



Communicable Disease Bulletin

Circular letter to: General Practitioners and Practice Nurses

Issue number 3, October 2010

Tuberculosis Tracing Requires Patience and Persistence

Regional Public Health is notified of every case of tuberculosis occurring in Wellington, Porirua, Kapiti, the Hutt Valley and Wairarapa. The team of Communicable Disease Public Health Nurses and a Public Health Physician follow up all of these cases to determine if their contacts are at risk and need to be screened or treated.

Tuberculosis cases regionally and nationally continue to fluctuate:

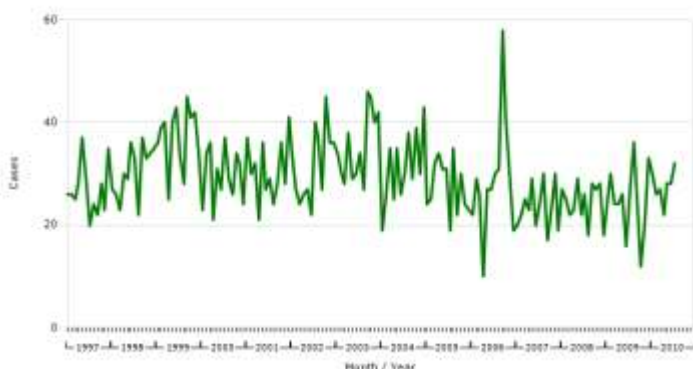
Regional Cases:

Tuberculosis disease cases by month since Jan 1997 for Hutt Valley, Capital and Coast, Wairarapa District Health Boards



National Cases:

Tuberculosis disease cases by month since Jan 1997 for all District Health Boards



Even in relatively straightforward situations the follow up can be an interesting and challenging process. In more complex social or family situations the contacts can branch out into mobile, hard to locate groups of people that may or may not appreciate the concerns, advice or treatment presented to them.

Case study:

In 2007 a teenager man from Micronesia was found to have pulmonary tuberculosis with 2+ acid fast bacilli (AFBs) in the sputum after he had been unwell for several weeks with a cough. The clinician treating him notified Regional Public Health. He was very upset by the diagnosis because of the stigma associated with tuberculosis in his community. He felt so strongly that if other people at school found out he would be so embarrassed that he would leave his school. His father had been prepared to move the whole family to another city to protect them all because of their strong feelings.

Every effort was made to protect his anonymity. Initially the family screening was done. The mother, father and younger brother all returned positive Mantoux tests. The mother and younger brother were offered and accepted isoniazid (INH) treatment for six months for latent tuberculosis infection (LTBI). The father was found to be not suitable for LTBI treatment because of abnormal liver function tests. A younger sister had two negative Mantoux tests eight weeks apart.

Pupils and staff at the school who had prolonged contact with the case, including some who shared a school trip with him were screened; 58 in total. Three people decided to go ahead with INH treatment.

The Public Health Nurses presented relevant information to the school staff, to students, and to parents. Letters were sent along with consent forms for all of those children who were being offered testing. An open information letter was sent to the whole year group. All of this was done without identifying the student.

The young man at the end said " Thank you, that really wasn't that bad", after having daily directly observed treatment (DOT) for six months.

In 2008 a teenage sibling came to join the family from the Pacific. She went to school in New Zealand and completed her final year. She had had a normal immigration medical check in 2009. In January 2010 she complained of a cough, was seen by a general practitioner and was treated for asthma. She had a number of presentations for the same problem. She noticed that she had lost 10kg in weight over five months and was getting very tired. Getting a chest x-ray proved difficult, partly because she thought it would be expensive. She was referred to the respiratory clinic where sputum testing confirmed a diagnosis of pulmonary tuberculosis with 4+ AFBs in the sputum. She was admitted to hospital and treated for two weeks in isolation before being discharged.

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Her older sister, who had been screened two years before and had had two negative Mantoux tests then, had another Mantoux test. This was strongly positive with blistering. Her chest x-ray was slightly abnormal, though she had no cough, and she was referred to the respiratory clinic.

Induced sputum tests, where moist air is inhaled until enough sputum can be produced for a sample, showed AFBs. She was then given full tuberculosis treatment.

