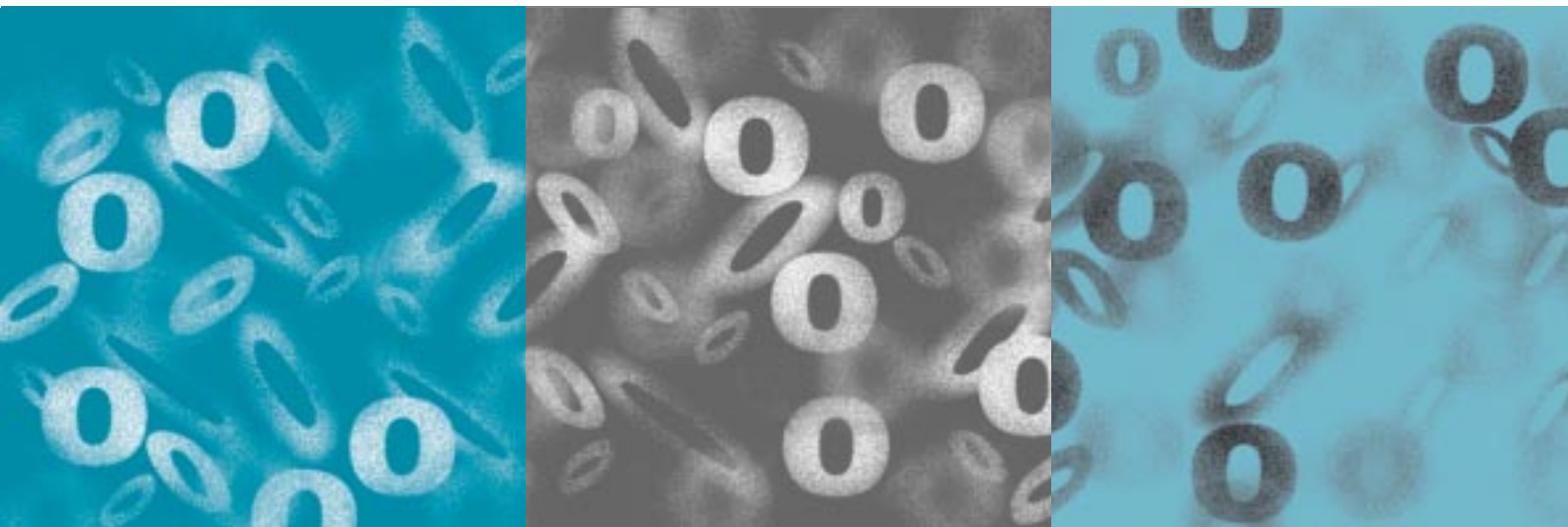


# Victorian Infectious Diseases Bulletin

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## Victoria's response to SARS

Hazel Clothier, Department of Human Services, Victoria, and National Centre for Epidemiology and Population Health, Australian National University, Canberra; and Patrick Charles, Victorian Infectious Diseases Reference Laboratory, for the SARS Investigation Team.

***Surveillance for Severe Acute Respiratory Syndrome (SARS) commenced in Victoria on 14 March 2003 following the World Health Organization's (WHO) global alert. By 10 May 2003, 118 people had been investigated for possible SARS: 89 (75 per cent) did not meet the case definition; three (2.5 per cent) were reported to WHO as probable cases; 24, after initially meeting the case definition (20 suspected, four probable), were later excluded when an alternative diagnosis was made; and two met the definition of a 'suspected case' and had no alternative diagnosis.***

### Background

On 12 March 2003, WHO issued a global alert for cases of atypical pneumonia described as SARS.<sup>1</sup> Persons affected were severely ill with pneumonia or adult respiratory distress syndrome—an illness characterised by severe shortness of breath and respiratory failure.<sup>2-4</sup> The aetiological agent was subsequently identified as a previously unknown human coronavirus, currently called SARS-associated coronavirus, or HCoV-SARS.<sup>5,6</sup>

Globally, 7,296 probable cases (including 526 deaths) had been reported from 30 countries by 10 May (see [www.who.int/csr/sars/map](http://www.who.int/csr/sars/map)) and cases continue to occur.<sup>7</sup> Local transmission had been reported in Canada (Toronto), China (Beijing, Guandong, Hong Kong, Inner Mongolia, Shanxi, Tianjin, Taipei), the Philippines (Manila) Singapore and Vietnam.<sup>8</sup>

### Methods

The Communicable Diseases Network of Australia (CDNA)—a network of State and Territory communicable disease control representatives and experts in communicable diseases—coordinated Australia's response to SARS.<sup>9</sup>

#### Case definition

The following is the current WHO case definition (last updated on 1 May 2003)<sup>10</sup> of SARS:

#### Suspect case

1. A person presenting after 1 November 2002 with a history of high fever (greater than 38 degrees Celsius) AND cough or breathing difficulty AND one or more of the following exposures during the 10 days before onset of symptoms:
  - close contact with a person who is a suspect or probable case of SARS
  - a history of travel to an area with recent local transmission of SARS
  - residency in an area with recent local transmission of SARS.
2. A person who had one or more of above listed exposures during the 10 days before onset of symptoms AND an unexplained acute respiratory illness resulting in death after 1 November 2002, on whom no autopsy has been performed.

#### Probable case

1. A suspect case with evidence of infiltrates consistent with pneumonia or respiratory distress syndrome (RDS) on a chest radiograph (CXR).
2. A suspect case of SARS who is positive for SARS coronavirus by one or more assays.

3. A suspect case who has died and whose autopsy findings are consistent with the pathology of RDS without an identifiable cause.

#### Surveillance of suspected cases in Victoria

In Victoria, the Department of Human Services (DHS) :

- distributed alerts to hospital emergency departments, infectious diseases specialists and general practitioners
- established a hotline for medical practitioners' enquiries about and notifications of suspected cases
- distributed recommendations on infection control precautions
- coordinated clinical specimen collection through the Victorian Infectious Diseases Reference Laboratory (VIDRL)
- posted nurses at Melbourne International Airport to assess, in cooperation with the Australian Quarantine Inspection Service (AQIS), incoming passengers who report illness
- conducted surveillance of contacts of cases under investigation. As part of this effort, contacts of suspected cases self-monitor, while contacts of probable cases are actively monitored. The latter group require daily contact by telephone and voluntary home isolation.

In Australia, persons who have met the case definition for suspected SARS have been excluded as cases if they: responded to antibiotics; had an alternative diagnosis that fully explained their symptoms; or were exposed only at an airport transit stop



of less than eight hours in Singapore or Hanoi (Hanoi was removed from the list of SARS-affected areas on 29 April 2003) because such exposure is considered relatively low risk. The Department has also tried to make possible links to identified outbreaks at specific locations (such as the Metropole Hotel in Hong Kong).

**Laboratory diagnosis**

VIDRL developed a polymerase chain reaction (PCR) test for the detection of HCoV-SARS, using RNA from the Bernard-Nocht Institute in Germany, virus imported from Hong Kong and primers derived from the literature or designed in-house. A full validation protocol has not been completed, so a negative test result is not considered sufficient evidence to exclude patients as probable cases at this time. If any positive tests occur, they have to be confirmed by a second PCR, which amplifies a different product from the first test.

**Results**

**Persons investigated**

Between 17 March and 10 May 2003, the Department investigated 118 persons for SARS (figure 1), of whom:

- 89 (75 per cent) did not meet the case definition
- 22 (19 per cent) met the WHO definition of a suspected case
- seven (6 per cent) met the WHO definition of a probable case.

Of the 29 people who were initially classified as suspected or probable cases, all but five were subsequently excluded on further investigation: three

were reported to WHO as probable cases and two remain under investigation as suspected cases.

Of the 89 persons who did not meet the case definition, 31 (35 per cent) were rejected as having no relevant exposure to a SARS-affected area, seven cases (8 per cent) received an alternative diagnosis, five (6 per cent) responded to antibiotics and 46 (52 per cent) reported only mild illness. For most of these cases, the clinical presentation was mild, with 79 (89 per cent) failing to develop both cough and fever. The 89 persons included three healthcare workers: two presented with cough only and one had no cough or fever.

Thirty-three persons—28 per cent of all those investigated—were initially identified via airport screening. All were later excluded because they did not meet the case definition.

**SARS cases – suspected or probable**

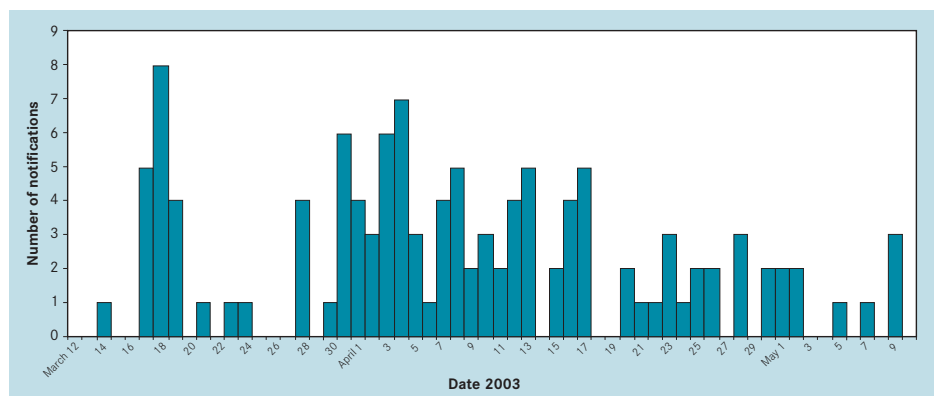
Of the 29 people who were initially classified as suspected or probable

cases, the median age was 28 years (range: 11 months to 75 years). Twelve (41 per cent) were children aged less than or equal to 15 years. The male:female ratio was 3.1:1.

