patients had closely matched isolates: further investigations have determined that these two patients were epidemiologically linked, and this has enabled further contact screening.

Tuberculosis epidemiology in Wairarapa

Tuberculosis is uncommon in the Wairarapa. From 1st January 2000 to 18th August 2017 there were 762 TB cases notified in the greater Wellington region. Of these 31 (4%) were from the Wairarapa DHB area, with an average annual rate of approximately 4.5 cases per 100,000 per annum. In comparison, Capital & Coast DHB accounts for 70% of TB notifications in the region (530 cases, rate 11/100,000) and Hutt Valley DHB accounts for 25%[1] (192 cases, rate 8/100,000). A median of two cases per year were notified in Wairarapa between 2000 and 2016, compared with 30 per year in Capital & Coast DHB and 10 per year in Hutt Valley DHB.

The demographic pattern of TB in Wairarapa differs from Capital & Coast and Hutt Valley DHBs. Patients in Wairarapa tend to be older (median 39 years, compared with 35 years in other DHBs in the region). Of the patients from Wairarapa DHB between 2000 and August 2017, 32% were of Asian ethnicity, 32% of European ethnicity, 16% were Māori and 16% were of Pasifika ethnicity; the European and Māori proportions are higher than those of other DHBs in the region. Of those with place of birth recorded in the surveillance dataset, 43% of Wairarapa cases had been born in New Zealand compared with 24% of patients in the remainder of the region.

TB awareness

Clinical illness

Health practitioners should keep a high level of suspicion for TB. Older children and adults with active TB may present with night sweats, fever or chills, unexplained weight loss, cough and haemoptysis; children may present with fever, lassitude and cough. Consider TB in persons with symptoms of lower respiratory tract infection that does not respond to empiric antibiotics.

Notification

Patients with suspected TB should be notified on suspicion to Regional Public Health (04) 570 9002. If pulmonary TB is suspected, request three early morning sputum specimens to test for acid-fast bacilli and order a chest X-ray; advise the patient to remain at home until infectious TB can be excluded, and report to RPH.

Sources

1. Episurv database of notifiable conditions. Accessed August 2017.
2. Regional Public Health. Notifiable condition surveillance records. 2017.

[1] The remaining 1% of TB notifications were from the strip of MidCentral DHB that is part of the Wellington health district. Cases from this area (primarily Otaki and the surrounding area) are notifiable to Regional Public Health.

