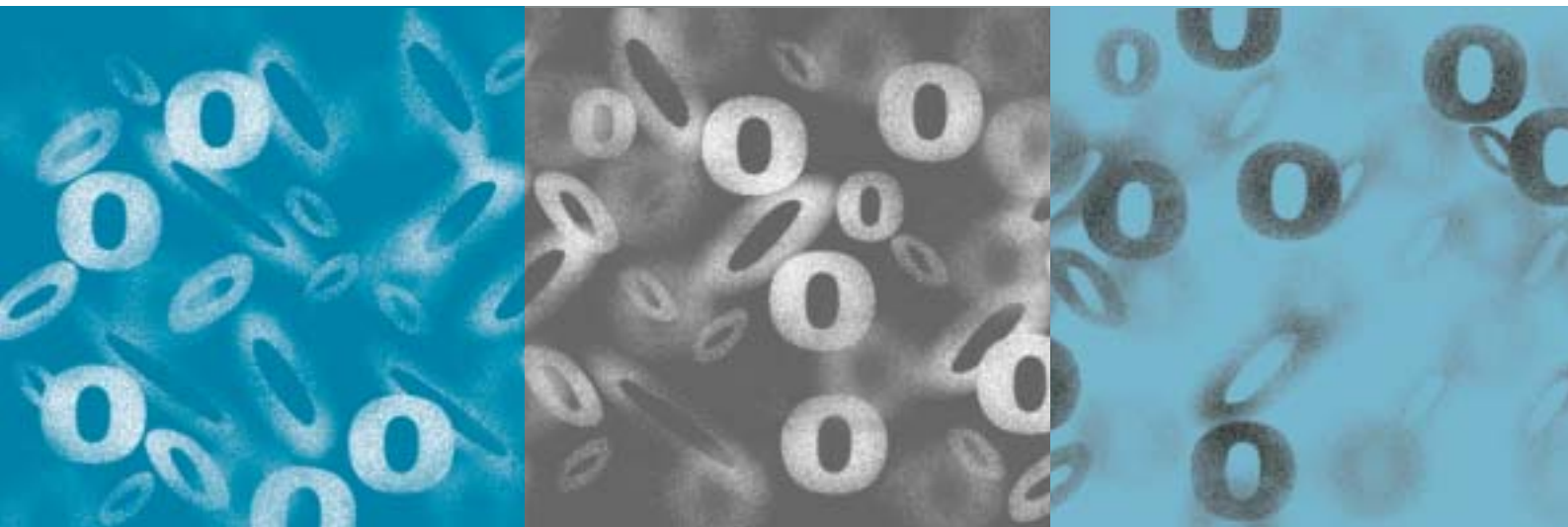


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Flu in the Barracks

Julie Wang, Department of Human Services and the National Centre for Epidemiology and Population Health, and Megan Counahan, Department of Human Services.

Background

In July 2003, the Department of Human Services (DHS), Victoria, was notified by a Victorian defence facility, Base A, of an increase in the number of personnel presenting to the base hospital with influenza-like illness (ILI). Two weeks later, DHS was notified of a similar outbreak in a separate Victorian defence facility, Base B. Both bases reported an estimated 10 to 15 admissions daily due to ILI over the preceding fortnight. This paper reports on these outbreaks.

Methods

Epidemiological investigation and outbreak management

DHS established a management team upon notification of each outbreak to assist the bases identify the causative organism of the outbreaks and implement control measures. The bases were provided with the DHS's *Guidelines for the Control of Respiratory Disease Outbreaks*.¹ This document includes information on effective infection control measures for health personnel, specific information about influenza outbreak management, case definitions, instructions for specimen collection, guidelines for the use of antivirals, and the implementation of vaccination programs. Basic information about each base was sought by DHS to assist outbreak investigation and management.

Clinical and laboratory-confirmed case definitions were used. The clinical case definition was formulated from symptoms with high predictive values

for influenza infections and that were frequently reported by those ill in the two outbreaks.^{2,3}

A clinical case of ILI had the following:

- Sudden onset (within 12 hours) of fever ($>38^{\circ}\text{C}$) or feverishness, plus at least two of the symptoms below:
- OR
- At least four of the following symptoms:
 - Cough,
 - Rigors/ chills
 - Malaise
 - Headache,
 - Myalgia,
 - Sore throat.

Both bases provided DHS with initial line lists of personnel with ILI who presented to the daily primary care clinics and those who were admitted to the base hospitals. These lists included name, age, sex, influenza vaccination history, symptoms, hospitalisation, date of onset, and whether a laboratory specimen was provided. Information about civilian and contract staff were not available, as they do not access the base medical services and active surveillance for cases amongst this population was not implemented. Base A provided DHS regular information during the outbreak, but data from Base B were incomplete.

At the time of the outbreaks DHS received anecdotal reports of cases of ILI from hospitals and healthcare centres in towns adjoining both defence barracks.



Laboratory investigation

Nasopharyngeal specimens were collected from recruits with ILI. The Victorian Infectious Diseases Reference Laboratory (VIDRL) used a multiplex polymerase chain reaction (PCR) test to test for influenza A and B, parainfluenza 1, 2, and 3, respiratory syncytial virus, adenovirus, and picornavirus. For those specimens that were PCR positive for influenza A, VIDRL then conducted further subtype testing. In both outbreaks a positive PCR result for influenza was defined as a laboratory-confirmed case.

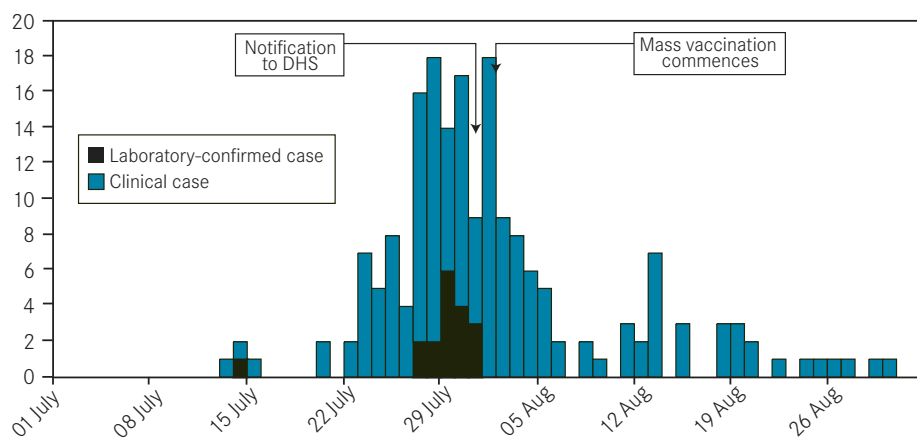
Results

Epidemiological investigation and outbreak management

Each facility reported approximately 2500 staff and recruits on base at any one time, with the majority of staff and recruits not vaccinated against influenza in the 2003 season.

On the day of notification to DHS, 20 (44 per cent) of 45 inpatients at Base A hospital reported respiratory symptoms. Overall, Base A reported 187 personnel had developed ILI over the outbreak period that spanned seven weeks (Figure 1). The line list provided by Base B at the initial stages of their outbreak reported that 68 defence staff and recruits reported an ILI in just over three weeks. The median age of cases with ILI was 20 years and the proportions of male cases (70 to 84 per cent) were similar in both outbreaks, reflecting the gender distribution of the population.

Figure 1: Number of cases with ILI by date of onset and case status, Base A outbreak, Victoria, 2003 (n= 187)



Recruits too ill to work at both bases were hospitalised according to Department of Defence regulations. Hospitalisation status was known for 162 of the ILI cases from Base A, of whom 141 (87 per cent) were hospitalised. Eight cases required more than one admission. At Base B, of 47 cases where information was available, 25 (53 per cent) had been hospitalised. The median length of admission was three days and was the same for both bases. Some recruits with ILI were transferred to other hospitals to alleviate the patient load at the affected facilities.

As part of the outbreak management, hospital administration at Base A reviewed their admissions policy. They continued elective surgery as planned and were able to prevent nosocomial transmission by isolating new admissions in a separate hospital ward and limiting their length of admission. Both base hospitals implemented several other infection control measures, including education about

frequent hand washing, cohorting of cases with ILI, and restricting the number of visitors. When there was transfer of a patient with ILI to another hospital, the base medical staff notified the receiving institution of the outbreak and the illness in the individual. No respiratory outbreaks were reported from the receiving hospitals.

Base A offered their medical staff free access to antiviral therapy during the outbreak and all declined the offer. It was not known if Base B personnel had the same access. Both bases reported their health services did not prescribe antiviral drugs against influenza to other staff or recruits during the outbreaks.

Influenza vaccines were not part of the

routine recruit vaccination schedule in the Department of Defence, yet medical staff at both bases had access to free vaccination. Prior to the outbreak, 77 (3 per cent) of the 2500 people at Base A were vaccinated against influenza. Vaccine coverage of staff and recruits at Base B was not available. There was no information on the vaccination status of the contract and civilian staff at either base.

The two bases notified their staff and recruits of the outbreaks and offered free influenza vaccines via a mass vaccination program within four days of notifying DHS. The program also extended to contract staff. DHS staff provided logistic support for the programs at both bases. Two hours after commencing vaccination, Base A had processed more than 1800 people and vaccinated approximately 1500 (83 per cent) of these. Over the next month almost 180 people who were absent on the day were vaccinated (Table 1). Base A has now altered their vaccination policy to include influenza vaccine for new recruits. At Base B, 420 influenza vaccines were administered in two and half weeks. Health centres and hospitals in the communities near the bases subsequently reported to DHS an increase in presentations of persons

Table 1: Influenza vaccines administered in the mass vaccination campaign, Base A outbreak, Victoria, 1 August–11 September 2003

Number of newly arrived recruits vaccinated	246
Number of vaccines administered to staff and already resident recruits	1675
Number refused/ previously vaccinated/ current illness	630
Total number of people processed	2305

with ILI. Some of the community cases were later confirmed to have the same influenza subtype as that circulating in the affected barracks.