All except one case reported fever and cough. One person reported fever, shortness of breath and difficulty with breathing, but not cough. Fourteen cases (48 per cent) had shortness of breath, 12 (41 per cent) reported difficulty with breathing and 6 (21 per cent) had clinically diagnosed pneumonia. For seven cases (24 per cent), a chest X-ray was performed, showing that five had abnormalities consistent with pneumonia (those reported as probable cases). Sixteen cases were hospitalised but none required intensive care.

Eighteen persons (62 per cent) reported travel to Singapore but almost half were only in transit at the airport for less than eight hours. Four (14 per cent) reported travel to China, three (10 per cent) to Canada, three (10 per cent) to Hong Kong and one person to Hanoi in Vietnam.

**Figure 1: Epidemic curve, SARS notifications in Victoria, by date of notification.**



## Outcome classification of suspected and probable cases

Of the 29 persons who initially met the SARS case definition, 24 (83 per cent) were excluded for the reasons outlined in table 1. By 10 May, all suspected or probable cases investigated by VIDRL using the new PCR test for HCoV-SARS had tested negative.

## Conclusion

Victoria, in cooperation with the CDNA and WHO, continues to monitor and investigate cases, conduct border surveillance and provide support via the medical hotline. Australian public health laboratories, particularly VIDRL, now have a working test for suspected SARS cases and will be able to contribute to the global research network examining all aspects of this new virus.

Despite efforts to prevent the introduction of SARS into Victoria, cases may be imported. Under these circumstances, the primary aim is to provide world-class medical treatment (especially stringent infection control) and prevent further transmission of the disease. Clinicians and other healthcare workers throughout Victoria must remain

vigilant and use triage, infection control and other guidelines in combination with personal protection measures.

## Acknowledgements

Our sincere thanks to the staff at DHS and VIDRL, the Victorian AQIS officers, hospital emergency departments, clinicians, infection control practitioners and many others who continue to support Victoria's response to SARS.

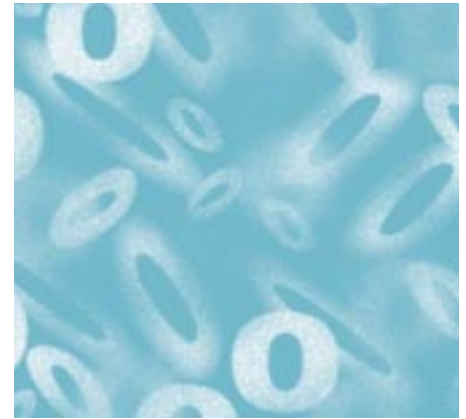
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**Table 1: Outcome classification for suspected and probable SARS cases notified in Victoria, 17 March to 10 May 2003**

	Total cases	Reason for discontinuing follow-up			Cases remaining under investigation	
		Transit (less than 8 hours) in Singapore or Hanoi	Alternative diagnosis*	Response to antibiotics		Mild illness, fully resolved
Suspected	22	5	10	1	4	2
Probable	7	1	3	—	—	3
Total	29	6	13*	1	4	5

\* Influenza A (5), picornavirus (4), respiratory syncytial virus (2), influenza B (1), *Haemophilus influenzae* (1).



## Infectious diseases news

### The burden and causative agents of acute viral respiratory infections in Melbourne

Dr Stephen Lambert, Murdoch Childrens Research Institute

Viral respiratory infections are some of the most common infectious diseases worldwide, and they are associated with considerable costs to both society and families. Infections in children occur at a frequency of one to four episodes per year and are known to be the primary drivers of infection in the community.

No community-based studies have been conducted in Australia, and little is known about the number, burden and associated costs of different viruses in Australia. The prospect of vaccines for use in childhood against common respiratory viruses makes the need for these data even more pressing. Recent improvements in vaccine delivery methods, including nasal spray vaccination, mean protection against serious respiratory infections in children—such as protection against influenza—may be relatively pain free and more acceptable to both providers and consumers.

The Murdoch Childrens Research Institute (MCRI), in cooperation with the Royal Children's Hospital, the University of Melbourne and the Victorian Infectious Diseases Reference Laboratory, has commenced a community-based respiratory virus study in Melbourne. Funded by the Department of Human Services, the MCRI and the University of Melbourne, the study team will enrol and follow (for up to three years) a cohort of 400 Melbourne children and their families.

The team will collect information on the frequency of respiratory symptoms and illnesses, obtain specimens and test them for a range of respiratory viruses, assess the transmission of these viruses in households and calculate the cost of illness.

*For further information, or to express interest in participating in the study, contact Dr Stephen Lambert (03 8344 9331) or Kelly Allen (03 8344 9327) at the MCRI.*

### Outbreak investigations training for environmental health officers

Karin Lalor, OzFoodNet

The Department of Human Services conducted training workshops on gastrointestinal illness and outbreak investigations in 1998–99. During 2001, regional and local government environmental health officers expressed interest in further training in this area. OzFoodNet and the Communicable Diseases Section of the Department developed a two-day training program, course notes and training tools, which were designed around the practical aspects of investigations. OzFoodNet provided funding for the course, in addition to a contribution from the Department's Food Safety Unit.

The course modules address issues identified and requests made in the needs assessment survey, along with the problems and information gaps that Communicable Diseases Section (CDS) staff encountered during recent outbreaks. The modules also give a comprehensive overview of gastro investigations, with information and advice for local government environmental health officers. The Microbiological Diagnostic Unit and

(DHS) Food Safety Unit developed modules to inform environmental health officers of the integrated aspects of investigations, outlining the officers' specific responsibilities in relation to these units during the investigation process.

The training program was piloted in March 2003, with one session held in Melbourne and one in Wangaratta. Twelve courses have since been scheduled through to October 2003: one in each of the metropolitan regions and the remaining rural regions, as well as four more in metropolitan Melbourne. The response has been excellent, with 215 local government environmental health officers having registered for the training. The regional officers will also attend the course held in their region.

*For further information, contact Karin Lalor on 9637 4000 or [Karin.Lalor@dhs.vic.gov.au](mailto:Karin.Lalor@dhs.vic.gov.au).*

### Conference announcements

The 15th Annual Australasian Society for HIV Medicine Conference will be held on 22–25 October 2003 at the Cairns Convention Centre in Queensland. Further information can be obtained at [www.ashm.org.au](http://www.ashm.org.au).

The 35th Public Health Association Australia Annual Conference will be held on 28 September to 1 October 2003 at the Brisbane Convention and Exhibition Centre in Queensland. Further information can be obtained at [www.pha.org.au/conferences](http://www.pha.org.au/conferences).

The Australasian Epidemiological Association will hold its 12th Annual Scientific Meeting at the University of Western Australia on 22–23 September 2003. Further information can be obtained at [www.aea.asn.au](http://www.aea.asn.au).

## Surveillance for invasive group A streptococcal disease in Victoria—the first 12 months

Jonathan Passmore, Department of Human Services, Victoria, and Loraine Kelpie and Jonathan Carapetis, Department of Paediatrics, University of Melbourne.

From April 2002, Victoria has had an active surveillance system for invasive group A streptococcal (GAS) infections, to provide reliable disease burden and clinical data, and to investigate the possibility that close contacts of cases may be at increased risk of invasive GAS infections. This surveillance is a cooperative project of the Department of Human Services and Melbourne University; other senior investigators include Dr John Carnie, Professor Terry Nolan, Dr Nigel Curtis and Professor John Carlin. We established a cooperative network of laboratories throughout the State that voluntarily inform the Department each time GAS is cultured from a normally sterile site. We collect demographic and clinical data for each case and, where possible, take throat swabs for GAS carriage from family members and close contacts of primary cases.

This multi-centre research project was the first to be implemented under the Victorian privacy legislation that came into effect during 2002. Partly as a result, and also because there is no process for simple ethical review of multi-centre studies in Australia, we have had to seek separate ethical clearance from each participating hospital and health authority.<sup>1</sup> To date, 74 separate ethics clearances have been obtained for the one study.

In the 12 months since surveillance began, we have received 183 notifications from laboratories and hospitals, including 23 cases of

septicaemia, 30 cases of cellulitis and eight cases of necrotising fasciitis. The case fatality rate is 11 per cent and the crude annual incidence rate based on these notifications is 4.14 per 100,000 population. A secondary method of ascertainment—that is, using discharge diagnoses from major suburban hospitals—is revealing, however, many cases that were not ascertained through notifications. The true incidence is thus likely to be substantially higher than cited here.

Previous passive hospital surveillance in Victoria suggested approximately 34 notifications of invasive GAS per year. The 183 cases notified to date via the project suggest that the burden of disease is much greater than was anticipated. The project's preliminary data from the first year suggest that the burden of GAS in Victoria is similar to, or may exceed, that of meningococcal disease in both incidence and mortality.

The project's data will be used to inform treatment decisions, policy relating to the need for antibiotic prophylaxis in contacts, and preparations for the arrival of GAS vaccines (one of which is already in phase II human trials). If ongoing surveillance confirms the relatively high incidence, high mortality rate and the possibility of increased risk of disease in contacts, then this infection may merit inclusion on the list of nationally notifiable diseases.



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## Salmonella Typhimurium 135 outbreak

Karen Carter, Hazel Clothier and Heather O'Donnell,  
Department of Human Services, Victoria



### Introduction

On Sunday 12 January 2003, the Western Hospital reported that five patients had presented at the emergency department with gastroenteritis. Four of the patients had eaten food from a take-away restaurant in inner Melbourne on the previous day. An investigation was commenced to describe the possible outbreak, identify a source and implement outbreak control measures.

