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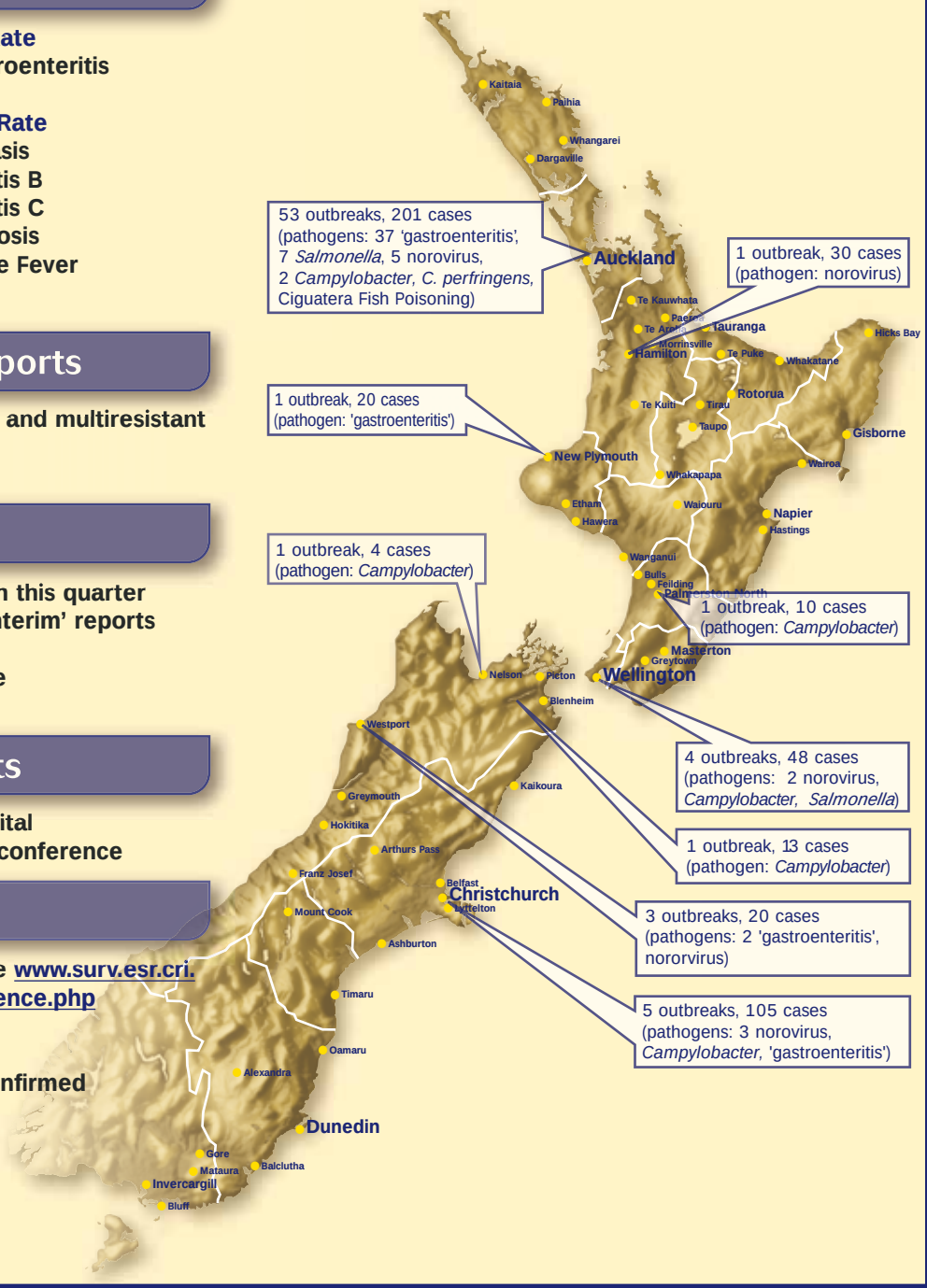
New Zealand Public Health Surveillance Report

June 2005

Contents & Highlights

This Quarter's Outbreaks

Notification and outbreak data in this issue are drawn from the January-March quarter of 2005. The outbreak map on this page consists of all outbreak information, final and interim. The total number of outbreaks and cases by region and outbreaks by pathogen are reported, as notified by 11 April 2005.



To access copies of the recently published 2004 Annual Surveillance Reports for Sexually Transmitted Infections, Annual Outbreaks, and for Notifiable and Other Diseases in New Zealand, please go to the following web page:

www.surv.esr.cri.nz/surveillance/surveillance.php

1 Editorial

Second-hand tobacco smoke exposures in bars

Exposure of non-smokers to tobacco smoke has been associated with increases in risk for a number of diseases, including heart disease and cancer. In New Zealand, exposure to second-hand smoke (SHS) contributes to approximately 400 premature deaths each year.[1] Although the New Zealand Smokefree Environments Act 1990 protected workers from exposure to environmental tobacco smoke at work, until recently special exemptions had applied to premises, such as bars. However, bars are one of the most common public places for SHS exposures to occur. In these environments, workers and patrons could be exposed to particularly high levels of SHS.