Laboratory investigation

In total, 23 specimens from Base A and seven from Base B were tested. Seventeen specimens (74 per cent) from Base A were PCR positive for influenza A virus, subtype H3N2, and one (4 per cent) was positive for influenza B virus. Three (43 per cent) specimens from Base B were PCR positive for influenza A virus, subtype H3N2. The first laboratory confirmed results were available within 24 hours and 48 hours following notification to DHS at Base A and Base B, respectively.

Discussion

Influenza causes severe illness and deaths primarily among the elderly and those with underlying disease, however, influenza may affect up to 42 per cent of a healthy population.⁴⁻⁶ Influenza epidemics frequently occur in institutional settings, such as military facilities.⁵ The rapid transmission of ILI amongst the recruits at both bases was characteristic of influenza.

The two outbreaks took place in the context of no institutional immunisation program against influenza and it may take 10 to 14 days before influenza immunisation is effective.⁶ Vaccines against influenza have been a compulsory part of the United States military immunisation policy since

1954.⁵ The current recommendation for influenza vaccination in institutional settings in the *Australian Immunisation Handbook* is only for nursing homes and other long-term care facilities.⁶ These outbreaks, and others like them, provide support for the implementation of routine influenza immunisation programs in other institutional settings in Australia.

Base A improved the vaccination coverage rate rapidly via an effective and systematic mass vaccination program and catch-up scheme, and this is likely to have limited the extent of the outbreak. Establishment of a routine influenza immunisation policy will protect individuals from several circulating virus strains and may reduce the impact of future influenza outbreaks at these facilities.

Antiviral therapy is recognised as an effective adjunct to immunisation for the prevention and control of influenza.⁷ DHS recommends that consideration be given to antiviral therapy in influenza outbreaks, especially in institutional settings before immunisations against influenza take effect. For a variety of reasons the two affected bases did not use antivirals in the outbreaks. This may be because to date there are limited published reports of the use of antiviral therapy during influenza outbreaks in Australia.

These outbreaks caused significant morbidity and resource use (including outbreak management and the mass vaccination program). Concurrent

cases occurred in the surrounding community, and these may have arisen from the outbreaks at the bases. All recruits too ill to work must be admitted to hospital, therefore rates of hospitalisation are likely a reflection of work absenteeism. The duration of hospitalisation or work absenteeism is likely to be underestimated in our reporting, as the data were incomplete.

DHS aims to expand the capacity of institutions to respond to respiratory outbreaks with appropriate support. Both bases responded to the outbreaks with effective infection control measures in their hospitals. Additionally, Base A conducted a rapid and comprehensive mass vaccination campaign during the outbreak. In Base B, there was a delay in outbreak notification to DHS and this may have led to less opportunity to respond and control the outbreak. Institutions experiencing respiratory outbreaks should discuss management of these early with DHS.

Maintaining a high recruit and staff influenza vaccination coverage prior to the onset of the influenza season and early identification and response in institutional settings are recommended for prompt and effective prevention and control of influenza outbreaks.

Acknowledgements

We would like to thank the Defence facilities, VIDRL, and Helen Pitcher and Simone Bittman, DHS, for their assistance. This work by Julie Wang is supported by the Commonwealth Department of Health and Ageing.



Infectious diseases news

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HIV at record highs

The WHO and UNAIDS recently released new data highlighting the scale of the HIV epidemic. Approximately 5 million people have been newly infected with HIV and three million people have died of HIV/AIDS so far in 2003, the latter being the highest annual death toll in the history of the epidemic. Current estimates suggest there are approximately 40 million people living with HIV/AIDS worldwide of whom approximately 2.1 – 2.9 million are children aged less than 15 years. The burden of disease is greatest in sub-Saharan Africa and lowest in Australia & New Zealand.

The report indicates that new waves of the epidemic are set to take hold in Russia, China, Indonesia and India, with HIV transmission occurring primarily through unsafe sexual and injecting drug use behaviours. While the epidemic continues to predominantly affect young males, the incidence of infection in women is increasing at alarming rates. The report emphasises the urgent need for increased efforts aimed at prevention before the epidemic expands beyond the high-risk groups. Similarly, widespread access to cheap and effective treatments is critical if the epidemic is to be controlled.

The World Health Organization's "AIDS Epidemic Update 2003" can be accessed at <http://www.unaids.org/wad/2003/press/Epiupdate.html>.

New immunisation handbook

The 8th Edition of the *Australian Immunisation Handbook* was released in September 2003. The revised Australian Standard Vaccination Schedule (ASVS) now incorporates all vaccines recommended as 'best practice' in the control of vaccine preventable diseases across all age groups. As has been the case since 2000, some of these vaccines are however not as yet publicly funded through the National Immunisation Program (NIP).

Major changes to the ASVS include:

- The 18-month dose of diphtheria-tetanus-acellular pertussis vaccine is no longer recommended.
- The fifth dose of oral poliomyelitis vaccine at 15 to 17 years of age is no longer recommended.
- 7-valent pneumococcal conjugate vaccine is now recommended for all Australian children as a three dose series at 2, 4 & 6 months of age. This vaccine is funded under the NIP for specific risk groups only.
- Meningococcal C conjugate vaccine is recommended as a single dose at 12 months of age.
- The introduction of Boostrix, a lower dose formulation of the diphtheria-tetanus- acellular pertussis vaccine, instead of ADT for 15 – 17 year olds.
- Varicella-zoster vaccine is recommended for all children at 18 months of age, with a catch-up dose

for adolescents 10 – 13 years of age without a history of varicella or varicella vaccination. Varicella vaccine is not funded under the NIP.

- Inactivated poliomyelitis vaccine (in combination vaccines) replaces oral poliomyelitis vaccine for the 3 dose primary series and for the booster dose at 4 years of age. These combination vaccines are currently not available in Australia.

There are also several changes to recommended immunisation practices. The handbook is available on the web at: <http://www.immunise.health.gov.au/handbook.htm>.

Decline in invasive pneumococcal disease in the USA

In early 2000, a seven-valent pneumococcal conjugate vaccine was licensed and recommended for use in young children in the United States. In May 2003, Whitney et al reported in the *New England Journal of Medicine* the findings of a study aimed to evaluate changes in the burden of disease.¹ The study was based on data from the Active Bacterial Core Surveillance of the Centers for Disease Control and Prevention, a laboratory based system collecting information on isolates of *Streptococcus pneumoniae* from normally sterile sites.

The study found the rate of invasive disease dropped from an average of 24.3 cases per 100,000 persons in 1998 and 1999 to 17.3 per 100,000 in 2001, with the largest decline in children under two years of age (59.0 cases per 100,000 in 2001 vs. 188.0

per 100,000 at baseline). The rate of disease caused by vaccine and vaccine-related serotypes declined by 78 percent and 50 percent respectively.

An interesting finding of the study was that disease rates also fell for adults: 32 percent lower for adults 20 to 39 years of age, 8 percent lower for those 40 to 64 years of age and 18 percent lower for those 65 years of age or more. The rate of disease caused by penicillin resistant strains was also 35 percent lower in 2001 than in 1999. The study concluded that the pneumococcal conjugate vaccine was preventing disease in young children and may also be reducing the rate of disease in adults. The results also suggest the vaccine may be an important contribution to reducing disease caused by antibiotic resistant strains. Surveillance will continue to monitor disease trends, in particular the potential for replacement by serotypes not contained in the vaccine.

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Courses and conferences

The International Conference on Emerging Infectious Diseases will be held between 28 February – 3 March 2004 in Atlanta, Georgia, USA. Further information can be obtained from the website at <http://www.iceid.org>.

The 4th International Advanced Vaccinology Course in Asia-Pacific Regions, organised by the International Vaccine Institute, will be held in Seoul, Korea between 8 – 13 March 2004. Further information and application forms can be obtained from the website at: <http://www.ivi.int/>.

The 9th National Public Health Association of Australia's Immunisation Conference and the 1st PHAA Asia-Pacific Vaccine Preventable Diseases Conference will be held on 19 and 20 August 2004 at the Cairns Convention Centre, Queensland. Further information can be obtained from the website at: <http://www.pha.org.au/conferences>.

Leptospirosis: a case of pulmonary haemorrhage after kayaking

Leon Worth and Beverley-Ann Biggs, Victorian Infectious Diseases Service

Case summary

A 28 year-old man was admitted to hospital in April 2002 with a four-day history of fever, myalgia, nausea and vomiting. On presentation, he was well looking, although febrile (39.4°C) and tachycardic (pulse rate of 120). His chest was clear to auscultation, and he had no rash or conjunctival suffusion.

He had been kayaking in the Yarra River 13 days before the onset of symptoms. He performed many turns and rolls, and became submerged in water on numerous occasions. This followed a period of heavy rainfall.

A full blood examination (FBE) revealed a normal white blood cell count (WBC) count, with a mild neutrophilia. Renal and liver function tests were normal. Urinalysis showed no blood or protein, and chest radiograph showed clear lungfields. Blood and urine cultures were taken, and he was admitted for further observation.

Two days after admission, he became acutely unwell, with oliguria and hypoxia (PaO₂=44mmHg on room air). Repeat investigations revealed leucocytosis (WBC=11.9×10⁹/L, normal range 4.0-11.0), thrombocytopenia (platelets=86×10⁹/L, normal range 140-400), acute renal impairment (creatinine=0.31mmol/L, normal range 0.05-0.11) and mild abnormalities on liver function testing (ALT=95 IU/L, normal range <55; AST=157 IU/L, normal range 0-50). Midstream urine examination showed 96×10⁶/L WBC, and *Legionella* urinary antigen was not detected. The chest radiograph

showed bi-basal patchy opacities. An urgent renal ultrasound showed no evidence of urinary tract obstruction.

Empiric therapy for community-acquired pneumonia, bacterial sepsis (eg Staphylococcal, Meningococcal) and leptospirosis was administered: ceftriaxone, penicillin, flucloxacillin and erythromycin. With worsening renal function (creatinine=0.44mmol/L) and anuria, he was transferred to an intensive care unit, where haemofiltration was commenced.