SMOKING AND MENTAL HEALTH

Stephen Vega, Smokefree DHB Coordinator, Regional Public Health

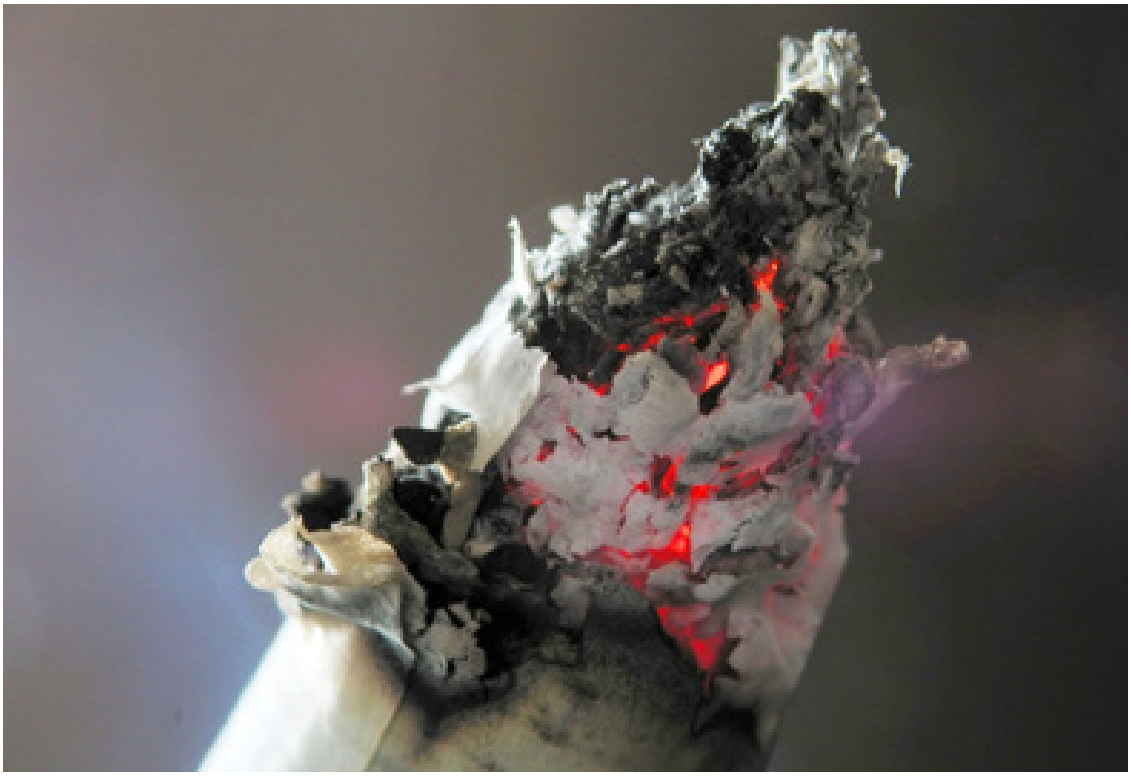

Figure 1. Image: Andrew Magill. Available at: https://commons.wikimedia.org/wiki/File:Cigarette_ash.jpg

Background

Smoking is estimated to kill 4600 New Zealanders every year.[1] As the prevalence of smoking falls, we are left with people who are on the margins of society and continue to smoke. Those include mental health (MH) consumers.

The exact number of mental health consumers who smoke is not known. However, the USA estimates that 44% of mental health consumers are tobacco smokers.[2] Hutt Hospital data shows that our in-patient prevalence in mental health is 56%. From those numbers we can estimate that roughly 50% of MH patients smoke, while current prevalence of smoking in the mainstream population is approximately 15% (**http://www.health.govt.nz/system/files/documents/publications/annual-update-key-results-2014-15-nzhs-dec15-1.pdf**).

The higher smoking rate may be due to self-medication to relieve symptoms (smoking increases monoamine oxidase inhibitor activation)[3], but this population might also be underserved and more resistant to smoking cessation, needing better assistance to quit.

Past and present barriers to adequate treatment may include:

- Smoking is used as a token economy, i.e. 'if you behave well, you'll be given your cigarettes'.
- Smoking is seen as a calming self-medication.
- Staff value camaraderie, empathy and building relationships through smoking with patients.
- Preconceptions that MH patients are more likely to suffer poor health and early death, therefore smoking 'isn't their major problem'.
- Some smoking cessation medications need additional caution when used by MH patients.

It is important for people providing healthcare to MH patients to know that:

- MH consumers are often heavy smokers, and their loss of healthy life appears attributable to smoking.[4,5]
- MH consumers who smoke are interested in quitting smoking.
- Smoking increases anxiety.[6]
- Most medications for use in smoking cessation are generally safe for all users.
- Smoking impacts on the budget of MH consumers, leading to lack of money for essentials, including food and heating, which leads to poorer health outcomes.

The unrealised potential for treatment

Nicotine replacement therapy (NRT) has been shown to be a safe and effective option for the treatment of smoking cessation. In New Zealand the most commonly used NRTs are subsidised patches, gum and lozenges. Local knowledge indicates that these subsidised NRTs are the default option when it comes to prescribing for MH clients and other medications are not used because of the risk they may represent to the cohort.

Research into medications for smoking cessation in mental health has shown that varenicline (Champix) is as safe as NRT, and that bupropion (Zyban) is relatively safe and usable in the cohort.[7-9] Meanwhile, at the local level, MH consumers are saying 'my doctor won't prescribe Champix because it will interfere with my condition or my meds.'

Not only have several reviews shown that varenicline is safe and effective, but a double blind, controlled study published in the Lancet showed that varenicline was not associated with any neuro-psychiatric adverse events when compared to bupropion, NRT patch, or placebo.[7-9] This led the FDA to remove the NPS box warning on varenicline and for others to point out that varenicline is under-utilised, particularly in the MH population.[10] Although we can never entirely rule out risk, we do know that smokers in withdrawal experience anxiety, depression, restlessness, poor concentration and restless sleep with or without medication.