On 3 December 2003, an amendment to the 1990 Act was passed. In addition to licensed premises such as bars, restaurants, cafes, sports clubs, and casinos, other workplaces including offices, factories, warehouses, work canteens and 'smoko' rooms became smokefree indoors from 10 December 2004. Furthermore, the 2003 amendment required buildings and grounds of schools and early childhood centres become smokefree from 1 January 2004. These amendments follow the examples of Ireland, Norway, and a number of US States who have enacted similar changes in recent years.

There is strong scientific evidence that smoking bans and restrictions reduce exposure to SHS in the workplace.[2] Besides the obvious health benefits, the economic benefit of a national smokefree environment act covering all nonresidential buildings may also be significant, for example, in the USA the benefit may be up to $US78 billion. There are a number of studies that indicate that smokefree environment restrictions can be effective in the New Zealand setting[3], and the Smoke-free Environments Act 1990 appears to have been highly effective in reducing exposure to tobacco smoke.[4]

Prior to 10 December 2004, a study was started by ESR (on behalf of the MoH) to provide a quantifiable baseline measurement of SHS exposures to non-smoking bar patrons relating to the implementation of legislative changes banning smoking in bars. Sampling of SHS exposures in a number of bars across New Zealand is ongoing and will include two visits post-implementation of the smoking ban. This is the first study to survey, on a national level, the quantitative amount of exposure to SHS in non-smoking bar patrons, and will enable the evaluation of the effectiveness of the Smokefree Environments Act. Copies of the complete reports will be made available on the Ministry of Health web pages.

[1] Woodward A, and Laugesen M. 2000. Deaths in New Zealand attributed to secondhand cigarette smoke. A report to the NZ Ministry of Health.

[2] Task Force on Community Preventive Services. The Community Guide website www.thecommunityguide.org/home_f.html

[3] Wilson N, Thomson G. 2002. Still dying from second-hand smoke at work: a brief review of the evidence for smoke-free workplaces in New Zealand. NZ Med J 115: 1165. www.nzma.org.nz/journal/115-1165/240/

[4] Brander P. 1992. Evaluation of the Smoke-free Environments legislation affecting workplaces. Wellington: Department of Health.

For more information please visit the following websites:
www.moh.govt.nz/smokefreelaw
www.ndp.govt.nz
www.smokefree.co.nz
www.who.int/tobacco

2. Notifiable Disease Surveillance

The following is a summary of disease notifications for the January-March quarter of 2005 and cumulative notifications and rates calculated for a 12-month period (April 2004 - March 2005). For comparative purposes notification numbers and rates are presented in brackets for the same periods in the previous year. A robust method of constructing 95% confidence intervals is used to determine 'statistically significant differences' throughout this report unless otherwise stated [see Newcombe, R. G. and D. G. Altman. Proportions and their differences. In: *Statistics with Confidence*. 2000. BMJ Books. Bristol]. Data contained within this report are based on information recorded in EpiSurv by public health service staff up to 12 April 2005. As this information may be updated over time, these data should be regarded as provisional.

The National Surveillance data tables are available online (www.surv.esr.cri.nz).

VACCINE PREVENTABLE DISEASE

Measles

- *Notifications:* 6 notifications in the quarter (2004, 9); 30 notifications over the last 12-months (2004, 66) giving a rate of 0.8 cases per 100,000 population (2004, 1.8); statistically significant decrease
- *Comments:* 1 laboratory confirmed case, 2 probable cases and 3 unknown or missing cases

Pertussis

- *Notifications:* 1,003 notifications in the quarter (2004, 325); 4,163 notifications over the last 12-months (2004, 761) giving a rate of 111.4 cases per 100,000 population (2004, 20.4); statistically significant increase
- *Comments:* there has been a statistically significant quarterly decrease from the previous quarter (1717 cases). Notifications suggests that we are nearing the end of the epidemic curve

Meningococcal Disease

- *Notifications:* 54 notifications in the quarter (2004, 59); 339 notifications over the last 12-months (2004, 499) giving a rate of 9.1 cases per 100,000 population (2004, 13.4); statistically significant decrease
- *Comments:* notifications were distributed by age as follows, 4 under 1 years of age; 13 (1-4 years); 6 (5-9 years); 10 (10-14 years); and 21 in the 15 and over category. There were 3 deaths aged between 40-60 years, 2 from Canterbury DHB and 1 from Counties Manukau DHB

INFECTIOUS RESPIRATORY DISEASES

Acute Rheumatic Fever

- *Notifications:* 18 notifications in the quarter (2004, 20); 73 notifications over the last 12-months (2004, 142) giving a rate of 2.0 cases per 100,000 population (2004, 3.8); statistically significant decrease
- *Comments:* notifications were distributed by age as follows, 4 (5-9 years); 9 (10-14 years); 1 (15-19 years); and 4 (20-29 years). All 18 cases were rheumatic fever initial attacks

ENTERIC INFECTIONS

Campylobacteriosis

- *Notifications:* 3,404 notifications in the quarter (2004, 3,775); 11,844 notifications over the last 12-months (2004, 14,323) giving a rate of 316.9 cases per 100,000 population (2004, 383.2); statistically significant decrease

Salmonellosis

- *Notifications:* 375 notifications in the quarter (2004, 353); 1,101 notifications over the last 12-months (2004, 1,280) giving a rate of 29.5 cases per 100,000 population (2004, 34.2); statistically significant decrease

Shigellosis

- *Notifications:* 29 notifications in the quarter (2004, 33); 136 notifications over the last 12-months (2004, 101) giving a rate of 3.6 cases per 100,000 population (2004, 2.7); statistically significant increase