On day four following admission, he developed haemoptysis. A computerised tomography scan of the chest showed bilateral consolidation and bi-basal pleural effusions. A bronchoscopy was performed, demonstrating haemorrhage within the large airways of the left and right lung. No acid-fast bacilli were seen on bronchoscopy washings. He had a further episode of haemoptysis two days later, requiring blood transfusion for developing anaemia (Hb=71g/L). Methylprednisolone (1g intravenously) was administered as empiric treatment for vasculitis, although ANA, ANCA, and anti-GBM antibodies were not detected, and a renal biopsy showed no evidence of glomerulonephritis. Ten days after admission, episodes of haemoptysis had resolved and his renal function had improved (creatinine=0.22mmol/L). A chest X-ray showed diminution in size of pleural effusions, and some resolution of parenchymal abnormalities.

After his clinical improvement, the results of microscopic agglutination testing for antibodies to leptospirosis

became available. The antibody titre to *Leptospira copenhageni* was <50 at day three of admission, then rose to 200 at day eight. Titres of 800 and 400 were measured at days 14 and 31 respectively. This represents a four-fold rise in titre, and is consistent with acute leptospirosis infection. Attempts to culture *Leptospira* from three separate urine samples were unsuccessful. Staining of the renal biopsy for *Leptospira* was not diagnostic.

Discussion

Leptospirosis is a spirochete zoonosis with protean clinical presentations. Most commonly, the disease is mild and self-limiting and patients may not seek medical attention. Less commonly, hyperbilirubinaemia, acute renal failure, and pulmonary haemorrhage may occur with significant mortality rates. This case of pulmonary-renal disease was due to the serovar *Leptospira copenhageni* (serogroup *icterohaemorrhagiae*).

In this case, significant epidemiologic factors included the recent kayaking trip and period of heavy rainfall. Water may become contaminated with urine from infected pigs, cattle or rodents, especially following rainfall. Transmission of leptospirosis can then occur if human skin cuts or abrasions make direct contact with an infected body of water.

The illness is classically biphasic, with severe manifestations of leptospirosis (eg pulmonary haemorrhage) developing during the latter immune-phase of the illness. In addition to



Large scale screening for tuberculosis at a metropolitan university

Simone Bittmann, Department of Human Services



supportive therapy, antibiotics are often recommended. Penicillin and doxycycline have been shown to shorten the period of hospitalisation, and reduce the number of days of fever and duration of organ failure, although no reduction in mortality has been demonstrated.

Notified cases of Leptospirosis in Australia infrequently present with pulmonary haemorrhage or renal involvement.¹ State notifications are highest in Queensland, with Victoria reporting the second highest number of cases.¹ Of cases detected in Victoria between 1979 and 1981, reactivity to the serogroups *Hebdomadis* and *Pomona* was most common, with only one case of *Copenhageni*.²

This case illustrates the potentially severe and rapidly progressive nature of leptospirosis. Clinicians practising in temperate regions of Australia should consider leptospirosis when assessing a patient with fever of unknown origin. In particular, risk factors for acquisition should be sought, including occupational exposure (eg. farmers, meatworkers), and participation in recreational water sports.

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Background

While Australia remains a low incidence country for tuberculosis, approximately 250 - 300 new cases are notified each year in Victoria. This results in the screening of approximately 2000 close contacts per year to identify new infections and prevent further transmission. On 30 June 2003, the Tuberculosis Program, Department of Human Services (DHS) was notified by a metropolitan hospital of a newly diagnosed case of tuberculosis (TB). The patient, an overseas student, had acid-fast bacilli (AFB) sputum smear positive pulmonary TB and was in an isolation room at the hospital.

A staff member from the Program visited and interviewed the patient in hospital. The history of illness, with onset times, social and family history were discussed. At this time it was revealed that the patient had been unwell for some months, was attending university and lived on campus.

Given the clinical presentation, heavily (AFB 4+) smear positive sputum samples, extent of disease on chest x-ray and length of illness, the case was assessed as having a high degree of infectivity.¹ It was decided to initiate screening for TB in the relevant faculty and accommodation at the university, to identify those who may have been exposed and infected with TB.

Methods

A contact requiring screening was defined as a person who had attended the same classes, or lived on the same floor in the campus accommodation, as the case.

To organise screening at the university, initial contact was made with the faculty head and college supervisor. A list of classes and students was obtained, and the Occupational Health and Safety Officer assisted in providing a location for the screening exercise. Dates were set for the screening and letters notifying all contacts of their potential exposure were sent out.

The standard method for testing for TB infection, the Mantoux or tuberculin skin test (TST), was used. This is an intradermal injection of purified protein derivative (PPD), which measures tuberculin hypersensitivity, a cell mediated immune response.¹ The TST is administered on day one and the result read 48-72 hours later. Interpretation of the reading can be complicated by a number of factors including previous BCG (Bacille Calmette Guérin) vaccination and operator technique. A positive test is defined as a reaction measured at 15 mm for those with previous BCG vaccination, or 10 mm for those without.

In addition, participants were approached to participate in a study of the newly developed QuantiFERON-TB GOLD® blood test for tuberculosis infection (personal communication, Paul Vinton, Victorian Infectious Diseases Service). This new test may be of diagnostic value in determining TB infection, especially in people with previous BCG vaccination, because it measures the immune response to TB specific proteins, ESAT-6 and CFP-10, unique to *Mycobacterium tuberculosis* and therefore is not affected by BCG vaccination.²

Results

Six staff from DHS conducted the screening, accompanied by a number of staff involved in the QuantiFERON-TB GOLD® study. An estimated 350 students and staff were identified as meeting the criteria for screening. In total, 298 people (85 percent) were subsequently screened, of whom 204 were male and 91 were female. Information on gender was missing for three people. The median age of those screened was 24.7 years (range 16–58 years). Fifty-six percent nominated Australia as their country of birth. The next two most common countries of birth were China and India – the two highest burden TB countries in the world.³

Approximately half of those screened agreed to participate in the QuantiFERON-TB GOLD® study.

Twenty-three of those tested did not present for the test to be read three days later. Of those who did (n=275), eight required follow-up due to their positive Mantoux tests. All were overseas born and seven had BCG vaccination scars. Four of these persons were also positive by the QuantiFERON-TB GOLD® test. None of the eight were from residential facilities. One person had also never been in the same classroom as the case (this person had insisted on testing), so it is questionable if this reaction was due to contact with this patient.

Discussion

The success of this screening program was facilitated by excellent cooperation

from the university and a high (92%) attendance rate. We found that of 275 persons who completed follow-up screening after possible exposure to a highly infective case, eight (2.9 per cent) required further investigation of possible TB infection. No active cases of TB were detected. Caution is required in associating these positive Mantoux results with exposure to the index case as the test cannot distinguish between recent or old infection.

It is possible that infections may have occurred amongst those who did not present for review of their Mantoux test. However we believe this was unlikely as individuals would probably have sought review if a large reaction occurred. The TB program investigates potential links between all cases notified, and fingerprinting of *M. tuberculosis* isolates by the Victorian Infectious Diseases Reference Laboratory will assist in identifying related disease amongst this group if it does arise.

Current studies of the QuantiFeron-TB GOLD® test may provide support for their potential role in future screening exercises when the Mantoux result is questionable. An advantage of the test is that only one visit is necessary, and this may reduce loss to follow-up. However the cost of the test is a limiting factor at approximately \$30 per specimen.

Follow up is ongoing for those contacts with positive Mantoux results. This may involve referral to an infectious diseases physician or a series of chest radiographs. The index case has made

a good recovery, remaining on treatment for at least six months and is being monitored on a monthly basis in an outpatients' clinic and through regular contact with a public health nurse from the TB Program.

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Immunisation update

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Data cited in this report are based on the Australian Childhood Immunisation Register (ACIR) coverage report. Table 1 presents immunisation coverage at 30 September 2003 for children aged 12- <15 months, 24- <27 months and 72- <75 months at 30 June 2003. Only

vaccines administered before 12 months of age were included in the coverage calculation for the first age group, and only those vaccines administered before 24 and 72 months of age were included in the coverage calculation for the second and third age groups. For a copy

of the ACIR report listing immunisation coverage against individual vaccines for each local government area, contact Michele Sands at the Department of Human Services (email michele.sands@dhs.vic.gov.au)

Table 1: Childhood immunisation coverage, by local government area, Victoria, 30 Sep 2003