### Methods

The Department of Human Services advised hospitals, medical practitioners and local environmental health officers of a possible outbreak and requested that they report suspected cases to the Communicable Diseases Section. A suspected case was defined as a person with gastrointestinal illness who reported eating food purchased from the implicated premises on or around 11 January 2003. The Department also issued a media release on 13 January and liaised daily with local hospital infection control units.

Suspected cases were interviewed using a structured questionnaire that included a question on whether they had eaten specific foods from the restaurant. Faecal specimens were requested from all suspected cases and from the food handlers at the restaurant, and forwarded to the Microbiological Diagnostic Unit at the University of Melbourne.

The Communicable Diseases Section, the Department's Food Safety Unit, Local Government environmental health officers and the Microbiological

Diagnostic Unit conducted a site visit on Monday 13 January. The premises agreed to close voluntarily. A review of food preparation procedures was conducted and food samples were collected for analysis. Local government staff supervised a clean-up of the premises.

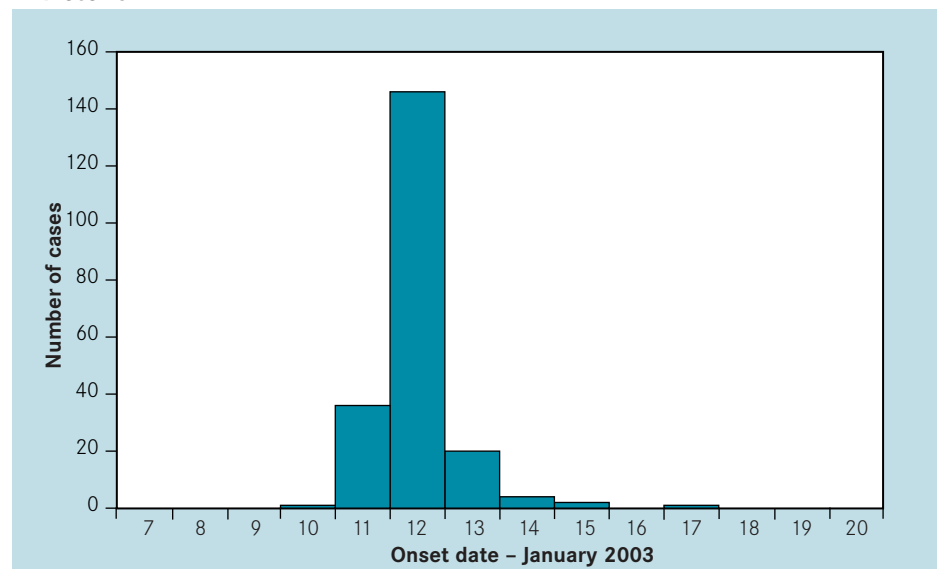
### Results

There were 262 cases reported, of whom 243 (93 per cent) were interviewed; the remaining 19 persons could not be contacted. Overall, 211 persons met the definition of a suspected case, and *Salmonella* Typhimurium 135 (STm135) was isolated from a faecal specimen for 125 (59 per cent) of this group. STm135 was also isolated from a faecal specimen for two asymptomatic food handlers. The vast majority of cases fell ill on 12 January (figure 1).

Cases were predominantly male (with a male:female ratio of 1.4:1) and ranged in age from 8 months to 80 years. Sixty cases (49 per cent) were children aged 15 years or under. Diarrhoea (98 per cent) and abdominal pain (94 per cent) were the predominant symptoms, while 84 per cent reported fever, 76 per cent reported a headache and 16 per cent reported vomiting. Of the 110 cases (52 per cent) who presented to hospital, 22 were admitted.

Bread rolls with various fillings were prepared at the restaurant premises from a range of foods available from the cold bar. The available fillings included roast pork, roast chicken, salad ingredients and a mayonnaise/egg butter dressing. Overall, 203 cases (96 per cent) reported having eaten coriander, chilli, egg butter or spring onion (common ingredients of the rolls). STm135 was isolated from samples of

Figure 1: Epidemic curve, by date of onset, *S.Typhimurium* 135 outbreak, Victoria



all of these ingredients obtained from the restaurant premises. Of the remaining eight cases, six had eaten 'broken rice' (a dish incorporating similar ingredients to the pork rolls: barbeque pork and salad) and two were household contacts of confirmed cases. The illness onset for the latter two cases was 15 and 17 January respectively (figure 1).

In addition to the STm135 isolated from ingredients at the premises, four leftover pork roll samples obtained from customers were also positive for STm135.

## Discussion

The descriptive epidemiology, laboratory and environmental investigations suggest that contaminated food products purchased from the implicated premises caused this outbreak. All but two of the suspected cases had eaten a pork roll or one of the common ingredients of the rolls. The remaining two cases had clear epidemiological links to a confirmed case. Investigations identified STm135 from the ingredients at the premises, as well as from pork rolls purchased by customers. In this outbreak, illness was probably caused by cross-contamination and inadequate temperature control in the food preparation area.

The premises remained closed from 13 January to 26 February 2003. Prior to re-opening, the restaurant installed new *bain marie* equipment and reviewed and amended its food safety plans. All food premises in Victoria were required to have food safety programs by 1 January 2003. At the

time of the outbreak, the restaurant's plan had been submitted but not approved by Local Government because further information was being sought.

After the outbreak, the proprietor decided to discontinue sales of pork rolls and other high-risk cold foods, and a second food safety supervisor was trained. All staff received food safety training and were required to submit a negative faecal specimen before they could return to work.

This was the fifth gastroenteritis outbreak in Victoria in the past eight years in which pork rolls were implicated.<sup>1-4</sup> The use of egg butter/mayonnaise, which is often made with raw eggs (a food at high risk of *Salmonella* contamination), and the customer preference for food served at room temperature (reportedly because customers perceive refrigerated food as not being fresh) appear to be contributing factors. A number of cases in this outbreak had purchased food for later consumption (up to several days) and had stored it at room temperature.

By 12 April 2003, the Food Safety Unit had obtained 187 samples of take-away pork roll ingredients from premises across four metropolitan municipalities. Although *Salmonella* was not detected in any of the samples, *E. coli* was isolated from nine samples and coagulase-positive *Staphylococci* were found in five samples (although at levels considered too low to cause food poisoning) (personal communication, Michael West, Food Safety Unit).<sup>5</sup> These results indicate poor food handling at the premises concerned.

The January outbreak was associated with contamination of foods in the cold bar with STm135. Cross-contamination and inadequate temperature control are common issues among food premises and the Department recommends increased consumer education on correct storage of food.

## Acknowledgements

We are grateful for the assistance provided by hospital emergency departments, medical practitioners and members of public. In addition, we thank staff from the Food Safety Unit, the Microbiological Diagnostic Unit and the Health Department at Maribyrnong City Council who assisted in this outbreak investigation, particularly Michael West, Agnes Tan and Joe Giuliani.

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## Measles—get vaccinated!

Megan Counahan, Sean Tobin and Ross Andrews, Department of Human Services, Victoria; Priscilla Robinson, Department of Human Services, Victoria, and Latrobe University; and Doris Chibo and Michaela Riddell, Victorian Infectious Diseases Reference Laboratory

*Two separate outbreaks of measles have occurred in Victoria since February 2003: 20 cases geographically clustered around two towns in central northern Victoria and 13 cases in the western metropolitan area. Genotyping conducted by the Victorian Infectious Diseases Reference Laboratory (VIDRL) confirmed that these outbreaks were the result of two separate episodes of virus importation because the strains are genotypically different (H1 and D8). As with Victoria's previous outbreaks of measles, young adults (including healthcare workers) and unvaccinated children remain at highest risk.*

### Measles genotype H1 in Central Northern Victoria

By 29 May, 20 cases of measles were confirmed with links to the Bendigo–Shepparton area. The outbreak commenced in the Shepparton area, where five cases had a rash onset between 15 and 21 February 2003, three of whom were healthcare workers at the same regional hospital. Although contact at the hospital with a case of measles was suspected, a review of hospital records revealed no recent patients with measles-like illness at the time when all three healthcare workers were present. None of the cases reported contact with a person with a rash illness during their incubation period. Although an index case was not identified, genotyping indicated the cases were due to an imported measles strain (confirmed by VIDRL as genotype H1) that is similar to the strain recently circulating in Osaka, Japan.

This outbreak comprised at least six waves of transmission, commencing with the unidentified index case before 15 February and extending through to rash onset in the last case on 27 April. The Department of Human Services distributed health alerts to hospitals and medical practitioners in the area.

Because the initial cluster coincided with the beginning of the academic year and the susceptible population are people born between 1968 and 1981, the Department contacted the TAFE college, universities and other registered training organisations in the area, established clinics for unvaccinated students in the target age group, as well as vaccinating over 300 students at one of the regional universities.

Cases were aged between 11 months and 36 years; of those aged 12 months or more, none could provide validated vaccination records (figure 1).