Gastroenteritis

- *Notifications:* 169 notifications in the quarter (2004, 274); 1,256 notifications over the last 12-months (2004, 1,090) giving a rate of 33.6 cases per 100,000 population (2004, 29.2); statistically significant increase
- *Comments:* note that this is not a notifiable disease *per se* except in persons with a suspected common source or with a high risk occupation, and the term 'gastroenteritis' provides a catch-all category for enteric diseases that are not notifiable and for syndromic reports that come through public health units, including direct reports from the public where the causative pathogen may never be known

VTEC/STEC Infection

- *Notifications:* 24 notifications in the quarter (2004, 35); 78 notifications over the last 12-months (2004, 118) giving a rate of 2.1 cases per 100,000 population (2004, 3.2); statistically significant decrease

ENVIRONMENTAL EXPOSURES AND INFECTIONS

Cryptosporidiosis

- *Notifications:* 122 notifications in the quarter (2004, 57); 677 notifications over the last 12-months (2004, 738) giving a rate of 18.1 cases per 100,000 population (2004, 19.7); not a statistically significant decrease
- *Comments:* there has been a statistically significant quarterly decrease from the previous quarter (292 cases) and statistically significant increase from the same quarter last year (57 cases)

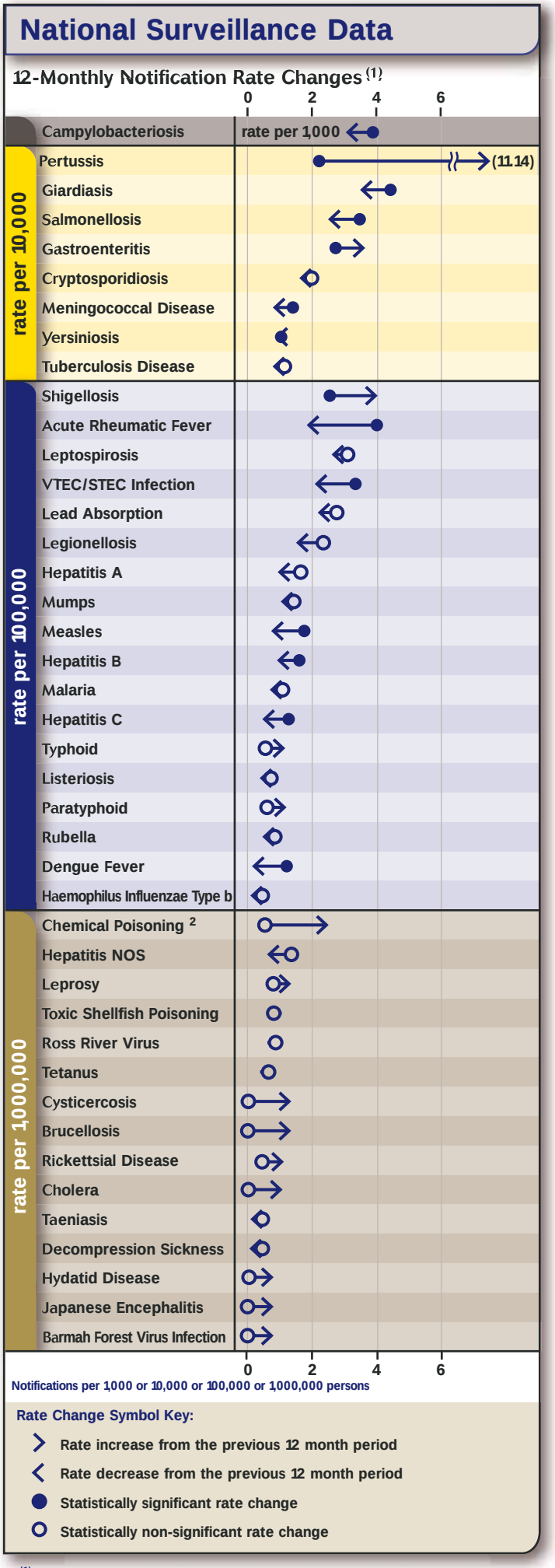
Giardiasis

- *Notifications:* 327 notifications in the quarter (2004, 448); 1,394 notifications over the last 12-months (2004, 1,609) giving a rate of 37.3 cases per 100,000 population (2004, 43.1); statistically significant decrease

Hepatitis A

- *Notifications:* 16 notifications in the quarter (2004, 18); 47 notifications over the last 12-months (2004, 62) giving a rate of 1.3 cases per 100,000 population (2004, 1.7); not a statistically significant decrease
- *Comments:* there has been a statistically significant quarterly increase from the same quarter last year (6 cases)

National Surveillance Data



(1) Rates are calculated for the 12-month period to the end of this quarter.
(2) from the Environment

continued...