Age group	% fully immunised	Local government area (LGA)	Total LGAs (% LGAs)
12- <15 months	95+	Alpine (S), Ararat (RC), Ballarat (C), Campaspe (S), Gannawarra (S), Horsham (RC), Indigo (S), Macedon Ranges (S), Maribyrnong (C), Moorabool (S), Moyne (S), Southern Grampians (S), Strathbogie (S), Surf Coast (S), Warrnambool (C), Yarriambiack (S)	16 (21)
	90-94	Banyule (C), Bass Coast (S), Bayside (C), Boroondara (C), Brimbank (C), Buloke (S), Casey (C), Central Goldfields (S), Colac-Otway (S), Corangamite (S), Darebin (C), Delatite (S), East Gippsland (S), Frankston (C), Glen Eira (C), Glenelg (S), Golden Plains (S), Greater Bendigo (C), Greater Dandenong (C), Greater Geelong (C), Greater Shepparton (C), Hobsons Bay (C), Hume (C), Kingston (C), Knox (C), Latrobe (C), Loddon (S), Manningham (C), Maroondah (C), Melbourne (C), Melton (S), Mildura (RC), Mitchell (S), Moira (S), Monash (C), Moonee Valley (C), Mornington Peninsula (S), Mount Alexander (S), Murrindindi (S), Nillumbik (S), Northern Grampians (S), Queenscliffe (B), Stonnington (C), Swan Hill (RC), Wangaratta (RC), West Wimmera (S), Whitehorse (C), Whittlesea (C), Wodonga (RC), Wyndham (C), Yarra (C), Yarra Ranges (S)	53 (68)
	85-89	Baw Baw (S), Hindmarsh (S), Moreland (C), Port Phillip (C), South Gippsland (S), Wellington (S)	6 (8)
	80-84	Hepburn (S), Towong (S)	2 (2)
	<80	Pyrenees (S)	1 (1)
24- <27 months	95+	Ararat (RC), Gannawarra (S), Hindmarsh (S), Horsham (RC), Indigo (S), Loddon (S), Maribyrnong (C), Maroondah (C), Pyrenees (S), Strathbogie (S), Towong (S), Warrnambool (C), West Wimmera (S), Wodonga (RC), Yarriambiack (S)	15 (19)
	90-94	Bass Coast (S), Baw Baw (S), Brimbank (C), Cardinia (S), Casey (C), Corangamite (S), East Gippsland (S), Frankston (C), Glenelg (S), Golden Plains (S), Greater Geelong (C), Greater Shepparton (C), Hume (C), Knox (C), Latrobe (C), Macedon Ranges (S), Melton (S), Mildura (RC), Mitchell (S), Moira (S), Moorabool (S), Mount Alexander (S), Moyne (S), Northern Grampians (S), South Gippsland (S), Southern Grampians (S), Wellington (S), Whitehorse (C), Whittlesea (C), Wyndham (C)	30 (39)
	85-89	Ballarat (C), Banyule (C), Bayside (C), Boroondara (C), Buloke (S), Campaspe (S), Darebin (C), Delatite (S), Glen Eira (C), Greater Bendigo (C), Hobsons Bay (C), Kingston (C), Melbourne (C), Monash (C), Moonee Valley (C), Moreland (C), Mornington Peninsula (S), Murrindindi (S), Nillumbik (S), Port Phillip (C), Stonnington (C), Surf Coast (S), Swan Hill (RC), Wangaratta (RC), Yarra Ranges (S)	25 (32)
	80-84	Alpine (S), Central Goldfields (S), Greater Dandenong (C), Hepburn (S), Manningham (C), Queenscliffe (B), Yarra (C)	7 (9)
	<80	Colac-Otway (S)	1 (1)
72- <75 months	95+	Ararat (RC), Gannawarra (S), Queenscliffe (B)	3 (4)
	90-94	Campaspe (S), Central Goldfields (S), East Gippsland (S), Hepburn (S), Horsham (RC), Moorabool (S), Moyne (S), Strathbogie (S), Wangaratta (RC), Warrnambool (C), Wyndham (C), Yarriambiack (S)	12 (15)
	85-89	Banyule (C), Bass Coast (S), Boroondara (S), Brimbank (C), Casey (C), Colac-Otway (S), Corangamite (S), Darebin (C), Delatite (S), Frankston (C), Glen Eira (C), Golden Plains (S), Greater Bendigo (C), Greater Geelong (C), Hume (C), Knox (C), Latrobe (C), Loddon (S), Macedon Ranges (S), Maroondah (C), Melton (S), Mitchell (S), Moira (S), Moonee Valley (C), Moreland (C), Pyrenees (S), South Gippsland (S), Southern Grampians (S), Swan Hill (RC), Towong (S), West Wimmera (S), Whitehorse (C), Whittlesea (C), Wodonga (RC)	34 (44)
	80-84	Alpine (S), Ballarat (C), Baw Baw (S), Bayside (C), Cardinia (S), Glenelg (S), Greater Dandenong (C), Greater Shepparton (C), Hobsons Bay (C), Kingston (C), Manningham (C), Mildura (RC), Monash (C), Mornington Peninsula (S), Nillumbik (S), Northern Grampians (S), Wellington (S), Yarra Ranges (S)	18 (23)
	<80	Buloke (S), Hindmarsh (S), Indigo (S), Maribyrnong (C), Melbourne (C), Mount Alexander (S), Murrindindi (S), Port Phillip (C), Stonnington (C), Surf Coast (S), Yarra (C)	11 (14)

Surveillance report

The Department of Human Services receives notifications of infectious diseases from medical practitioners and laboratories. These notifications prompt investigation and action to control infectious diseases in Victoria. For some diseases, investigation is initiated on the basis of clinical suspicion in the absence of laboratory confirmation. Prompt notification of infectious diseases is an integral component of prompt public health action. **Please do not delay. To notify, call 1300 651 160 or fax 1300 651 170.**

This section includes a summary of infectious disease notifications received until 30 September 2003. The Communicable Diseases Section, Department of Human Services, produced the report in cooperation with the Victorian Infectious Diseases Reference Laboratory and the Macfarlane Burnet Institute for Medical Research and Public Health. We gratefully acknowledge the contribution of the Microbiological Diagnostic Unit of the University of Melbourne and the Melbourne Sexual Health Centre.

Table 15 includes historical comparisons of selected diseases for the period January - September 2003 with 2002 data at both the State and regional levels. Summary data at local government level for the diseases listed are available on the website or from Greg Mathews, Communicable Diseases Section (telephone 61 3 9637 4108). There were no notifications of anthrax, Australian arboencephalitis, botulism, diphtheria, Japanese encephalitis, Kunjin virus, plague, poliomyelitis, rabies, viral haemorrhagic fevers or yellow fever in this reporting period.

For comments or queries related to data on sexually transmissible diseases, contact the Communicable Diseases Section (telephone 61 3 9637 4126). For HIV/AIDS enquiries, contact Rebecca Guy or Dr Margaret Hellard, Epidemiology and Social Research Unit, Macfarlane Burnet Institute for Medical Research and Public Health (telephone 61 3 9282 2290).

Fortnightly surveillance data from the Victorian Infectious Diseases Reference Laboratory are available at www.dhs.vic.gov.au/vidrl/. All data in this report are provisional and subject to revision as further information becomes available. You can find general information related to the control of infectious diseases (*The Blue Book*) on line at



www.dhs.vic.gov.au/phd/hprot/inf_dis/bluebook/index.htm.

Enteric diseases

Outbreaks of gastrointestinal illness

Heather O'Donnell, Department of Human Services

In the third quarter of 2003, 39 outbreaks of gastrointestinal illness were reported to the Department (Table 1). Of these, five were considered to be foodborne or probable foodborne outbreaks, transmission via person-to-person contact was suspected in 30 outbreaks (norovirus (14); hepatitis A (1); rotavirus (1); suspected viral (14)) and the mechanism of transmission was unknown in four outbreaks.

Table 1: Outbreaks of gastrointestinal illness, Victoria, Jul – Sep 2003

Setting	Outbreaks	Persons Affected	Pathogen/Toxin (Number of Outbreaks)
Restaurant/reception/ other food premises/ specific food	3	32	Hepatitis A (1) Norovirus (1) Suspected viral (1)
Aged/disability/health care Institution	30	782	Norovirus (13) <i>Clostridium perfringens</i> enterotoxin (2) Rotavirus (1) Suspected viral (12) Unknown (2)
Children's service/school	4	54	Norovirus (1) <i>Shigella flexneri</i> 2a (1) Suspected viral (1) Unknown (1)
Family/social gathering	1	73	Suspected viral (1)
Workplace	1	7	Unknown (1)
TOTAL	39	948	Norovirus (15) <i>Clostridium perfringens</i> enterotoxin (2) Hepatitis A (1) Rotavirus (1) <i>Shigella flexneri</i> 2a (1) Suspected viral (15) Unknown (4)

More outbreaks of *C. perfringens* in aged care facilities

Two gastrointestinal disease outbreaks in aged care facilities were investigated in September. The first outbreak involved 15 out of 30 residents. The second outbreak involved 28 cases out of 600 residents, with three separate episodes over a 3-week period. Both outbreaks were confirmed as caused by *Clostridium perfringens*, with four positive specimens (two with enterotoxin) and eight positive specimens (6 with enterotoxin) respectively. Although no specific food sources were implicated, food handling deficiencies identified during the investigations included post process contamination, poor handling practices, and inadequate storage of hot food at the correct temperatures. Review of food safety programs and auditing procedures occurred at both premises.

Hepatitis A outbreak in a social setting

Karen Carter, Department of Human Services

In July 2003 the Department investigated an outbreak of hepatitis A. Overall, four confirmed (IgM positive) and one suspected case was identified.

The first case (A) was diagnosed whilst on holiday interstate. This person identified a friend (B) who had also been recently unwell with hepatitis A. They had attended a common sporting club and had spent time together each week. Case C occurred in the partner of case B, and case D was a clinically compatible illness in the partner of case A, which could not be confirmed

as hepatitis A due to recent vaccination.

Onsets for all cases were very close, and therefore likely to be due to a common source rather than person-to-person transmission. All had been to a social dinner at a local restaurant in June. A number of friends from the sporting club, and their respective partners, attended the dinner. The meal was banquet style, with dishes shared amongst the group.

An investigation was carried out including food history questionnaires, site inspections at the restaurant and food sampling for indication of poor food handling. Food handlers and their household contacts were also screened for hepatitis A, none of whom tested positive. The investigation revealed no significant associations with any particular food, and no food handling deficiencies in the restaurant.

The investigation identified a fifth case (E) amongst the group of diners, later confirmed as hepatitis A IgM positive. This person had reported having an illness characterised by vomiting and nausea at the time of the dinner and was well at the time of the investigation. It was not possible to determine if this person was the possible primary case who was infectious at the time of the dinner (suggesting person to person transmission of the illness), or if the infection was more recent and therefore acquired at the same time as the other cases. No other risk factors or possible sources of the illness were identified for this case.

It is suspected that transmission of the infection was person to person, as no

potential food source was identified and all restaurant staff tested negative for recent infection. There were no further complaints of illness to the Department, local government or the premises, and no further epidemiologically linked cases were identified.

Bloodborne viruses

Newly acquired hepatitis C

Luke Atkin, Department of Human Services

Between 1 July and 30 September 2003, DHS received a total of 968 notifications of hepatitis C infections. This compared to 1033 notifications for the same period in 2002.

Of the 968 notifications, 29 (3 percent) were classified as newly acquired (15 males, 14 females). The median age for males was 24 years (range 16 – 47 years) and 26 years (range 14 – 43 years) for females.

Twenty-three cases (79 percent) were diagnosed on the basis of seroconversion to hepatitis C virus in the previous 24 months. Six cases (21 percent) were diagnosed on the basis of having had clinical hepatitis in the previous 24 months.