Evidence from clinical trials and from real world studies show that people who use medications to quit smoking are roughly four times more likely to succeed than those who go cold turkey.[11,12] Smokers today have a range of options to assist them with quitting and when they are put into practice, smokers can find them to be effective. Those options include other NRTs; oral spray, mints, inhalers, and nicotine agonists bupropion (Zyban), varenicline (Champix) and nortriptyline.

In addition to the range of medications available, the Wellington region has a Regional Stop Smoking Service (Takiri Mai Te Ata) that provides support for those needing help to quit.

The need for service-wide support

From my personal experience I have seen that our hospital acute mental health service staff at the Hutt Valley District Health Board inpatient unit, Te Whare Ahuru, are clued up and responsive to the smoke-free message and willing to assist where they can. Until such time as tobacco is no longer sold, there are likely to be smokers and therefore the problem of addressing smoking in inpatient settings will remain.

If we are encouraging and promoting better health for all, then we need to work in a consistent and collaborative manor across all health services. Each service that a MH consumer comes into contact with should offer the same brief quitting advice and a range of options to assist patients to quit. Without this we are doomed to a repetition of trying to constantly deal with the smoke-free message in limited silos which can become easily and quickly undermined.

Going forward, our plan should be to up-skill all MH providers in the region so that they are aware of the treatment options and so that they can consistently deliver the message and provide quality help.

For further information about training or updates for small groups regarding smoking cessation, please contact Stephen Vega at: **stephen.vega@huttvalleydhb.org.nz**

Also check out the revised Te Ara Taurima (3D Health Pathways) **Smoking Cessation Advice** pathway for:

- Referral information for the two new local service providers.
- Advice for specific target groups including patients with mental health issues, people about to have operations, and pregnant or breastfeeding women.

Sources

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WHAT ARE YOU REPORTING?

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

Dr Jonathan Kennedy, Medical Officer, Regional Public Health

Table 1. Notifiable cases by DHB in the Hutt Valley, Wairarapa and Wellington 1/4/2017 – 30/6/2017. Table includes 'confirmed' cases with additional 'probable' cases in brackets.

Notifiable Condition	*Hutt Valley*	*Capital and Coast*	*Wairarapa*	Totals
Campylobacteriosis	34	85	19	138
Cryptosporidiosis	2	7	1	10
Dengue fever		1		1
Gastroenteritis	0(4)	0(15)		0(19)
Giardiasis	6	26	3	35
Invasive pneumococcal disease	2	13	2	17
Measles	1			1
Meningococcal disease		5		5
Mumps	1	1		2
Paratyphoid fever		2		2
Pertussis	11(2)	29(11)		40(13)
Salmonellosis	6	19	5	30
Shigellosis	2	2		4
Tuberculosis	1	4	3	8
VTEC/STEC infection		5	1	6
Yersiniosis	4	17		21
Totals	70(6)	216(26)	34	**320(32)**

Notes (1,2)

- *Campylobacteriosis* accounted for 138 (43%) of the 320 confirmed case notifications during the three months. In most cases no source was determined.
- Most *common enteric infections* had no identified cause, although handling manure, cleaning out animal cages, handling pork products, and person to person spread were identified as possible contributing factors.
- The *dengue fever* case was likely to have been acquired in Fiji with travel during the incubation period. There were no *Zika virus* or *chikungunya virus* notifications.
- *Giardia* cases included locally acquired and internationally acquired infections with no significant common sources.
- *Influenza A* was the identified cause of one rest home outbreak, where advice was provided to improve vaccination rates. *Influenza A* was also the cause of an outbreak in staff at Regional Public Health, with one confirmed and 10 probable cases.
- A 42 year old dairy farm worker developed *leptospirosis* after exposure from animal urine to cuts on the hands. This case is educational because Personal Protective Equipment (PPE) was reportedly available, but not used. Another case was a 40 year old farm worker who had been hunting wild pigs, who had also been exposed to another case with similar risk factors.
- There were five cases of *meningococcal disease* during the three month period, including four cases aged less than four years of age, and an 18 year old female. Three cases were sero-group B, with the sero-group not able to be identified for two cases. Contacts were followed up and notified, and where appropriate received prophylactic antibiotic treatment.
- There were two confirmed cases of *mumps* during the period.
- A 51 year old male developed *paratyphoid fever* after travel to India.
- *Salmonella* cases were predominantly acquired during travel, for example to Rarotonga, Singapore, and Thailand, with some cases also likely to be home-grown.
- Four *shigellosis* cases reported likely international exposure during the incubation period, including in Samoa and Indonesia.
- *VTEC/STEC* infections were reported with possible sources being identified as contact with raw meat juices, person – person spread, and a private bore water supply. One of the cases was co-infected with campylobacter.