Hepatitis B
- *Notifications:* 10 notifications in the quarter (2004, 13); 35 notifications over the last 12-months (2004, 59) giving a rate of 0.9 cases per 100,000 population (2004, 1.6); statistically significant decrease
- *Comments:* all notifications were aged between 15 and 70 years

Hepatitis C
- *Notifications:* 7 notifications in the quarter (2004, 12); 19 notifications over the last 12-months (2004, 46) giving a rate of 0.5 cases per 100,000 population (2004, 1.2); statistically significant decrease

Yersiniosis
- *Notifications:* 102 notifications in the quarter (2004, 150); 372 notifications over the last 12-months (2004, 446) giving a rate of 10.0 cases per 100,000 population (2004, 11.9); statistically significant decrease

NEW, EXOTIC AND IMPORTED INFECTIONS

Dengue Fever
- *Notifications:* 3 notifications in the quarter (2004, 6); 5 notifications over the last 12-months (2004, 39) giving a rate of 0.1 cases per 100,000 population (2004, 1.0); statistically significant decrease
- *Comments:* all 3 cases were females. One case had been overseas during the incubation period

Cysticercosis
- *Notifications:* 3 notifications in the quarter (2004, 0); 3 notifications over the last 12-months (2004, 0) giving a rate of 0.1 cases per 100,000 population (2004, 0); not a statistically significant increase
- *Comments:* all cases were confirmed males aged between 30 to 39 years and were hospitalised

Toxic shellfish poisoning
- *Notifications:* 3 notifications in the quarter (2004, 0); 3 notifications over the last 12-months (2004, 3) giving a rate of 0.1 cases per 100,000 population (2004, 0.1)
- *Comments:* all 3 cases were females aged between 40 to 60 years

Brucellosis
- *Notifications:* 1 notification in the quarter (2004, 0); 3 notifications over the last 12-months (2004, 0) giving a rate of 0.1 cases per 100,000 population (2004, 0); not a statistically significant increase
- *Comments:* the case was a middle aged male from Southland DHB

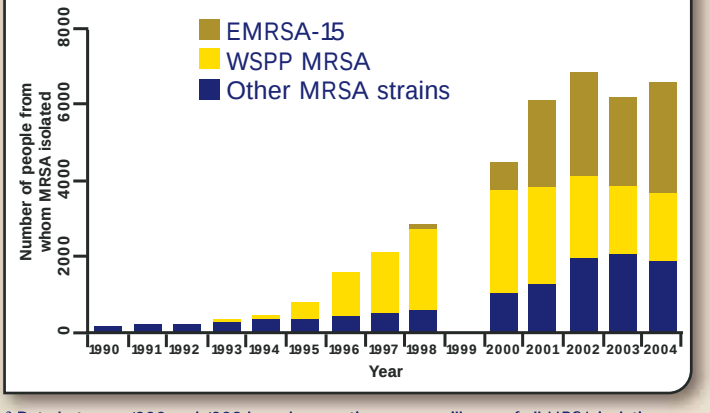
Ross River Virus Infection
- *Notifications:* 1 notification in the quarter (2004, 3); 3 notifications over the last 12-months (2004, 3) giving a rate of 0.1 cases per 100,000 population (2004, 0.1)
- *Comments*: the case was an adult male who had been in Darwin and Queensland, Australia during the incubation period

3. Other Surveillance Reports

Annual survey of non-multiresistant and multiresistant *Staphylococcus aureus*, August 2004

Each year since 2000, ESR has conducted a one-month survey of all methicillin-resistant *Staphylococcus aureus* (MRSA), that is, multiresistant and non-multiresistant isolates, to complement the ongoing routine surveillance of multiresistant MRSA and to provide information on the overall epidemiology of MRSA in New Zealand. The 2004 survey was conducted in August 2004. During that month, MRSA were referred from 544 people (528 patients and 16 staff). This number of referrals equates to an annual incidence rate of 175 per 100,000, a 6% increase on the rate in 2003 (165 per 100,000) (Figure 1).

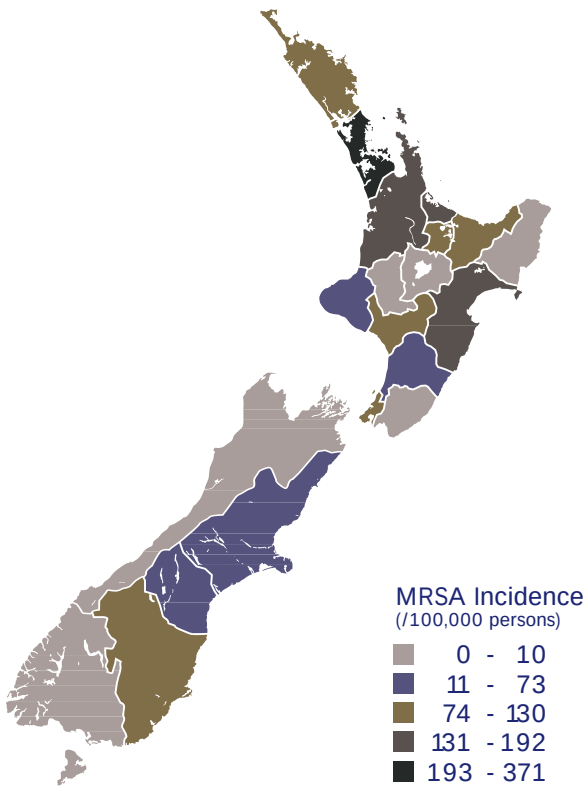
Figure 1. MRSA isolations, 1990 - 2004[a]



[a] Data between 1990 and 1998 based on continuous surveillance of all MRSA isolations. Data for 2000-2004 is annualised and based on 1-month surveys conducted in these years. No survey was undertaken in 1999.