Of the 29 cases, injecting drug use was the major risk factor reported (n=22). It is important to recognise that the three percent of cases notified as newly acquired under-represents the burden of newly acquired hepatitis C in Victoria. Due to the nature of the disease and the risk behaviour associated with it, the probability of obtaining better data on the newly acquired cases is limited.

Vaccine-preventable diseases

Haemophilus influenzae type B (HIB)

Ann Murphy, Department of Human Services

One notification of Hib disease was received for a 20-month-old child from the Barwon South West region. She presented to hospital with a periorbital cellulitis, fever and lethargy. Although her parents and older sibling had been immunised, the parents had chosen not to immunise this child.

Invasive pneumococcal disease (IPD)

Megan Counahan, Department of Human Services

There were 127 cases of IPD notified in the third quarter of 2003. This represented a 40 per cent (n=178) decrease on the number of cases for the same period last year but almost exactly the same number as 2000 (n=128). The age range of the cases was 6 months to 96 years. There were no notifications for persons identified as Aboriginal or Torres Strait Islander. Sixty per cent of notifications were for males (n=76), 40 per cent (n=51) for females. There were six deaths attributed to IPD reported - five persons were aged over 65 and one was aged 47 years.

Serotype information was available for 95 per cent (n=121) of cases. Of those aged less than two years and for whom the information was known (n=22), 21 isolates were those contained in the 7-valent pneumococcal conjugate vaccine. Of those aged 65 years and

over and for whom the information was known (n=40), 39 isolates were either contained in, or related to, the 23-valent pneumococcal polysaccharide vaccine. Vaccine failures occurred in three people, all aged over 50 years.

Tetanus

Marion Moloney, Department of Human Services

One case of tetanus was notified in an elderly, overseas born male who had cut his thumb while doing some carpentry work. He was treated by his doctor and received an adult diphtheria-tetanus (ADT) vaccine at the time of the incident. Some days later he re-presented unable to open his jaw and complaining of back spasms. A preliminary diagnosis of tetanus was made and hospitalisation arranged. There was no history of prior tetanus immunisation.

On admission he had respiratory distress and subsequently required a tracheostomy and admission to the intensive care unit. He was successfully treated with penicillin,

tetanus immunoglobulin and further doses of ADT. The diagnosis was not laboratory confirmed.

In the event of a tetanus prone injury, tetanus immunoglobulin should be given at the same time as ADT if prior immunisation is uncertain or if the patient has received less than three doses of a tetanus vaccine.

Other notifiable diseases

Tuberculosis

Lynne Brown, Department of Human Services

There were 221 notifications of tuberculosis in the first three quarters of 2003, a nine per cent increase on the same period last year (n=201), but a decrease on the number for 2001 (n=228). Of these notifications, 108 were for females (49 per cent) and 113 (51 per cent) were for males. The highest notification rate was for persons aged 65 years and older (Figure 1).

In general, it would be expected that in the older age groups, there would be a

Figure 1: Tuberculosis notifications & notification rates per 100,000 by age group and sex, Victoria, 1 Jan – 30 Sep 03

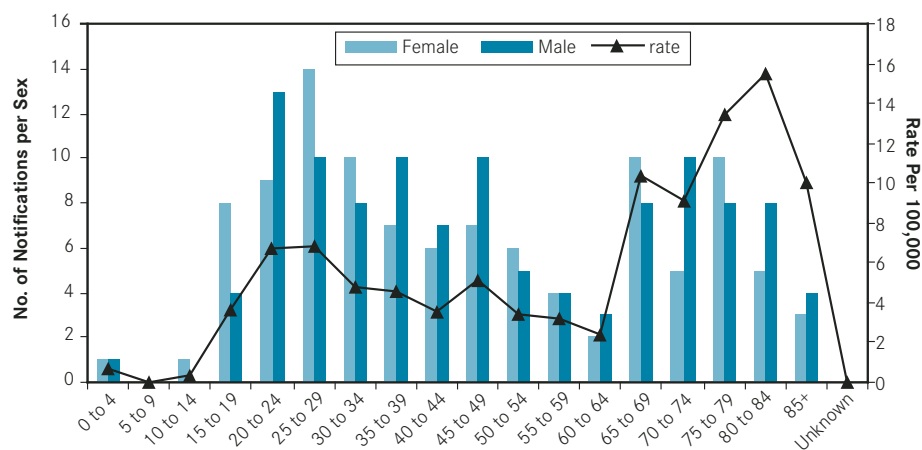


Table 2: Reported sites of disease, tuberculosis notifications, Victoria, 1 Jan – 30 Sep 03

Site	N
Pulmonary	87
Lymph Nodes	55
Other	28
Pulmonary + other sites	25
Pleural	19
Bone/Joint	13
Genito/Urinary	11
Peritoneal	5
Miliary	3
Meningeal	1
Total	248

Note: Total is greater than number of notifications due to multiple sites in some patients.

predominance of Australian born patients who had reactivated a past infection acquired when TB rates were much higher in Australia. However, Australian born patients over 65 years comprised only 21 per cent of the notifications in this age group. There was one child less than 15 years notified with TB – a fourteen-month-old boy, born in a refugee camp in Egypt and diagnosed with primary TB on the basis of a positive Tuberculin Skin Test (TST) and cervical lymphadenopathy.

Eighty-seven percent of notifications were for persons born overseas. There were no notifications for indigenous Australians. Two persons were known to have HIV and TB co-infection.

Pulmonary disease accounted for 51 percent of all notifications (n=112). Twenty-five of these notifications noted additional sites, other than the lungs (table 2). Two persons were notified with disseminated disease. Laboratory confirmation in the form of culture, histology, microscopy or PCR was obtained for 91 per cent of all notifications to September 2003.

Seven patients reported a past history of TB treatment, including two with pulmonary tuberculosis who were treated as children in their country of origin. Of these seven patients, only four were confirmed by culture to have reactivation of disease (Table 3).

Legionellosis

Anne Geschke, Department of Human Services

Fourteen cases of legionellosis were notified in the third quarter of 2003 compared with 18 cases in the same period last year.

Seven cases were confirmed by urinary antigen, culture or fourfold increase in

antibodies and seven cases were classified as probable based on a high antibody titre. This compares with 11 confirmed and seven probable cases in the same period last year. Three cases were due to infection with *Legionella pneumophila* serogroup 1 compared with four cases in the same period last year.

Invasive meningococcal disease

Anne Geschke, Department of Human Services

There were 44 confirmed or probable cases of invasive meningococcal disease (IMD) notified in the third quarter of 2003 (23 females and 21 males). The majority of these were Group B (22/44). There were 17 notifications of Group C, two notifications of a clinically compatible illness, and three notifications of other serogroups. There were two deaths in the reporting period (20 year old and a 68 year old) both attributed to Group C disease.

Two outbreaks of meningococcal disease were identified, both in the Barwon South Western Region. The first outbreak occurred in a coastal town in late August 2003. Two cases were notified over a three-day period in students attending the same tertiary institution. Both cases were confirmed as serogroup B disease and were microbiologically indistinguishable when sub-typed. Although the cases had no direct contact with each other, an investigation revealed two epidemiological links. Both cases had close contacts in the same sporting team and a separate social group.

Table 3: Treatment History – TB notifications, Victoria, 1 Jan – 30 Sep 03

Treatment History	Number
New Case	214
Relapse case: treatment history unknown	3
Relapse following partial treatment in Australia	1
Relapse following full treatment overseas	1
Relapse following partial treatment overseas	2
Total	221

Table 4: Invasive meningococcal disease serogroup B and C, by vaccination programme age group, 1 Jan – 30 Sep 1997-2003

Meningococcal disease	Age group	1997	1998	1999	2000	2001	2002	2003
Group B	<1	3	2	3	3	1	5	6
	1-5	15	4	11	6	13	6	9
	6-14	2	0	6	6	5	5	5
	15-19	5	3	6	5	7	11	6
	20-30	5	3	5	6	4	7	5
	30+	7	1	3	8	5	5	6
	Subtotal		37	13	34	34	35	39
Group C	<1	0	0	0	2	0	1	1
	1-5	2	1	1	8	7	8	4
	6-14	0	2	2	4	7	6	5
	15-19	1	0	9	10	5	18	7
	20-30	1	2	3	20	9	10	11
	30+	2	2	12	6	14	16	11
	Subtotal		6	7	27	50	42	59
Total		43	20	61	84	77	98	76

Clearance antibiotics were provided to both of these groups.

The second outbreak occurred in a southern coastal area in September 2003, involving four students of the same school. Three cases of meningococcal disease were notified on the same day in students from the same class. One case was subsequently confirmed by blood specimen and the other two cases classified as probable. Clearance antibiotics were subsequently provided to all members of the class and other close contacts. Following confirmation of serogroup C disease, meningococcal C vaccination was provided to the whole year level and other unimmunised students at the school. A fourth case of meningococcal disease was notified one week later in a student of another year level. Although

this case was later confirmed as serogroup B disease, further testing showed the serogroup B and C strains had the same *Por A* gene, confirmed by multilocus sequence typing (MLST).

Overall the number of notifications of IMD, year to date, were lower than was seen for the same period last year (96 and 149 respectively). Table 4 specifically looks at group B and C

disease, both of which were below the same time last year.