References

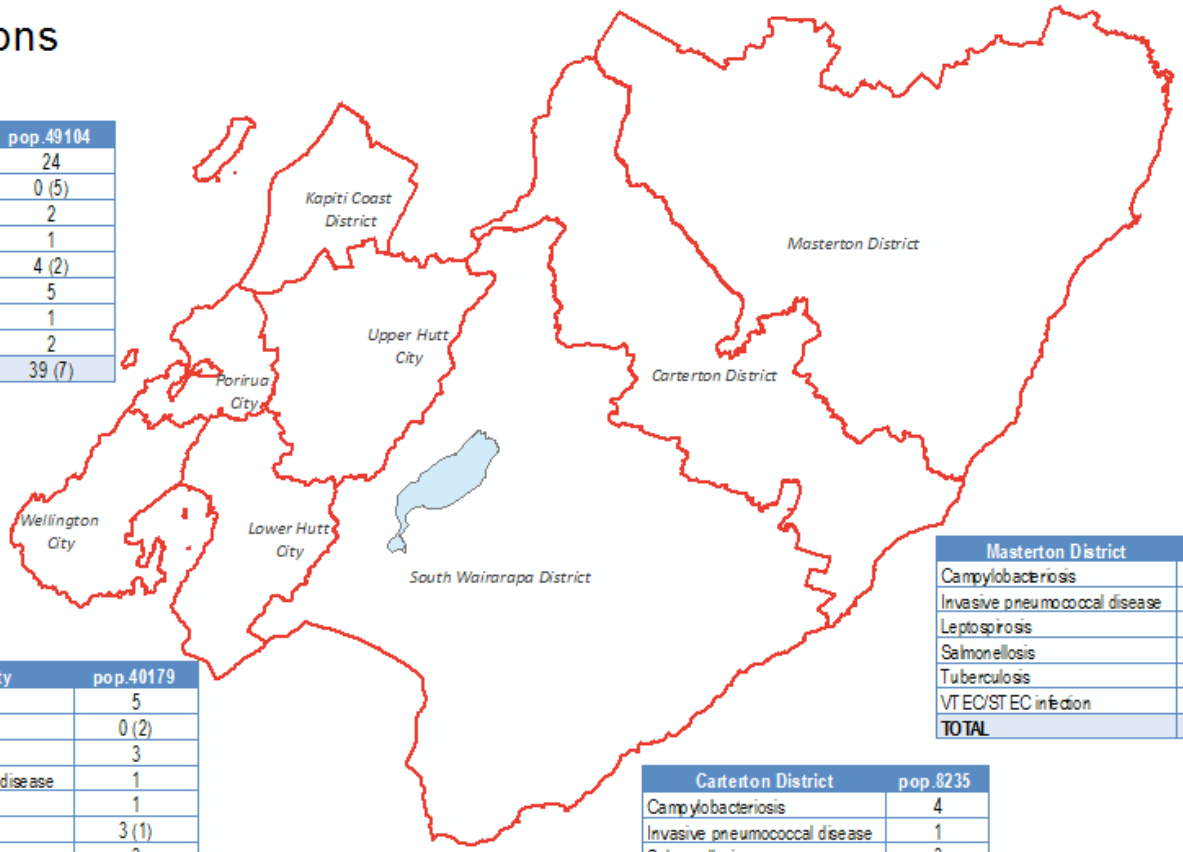
1. Episurv database of notifiable conditions. Accessed 20th August 2017.
2. Regional Public Health. Notifiable condition surveillance records. 2017.