She had two particularly close friends at school who were tested and found to be negative. No other contacts were identified as needing screening.

Their father had a clear chest x-ray again, and his liver function tests were better. He elected to have treatment to reduce his chance of getting active tuberculosis.

DNA typing (which may take several months to be processed) of the tuberculosis samples from the initial case from 2007 and from the sister were different, indicating that they both came from a high risk background but that it was not a case of direct transmission. However, the DNA typing of the tuberculosis from the second sister was the same as that of the first sister, indicating a common source or direct transmission.

The mother and brother and the initial case, who already received treatment for possible latent TB infection in 2007 will all be offered isoniazid once again, given that this time a different strain of tuberculosis is implicated.

Regional Public Health is aware that migrants from Micronesia and from some other Pacific areas are generally at high risk for tuberculosis. The Ministry of Health of the Pacific state involved was contacted so that they could follow up whether anything more needed to be done, because of the close links between the cases.

It gets even more complex

Sometimes very large numbers of contacts are involved. In 2009 More than 230 contacts of a health worker who worked at multiple hospitals and elderly care facilities needed screening. This generated a lot of decisions regarding further testing or treatment for latent tuberculosis infection.



Communicable Disease Team Members: Koos Ali, Joy Wilson (who has recently moved on from Public Health), Melanie Martin, Andrea Vause, Barbara Eddie, Janine Dugdale and Ann Ramshaw.

No cases of active tuberculosis were identified in the contact groups.

In other cases both large numbers and complex families increase the work needed. Regional Public Health in 2009 and 2010 followed up an extended family with four sputum positive infectious cases being found during the investigation of an initial case. 154 contacts of the four cases were screened of whom 20 were diagnosed with, and offered treatment for, latent TB infection. Problems with young teenagers moving accommodation, broken phones and general lack of engagement required heroic work by the Regional Public Health Communicable Disease Team nurses to get even the initial contact tracing and treatment completed.

The nursing team arrange follow up times and places around the patients' availability, and use text messaging and telephone calls to suit the patients' preferred way of contact. Incentives to help young people stay engaged with treatment have been found to be very helpful and cost-effective with some challenging groups. This has included supplying phone cards, petrol coupons, sticker charts, football cards or food vouchers. Creative thinking by the nursing team has overcome many seemingly impossible barriers to treatment and investigation.

Sources:

1. Regional Public Health case notes.
2. Episurv Reports Accessed 16/8/2010.

Christchurch Earthquake Response

All Wellingtonians know that the 'Big One' could occur at any time, and that we need to have supplies and plans in place for our homes, schools and workplaces.

Over the past few years, Regional Public Health has been part of Exercise Phoenix, based on the scenario of a large earthquake on the Wellington fault. Exercise Phoenix involves practising the actions required by different agencies in the first few days after a major earthquake and those needed for the longer term recovery. This has kept us aware of a community's vulnerability after an earthquake and the complexity of a coordinated response when infrastructure is damaged.

After the magnitude 7.1 earthquake shook Canterbury in the early morning of Saturday 4th September 2010, there was a request for additional health protection staff to assist with the activities being undertaken by the Canterbury Community and Public Health service. Early on Monday morning a team of five Health Protection Officers and one Medical Officer of Health flew down to Christchurch. We arrived in the midst of an impressive and comprehensive region-wide emergency response, clearly demonstrating the benefits of emergency planning by public agencies.

Three of the Health Protection Officers were accredited drinking water assessors and they spent three days assisting with water sampling across Christchurch. Fortunately, most of the supply had not been contaminated, despite the many breaks in sewerage lines. The "boil water notice" was then lifted for most parts of the affected region, a first step towards 'normality' for residents.

We took part in assessing public health conditions in the Welfare Centres, set up for people in need of accommodation and support, visited some of the worst affected houses with building inspectors to assess the sanitary conditions, and provided a public health liaison role at the Christchurch City Council.



A large aftershock caused a window to fall out from the Community and Public Health building while we worked, and led to the Emergency Operations Centre being moved twice in one day. As well as being disruptive, the aftershocks were alarming for many people who had already experienced the large quake. People told us that their children in particular found the aftershocks very frightening, another thing for families to cope with amongst all of the other demands.