There continue to be marked geographic variations in the incidence of MRSA in New Zealand (Figure 2). In 2004, the highest annualised incidence rates were in the Auckland (371 per 100,000), Hawkes Bay (192), Waikato (140), and Tauranga (139) Health Districts.

Figure 2. Geographic variations in the incidence of MRSA



The majority of the MRSA isolates were the EMRSA-15 strain (43%), WSPP MRSA strain (27%), AKh4 MRSA strain (7%) or WR/AK1 MRSA strain (4%). The increase in MRSA in New Zealand from the mid-1990s to 2000 was driven by the spread and almost total dominance of the non-multiresistant, community WSPP MRSA. However, since 2000 the WSPP MRSA has represented a decreasing proportion of the MRSA isolations, and since 2001 the actual number of WSPP MRSA isolations has also decreased (Figure 1). There has been a concomitant rise in isolations of the EMRSA-15 strain.

MRSA was reported as causing infection in 74% of the 395 patients for whom this information was provided. Among the 528 patients with MRSA, 53% were categorised as hospital patients and 47% as community patients. Patients were classified as hospital patients if they were in a healthcare facility (including residential-care facility) when MRSA was isolated or had been in a healthcare facility in the three months before MRSA was isolated. The majority of EMRSA-15 and AKh4 MRSA (72% and 84%, respectively) were isolated from hospital patients or staff, whereas most WSPP MRSA (67%) were isolated from people in the community.

Overall, 52% of the MRSA surveyed in 2004 were multiresistant, that is, resistant to ≥2 classes of antibiotics in addition to ß-lactams. The EMRSA-15 strain is invariably resistant to ciprofloxacin and usually erythromycin, with inducible clindamycin resistance. In 2004, 19% of the EMRSA-15 isolates tested were erythromycin susceptible. The WSPP MRSA remain predominantly non-multiresistant, with only infrequent resistance to any antibiotics other than ß-lactams. The AKh4 is typically multiresistant to ciprofloxacin, clindamycin (constitutive resistance), co-trimoxazole, erythromycin, gentamicin and tetracycline. The WR/AK1 strain is invariably resistant to fusidic acid and high-level mupirocin. In 2004, 13% of the isolates of this strain were also erythromycin resistant.

For a more detailed report see www.surv.esr.cri.nz/PDF_surveillance/Antimicrobial/aMRSA_2004.pdf

Reported by Helen Heffernan, Communicable Disease Programme, Institute of Environmental Science and Research

Mycology surveillance

The Mycology Laboratory at Auckland City Hospital has been contracted by ESR since October 1997 to provide a reference service for hospital and community laboratories in New Zealand. The service covers the identification and susceptibility testing of fungi and aerobic actinomycetes. The culture collection of medically significant and unusual fungal isolates, also formerly housed at ESR was transferred and is also maintained as part of the service. Isolates are provided free of charge to medical laboratories. The laboratory also collects and collates the clinical and laboratory data associated with opportunistic mycoses in New Zealand. The data are published biannually in NZPHSR by ESR and in the *Mycoses Newsletter* by Alan Woodgyer, Melbourne.

An interesting trend being seen in the data collected is the reporting of the dimorphic fungi, specifically *Histoplasma capsulatum* and *Coccidioides immitis*. Since 2002, three cases of histoplasmosis and one case of coccidiomycosis have been reported. Prior to this time only one case of histoplasmosis had been reported in 1989. These fungi are not endemic in New Zealand and have well defined geographical endemic areas, but with the mobility of contemporary society, a heightened awareness by physicians and laboratory staff to the possibility of these agents may be needed.

In the laboratory extended incubation (up to six weeks) may be necessary and the use of tubed media is recommended rather than agar plates. All slow growing mycelial isolates should be considered as a potential pathogen and manipulated in a biohazard cabinet until identified. The conidia of the mycelial form of dimorphic fungi are highly infectious and are easily transmissible by aerosolization. As a consequence dimorphic fungi, especially with *Coccidioides immitis*, do pose a risk to healthy individuals including laboratory workers.

New Zealand cases to date:

Year	Agent	Site	Brief History
1989	*Histoplasma*	Bone marrow	African. HIV +ve
2002	*Histoplasma*	Post mortem lung	Vietnamese. HIV +ve. Lived in NZ 15 years. At PM cerebral mass also +ve for CMV and toxoplasma. Miliary nodules in lungs, also *Pneumocystis jiroveci* present.
2003	*Histoplasma*	Submental node FNA	New Zealander. HIV +ve. Admitted with fever, dyspnoea, generalised lymphadenopathy and hepatosplenomegaly. Past travel to Philippines & Vanuatu
2004	*Histoplasma*	Liver biopsy	Brazilian visiting NZ. HIV +ve.
2004	*Coccidioides*	Spine	NZ gardener working in LA, USA. Returned to NZ with osteomyelitis of spine.

Susceptibility testing is performed routinely on *Candida* species thought to be clinically relevant. The annual results of susceptibility testing on *Candida* species is reported and can be viewed on the LabPlus website:

www.adhb.govt.nz/LabPlus/antimicrobial_susceptibility/Yeasts_filamentous.htm

Susceptibility testing on other fungal isolates will only be done if clinically warranted.

Reported by Karen Rogers, LabPlus, Auckland City Hospital, Auckland District Health Board

4. Outbreak Surveillance

The following information is a summary of the outbreak trends for New Zealand, from data collected in the last quarter (January - March 2005). Comparisons are made to the previous quarter (October - December 2004), and to the same quarter in the previous year (January - March 2004).
Note that the outbreak data in this section are notified to ESR by the Public Health Services.