Sexually transmissible infections

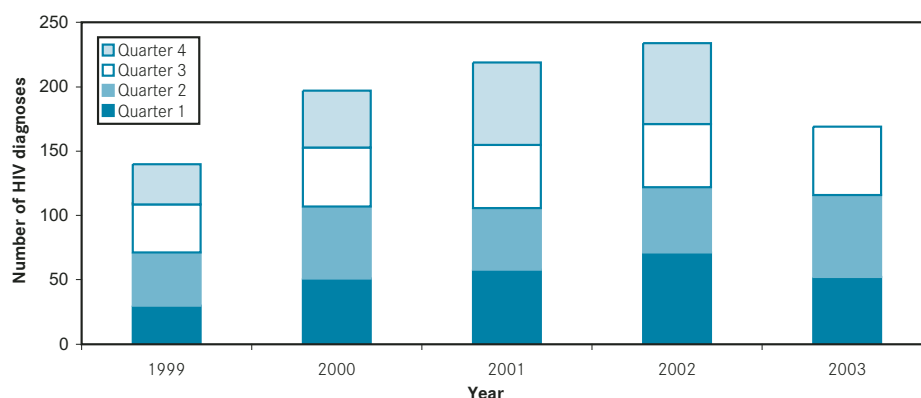
Human Immunodeficiency Virus (HIV) infection

Rebecca Guy, Macfarlane Burnet Institute for Medical Research and Public Health

There were 54 new HIV diagnoses in Victoria during the third quarter of 2003 - a 16 percent decrease on the 64 reported in the previous quarter, and a ten percent increase on the 49 in the same quarter last year (Figure 2). The median age of cases was 35 years (range: 18 to 73 years) (Table 5).

Between 1 January and 30 September 2003 there were 170 new HIV diagnoses, compared to 171 for the same time period in 2002.

Of the 54 new HIV diagnoses this quarter, 51 were in males and three were in females. Of the males, 36 (71 per cent) reported male-to-male sexual contact as their exposure category (Table 6). This was a 20 percent decrease on the previous quarter,

Figure 2: HIV diagnoses by year and quarter, Victoria, Jan 1999 – Sep 2003

where 45 males reported male-to-male sexual contact.

Male-to-Male Sexual Contact

Of the 36 males with male-to-male sexual contact as their exposure category, 23 (64 per cent) reported acquiring their HIV infection in Victoria (Table 7).

Of these 36 cases, 10 (28 per cent) reported their HIV infection was acquired from an anonymous partner, 8 (22 per cent) a casual partner, 7 (19 per

cent) a regular partner, and in 6 (17 per cent) cases the source of infection was unknown (Table 8).

Heterosexual Contact

Of the 53 new HIV diagnoses this quarter, 11 (21 per cent) reported heterosexual contact as their exposure category – eight males and three females (Table 6).

Of these, five (45 per cent) were born in a high prevalence country or reported heterosexual contact with a

person from a high prevalence country. This was similar to 2002, where 28 (51 per cent) of 55 HIV diagnoses with heterosexual exposure were born in a high prevalence country or reported heterosexual contact with a person from a high prevalence country (Table 9).

Injecting Drug Use (IDU)

In the third quarter of 2003, there were five cases with a history of IDU, three of these also reported male-to-male sexual contact. Of the two with a history of IDU only, both were born in South-East Asia.

Sex Workers

There was one case in this quarter identified as a sex worker. This case was a male who reported a history of male sex work.

Incident Infections

Those with newly acquired HIV or incident infection provide a picture of who has been infected with HIV in the past 12 months. Such individuals are identified on the basis of a previous negative HIV test and/or a

Table 5: New HIV diagnoses in Victoria, by age group, Jul – Sep 2003 and Jan – Dec 2002

Age Group	Jul – Sep 2003		Jan – Dec 2002	
	Males	Females	Males	Females
0–12	0	0	1	0
13–19	0	1	1	1
20–29	6	1	46	7
30–39	11	1	96	11
40–49	4	0	40	2
50–59	2	0	20	1
60+	0	0	6	2
Total	51	3	210*	24

* Includes 2 persons for whom sex is reported as transgender

Table 6: New HIV diagnoses in Victoria, by exposure category, Jul – Sep 2003 and Jan – Dec 2002

Exposure category	Jul – Sep 2003				Jan – Dec 2002			
	Males		Females		Males		Females	
	n	%	n	%	n	%	n	%
Male homosexual/bisexual	36	70.6	-	-	165*	78.6	-	-
Male homosexual/bisexual and injecting drug use	3	5.9	-	-	8	3.8	-	-
Injecting drug user	2	3.9	0	0.0	4	1.9	0	0.0
Heterosexual	5	9.8	1	33.3	17	8.1	13	54.2
Person from a HPC*	3	5.9	2	66.7	14	6.7	11	45.8
Other/Unknown	2	3.9	0	0.0	2	1.0	0	0.0
Total	51	100	3	100	210*	100	24	100

* Includes 2 persons for whom sex was reported as transgender

* Persons from countries with a high prevalence (>1 per cent) of HIV

seroconversion illness within the 12 months preceding HIV diagnosis. Fifteen individuals were classified as incident HIV infections during the third

quarter of 2003, all were males (Table 10). This was a 32 percent decrease on the 22 incident infections identified in the previous quarter.

Table 7: New HIV diagnoses in males reporting homosexual contact by place infection acquired, Jul – Sep 2003 and Jan – Dec 2002.

Place infection acquired	Jul – Sep 2003		Jul – Sep 2002	
	n	%	n	%
Victoria	23	63.9	121	73.3
Interstate	5	13.9	19	11.5
Overseas	4	11.1	20	12.1
Unknown	4	11.1	5	3.0
Total	36	100.0	165	100.0

Table 8: New HIV diagnoses in males reporting male homosexual contact by source partner type, Jul – Sep 2003 and Jan – Dec 2002.

Source partner type	Jul – Sep 2003		Jul – Sep 2002	
	n	%	n	%
Regular Partner	7	19.4	57	34.5
Casual Partner	8	22.2	51	30.9
Anonymous Partner	10	27.8	43	26.1
Regular or Casual	2	5.6	0	0.0
Regular or Anonymous	1	2.7	0	0.0
Casual or Anonymous	2	5.6	0	0.0
Unknown	6	16.7	14	8.5
Total	36	100.0	165	100.0

Table 9: New HIV diagnoses reporting heterosexual exposure, Jul – Sep 2003 and Jan – Dec 2002

Exposure Category	Jul – Sep 2003				Jan – Dec 2002			
	Males		Females		Males		Females	
	n	%	n	%	n	%	n	%
Person from a HPC	3	37.5	2	66.7	14	45.2	11	45.8
Hetero contact with person from a HPC	1	12.5	0	0.0	1	3.2	2	8.3
Hetero contact with bisexual man	-	-	1	33.3	0	0.0	3	12.5
Hetero contact with IDU	0	0.0	0	0.0	1	3.2	1	4.2
Hetero contact with person with HIV	0	0.0	0	0.0	0	0.0	1	4.2
Hetero contact with person with other risk	0	0.0	0	0.0	0	0.0	3	12.5
Hetero contact (not otherwise specified)	4	50.0	0	0.0	15	48.4	3	12.5
Total	8	100.0	3	100.0	31	100.0	24	100.0

Deaths

There were five deaths following HIV or AIDS diagnosis notified during the third quarter of 2003, compared to three deaths in the previous quarter. All deaths were among males.

Acquired Immune Deficiency Syndrome (AIDS)

Rebecca Guy, Macfarlane Burnet Institute for Medical Research and Public Health

There were 11 notifications of AIDS during the third quarter of 2003 (ten males, one female) - nine had been diagnosed with AIDS within this time frame. Of the ten males, eight (80 per cent) reported a history of male-to-male sexual contact.

Chlamydia infections

Luke Atkin, Department of Human Services

The Department received 1701 notifications of *Chlamydia trachomatis* in the third quarter of 2003, representing a thirty-eight percent increase on the number of notifications from the same period last year

Table 10: New HIV diagnoses in Victoria, by time since last negative test or seroconversion illness, Jul – Sep 2003 and Jan – Dec 2002.

Time between HIV diagnosis and negative test and/or seroconversion illness	Jul – Sep 2003		Jan–Dec 2002	
	Males (n)	Females (n)	Males (n)	Females (n)
Less than 1 year	15	0	76*	2
1 year to less than 3 years	9	0	26*	2
3 or more years	0	0	28	6
No previous negative test or seroconversion illness	27	3	78	14
Total	51	3	210	24

* Includes 2 persons for whom sex was reported as transgender

(n=1224) (Figure 3). The age and sex distributions remained unchanged with the greatest burden of disease in the 20–24 year old age group.

Type of specimen and laboratory test was available for 1607 (94 percent) notifications. Nucleic acid tests were the most common method reported, accounting for 1601 notifications. No laboratory confirmations were received for 147 (8.6 percent) notifications compared to 113 (6.6 percent) of notifications in the previous quarter.

The passive notification system is enhanced by the collection of risk factor information from clinicians. There were 445 (26 percent) questionnaires returned for the third quarter 2003, although not all questionnaires were complete, as compared with 723 (59 percent) for the same period last year. Given the low response rate, these data are not presented here.

Gonorrhoea

Luke Atkin, Department of Human Services

There were 300 notifications of *Neisseria gonorrhoeae* in the third quarter of 2003, compared to 203 notifications for the same period in 2002 (Figure 4).

Of the third quarter notifications, 270 (90.7 percent) were males and 25 (8.3 percent) were females. There were five notifications where the gender was not reported. Of the third quarter

notifications, the median age of males was 33 years (range 15–62 years) and the median age for females was 28 years (range 18–57 years).

The notifying clinician provides the Department with risk factor information on the case. Enhanced surveillance information was obtained for 61 percent (n =185) of notifications, although not all questionnaires were complete.

Males

Of the 270 notifications from males, information on the sexual partner was collected for 189 cases (70 percent). Seventy one percent of these males (n=135) reported a male partner and 29 percent (n=54) reported a female partner.

For the 208 male cases for whom the information was collected on partner type, 60 percent (n=125) were reported to have acquired their infection from a casual partner, 20 percent (n=41) from a regular partner and six percent (n=13) from a sex worker.