It was rewarding that for a short time we were able to slightly lighten the load for our colleagues in another region. As well it was a valuable experience for us. Our team learned a lot about putting the theories and planning of Exercise Phoenix and other preparation into practice should this ever be needed in Wellington.

Carbon Monoxide an Unrecognised Danger

Recent cases in Wellington have illustrated that carbon monoxide poisoning can easily go unrecognised by doctors and that the potential danger may be unrecognised by some members of the public.

Faulty flued gas heater

From July 2009 onwards a forty year old professional Wellington woman with three children became very unwell with headaches, clumsiness, light-headedness and difficulty thinking. These symptoms became progressively worse such that she found she was accidentally walking into things, and dropping household items. She described aching eyes, blurry vision and tingling in her feet, with pain and numbness in the lower limbs and upper limb pain. Abdominal pain also subsequently developed.

Other body pains became prominent, and feelings of anxiety, slurred speech, extreme fatigue with several collapses on exertion. Weight loss was also noticed.

Over a period of three months she visited her doctor a number of times and presented to the emergency department on four occasions with no explanation found for her symptoms.

Her GP suggested at one visit that the symptoms could be due to some kind of poisoning, so she was on alert for potential toxins. She then noticed the old flued gas heater in the living room of the house. The heater had been checked and serviced about three years before, and was noted to be old, needing replacement at some point, but without any timeframe given by the technician. The heater flames were more orange than blue but otherwise there was no indication that there might be a problem.

She had been sleeping in the lounge at times, including with the heater on and in retrospect she realized that her symptoms improved during warmer weather when the heater was not being used.

She completely stopped using the heater and very rapidly the symptoms started to significantly improve.

The illness had been a financially costly experience for the family, particularly with childcare needs so an ACC claim was lodged.

ACC arranged a specialist assessment which confirmed that her symptoms were highly likely to be due to carbon monoxide poisoning. The heater was tested and shown to be emitting high levels of carbon monoxide.

There was no opportunity to test the woman for carboxyhaemoglobin levels, as once the diagnosis was made the heater was no longer being used.

She noticed within 24 hours of stopping using the heater that she was feeling better, and every month her symptoms continued to improve. Ten months later she still felt some residual effects.

In retrospect the symptoms had been coming on to a more mild degree every winter since the family had moved into the house six years before. All five members of the family were affected with non specific symptoms of increased grumpiness and general malaise.

When home sick, the children appeared to worsen and when her husband was home one day on parental leave he felt unwell. These symptoms all improved after the heater was no longer used.

Flued heaters discharge waste combustion products to the outside environment as opposed to unflued gas heaters which discharge waste directly into the room they are operating into.

Flued gas appliances need to have the flue checked regularly, as blockages of any type can be dangerous. Signs that an appliance is not working correctly or that the flue is blocked may include:

- A yellow flame, rather than a blue flame (unless the heater is designed to have a yellow flame).
- Soot deposits in or around the appliance.
- Rust on metal flues.
- An unpleasant smell, similar to that of a car exhaust.

If any of these signs are noticed then the appliance should be turned off and a licensed gas worker needs to be contacted to check the heater.

New Zealand and international recommendations are that all gas heaters should be checked and serviced annually.

Other sources of Carbon Monoxide include:

- Charcoal burning stoves including coffee braziers.
- Car engines that are not working correctly.
- Running an engine (e.g. car, motorbike, or forklift) in a confined space such as a garage.
- Gas stoves that are not working correctly.
- Chimneys or flues that are broken or blocked.
- Burning fuels in a confined space.

How to avoid carbon monoxide poisoning?

- Have gas appliances regularly checked.
- Use products as they are intended, stoves are not meant to heat the room .
- Do not run a car engine in the garage (even if the garage door is open).
- If using an indoor gas heater (particularly unflued) then make sure that the house is well ventilated .
- Never use an outdoor cooker (either gas or charcoal) inside.

Carbon monoxide detector alarms are also available and may be considered useful in some circumstances.