Regional Public Health Notifications

1st April 2017 to 30th June 2017

Kapiti Coast District	pop.49104
Campylobacteriosis	24
Gastroenteritis	0 (5)
Giardiasis	2
Invasive pneumococcal disease	1
Pertussis	4 (2)
Salmonellosis	5
VTEC/STEC infection	1
Yersiniosis	2
TOTAL	39 (7)

Porirua City	pop.51717
Campylobacteriosis	10
Dengue fever	1
Gastroenteritis	0 (1)
Giardiasis	2
Invasive pneumococcal disease	5
Meningococcal disease	2
Paratyphoid fever	1
Pertussis	4 (3)
Rheumatic fever	0
Salmonellosis	2
Tuberculosis	2
VTEC/STEC infection	2
Yersiniosis	2
TOTAL	33 (4)



Masterton District	pop.23352
Campylobacteriosis	12
Invasive pneumococcal disease	1
Leptospirosis	0
Salmonellosis	1
Tuberculosis	3
VTEC/STEC infection	1
TOTAL	18

Upper Hutt City	pop.40179
Campylobacteriosis	5
Gastroenteritis	0 (2)
Giardiasis	3
Invasive pneumococcal disease	1
Mumps	1
Pertussis	3 (1)
Salmonellosis	3
TOTAL	16 (3)

Carterton District	pop.8235
Campylobacteriosis	4
Invasive pneumococcal disease	1
Salmonellosis	3
TOTAL	8

Wellington City	pop.190956
Campylobacteriosis	51
Cryptosporidiosis	7
Gastroenteritis	0 (9)
Giardiasis	22
Invasive pneumococcal disease	7
Meningococcal disease	3
Mumps	1
Paratyphoid fever	1
Pertussis	21 (6)
Salmonellosis	12
Shigellosis	2
Tuberculosis	2
VTEC/STEC infection	2
Yersiniosis	13
TOTAL	144 (15)

Lower Hutt City	pop.98238
Campylobacteriosis	29
Cryptosporidiosis	2
Gastroenteritis	0 (2)
Giardiasis	3
Invasive pneumococcal disease	1
Measles	1
Pertussis	8 (1)
Salmonellosis	3
Shigellosis	2
Tuberculosis	1
Yersiniosis	4
TOTAL	54 (3)

South Wairarapa District	pop.9528
Campylobacteriosis	3
Cryptosporidiosis	1
Giardiasis	3
Salmonellosis	1
TOTAL	8

Notes:

1. Population data from Statistics New Zealand 2013 Census 'usually resident population'.
2. Tables present the number of 'confirmed cases', with additional 'probable cases' in brackets.
3. Notification data from Episurv database. ESR, 20/8/2017.

Figure 1. Notifiable cases in the Hutt Valley, Wairarapa and Wellington 1/4/2017 – 30/6/2017, tabulated by territorial authority.

WATER-ONLY SCHOOLS SURVEY

Dr Osman Mansoor, Public Health Physician, Regional Public Health

Figure 1. José Manuel Suárez 2008. This file is licensed under the Creative Commons Attribution 2.0 Generic license. Available at: https://commons.wikimedia.org/wiki/File:Water_drop_001.jpg

Obesity is a huge health issue, globally and in New Zealand. Obesity is a normal response to an abnormal food environment. This includes easy and cheap access to tasty but non-nutritious food, including sugary drinks. Sugary drinks are an easy target because they offer no nutrition and have been linked to obesity. Although the government is not considering a tax on sugary drinks, in 2016 there was a joint Health-Education initiative to encourage schools to become 'water-only'. Regional Public Health undertook a survey of schools in the region to measure a baseline and identify schools who wanted support. The survey has just been published in the Australian and New Zealand Journal of Public Health, and suggests that water-only schools may be an emerging norm. We hope that our primary care readers will support their schools and other community events, when the opportunity arises, to go 'water-only''.

http://onlinelibrary.wiley.com/doi/10.1111/1753-6405.12705/full

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**

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). You can find a list of urgent vs. non-urgent notifications on the Regional Public Health website under Health Professionals > Notifiable Diseases.
3. Complete all sections of the form, 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**

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**

For enquiries regarding the Public Health Post, please contact Dr Jonathan Kennedy, medical officer, Regional Public Health, by email **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 Craig Thornley, Dr Annette Nesdale and Dr Stephen Palmer.**

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