General

- 70 outbreaks notified in this quarter (451 cases)
- 27 are 'final' reports (324 cases); 43 are 'interim' reports (127 cases) that have yet to be finalised and closed

All following data are pertaining to final reports only

- 12.0 cases on average per outbreak, compared with 11.2 cases per outbreak in the previous quarter (5.5 cases per outbreak in the same quarter of last year)
- no deaths, but 5 hospitalisations this quarter (hospitalisations: gastroenteritis (2 cases), campylobacteriosis (2 cases), salmonellosis (1 case)

Pathogens

- 10 norovirus outbreaks (242 cases) during this quarter
- 8 'gastroenteritis' outbreaks (48 cases)
- 4 *Campylobacter* outbreaks (21 cases)
- 4 *Salmonella* outbreaks (11 cases)
- 1 *Cryptosporidium* outbreak (2 cases)

continued...

Modes of Transmission

Note that reporting allows for multiple modes of transmission to be selected. In many instances no mode of transmission is selected for outbreaks notified to ESR, consequently, numbers may not add up to the total number of outbreaks reported.

- 9 person-to-person, from (non-sexual) contact with an infected person (including droplets): 7 norovirus (235 cases), 1 gastroenteritis (20 cases) and 1 *Salmonella* (5 cases)
- 2 environmental, from contact with an environmental source (e.g. swimming): norovirus (94 cases)
- 10 food borne, from consumption of contaminated food or drink (excluding water): 4 *Salmonella* (11 cases), 4 gastroenteritis (13 cases) and 2 *Campylobacter* (15 cases)
- 7 mode of transmission unknown: 3 norovirus (7 cases), 3 gastroenteritis (15 cases) and 1 *C. parvum* (2 cases)
- 2 waterborne, from consumption of contaminated drinking water: both *Campylobacter* (12 cases)

Circumstances of Exposure/Transmission

Common 'settings' where exposure/transmission occurred or contaminated food/beverage was prepared for consumption are identified below. Note that multiple settings can be selected and in many instances no settings are selected in outbreaks notified to ESR.

- 5 café: 2 *Campylobacter* (15 cases), 2 *Salmonella* (4 cases) and 1 gastroenteritis (2 cases)
- 4 home: 2 *Campylobacter* (6 cases), 1 *Salmonella* (5 cases) and 1 norovirus (4 cases)
- 3 rest home: 2 norovirus (46 cases) and 1 gastroenteritis (20 cases)
- 1 hospital (continued care): norovirus (59 cases)
- 1 workplace: norovirus (35 cases)
- 1 prison: norovirus (18 cases)
- 1 Tangi: gastroenteritis (6 cases)
- 1 'other food supply': gastroenteritis (3 cases)
- 1 childcare: *Salmonella* (2 cases)
- 1 takeaways: gastroenteritis (2 cases)

5. Outbreak Case Reports

Shigella flexneri outbreak in a hospital

This outbreak coincided with a period of unusually high incidence of shigellosis in the Wellington-Kapiti-Hutt community. However, the sporadic cases in the community did not appear to be linked to the hospital outbreak.

The index case of the hospital outbreak was admitted for orthopaedic treatment on 8 August 2004 and was subsequently laboratory-confirmed with shigellosis (with an onset of 10 August 2004). Further notifications associated with the hospital followed, and an outbreak was quickly identified. With one exception, the cases had been admitted for non-enteric illnesses and had become infected with *Shigella flexneri* whilst hospitalised. All cases had diarrhoea, with over half experiencing bloody diarrhoea, and lesser numbers having watery diarrhoea and mucus in the diarrhoea. Overall, the clinical picture was of typical bacillary dysentery. Seven cases of *S. flexneri* 3A and one case of *S. flexneri* 2A were identified. All *S. flexneri* 3A cases had an onset between 10 August 2004 and 13 August 2004.

Exposures to a common source of infection were sought using questionnaires administered to the cases. All cases were in different wards and there was no medical or nursing staff crossover traffic between these wards. Hospital food was the only common exposure identified between 9 – 11 August 2004. The hospital kitchen's menu for these dates was obtained and used in conjunction with the questionnaire. Wards do not keep patients' meal request slips so investigators had to rely on the food history recall, which was variable from the seven *S. flexneri* 3A cases. However, all had eaten hospital food, either on the wards or in the cafeteria. In particular, four cases recalled eating sandwiches, and one case ate sausages and sausage rolls, that would have involved more hand preparation of food items.

The confirmed case of *S. flexneri* 2A had not eaten any hospital food, or had any contact with the hospital, prior to the onset of symptoms.

The following control actions were taken regarding hospital food:

(1) Infection Control staff, as a first measure, inspected hospital kitchen and food handling practices.

(2) All kitchen staff completed a questionnaire regarding any recent illness and other risk factors. No enteric illness was identified amongst staff.

(3) All kitchen staff that handled food during the period of interest were asked to provide stool specimens. All tested negative for *Shigella*.

(4) One kitchen staff member had returned from a visit to Samoa on 6 July. The person was free of any enteric symptoms. The person was excluded pending stool clearance in case there was asymptomatic carriage of *Shigella*. Two consecutive stool specimens were obtained and both tested negative for *Shigella*.