Sources:

1. Regional Public Health case files
2. Poisons center website <http://poisons.co.nz/fact.php?f=40>
3. New Zealand Ministry of Economic Development Energy Safety www.energysafety.govt.nz



Flued Gas Heater Advice

For more detail see
www.energysafety.govt.nz
and www.poisons.co.nz

WHO Director General Officially Ends Influenza Pandemic and Praises NZ



"The world is no longer in phase 6 of influenza pandemic alert. We are now moving into the post-pandemic period. The new H1N1 virus has largely run its course", announced Dr Margaret Chan, World Health Organisation Director General, on 10th August 2010.

"As we enter the post-pandemic period, this does not mean that the H1N1 virus has gone away. Based on experience with past pandemics, we expect the H1N1 virus to take on the behaviour of a seasonal influenza virus and continue to circulate for some years to come.

In the post-pandemic period, localized outbreaks of different magnitude may show significant levels of H1N1 transmission. This is the situation we are observing right now in New Zealand, and may see elsewhere.

In fact, the actions of health authorities in New Zealand, and also in India, in terms of vigilance, quick detection and treatment, and recommended vaccination, provide a model of how other countries may need to respond in the immediate post-pandemic period.

Globally, the levels and patterns of H1N1 transmission now being seen differ significantly from what was observed during the pandemic. Out-of-season outbreaks are no longer being reported in either the northern or southern hemisphere. Influenza outbreaks, including those primarily caused by the H1N1 virus, show an intensity similar to that seen during seasonal epidemics.

During the pandemic, the H1N1 virus crowded out other influenza viruses to become the dominant virus. This is no longer the case. Many countries are reporting a mix of influenza viruses, again as is typically seen during seasonal epidemics...

...Based on available evidence and experience from past pandemics, it is likely that the virus will continue to cause serious disease in younger age groups, at least in the immediate post-pandemic period. Groups identified during the pandemic as at higher risk of severe or fatal illness will probably remain at heightened risk, though hopefully the number of such cases will diminish.

In addition, a small proportion of people infected during the pandemic, including young and healthy people, developed a severe form of primary viral pneumonia that is not typically seen during seasonal epidemics and is especially difficult and demanding to treat. It is not known whether this pattern will change during the post-pandemic period, further emphasizing the need for vigilance...

...pandemics are unpredictable and prone to deliver surprises. No two pandemics are ever alike. This pandemic has turned out to be much more fortunate than what we feared a little over a year ago.

This time around, we have been aided by pure good luck. The virus did not mutate during the pandemic to a more lethal form. Widespread resistance to oseltamivir did not develop. The vaccine proved to be a good match with circulating viruses and showed an excellent safety profile.

Thanks to extensive preparedness and support from the international community, even countries with very weak health systems were able to detect cases and report them promptly.

Had things gone wrong in any of these areas, we would be in a very different situation today."

Extracts from statement 10/8/2010

What happens now?

With the end of the pandemic, New Zealand's response does not end suddenly. WHO recommends that surveillance during the post-pandemic period includes the following:

1. Monitoring for unusual events, such as clusters of severe respiratory illness or death;
2. Investigating severe or unusual cases, clusters or outbreaks to facilitate rapid identification of important changes in the epidemiology or severity of influenza;
3. Maintaining routine surveillance, including for influenza-like illness and cases of severe acute respiratory infections. Note that our routine surveillance for 2010 recently finished;

4. Continuing to use routine channels of data transmission to transmit data from the routine surveillance of respiratory disease;
5. Notifying WHO immediately if any of the following changes are detected:
 - a. Sustained transmission of antiviral-resistant H1N1 2009 influenza
 - b. Human cases of infection with any influenza virus not currently circulating in human populations
 - c. Any notable changes in the severity or other epidemiological or clinical characteristics of the H1N1 2009 virus, including changes in the age distribution, the clinical appearance, proportion of cases requiring intensive management, or unexpected increases in numbers of cases.
6. Monitoring the H1N1 2009 virus for important genetic, antigenic or functional changes, such as antiviral drug sensitivity.