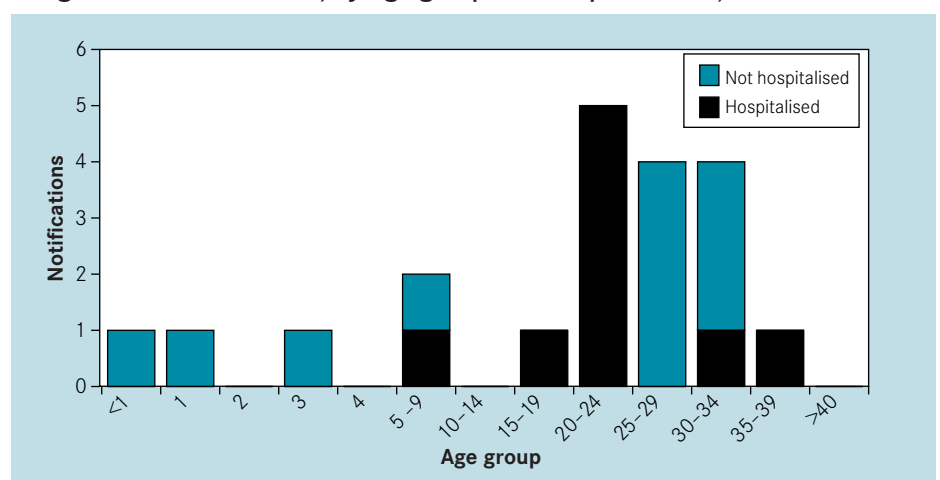


### Measles genotype D8 in Melbourne

A second outbreak of measles, overlapping the regional outbreak, was identified in Melbourne. The index case was a 23-year-old tourist from Germany who had rash onset on 10 April, 13 days after arrival in Australia. He was admitted to hospital on 13 April and notified to the Department on the following day. By 29 May, 13 cases had been identified.

The index case infected a colleague and five additional cases, including one who lived at the same hostel. The Department organised immunisation for the hostel residents, of whom 68 were subsequently vaccinated. Vaccination clinics continued in the area for several days. No further cases were identified within the hostel. Four cases were notified in the next chain of transmission, while the third wave thus far has been limited to siblings of

Figure 1: Measles cases, by age group and hospitalisation, northern Victoria



confirmed cases (figure 2). Two pairs of siblings (one pair aged 20 years and 22 years, and one pair aged 2 years and 9 months) were included among the cases. The 2-year-old child was infected in the waiting room of the family's local doctor.

The median age of cases was 25 years (range: 8 months to 47 years). Five cases (38 per cent) were hospitalised. Only one case—the 2-year-old child—was age-appropriately immunised.

**Discussion**

Of the 33 confirmed cases in these two outbreaks, almost two thirds (n = 22) were born between 1968 and 1981. This age cohort has been identified previously as the group most at risk of measles in Victoria.<sup>1</sup> As in previous outbreaks,<sup>1,2</sup> unvaccinated

healthcare workers were among those infected. Many young adults born since 1970 may have only had a single dose of measles-containing vaccine or not been vaccinated at all. Unless they have been recently vaccinated these persons should be offered vaccine as a matter of urgency. They are at high risk because outbreaks will continue to occur whenever imported cases introduce the virus to this susceptible population.<sup>3</sup> From a prevention standpoint, the public health message is simple: if you are unsure, get vaccinated!

**Acknowledgements**

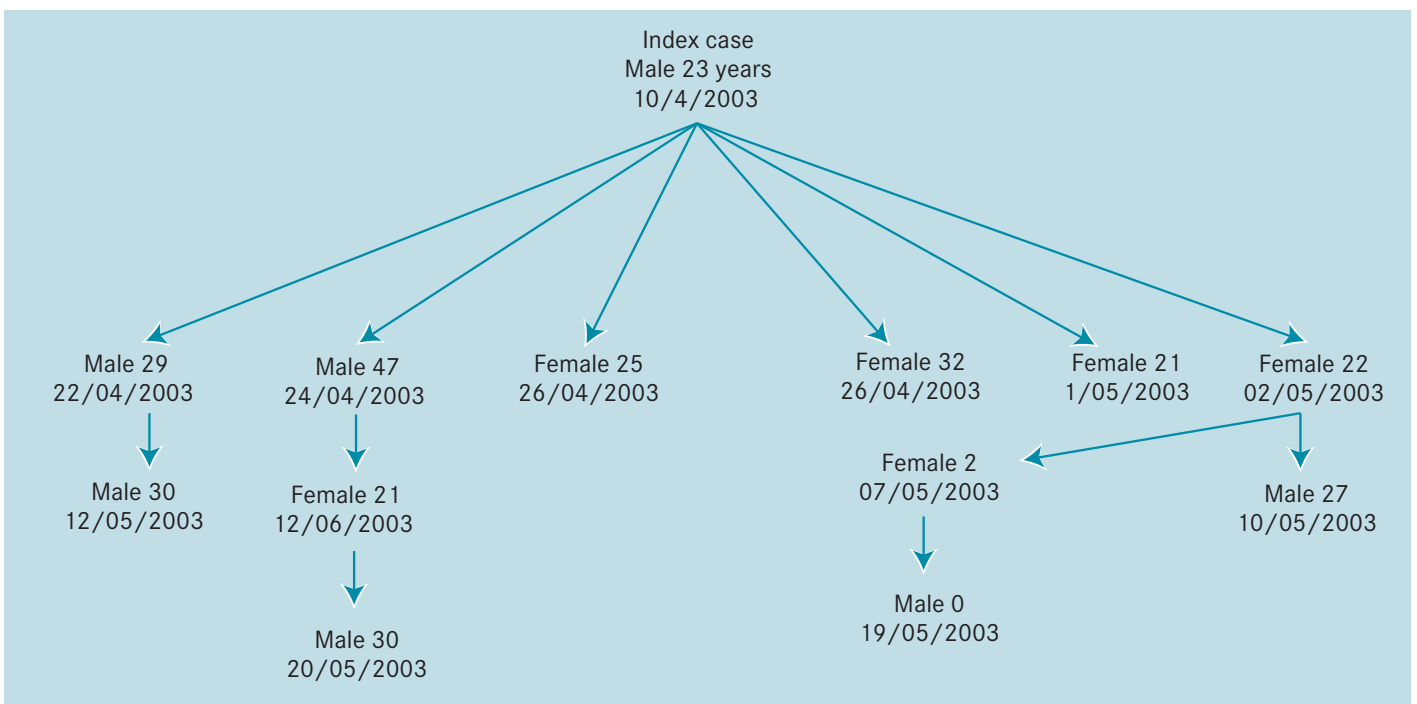
We wish to thank medical practitioners, healthcare workers, local immunisation providers and laboratory staff who assisted in the investigation of these

outbreaks, as well as the patients involved.

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**Figure 2: Transmission of measles cases, by rash onset, age and sex, metropolitan Melbourne**





## Immunisation update

Michele Sands, Prevention and Perinatal Health Section,  
Department of Human Services, Victoria

Data cited in this report are based on the Australian Childhood Immunisation Register (ACIR) Coverage Report. Table 1 presents immunisation coverage at 31 March 2003 for children aged 12–<15 months, 24–<27 months and 72–<75

months at 31 December 2002. 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 [michele.sands@dhs.vic.gov.au](mailto:michele.sands@dhs.vic.gov.au).

**Table 1: Childhood immunisation coverage, by Local Government Area, Victoria, 31 March 2003**

Age Group	% Fully Immunised	Local Government Area (LGA)	Total LGAs (% of LGAs)
12–<15 months	95+	Ararat (RC), Bass Coast (S), Buloke (S), Campaspe (S), East Gippsland (S), Glenelg (S), Melton (S), Moira (S), Moyne (S), Queenscliffe (B), Strathbogio (S), Surf Coast (S), Towong (S), Wangaratta (RC), Warrnambool (C), West Wimmera (S), Wodonga (RC), Yarriambiack (S)	18 (23)
	90–94	Alpine (S), Ballarat (C), Banyule (C), Baw Baw (S), Boroondara (C), Brimbank (C), Cardinia (S), Casey (C), Colac–Otway (S), Corangamite (S), Darebin (C), Delatite (S), Glen Eira (C), Greater Bendigo (C), Greater Geelong (C), Hindmarsh (S), Hobsons Bay (C), Horsham (RC), Hume (C), Indigo (S), Kingston (C), Knox (C), Macedon Ranges (S), Manningham (C), Maribyrnong (C), Maroondah (C), Mildura (RC), Mitchell (S), Monash (C), Moonee Valley (C), Moorabool (S), Moreland (C), Mornington Peninsula (S), Mount Alexander (S), Nillumbik (S), Northern Grampians (S), South Gippsland (S), Southern Grampians (S), Stonnington (C), Whitehorse (C), Whittlesea (C), Wyndham (C), Yarra Ranges (S)	43 (55)
	85–89	Bayside (C), Central Goldfields (S), Frankston (C), Gannawarra (S), Golden Plains (S), Greater Dandenong (C), Greater Shepparton (C), LaTrobe (C), Melbourne (C), Port Phillip (C), Pyrenees (S), Swan Hill (RC), Wellington (S), Yarra (C)	14 (18)
	80–84	Hepburn (S), Loddon (S), Murrindindi (S)	3 (4)
	<80	Nil	0 (0)
24–<27 months	95+	Alpine (S), Campaspe (S), Gannawarra (S), Hindmarsh (S), Horsham (RC), Indigo (S), Moira (S), Southern Grampians (S), West Wimmera (S)	9 (11)
	90–94	Ararat (RC), Ballarat (C), Boroondara (C), Brimbank (C), Buloke (S), Colac–Otway (S), Corangamite (S), Delatite (S), East Gippsland (S), Glen Eira (C), Glenelg (S), Greater Bendigo (C), Greater Geelong (C), Greater Shepparton (C), Kingston (C), Knox (C), LaTrobe (C), Macedon Ranges (S), Melton (S), Mildura (RC), Moonee Valley (C), Moyne (S), South Gippsland (S), Surf Coast (S), Swan Hill (RC), Towong (S), Wangaratta (RC), Warrnambool (C), Wellington (S), Whitehorse (C), Whittlesea (C), Wodonga (RC), Wyndham (C), Yarriambiack (S)	34 (44)
	85–89	Banyule (C), Bass Coast (S), Baw Baw (S), Bayside (C), Cardinia (S), Casey (C), Central Goldfields (S), Darebin (C), Frankston (C), Golden Plains (S), Greater Dandenong (C), Hepburn (S), Hobson Bay (C), Hume (C), Loddon (S), Manningham (C), Maribyrnong (C), Maroondah (C), Melbourne (C), Mitchell (S), Monash (C), Moorabool (S), Moreland (C), Mornington Peninsula (S), Mount Alexander (S), Murrindindi (S), Nillumbik (S), Port Phillip (S), Pyrenees (S), Queenscliffe (B), Strathbogio (S), Yarra Ranges (S)	32 (41)
	80–84	Stonnington (C), Yarra (C)	2 (3)
	<80	Northern Grampians (S)	1 (1)
72–<75 months	95+	Gannawarra (S), Horsham (RC), Loddon (S)	3 (4)
	90–94	Ararat (RC), Campaspe (S), Central Goldfields (S), Corangamite (S), Moira (S), Moyne (S), Northern Grampians (S), South Gippsland (S), Wangaratta (RC), Warrnambool (C)	10 (13)
	85–89	Ballarat (C), Baw Baw (S), Boroondara (C), Buloke (S), Cardinia (S), Frankston (C), Golden Plains (S), Greater Bendigo (C), Greater Geelong (C), Greater Shepparton (C), Hindmarsh (S), Hobsons Bay (C), Hume (C), Knox (C), LaTrobe (C), Macedon Ranges (S), Maroondah (C), Melton (S), Mildura (RC), Mitchell (S), Monash (C), Murrindindi (S), Nillumbik (S), Queenscliffe (B), Strathbogio (S), Wellington (S), Whitehorse (C), Whittlesea (C), Wodonga (RC), Wyndham (C), Yarra Ranges (S)	31 (39)
	80–84	Alpine (S), Banyule (C), Bass Coast (S), Bayside (C), Brimbank (C), Casey (C), Darebin (C), Delatite (S), East Gippsland (S), Glen Eira (C), Glenelg (S), Greater Dandenong (C), Hepburn (S), Kingston (C), Manningham (C), Maribyrnong (C), Moonee Valley (C), Moorabool (S), Moreland (C), Surf Coast (S), Swan Hill (RC), Towong (S), West Wimmera (S), Yarra (C), Yarra Ranges (S)	24 (31)
	<80	Colac–Otway (S), Indigo (S), Melbourne (C), Mornington Peninsula (S), Mount Alexander (S), Port Phillip (S), Pyrenees (S), Southern Grampians (S), Stonnington (C), Yarriambiack (S)	10 (13)