(5) The Infection Control staff re-emphasised strict hand washing measures for all kitchen staff.

(6) The need for staff to thoroughly wash all fresh produce, to remove any contaminating pathogens including *Shigella*, was reinforced.

In addition to the eight confirmed *S. flexneri* cases, there were four probable cases identified, including a husband and wife who visited the index case. The wife visited the index case whilst the latter was symptomatic, but did not consume any hospital food. However, she removed the case's soiled clothing and took most back to the case's residence where she scrubbed the clothing before washing them. On the return trip the husband and wife shared takeaway fish and chips. Both developed symptoms of presumptive shigellosis two days later. Stool specimens were negative for *Shigella*. The third probable case had person-to-person contact with her hospitalised father who was a confirmed case. She also took his soiled clothes home and washed them with possibly inadequate procedures. She developed presumptive shigellosis, but her stool specimen was negative for *Shigella*. The fourth probable case was a husband who visited his hospitalised wife, and developed similar symptoms soon after his wife. His stool specimen was negative for *Shigella*.

Public health alerts sent out by Regional Public Health did not result in the notification of any further cases that could be linked to the hospital outbreak.

Reported by Quentin Ruscoe, Health Protection Officer, Regional Public Health, Hutt Valley District Health Board

Suspected norovirus outbreak at a conference

In November 2004, a Regional Public Health employee attending a conference and workshop in Wellington became aware that a number of attendees (perhaps 8) had developed gastrointestinal symptoms raising the suspicion of a gastrointestinal illness outbreak. Preliminary information gathered revealed the only likely common event for those people with symptoms had been attending the workshop and meals of the previous day. At this stage menus were obtained and key contact people identified with regards to the catering, and function organisers to aid in identifying attendees of the workshop and meals.

Given the common time and place of becoming unwell for this group of people, it was decided that this should be investigated as an outbreak of gastrointestinal illness. This was to be done by application of the CIMS (Coordinated Incident Management System) model[1], and using EpiData and EpiInfo to analyse data received via questionnaires.

The following day, self-administered questionnaires were distributed during afternoon tea at the conference to those participants who had attended the workshop or the evening reception two days prior. Further questionnaires were delivered to workshop participants who had attended the reception but were not at the conference. Completed questionnaires were received from 45 attendees. Faecal specimen collection pots were distributed at the same time as the questionnaires to those identifying as unwell and able to provide a specimen (nine in total), with instructions that they should be delivered to any Medlab.

Thirteen participants were identified as having symptoms, and nine of these fitted the case definition. Two people were unwell at the start of the conference, and for the other 11 people there was a 30 hour difference in the range from the first to the last onset time of the illness. All nine cases had eaten the reception menu, but six of the nine cases had not eaten the workshop menu. No cases were amongst those who had only been exposed to the workshop menu. Therefore, the reception menu appeared to be implicated. No ill food handlers were identified from the workshop or reception food premises. Initially a statistically significant risk ratio (RR) for prawns consumed at the evening reception resulted in a visit to the associated premise. No major concerns were identified. Further data analysis focussing on this menu alone showed a reduction in the RR for prawns, confidence intervals that included 1.0, and p values were no longer statistically significant. This suggests that the prawns alone cannot be considered as the source – another factor had an effect on the cases in addition to the prawns.

Faecal specimens were obtained from two people, only one of whom matched the case definition. No food poisoning organisms were detected in significant numbers. Preliminary results gave equivocal results for norovirus, but the final laboratory results (PCR) were negative. The epidemic curve suggests that this was a point source outbreak with possible secondary person-to-person spread, but it was not possible to determine whether the source was food borne or an infectious attendee.

A food premise visit, initially suspected to be the source, was the only method of control put in place. In retrospect, given that there may have been secondary person-to-person spread, it would have been useful to reinforce to both the workshop and reception food caterers about the importance of thorough cleaning of facilities. However, there does not appear to have been any ongoing transmission of the illness.

[1] **The New Zealand Coordinated Incident Management System (CIMS): Teamwork in Emergency Management. New Zealand Fire Service Commission, 1998.**

Jill McKenzie, Public Health Medicine Registrar, Regional Public Health, Hutt Valley District Health Board

6. Pathogen Surveillance

Unless otherwise reported, pathogen surveillance covers the January - March quarter.

ENTERIC PATHOGENS

The Enteric Reference Laboratory (ERL) is responsible for the confirmation of the following notifiable diseases *Salmonellae, Shigellae, Vibrio cholerae* O1 and VTEC.

Salmonella (ERL)

Human and non-human Salmonella isolate data are available at www.surv.esr.cri.nz/enteric_reference/enteric_reference.php

- 401 human and 153 non-human isolates were submitted to the Enteric Reference Lab (2004: 376, 167 respectively)
- 3 outbreaks confirmed
- S. Infantis, 7 cases, Dunedin, traced to restaurant
- *S.* Thompson, 8 cases, Masterton, traced to cafe
- *S.* Typhimurium, RDNC-AK05, 3 cases, Pakuranga, traced to cafe

VTEC/STEC (ERL)

- 19 laboratory confirmed human cases of *E. coli* O157:H7 (2004: 24 cases)
- 5 laboratory confirmed non-O157:H7 cases, O176:HNM, O117: H7, O84:HNM, O177:HNM and O26:H21