See full recommendations at the link:

www.who.int/csr/disease/swineflu/notes/briefing_20100810/en/

Clinical management:

Vaccination and the latest case management advice is comprehensively put into a New Zealand context by the New Zealand Ministry of Health and regionally by Regional Public Health via Fast Fax notifications. Information for health professionals and the public is widely available including at: www.moh.govt.nz/influenza-a-h1n1 and at www.regionalpublichealth.org.nz/Article.aspx?ID=1816

High risk group reminder (NZ Ministry of Health):

The following groups have been identified to be at higher risk of developing complications of H1N1 influenza infection:

People who:

1. Are pregnant
2. Are morbidly obese
3. Have cardiovascular disease (ischaemic heart disease, congestive heart failure, rheumatic heart disease, congenital heart disease and cerebrovascular disease)
4. Have chronic respiratory disease (asthma if on regular preventive therapy; other chronic respiratory disease with impaired lung function)
5. Have diabetes
6. Have chronic renal disease
7. Have any cancer, excluding basal and squamous skin cancers if not invasive
8. Have other conditions (autoimmune disease, immune suppression, HIV, transplant recipients, neuromuscular and central nervous system disease, haemoglobinopathies, children on long term aspirin).

Thank you

Regional Public Health appreciates all of the work put in by health practitioners across the primary sector in response to the H1N1 influenza pandemic. Health practitioners contacting us with concerns or questions, and the sentinel surveillance by participating practices, helps us to continue a high standard of monitoring and response.

Sources:

1. www.who.int/mediacentre/news/statements/2010/h1n1_vpc_20100810/en/index.html
Accessed 16/8/2010
2. www.who.int/csr/disease/swineflu/notes/briefing_20100810/en/
Accessed 16/8/2010
3. www.moh.govt.nz/influenza-a-h1n1 Accessed 23/8/2010
4. www.moh.govt.nz/moh.nsf/indexmh/influenza-a-h1n1-2010-risk
Accessed 23/8/2010

NZ Food Safety - Tutin in Honey Reminder



As you may well remember twenty-two people became ill, some seriously, from eating tutin contaminated comb honey from Whangamata at Easter 2008.

The neurotoxin tutin has been a known safety risk in honey for more than 100 years, but documented cases of illness from the toxin have been reported only infrequently over the years.

Since that poisoning event, the New Zealand Food Safety Authority has introduced a standard that sets maximum levels for tutin in honey sold for human consumption. Provided all beekeepers comply with the standard – and take the necessary precautions to keep tutin at



acceptable levels – we should see no repeat of the poisonings which occurred that Easter.

Late December is the start of the risk period, so with the peak honey season fast approaching health professionals should be aware of the wide range of symptoms of tutin poisoning which may include: vomiting, giddiness, increased excitability, delirium, stupor, convulsions and coma.

Honey can become contaminated with the potentially lethal tutin neurotoxin when bees gather honeydew from the tutu plant. While the toxin mainly affects hives in the North Island and northern South Island, honey consumed in the other parts of the country could have been produced in affected areas so health professionals should always notify suspicious symptoms to Regional Public Health, even just to rule toxic honey out. Ask the case to retain any of the honey they have not yet eaten.

Comb honey can be particularly risky as high concentrations of tutin can be found in some cells. In extracted honey any tutin may be diluted when it is mixed with honey from other combs.

Sources

1. Source: NZFSA
2. <http://www.terrain.net.nz/friends-of-te-henui-group/new-native-plants/tutu.html>
3. <http://thundafunda.com/33/travel-world-pictures/Honeycomb.php>

In Brief

Gastroenteritis Notifications

Occupation / Employment / Job / Work: Please remember that with all notifications of infectious gastroenteritis, the up to date occupation of the case and their worksite are very important pieces of information. Public Health officers use this to determine how quickly and how extensively follow up is required.

Notifiable Disease Laboratory Results

For positive laboratory results indicating a notifiable disease, **please continue to notify these as soon as possible to Regional Public Health** by phoning 570 9267 or by faxing a notification form to 570 9373. The laboratories directly notify some information to Regional Public Health but this needs to be supplemented by the information available from the clinician who has requested the test. This enables us to arrange appropriate follow-up.

Communicable Disease Bulletin on the Web

The 'Communicable Disease Bulletin' is published on the Regional Public Health Website. If you would like to receive hard copy versions of the Communicable Disease Bulletin, or to change the number of copies that you receive, please email to Carol.Young@huttvalleydhs.org.nz.

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