## 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 31 March 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 14 includes historical comparisons of selected diseases for the period January–March 2003 with 2002 data at both the State and regional levels.

Summary data at Local Government level for the diseases listed are available 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, tetanus, viral haemorrhagic fevers or yellow fever in this reporting period.

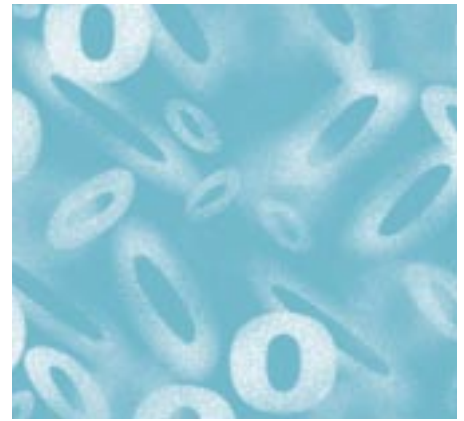
For comments or queries related to data on sexually transmissible diseases,

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/](http://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](http://www.dhs.vic.gov.au/phd/hprot/inf_dis/bluebook/index.htm).

**Table 1: Outbreaks of gastrointestinal illness, Victoria, January–March 2003**

Setting	Outbreaks	Persons Affected	Pathogen/Toxin (Number of Outbreaks)
Restaurant/reception/ other food premises/ specific food	6	270	<i>Salmonella</i> Typhimurium 135 (1) Butterfish (1) Suspected viral (1) Unknown (3)
Aged/disability/ healthcare institution	17	243	Norovirus (6) <i>Campylobacter</i> (1) <i>Salmonella</i> Typhimurium 170 (1) Suspected Viral (8) Unknown (1)
Recreation/holiday/camp	4	96	<i>Salmonella</i> Typhimurium 160 (1) Suspected <i>Clostridium perfringens</i> (1) Suspected viral (2)
Children's service/school	1	6	Unknown (1)
Family/social gathering	3	36	<i>Salmonella</i> Typhimurium 170 (2) <i>Salmonella</i> Typhimurium 4 (1)
Total	31	651	Norovirus (6) <i>Salmonella</i> Typhimurium 170 (3) <i>Campylobacter</i> (1) <i>Salmonella</i> Typhimurium 135 (1) <i>Salmonella</i> Typhimurium 160 (1) <i>Salmonella</i> Typhimurium 4 (1) Suspected <i>Clostridium perfringens</i> (1) Suspected viral (11) Butterfish (1) Unknown (5)



## Enteric diseases

### Outbreaks of gastrointestinal illness

Heather O'Donnell, Department of Human Services, Victoria

In the first quarter of 2003, 31 outbreaks of gastrointestinal illness were reported to the Department's Communicable Diseases Section (table 1). Six were considered to be foodborne or probable foodborne outbreaks, while 18 were thought to be due to person-to-person contact (six norovirus, one *Campylobacter* case, one *Salmonella* Typhimurium 170 case 10 outbreaks of viral gastroenteritis).

## Salmonella Typhimurium 170 outbreak linked to roast pork

Mark D'Agostino, Department of Human Services, Victoria

The Department was notified on 20 February 2003 of a gastroenteritis outbreak involving two separate Name Day celebrations. Both parties were held on 16 February 2003 and had served roast pork purchased from the same butcher.

At the first function, 20 out of the 28 persons interviewed were ill. Analysis of food histories suggested that those who had eaten roast pork were six times more likely to be ill than those who had not eaten roast pork (RR 6.3,  $p < 0.0005$ ). Seventeen cases submitted faecal specimens, from which *Salmonella* Typhimurium 170 (STm 170) was isolated from 16.

At the second function, 12 of the 19 persons interviewed were ill. Of these, three submitted faecal specimens, which were all positive for STm 170. When food histories were analysed for this group, the relative risk for roast pork was incalculable ( $p < 0.0003$ ) because all 12 cases had eaten the roast pork.

The day before the functions, the same person collected the roast pork from the butcher already sliced and wrapped, and transported it to both households. Some pork was consumed that afternoon, with the remainder plated and stored in the refrigerator for the next day's functions. The pork was served buffet style at room temperature and was not reheated at either function. Left-over pork sampled from both functions was positive for

STm 170. *Staphylococcus aureus* was also isolated from the food samples, indicating post-process contamination.

The local government health department and the Victorian Meat Authority (VMA) conducted a joint inspection of the premises. The butcher was a VMA-licensed premises and had approval for the preparation of cooked product. The inspection revealed, however, that the butcher had no documentation of procedures for the cooking process, including cooling, storage and handling. The process was liable to allow cross-contamination, particularly from the bandsaw used to cut raw and cooked meats, including the roast pork.

As a result, the VMA required the premises to be audited weekly for a minimum of four weeks until the butcher addressed all food safety issues. The butcher was also required to cease using the bandsaw on cooked meat and to provide validation of any equipment to be used for slicing cooked meats, so as to prevent cross-contamination.

In addition to following up these two outbreaks, the Department has conducted an ongoing cluster investigation of STm 170 cases since 2002. During the investigation of one of these cases, the Department discovered that a case had attended a function on 22 February 2003 and consumed cold roast pork that was later identified as being sourced from the same butcher. The case indicated that others had been ill, but the function organiser declined to give any further information.

## Typhoid and Paratyphoid

Sean Tobin and Anne Murphy, Department of Human Services, Victoria

In the first quarter of 2003, the Department was notified of 12 cases of typhoid and five cases of paratyphoid. The typhoid cases ranged in age from 14 months to 56 years, with 33 per cent being female. Half of the typhoid cases required hospitalisation. The paratyphoid cases ranged in age from 11 years to 24 years, with 80 per cent being female. All but one of the paratyphoid cases required hospitalisation.

A cluster of five typhoid cases was identified in late February, affecting one extended family. Two adult siblings were initially notified, with one further sibling, one parent and a son-in-law also identified through contact tracing. The parent was an asymptomatic carrier who had prepared a meal in late January for 10 of the extended family, including all of the cases. This was the only meal that all of the cases shared. No other person who attended the meal tested positive to *Salmonella* Typhi and all cases tested negative after treatment. All cases had a common phage type—S. Typhi C4. The asymptomatic carrier had immigrated from Hong Kong but had no history of recent travel and no history of a previous illness consistent with typhoid.

Also notified was a 14-month-old child with typhoid, for whom contact tracing revealed the child's mother to be an asymptomatic carrier. Both mother and child had recently returned from a

holiday in India. They had an identical common phage type—*S. Typhi* E1a.

The remaining typhoid notifications were sporadic imported cases acquired from India, Indonesia, Nigeria, Pakistan and the Philippines. All five of the paratyphoid notifications were sporadic imported cases of *S. Paratyphi* A acquired from Malaysia, Indonesia (three cases) and India.