Norovirus (Norovirus Reference Laboratory)

- 24 outbreaks were reported
- 11 (45.8%) outbreaks occurred in rest homes and hospitals
- 2 outbreaks occurred on different cruise ships visiting New Zealand, 1 in a prison, 2 in hotels and 1 on an international flight
- several outbreaks were linked to food consumption but foodborne transmission was not confirmed
- 3 involved household transmission
- 15 of 23 genotyped outbreaks were genotype GII/1,4,8; of these 8 belonged to the predominant 2004 GII/4 variant, first identified in New Zealand in April 2004
- in contrast to the GII/1,4,8 genotype predominant in 2004, a range of other genotypes have been identified so far in 2005. Three strains belong to genotype GI/4, three to GII/2, one to GII/6,7,9 and one to genotype GI/3

continued...

LEGIONELLOSIS AND ENVIRONMENTAL LEGIONELLA

- 19 legionellosis cases were laboratory-confirmed by the Legionella Reference Laboratory at ESR
- all cases were sporadic in nature
- 12 fitted the confirmed case definition and 7 fitted the probable case definition
- 16 of the 19 cases have been notified to date
- 2 notified cases were laboratory-tested and were not proven to be cases
- 1 notified case showed high antibody titres against all antigen pools, making the serological findings indeterminate
- confirmed cases demonstrated either antibody titres >512 on two or more occasions (5 cases), or at least a four-fold rise in antibody titre by the legionella IFAT (3 cases), or a rising titre to >512 (2 cases), or isolation of legionella from the respiratory tract (1 case), or a combination of a legionella PCR positive result and single antibody titre >512 (1 case)
- 7 probable cases showed an elevated titre above 512 on one occasion (6 cases) or a positive UAT (1 case)
- no deaths due to legionellosis have been reported this quarter
- *L. pneumophila* strains were identified in 7 cases
- *L. longbeachae* strains were identified in 6 cases
- *L. micdadei* was responsible for 2 infections
- 1 infection was caused by each of *L. dumoffii*, *L. gormanii*, and *L. hackeliae*, respectively
- a further case showed very high titres to both *L. bozemanii* and *L. longbeachae* strains, suggesting a mixed infection, following compost exposure
- *L. pneumophila* serogroup 1 isolate was identified in environmental samples from a cooling tower water, from a spa pool and from compost
- other *Legionella* species isolated from compost and potting mix samples implicated in cases of legionellosis included *L. pneumophila* serogroups 3, 4, & 6, as well as *L. longbeachae* serogroup 1 and *L. bozemanii* serogroup 1
- other *Legionella* species isolated from cooling tower water samples were *L. peumophila* serogroup 6

RESPIRATORY VIRUSES

Influenza Virus

- 10 isolations of influenza virus were reported (2004, 7)
- 6 were typed as influenza A and 4 as influenza B
- 3 of the type A were sub-typed as A/Fujian/411/2002 (H3N2)-like
- 2 of the type B were sub-typed as B/Sichuan/379/99-like

Respiratory Syncytial Virus & Rhinovirus

- 10 cases of respiratory syncytial viruses were reported (2004, 7)
- 10 isolations of rhinoviruses were reported (2004, 2)

ADENOVIRUSES AND ENTEROVIRUSES

Adenoviruses

- 74 adenoviruses were reported (2004, 29)
- Adenovirus type 3 was the predominant serotype
- 71 adenoviruses were serotyped as adenovirus type 1 (3), type 2 (5), type 3 (25), type 4 (6), type 5 (2), type 8 (8), type 11 (1), type 13 (1), type 14 (1), type 19 (2), type 41 (2) and untypable (23)
- further analysis identified the majority of the untypable isolates as type 37

Enteroviruses

- 60 enteroviruses were reported (2004, 29)
- 34 enteroviruses were serotyped as Coxsackie B1 (3), Coxsackie B5 (7), Coxsackie A6 (3), Coxsackie A8 (1), Echovirus 5 (8), Echovirus 6 (1), Echovirus 7 (2), Echovirus 11 (2) and Echovirus 30 (7)

MYCOLOGY

A table detailing the biannual summary of opportunistic mycoses and aerobic actinomycetes in New Zealand for the period July-December 2004 is available at www.surv.esr.cri.nz.

SPECIAL BACTERIOLOGY

Listeria monocytogenes

- 8 isolates of *Listeria monocytogenes* from human cases were referred for typing and surveillance purposes (for table of human *L. monocytogenes* cases giving more details see www.surv.esr.cri.nz)
- 2 cases were perinatal, both resulted in intrauterine deaths
- 6 cases were in adults, all of whom had an underlying illness and/or were elderly

Corynebacterium diphtheriae

- 19 isolates of *Corynebacterium diphtheriae* were received for toxigenicity testing, typing and surveillance purposes
- 18 isolates (11 var. *mitis*, 7 var. *gravis*) were from cutaneous sources; patients were aged between 4 and 72 years from Auckland
- 1 isolate was a var. *mitis* strain from nasal source in F30y from Auckland
- all isolates were non-toxigenic by PCR examination for the toxin gene

New Zealand Public Health Surveillance Report is produced quarterly by ESR for the Ministry of Health and may be downloaded in PDF format from www.surv.esr.cri.nz

Contributions to this publication are invited in the form of concise reports on surveillance issues or outbreak investigations.

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