Of the 186 male cases for whom place of acquisition of infection was

Figure 3. Chlamydia notifications by quarter, Victoria, Jan 1999 – Sep 2003

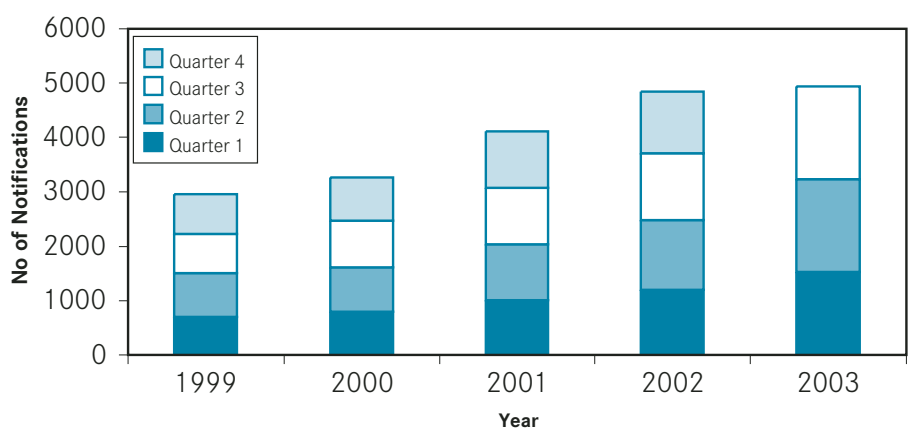


Figure 4. Gonorrhoea notifications by year and quarter, Jan 1999 - 30 Sep 2003

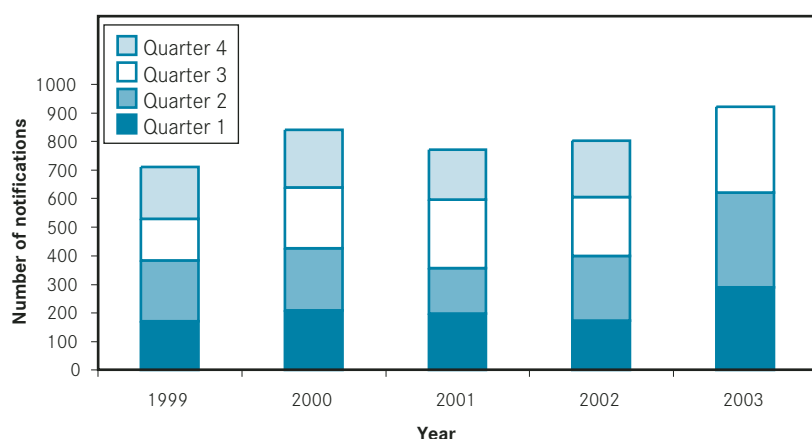


Table 11. Sex, sex of partner and place of acquisition of ciprofloxacin and ceftriaxone resistant isolates of *N. gonorrhoeae*, Victoria, 1 Jul - 30 Sep 2003

Sex	Sex of partner	Where acquired	Ceftriaxone-resistant	Ciprofloxacin-resistant	Ciprofloxacin-sensitive	
Female	Unknown	Unknown	0	1	4	
	Male partner	Victoria	0	1	1	
	Not stated	Overseas	0	1	0	
	<i>Subtotal</i>		0	3	5	
Male	Female partner	Overseas	0	9	8	
		Interstate	0	1	0	
		Victoria	0	11	13	
	Male partner	Not stated	0	1	0	
		Unknown	0	2	6	
		Not stated	0	1	0	
		Victoria	0	19	65	
		Not stated	Not stated	0	1	0
		Overseas	0	1	0	
	Unknown	Unknown	0	0	0	
		Victoria	0	1	2	
		Interstate	0	0	0	
		Unknown	0	11	19	
		Victoria	0	1	5	
		<i>Subtotal</i>		0	59	118
Not Stated	Male partner	Victoria	0	0	1	
Total			0	62	124	

* Includes blank and not stated

collected, 87 percent (n=161) reported acquiring their infection in Victoria, 11 percent (n=20) overseas and three percent (n=5) interstate.

Females

For the 25 female cases, the gender of the sexual partner was collected for 44 percent (n=12). Of these, all cases reported that they had acquired their infection from a male partner.

For the 12 female cases for whom the information was collected on partner type, 75 percent (n=9) reported acquiring their infection from a regular partner, and 25 percent (n=3) from a casual partner.

Information about place of acquisition of infection was collected for 13 of the female cases. The majority of infections were acquired in Victoria (84 per cent, n=11). Two infections were reported as being acquired overseas. Testing for antibiotic susceptibility is currently only possible if *N. gonorrhoeae* is isolated by culture. Of 300 notifications in the third quarter, 186 (63 per cent) isolates were tested for antibiotic susceptibility (Table 11). Of the 186 isolates, 177 were from males, and nine from females.

Resistance to ciprofloxacin was identified in 62 (33 per cent) of 186 isolates (59 males, 3 females). Of the 94 isolates collected from male cases that reported a male sexual partner and having acquired their infection in Victoria, 19 (20 per cent) were ciprofloxacin resistant, compared with eight percent from the last quarter. The Department has recently updated the gonorrhoea fact-sheet recommending treatment of all gonorrhoea infections

with ceftriaxone.

Infectious syphilis

Luke Atkin, Department of Human Services

In the third quarter of 2003, there were 23 notifications of infectious syphilis for 17 males and six females. This represents a 64 per cent increase on the 14 cases notified in the second quarter of 2003 (13 males, one female) and a 188 per cent increase on the eight cases notified in the third quarter of 2002 (six males and two females) (Figure 6).

Of the 23 cases, seven were primary infections, nine were secondary infections and seven were early latent infections. Sixteen of the cases were from metropolitan regions, five from rural regions and for four notifications the postcode of residence was not supplied. The median age was 35 years (range 19 to 50 years).

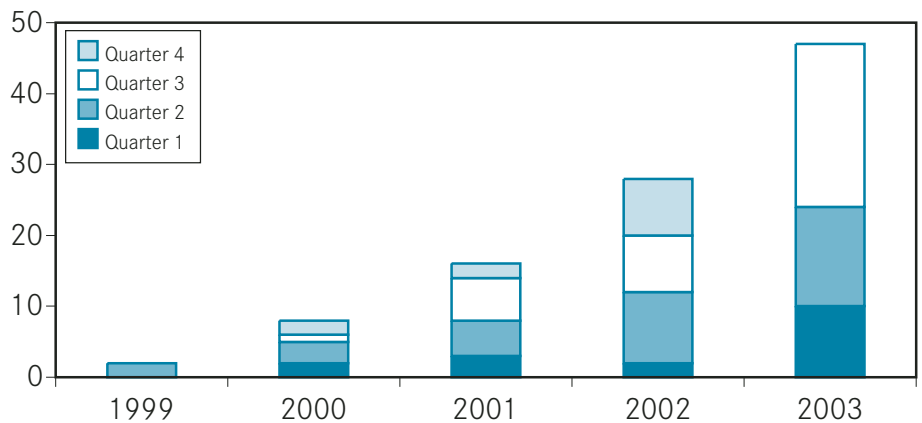
Males

Of the 17 male cases, 15 reported male sexual partners and two reported female sexual partners. Fourteen of the 17 male cases reported acquiring their infection from a casual partner, one from a regular partner and for two cases the information was unknown. Of the 17 males, nine reported acquiring their infection in Victoria, three overseas, two interstate and three was reported as unknown.

Females

Of the six female cases, five reported male sexual partners and one reported a female sexual partner. Four of the six female cases reported acquiring their infection from a regular partner and

Figure 6. Syphilis notifications, by year and quarter, Victoria, 1 Jan 1999 to 30 Sep 2003



two from a casual partner. Of the six females, two reported acquiring their infection in Victoria and four overseas.

Mycobacterium Reference Laboratory Report

Rob Warren, Janet Fyfe and Aina Sievers, Victorian Infectious Diseases Reference Laboratory

Given the slow-growing nature of *Mycobacterium* spp, this report covers the period April-June 2003 rather than

the third quarter of 2003 (tables 12 and 13, and figure 7). Most specimens (both primary and referred) and isolates were from Victorian patients. The majority of non-Victorian specimens originated in the Northern Territory and the Solomon Islands.

Comments

M. bovis BCG was recovered from blood and urine of a 61 year old male post intravesical BCG treatment.

Table 12: *Mycobacterium* spp isolates received at the MRL, Apr – Jun 2003

	Primary specimens				Total
	<i>M. tb</i> isolates	New Victorian <i>M. tb</i> isolates	Non- <i>M. tb</i> isolates	Negatives	
April	18	3	20	366	404
May	24	2	19	561	604
June	19	6	20	474	513
Referred specimens					
	<i>M. tb</i> isolates	New Victorian <i>M. tb</i> isolates	Non- <i>M. tb</i> isolates	Negatives	Total
April	27	13	50		77
May	32	17	61		93
June	23	7	56		79
Total	143	48	226	1401	1770

M. abscessus was isolated from respiratory specimens of 3 elderly patients, 2 males and 1 female. The males have had the organism isolated on several occasions since 1998 and 2002 respectively. The organism was also isolated from a leg wound of a 56 year old female renal transplant recipient.

M. chelonae was recovered from a forearm lesion of a 69 year old female with a history of arthropathy with negative arthritis and inflammatory markers.

M. kansasii was isolated from respiratory specimens of three elderly males, one had the organism first isolated in 2001 and another had multiple isolations.

M. marinum was recovered from a swollen middle finger of a 53 year old male.

M. ulcerans PCR was requested on 47 specimens, including 1 specimen from a ringtail possum. There were 6 positive results from as many cases. This represents 3 new cases of which one was from Queensland and one was the possum. The PCR results from 2 of the new cases were confirmed by culture.

Molecular identification techniques were used to identify or confirm identification of 47 isolates. Thirty one were mycobacterial species including four *M. asiaticum*, two *M. shimoidei*, three MAC that were negative with the Accuprobe, two *M. interjectum* and one each of *M. malmoense*, *M. genavense*, *M. heckeshornense* and *M. xenopi*.