## Bloodborne viruses

### Hepatitis B – acute

Marion Moloney, Department of Human Services, Victoria

Between 1 January 2003 and 31 March 2003, the Department received a total of 483 notifications of hepatitis B infection, compared with 468 notifications for the same time period in 2002. Of the 483 notifications, 43 were classified as acute cases—similar to the number of acute notifications received for this period in 2002. Demographic data and identified risk factors for these cases are presented in table 2. Injecting drug use remained the main risk factor in this quarter, at 54 per cent. Ten cases were hospitalised (23 per cent) and no deaths were reported.

Co-infection with hepatitis C virus was identified in 10 acute cases (23 per cent). Thirty cases were negative for hepatitis C, while co-infection status was unknown for the remaining two. Eleven cases (26 per cent) had documented seroconversion to hepatitis B in the previous 24 months.

**Table 2: Acute hepatitis B notifications, by demographic data and risk factors, Victoria, January–March 2003**

Parameter	Number (%)
Male	29 (67)
Female	14 (33)
Total	43 (100)
<i>Median age—males</i>	<i>31 years</i>
<i>Median age—females</i>	<i>25 years</i>
<b>Risk factors</b>	
Injecting drug use	18 (42)
Injecting drug use and heterosexual contact	5 (12)
Heterosexual contact	10 (23)
Homosexual contact	3 (7)
Data not available	3 (7)
No risk identified	4 (9)
Total	43 (100)
<b>Country of birth</b>	
Australia	32 (74)
Other	3 (7)
Not stated	8 (19)
Total	43 (100)

### Newly acquired hepatitis C

Melissa Morgan, Department of Human Services, Victoria

Between 1 January and 31 March 2003, the Department received 990 notifications of hepatitis C infections, compared with 1,140 notifications for the same period in 2002. Of the 990 notifications, 35 (4 per cent) were classified as newly acquired. Thirty-one (88 per cent) of the newly acquired cases were males, with a median age of 25 (range: 15–46 years). The median

age of the four females was 27 years (range: 17–40 years).

Injecting drug use was reported as a risk factor for 69 per cent of cases (table 3).

**Table 3: Newly acquired hepatitis C notifications, by case characteristics and basis of diagnosis, Victoria, January–March 2003**

Parameter	Cases (%)
Male	31 (89)
Female	4 (11)
Total	35 (100)
<i>Median age—male</i>	<i>25 years</i> <i>(range: 15–46 years)</i>
<i>Median age—female</i>	<i>27 years</i> <i>(range: 17–40 years)</i>
<b>Risk factors*</b>	
Injecting drug use	24 (69)
In prison in last two years	10 (29)
Sexual partner (hepatitis C positive)	3 (9)
Tattoo	1 (3)
Piercing	1 (3)
Aboriginal or Torres Strait Islander	2 (6)
<b>Country of birth</b>	
Australia	19 (54)
Overseas	4 (11)
Not stated	12 (34)
Total	35 (100)
<b>Basis of diagnosis</b>	
Seroconversion in previous 24 months	21 (60)
Clinical hepatitis in previous 24 months	9 (26)
Clinical hepatitis and seroconversion	5 (14)
Total	35 (100)

\* Case characteristic information was obtained from treating doctors. Complete information may not be available and/or more than one risk factor may be reported.

## Vaccine-preventable diseases

### Invasive pneumococcal disease

Megan Counahan, Department of Human Services, Victoria

There were 71 notifications of invasive pneumococcal disease in the first quarter of 2003, representing a 9.8 per cent increase on notifications for the same period last year. The Department received no notifications for people identified as being Indigenous. The majority of cases notified were male (70 per cent). Of the 71 cases, 27 (38 per cent) were children aged under five years and 30 (42 per cent) were aged 65 years or over.

Serotype information was available for 86 per cent of cases. Six people, who had a validated history of receiving polysaccharide vaccine, were found to have a serotype in, or related to, the 23 valent vaccine. All were aged over 50 years. No deaths due to invasive pneumococcal disease were reported.

### Other notifiable diseases

#### Legionellosis

Anne Geschke, Department of Human Services, Victoria

Twenty-nine cases of Legionellosis were notified in the first quarter of 2003, compared with 20 notifications in the same period in 2002. Four were classified as *Legionella longbeachae* and 25 were *L. pneumophila* (table 4). All but one case was admitted to hospital. There was one death (a *L. pneumophila* sg 1 case).

**Table 4: Legionellosis notifications, by age and species, Victoria, January–March 2003**

	Age group (years)						Total
	<30	30–49	50–59	60–69	70–79	≥80 years	
<i>L. longbeachae</i>	-	1	-	1	2	-	4
<i>L. pneumophila</i> serogroup 1	-	4	4	3	2	1	14
<i>L. pneumophila</i> not otherwise specified	1	2	2	5	-	1	11
Total	1	7	6	9	4	2	29

The age range of cases was 27–83 years. Males comprised 59 per cent of all cases and 71 per cent of the cases with *L. pneumophila* serogroup 1. Six males and one female with *L. pneumophila* serogroup 1 were employed outside the home, predominantly in occupations potentially associated with higher exposure to cooling towers. Three of the four *L. longbeachae* cases reported using potting mix in the 10 days before the onset of the disease.

One outbreak was identified. Two cases of *L. pneumophila* serogroup 1 with a link to the Dandenong area were reported over a two-day period in early March 2003. Both had similar clinical presentations and worked in the area.

The workplace of the first case had no cooling towers; *L. pneumophila* serogroup 1 was identified in the cooling tower water from the workplace of the second case.

### Invasive meningococcal disease

Priscilla Robinson, Department of Human Services, Victoria

Twenty-seven confirmed or probable cases of invasive meningococcal disease were notified in the first quarter of 2003 (16 females and 11 males), as summarised in table 5. The two deaths were both from fulminating serogroup C disease (case fatality rate: 15 per cent).

Serogroup B was confirmed in seven cases (four females and three males) aged 5 months to 83 years, and

**Table 5: Invasive meningococcal disease notifications, by age and serogroup, Victoria, January–March 2003**

	Age group (years)					Total
	<1	1–4	5–14	15–29	≥30	
Serogroup B	1	2	1	1	2	7
Serogroup C	-	2	-	6	5	13
Other serogroups	-	-	-	2	-	2
Clinical	-	1	-	4	-	5
Total	1	5	1	13	7	27
Died	-	-	-	1	1	2

serogroup C was confirmed in 13 cases (seven females and six males) aged 14 months to 54 years. Five of the 13 serogroup C cases were aged over 30 years.

Polymerase chain reaction tests confirmed two additional cases. It was not possible to identify a serogroup for these specimens. No secondary cases or clusters were identified.

The *National Guidelines for the Control of Meningococcal Infection* indicate, as a precaution, that cases of conjunctivitis due to *Neisseria meningitidis* should be treated and their contacts should be provided with clearance antibiotics. Two such cases occurred in the first quarter: a newborn and an elderly pensioner.

## Sexually transmissible infections

### Human immunodeficiency virus (HIV) infection

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

There were 52 new HIV notifications in Victoria during the first quarter of 2003—a 17 per cent decrease on the 63 notifications in the previous quarter and a 27 per cent decrease on the number of notifications in the same period last year. The median age of cases for this quarter was 32 years (range: 18–68 years) (table 6).

Of the 52 notifications, 48 were for males and four were for females. Thirty-five of the 48 males (73 per cent) were notified with male-to-male sexual contact as their exposure category

(table 7)—a 24 per cent decrease on the previous quarter's 46 cases notified with a history of male-to-male sexual contact.

#### Male-to-male sexual contact

Of the 35 persons notified with male-to-male sexual contact as their exposure category, 31 (88 per cent)

reported acquiring their HIV infection in Victoria (table 8). Fourteen (40 per cent) reported a casual partner as the source of infection, seven (20 per cent) reported an anonymous partner and six (17 per cent) reported a regular partner. The source of infection was unknown for six (17 per cent) cases.

**Table 6: HIV notifications, by age, Victoria, January–March 2003 and January–December 2002**

Age group (years)	January–March 2003		January–December 2002	
	Males	Females	Males	Females
0–12	0	0	1	0
13–19	1	0	1	1
20–29	16	1	46	7
30–39	19	2	96	11
40–49	7	1	40	2
50–59	3	0	20	1
60+	2	0	6	2
Total	48	4	210*	24

\* Includes two persons for whom sex was reported as transgender.

**Table 7: HIV notifications, by exposure category, Victoria, January–March 2003 and January–December 2002**

Exposure category	January–March 2003				January–December 2002			
	Males		Females		Males		Females	
	n	%	n	%	n	%	n	%
Male homosexual/bisexual	35	73	–	–	165	78	–	–
Male homosexual/bisexual and injecting drug user	2	4	–	–	8	4	–	–
Injecting drug user	4	8	0	0	4	2	0	0
Heterosexual	6	13	3	75	17	8	13	54
Person from a country with a high prevalence of HIV <sup>1</sup>	1	2	1	25	14	7	11	46
Other	0	0	0	0	2	1	0	0
Total	48	100	4	100	210*	100	24	100

\* Includes two persons for whom sex was reported as transgender.

<sup>1</sup> Persons from countries with a prevalence of HIV greater than 1 per cent.

**Heterosexual contact**

Of the 52 HIV cases this quarter, 11 (21 per cent) were notified with heterosexual contact as their exposure category. Of these, two were born in a country with a high prevalence of HIV,

three reported heterosexual contact with a person from a high-prevalence country, and three (all males) reported heterosexual contact (not otherwise specified) (table 9).

**Injecting drug use**

Four (8 per cent) of 52 cases were notified with IDU as their exposure category, compared to one case in the previous quarter. Of these four cases, two were born in Australia and two in Vietnam. Between January 1999 and March 2003, 14/34 (41 per cent) of HIV cases notified with IDU as their exposure category were born in Vietnam (figure 1).