Figure 7: New *M. tuberculosis* from Victorian residents, by age and gender, Victoria, Apr – Jun 2003

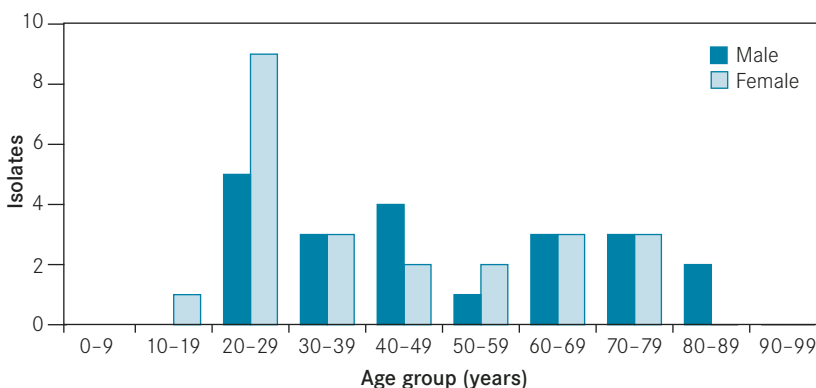


Table 14: Extra-pulmonary *M. tuberculosis* isolates and resistant isolates by month, Apr – Jun 2003

Site	April	May	June
Pulmonary	9	13# # 1 also vulval bx	7
Extrapulmonary	7	6	5
Extrapulmonary Site Details	Lymph node (x4) (1 also bronch wash), Hip fluid (x1) (also psoas abscess), Sub-conj bx (x1), Pleural fluid (x1), Pleural bx (x1)	Lymph node (x4), Ascitic fluid (x1), Scrotum (x1) (also sputum)	Lymph node (x2), Pleural fl (x1) (also lung tissue), Ascitic fluid (x1) (also sputum & urine), Wrist swab, Duodenal ulcer
Resistance	3x resistance to Isoniazid & Streptomycin	2x resistance to Isoniazid	1x resistance to Pyrazinamide

Fourteen isolates were non-mycobacteria including *gordona* & *tsukamutella* spp. as well as various *Nocardia* species. One isolate was *N. Brasiliensis* isolated from a leg wound of a 63 year old female.

Table 15. Notifications of infectious diseases, by Department of Human Services Region, 1 January to 30 September 2003 a

Notifiable Disease	Barwon South Western		Grampians		Loddon Mallee		Hume		Gippsland	
	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd
Blood Borne Diseases										
Hepatitis B – Acute	5	1	3	7	4	5	1	3	9	14
Hepatitis B – Chronic/Unknown	28	8	4	6	6	25	9	16	11	10
Hepatitis C – Newly acquired	9	5	4	3	6	6	2	4	3	4
Hepatitis C – Not further specified	164	110	78	93	116	172	125	117	119	150
Hepatitis D	0	0	0	0	0	0	0	0	0	0
Enteric Diseases										
<i>Campylobacter</i> infection	382	285	115	113	198	191	231	217	253	277
Cholera	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	33	34	1	11	4	16	16	18	29	33
Food/Water/Environmental – Other	20	29	5	53	9	29	6	16	13	18
Giardiasis	40	41	19	23	22	14	22	28	22	42
Haemolytic Uraemic Syndrome	0	0	0	0	1	0	0	0	0	0
Hepatitis A	1	13	0	0	4	1	7	1	4	0
Hepatitis E	0	0	0	0	0	0	0	0	0	0
Listeriosis	0	2	1	0	0	0	1	0	1	0
Paratyphoid	0	0	0	0	0	0	0	0	0	0
Salmonellosis	82	87	26	42	52	75	52	63	60	41
Shigellosis	3	2	1	0	0	1	0	1	0	0
Typhoid	0	0	0	0	0	0	0	0	1	0
Vero Toxin producing <i>E.coli</i>	0	2	0	0	1	0	1	0	0	0
Other Infectious Notifiable Diseases										
Invasive Meningococcal Disease – Group B	7	4	0	1	4	0	2	4	1	4
Invasive Meningococcal Disease – Group C	6	6	1	1	5	4	1	3	1	3
Invasive Meningococcal Disease – Other	4	6	0	2	0	1	0	0	1	2
<i>Legionella</i> – Other	1	3	1	2	3	0	1	1	5	3
<i>Legionella pneumophila</i> ¹	2	0	0	1	1	1	1	3	0	0
Leprosy	0	0	0	0	0	0	0	0	0	1
<i>Mycobacterium africanum</i>	0	0	0	0	0	0	0	0	0	0
<i>Mycobacterium tuberculosis</i>	3	4	4	1	4	2	2	3	3	3
Sexually Transmitted Infections										
Chlamydia	332	205	171	109	192	190	168	128	148	106
Gonococcal Infection	7	5	5	9	9	8	11	7	11	7
Syphilis – infectious	1	0	2	0	1	1	3	0	0	0
Vaccine Preventable Diseases										
<i>Haemophilus influenzae</i> type b	1	0	0	0	0	0	0	0	0	0
Influenza (laboratory confirmed)	20	14	10	7	14	28	17	7	11	13
Invasive Pneumococcal Disease	24	29	14	6	17	23	8	13	14	25
Measles	0	2	0	0	17	0	3	0	0	0
Mumps	0	0	0	0	1	0	0	0	0	0
Pertussis	35	34	24	30	10	78	32	37	44	61
Rubella	1	1	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	1	0	0	0	0	0
Vector Borne Diseases										
Arbovirus – Alphavirus	0	0	0	0	1	9	0	4	5	58
Arbovirus – Flavivirus	0	0	1	0	0	0	0	1	0	0
Malaria	1	1	1	0	2	0	4	5	1	3
Zoonoses										
Brucellosis	0	0	0	0	0	0	1	0	0	0
Leptospirosis	3	3	0	1	0	0	0	2	1	3
Psittacosis	0	1	2	1	2	3	1	0	0	2
Q Fever	3	31	5	0	0	10	3	8	4	11
Est. 2001 resident population²	340,496		208,226		293,516		250,878		240,114	

Notes

1. The data are preliminary figures only and may be subject to revision

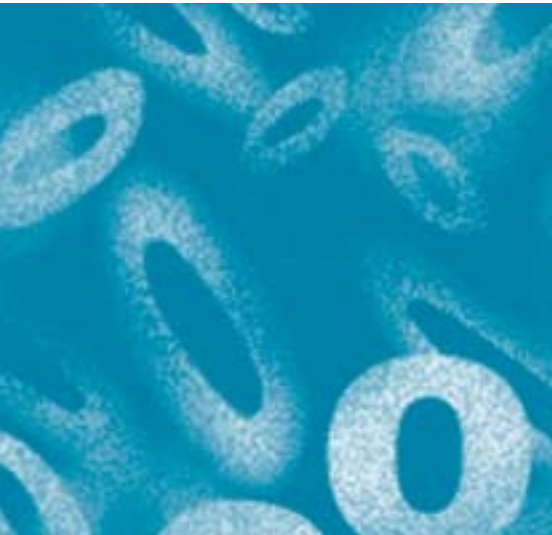
2. ABS estimated resident population data, June 2001 – Victorian total includes 99 unincorporated (French Island).

* These data are available on the website at <http://www.dhs.vic.gov.au/phd/snid>

and historical comparisons*

Western Metropolitan		Northern Metropolitan		Eastern Metropolitan		Southern Metropolitan		Unknown		Victoria		
2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2003 ytd	2002 ytd	2002 total
22	31	18	27	14	20	38	46	12	0	126	154	196
216	335	167	260	193	293	225	304	331	91	1190	1348	1741
17	11	24	11	8	11	14	17	9	4	96	76	110
506	607	461	536	347	387	666	724	187	257	2769	3153	4058
3	2	3	1	1	0	3	3	0	0	10	6	9
484	336	590	506	776	699	895	783	131	111	4055	3518	4941
0	0	0	0	0	0	0	0	0	0	0	0	1
11	20	12	29	26	32	37	36	11	5	180	234	284
149	105	61	113	82	174	74	154	252	197	671	888	1096
74	74	56	89	87	106	131	143	106	17	579	577	710
0	0	0	0	1	0	0	1	0	0	2	1	4
13	8	13	4	20	13	23	16	1	0	86	56	67
1	0	0	1	1	0	0	0	0	1	2	2	2
2	2	3	3	7	3	2	4	0	0	17	14	15
3	5	1	2	4	1	2	4	0	0	10	12	14
216	116	135	134	172	170	209	230	33	25	1037	983	1208
6	13	11	10	10	12	7	17	3	1	41	57	66
3	1	2	3	6	6	5	11	0	0	17	21	21
0	0	0	1	0	1	1	0	0	0	3	4	5
6	9	5	7	5	3	7	7	0	0	37	39	56
5	6	6	10	2	7	12	19	0	0	39	59	88
2	12	2	8	4	9	5	11	2	0	20	51	64
13	6	10	6	6	6	4	4	0	1	44	32	50
0	17	11	11	7	5	7	7	0	0	29	45	57
0	0	2	0	0	0	0	1	0	0	2	2	2
0	0	0	0	0	0	0	1	0	0	0	1	1
62	53	37	42	35	45	69	42	0	2	219	197	279
740	561	821	603	762	588	1248	894	352	324	4934	3708	4846
149	113	172	94	107	49	248	165	200	147	919	604	802
5	3	7	2	10	4	13	6	5	4	47	20	28
0	0	0	1	0	1	0	0	0	0	1	2	2
98	107	75	90	112	136	137	160	135	16	629	578	596
15	18	35	50	58	67	80	88	42	23	307	342	456
9	0	3	0	1	7	2	3	0	0	35	12	13
0	3	0	1	0	2	1	2	0	0	2	8	9
29	84	48	76	52	121	39	111	91	12	404	644	888
0	3	0	1	2	4	1	5	0	0	4	14	15
0	0	0	0	0	0	0	0	0	0	1	0	0
1	0	0	2	3	5	1	9	2	2	13	89	96
0	1	5	2	3	1	9	4	0	1	18	10	13
7	5	6	7	13	10	8	11	5	5	48	47	64
0	1	1	0	0	1	1	0	0	0	3	2	2
0	0	0	1	1	0	0	0	0	0	5	10	17
12	2	15	3	19	6	9	5	7	0	67	23	33
1	1	1	2	0	4	0	1	0	3	17	71	83
619,377		769,360		974,374		1,126,223				4,822,663		

Victorian Infectious Diseases Bulletin



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