**Table 8: HIV notifications in males reporting male-to-male sexual contact, by place where infection was acquired, Victoria, January–March 2003 and January–December 2002**

Place where infection was acquired	January–March 2003		January–December 2002	
	n	%	n	%
Victoria	31	88	121	73
Interstate	2	6	19	12
Overseas	0	0	20	12
Unknown	2	6	5	3
Total	35	100	165	100

**Incident infections**

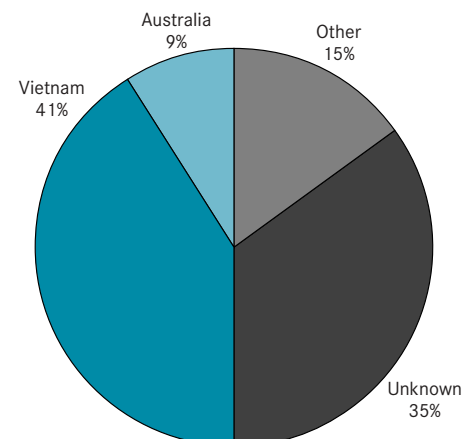
Those with newly acquired HIV or incident infection provide a picture of who is presently affected by the HIV epidemic. Such individuals are identified on the basis of a previous negative HIV test and/or a seroconversion illness within the 12 months preceding HIV diagnosis.

**Table 9: HIV notifications with heterosexual exposure, by exposure category, Victoria, January–March 2003 and January–December 2002**

Exposure category	January–March 2003				January–December 2002			
	Males		Females		Males		Females	
	n	%	n	%	n	%	n	%
Person from a country with a high prevalence of HIV*	1	14	1	25	14	45	11	45
Heterosexual contact with person from a country with a high prevalence of HIV*	2	29	1	25	1	3	2	8
Heterosexual contact with bisexual man	0	0	1	25	0	0	3	13
Heterosexual contact with injecting drug user	1	14	0	0	1	3	1	4
Heterosexual contact with person with HIV	0	0	0	0	0	0	1	4
Heterosexual contact with person with other specified risk	0	0	1	25	0	0	3	13
Heterosexual contact not otherwise specified	3	43	0	0	15	48	3	13
Total	7	100	4	100	31	100	24	100

\* Persons from countries with a prevalence of HIV greater than 1 per cent.

**Figure 1: HIV notifications with injecting drug use, by country of birth, Victoria, January 1999 to March 2003 (n = 34)**



Twenty individuals were notified with incident HIV infection during the first quarter of 2003: 18 males and two females (table 10). This number is similar to the 21 incident infections notified in the previous quarter.

## Chlamydia infections

Melissa Morgan, Department of Human Services, Victoria

The Department received 1,527 notifications of *Chlamydia trachomatis* in the first quarter of 2003, representing a 27 per cent increase on the number of notifications in the same period last year (n = 1,195). The age and sex distributions remain unchanged, with the greatest burden of disease in the age group 20–24 years.

The passive notification system is enhanced by the collection of risk factor information from clinicians. There were 657 (43 per cent) questionnaires returned for the first quarter 2003 (although not all questionnaires were complete), compared with 709 (59 per cent) for the same period last year. Characteristics of the cases for whom enhanced surveillance information is known are outlined in table 11. The most common reason reported for chlamydia testing was clinical evidence of a sexually transmissible infection.

**Table 10: HIV notifications, by time since last negative test or seroconversion illness, Victoria, January–March 2003 and January–December 2002**

Time between HIV diagnosis and negative test and/or seroconversion illness	January–March 2003		January–December 2002	
	Males	Females	Males	Females
Less than one year	18	2	76*	2
One year to less than three years	4	1	26*	2
Three or more years	8	0	28	6
No previous negative test or seroconversion illness	18	1	78	14
Total	48	4	210	24

\* Includes two persons for whom sex was reported as transgender.

**Table 11: Enhanced epidemiological data received for chlamydia notifications, January–March 2003**

Data item	Male	Female	Total
<b>Reported sexual partner</b>			
Male	93	319	412
Female	180	7	187
Unknown/not stated	36	22	58
Total	309	348	657
<b>Partner type</b>			
Regular partner	104	201	305
Casual partner	162	96	258
Client	1	8	9
Sex worker	1	2	3
Unknown/not stated	39	41	82*
Total	307	348	657*
<b>Place where infection was acquired</b>			
Victoria	249	295	544
Interstate	9	10	19
Overseas	18	9	27
Unknown/not stated	28	32	67*
Total	304	346	657*

\* includes information for whom gender is unknown

## Gonorrhoea

Melissa Morgan, Department of Human Services, Victoria

There were 290 notifications of *Neisseria gonorrhoeae* in the first quarter of 2003, compared with 172 notifications for the same period in 2002. Of the 290, 264 (91 per cent) were for males and 26 (9 per cent) were for females. The median age was 33 years for males (range: 14–76 years) and 34 years for females (range: 14–57 years).

The notifying clinician provides the Department with risk factor information on the case. Enhanced surveillance information was obtained for 80 per cent (n = 231) of notifications. Information on the sexual partner was collected for 77 per cent (n = 204) of males. Of this group, 71 per cent (n = 145) reported a male partner and 25 per cent (n = 51) reported a female partner, while 4 per cent (n = 8) reported the gender of the partner as unknown.

Of the 210 males for whom information on infection source was collected, 69 per cent (n = 145) reported having acquired their infection from a casual partner, 16 per cent (n = 34) reported a regular partner as the source and three per cent (n = 7) reported a sex worker. Eleven per cent (n = 24) reported not knowing from whom they had acquired the infection. Eighty-two per cent (n = 173) reported having acquired their infection in Victoria, eight per cent (n = 17) reported overseas acquisition and three per cent (n = 7) reported interstate acquisition. Six per cent (n = 13) reported not knowing where they had acquired the infection.

For the 26 female cases, the gender of the sexual partner was collected for 62 per cent (n = 16), all of whom reported having acquired their infection from a male partner. Information on source partner was available for 20 females: 50 per cent (n = 10) reported having acquired their infection from a regular partner, 30 per cent (n = 6) reported a casual partner as the source and 15 per cent (n = 3, all sex workers) reported a client. One case reported not knowing from whom she had acquired the infection. The majority of infections in females were acquired in Victoria (80 per cent, n = 16).

Testing for antibiotic susceptibility is currently only possible if *N. gonorrhoeae* is isolated by culture. In the first quarter of 2003, sensitivity-testing results were received on 218 isolates. Resistance to ciprofloxacin was identified in 32 individuals notified with gonorrhoea (29 males and three females). Four per cent of isolates collected from male cases who reported a male sexual partner and having acquired their infection in Victoria

were ciprofloxacin resistant, compared with none in the last quarter.

## Infectious syphilis

In the first quarter of 2003, there were ten cases (all males) with infectious syphilis, compared with two cases (both males) notified in the first quarter of 2002. Of the ten cases, three were primary infections, two were secondary infections and five were early latent infections. Eight cases were from metropolitan regions, one was from a rural region and one case lived overseas. The median age was 31 years (range: 18–50 years).

Eight of the cases had male partners and two had female partners. Six cases reported acquiring their infection from a casual partner, one reported a regular partner as the source of infection, and one reported a sex worker. The partners for two remaining cases were unknown. Of the eight cases who knew where they had acquired syphilis, half had acquired their infection overseas and half had acquired their infection in Victoria.

**Table 12: *Mycobacterium* spp. isolates received at the Mycobacterium Reference Laboratory, October–December 2002**

	<i>M. tb</i> isolates	New Victorian <i>M. tb</i> isolates	Non- <i>M. tb</i> isolates	Negatives	Total
<b>Primary specimens</b>					
October	35	11	17	459	511
November	7	2	24	494	525
December	27	10	17	452	496
<b>Referred specimens</b>					
October	32	18	56		88
November	26	14	58		84
December	25	18	42		67
Total	152	73	214	1,405	1,771

## Mycobacterium Reference laboratory report

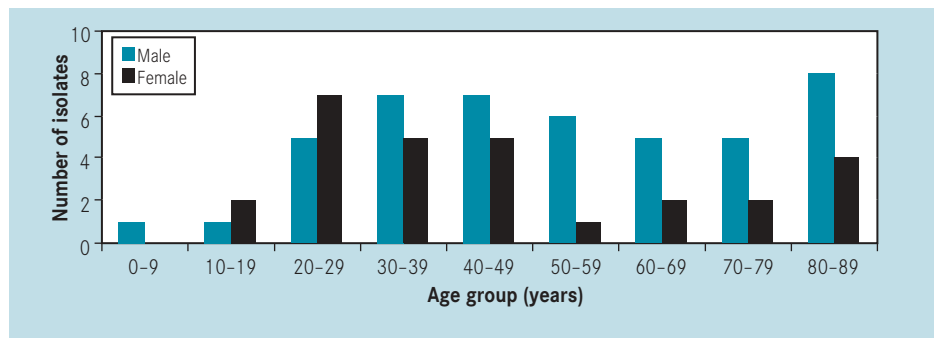
Rob Warren, Victorian Infectious Diseases Reference Laboratory

Given the slow-growing nature of *Mycobacterium* spp., this report covers the period 1 October to 31 December 2002 rather than the first quarter of 2003 (tables 12 and 13, and figure 2). Most specimens (both primary and referred) and isolates are from Victorian patients. The majority of non-Victorian specimens originated in the Northern Territory and the Solomon Islands.

Table 13: Extrapulmonary *M. tuberculosis* isolates and resistant isolates, Victoria, October–December 2002

Site	October	November	December
Pulmonary	14	7	15
Extrapulmonary	15	9	13
Extrapulmonary site details	Lymph node (4) Neck abscess (2) Urine (2) CSF (1) Spinal tissue (1) Caecum bx (1) Axilla abscess (1) Abdominal mass (1) Elbow asp. (1) Hip tissue (1)	Lymph node (1) Neck asp. (1) Urine (2) Pectoral cyst (1) Thoracic paraspinal mass (1) Peritracheal tissue (1) Caecum swab (1) Hand lesion (1)	Lymph node (6) Urine (3) Pleural fluid (2) Groin asp. (1) Ascitic fluid (1)
Resistance	1 x resistance to Isoniazid 1 x resistance to Isoniazid and Streptomycin	1 x resistance to Isoniazid and Streptomycin 1 x resistance to Isoniazid, Streptomycin and Rifampicin	1 x resistance to Isoniazid and Streptomycin

Figure 2: New *M. tuberculosis* isolates from Victorian residents, by age and gender, Victoria, October–December 2002



## Comments

- *M. bovis* was isolated from sputum of a 54-year-old male residing in the Northern Territory. *M. bovis* BCG was recovered from a vaccination site and an axillary lymph node of two vaccinated infants.
- *M. abscessus*, which can cause pulmonary disease, was isolated from sputum specimens of four males aged 23–77 years. Three had multiple isolations and one has had the organism isolated every year since 1998.
- *M. fortuitum* was isolated from a leg wound of a 47-year-old male.
- *M. kansasii* was isolated for the first time from respiratory specimens of one elderly female and two males. One male had multiple isolations and concurrent infection with *M. avium* complex.
- *M. marinum* was recovered from the upper extremities of three female patients aged 14–57 years. Two patients gave histories of keeping tropical fish.
- *M. ulcerans* polymerase chain reaction (PCR) was requested on 75 specimens, including one specimen from a ringtail possum. The test returned 13 positive results from 12 different patients. This result represented 10 new cases, including the possum and one patient from Queensland. The PCR results for the new cases were confirmed by culture. There were also three new *M. ulcerans* isolations where PCR was not requested, including one from a patient in Western Australia, which represents the first isolation of *M. ulcerans* from that State.
- Molecular identification techniques were used to identify or confirm identification of 71 isolates, including *M. asiaticum*, *M. heckeshornense* and *M. shimoidei* from two patients each. Overall, 20 mycobacterial species were identified, as well as nine *Nocardia* spp. and three *Streptomyces* spp.
- Mycobacterium-generic PCR was performed on 24 specimens, including 12 paraffin embedded tissues, five respiratory specimens, one cerebrospinal fluid and six fresh tissue biopsies. *M. tuberculosis* was detected in two paraffin embedded specimens and a sputum. *M. avium* was identified from a fresh lymph node biopsy.

## Erratum

The March issue of the bulletin carried an announcement of the release of the *Therapeutic Guidelines: Antibiotic 12*. A note at the end of the announcement stated that *Antibiotic 12* would be available only as part of the full guideline set 'eTG complete'. This was incorrect. *Antibiotic 12* is readily available in book format; the electronic file is the format that is only available with the integrated full-set version 'eTG complete'.

Table 14: Notifications of notifiable infectious diseases, by Department of Human Services region, January–March 2003

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
<b>Blood Borne Diseases</b>										
Hepatitis B–acute	3	0	1	2	1	3	0	1	4	4
Hepatitis B–chronic/unknown	25	3	2	0	4	8	5	9	5	5
Hepatitis C–newly acquired	1	3	1	1	4	2	2	2	2	0
Hepatitis C–prevalent/unknown	57	34	27	31	33	54	38	43	35	67
Hepatitis D	0	0	0	0	0	0	0	0	0	0
<b>Enteric diseases</b>										
<i>Campylobacter</i> infection	165	102	49	43	86	78	79	87	101	101
Cholera	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	1	2	0	3	0	4	8	5	18	12
Food/water/environmental–other	3	2	2	23	7	5	3	1	6	0
Giardiasis	22	12	9	8	15	3	9	5	11	11
Haemolytic uraemic syndrome	0	0	0	0	2	0	0	0	0	0
Hepatitis A	1	12	0	0	2	1	2	1	1	0
Hepatitis E	0	0	0	0	0	0	0	0	0	0
Listeriosis	0	1	0	0	0	0	1	0	1	0
Paratyphoid	0	0	0	0	0	0	0	0	0	0
Salmonellosis	24	35	12	18	27	34	28	29	24	21
Shigellosis	0	0	0	0	0	0	0	0	0	0
Typhoid	0	0	0	0	0	0	0	0	1	0
Verotoxin-producing <i>E. coli</i>	0	0	0	0	0	0	0	0	0	0
<b>Other infectious notifiable diseases</b>										
Invasive meningococcal disease	4	2	0	1	1	0	1	1	1	0
Legionellosis	0	1	1	1	1	0	0	2	2	0
Leprosy	0	0	0	0	0	0	0	0	0	0
Tuberculosis	1	0	2	0	2	0	0	2	2	1
<b>Sexually transmitted infections</b>										
Chlamydia	104	73	45	26	57	60	47	46	42	36
Gonococcal infection	2	1	1	4	2	2	4	3	3	1
Syphilis–infectious	0	0	0	0	0	0	1	0	0	0
<b>Vaccine-preventable diseases</b>										
<i>Haemophilus influenzae</i> type b	0	0	0	0	0	0	0	0	0	0
Influenza	0	0	0	0	0	0	0	0	1	0
Invasive pneumococcal disease	10	7	6	0	3	6	2	1	5	7
Measles	0	2	0	0	10	0	3	0	0	0
Mumps	0	0	0	0	0	0	0	0	0	0
Pertussis	9	22	12	5	5	38	14	17	25	23
Rubella	1	1	0	0	0	0	0	0	0	0
<b>Vector-borne diseases</b>										
Arbovirus–alphavirus	0	0	0	0	1	4	0	1	3	34
Arbovirus–flavivirus	0	0	1	0	0	0	0	1	0	0
Malaria	0	0	0	0	1	0	1	2	0	1
<b>Zoonoses</b>										
Brucellosis	0	0	0	0	0	0	0	0	0	0
Leptospirosis	2	2	0	0	0	0	0	1	0	3
Psittacosis	0	0	2	1	0	2	1	0	0	0
Q fever	2	0	3	0	0	2	3	3	3	3
<b>Est. 2001 resident population</b>	<b>340,496</b>		<b>208,226</b>		<b>293,516</b>		<b>250,878</b>		<b>240,114</b>	

**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).

	Western Metropolitan		Northern Metropolitan		Eastern Metropolitan		Southern Metropolitan		Unknown		Victoria		
ytd	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
	9	7	5	8	6	2	12	15	1	0	42	42	196
	112	119	73	88	86	94	111	81	42	43	465	450	1,895
	5	5	6	2	2	2	5	3	5	2	33	22	109
	177	237	147	184	127	126	233	240	68	103	942	1,119	4,109
	1	1	1	0	0	0	0	0	0	0	2	1	9
	211	113	247	197	295	245	321	328	53	40	1,607	1,334	4,945
	0	0	0	0	0	0	0	0	0	0	0	0	1
	4	13	7	16	10	14	11	12	2	3	61	84	281
	81	6	16	3	19	9	19	5	107	16	263	70	1070
	30	17	23	31	37	27	62	43	8	9	226	166	710
	0	0	0	0	1	0	0	1	0	0	3	1	4
	2	5	5	2	7	8	8	10	0	0	28	39	70
	0	0	0	0	0	0	0	0	0	0	0	0	2
	0	1	1	1	5	0	0	0	0	0	8	3	15
	2	3	0	1	1	0	2	2	1	0	6	6	14
	146	47	61	38	92	68	100	95	24	12	538	397	1,207
	3	4	4	4	6	0	1	6	1	1	15	15	66
	3	0	0	2	6	4	2	6	0	0	12	12	21
	0	0	0	0	0	0	1	0	0	0	1	0	5
	4	9	5	11	4	7	7	6	0	0	27	37	208
	5	2	13	4	3	5	4	4	0	1	29	20	109
	0	0	1	0	0	0	0	1	0	0	1	1	2
	17	17	14	16	9	14	26	13	3	0	76	63	284
	237	191	256	189	234	187	363	300	144	87	1,529	1,195	4,846
	40	38	59	28	32	17	84	41	63	37	290	172	802
	0	1	1	0	4	0	3	0	1	1	10	2	28
	0	0	0	0	0	1	0	0	0	0	0	1	2
	0	4	0	5	0	2	0	24	1	0	2	35	596
	3	3	10	8	17	12	13	12	0	8	69	64	454
	0	0	0	0	0	2	0	0	0	0	13	4	14
	0	2	0	0	0	1	0	2	0	0	0	5	10
	10	34	19	38	22	42	17	49	2	1	135	269	888
	0	1	0	1	2	1	1	4	0	0	4	8	15
	0	0	0	1	1	4	1	4	1	0	7	48	95
	0	1	1	1	1	0	5	2	0	0	8	5	13
	3	3	1	3	9	4	5	7	2	3	22	23	67
	0	0	0	0	0	0	0	0	0	0	0	0	2
	0	0	0	0	0	0	0	0	0	0	2	6	17
	4	0	5	0	3	1	3	2	0	0	18	6	41
	0	0	0	1	0	1	0	0	0	0	11	10	73
	619,377		769,360		974,374		1,126,223				4,822,663		

## Victorian Infectious Diseases Bulletin

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