

## KEEPING THE DREAM ALIVE—AND HEALTHY: PUBLIC HEALTH PREPARATIONS FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

### GUEST EDITORIAL

*Louisa Jorm*

*Director, Epidemiology and Surveillance Branch  
NSW Department of Health*

*Maria Visotina*

*Manager, Olympic Planning  
NSW Department of Health*

The Sydney 2000 Olympic Games will open on 15 September 2000. It will be one of the biggest events ever held, involving over 10,000 athletes and about 5,100 officials from 200 countries participating in 28 sports. Around 15,000 media will cover the Games and 300,000 domestic and international visitors will attend. Between 13 September and 3 October 2000, there will be an extra 150,000 to 200,000 people in the central Sydney area at any one time between the hours of noon and 10.00 p.m. Olympic venues are distributed among four precincts spread across the city from Bondi Beach to Ryde, Fairfield and Penrith. The Games period will extend for 60 days, commencing with the opening of the Olympic Athletes' Village on 2 September to the closure of the Paralympic Athletes' Village on 1 November. In between will be a series of mass gathering events, including the opening and closing ceremonies and multiple events in the city.

Enormous effort has gone into the public health preparations for this extraordinary event. Keeping the 'Olympic dream' both alive and healthy will depend on maintaining effective mechanisms to protect and monitor health among both visitors and Sydney residents, and to take swift action in the event of disease outbreaks or natural or man-made disasters. This issue of the *NSW Public Health Bulletin* showcases the efforts of NSW Health in planning for the Sydney 2000 Olympic and Paralympic Games, and introduces the major public health programs that will operate during the Games. Three themes in particular recur in the articles in this issue: innovation, collaboration and capacity building.

The challenges inherent in planning for such a unique event have spawned innovative service solutions. Particularly noteworthy are the Olympic Health Surveillance System, the most comprehensive ever established for an Olympic Games, and the

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plans for intensive monitoring of food outlets and cruise ships during the Games. And while health care interpreters are a long-established feature of health services in NSW, the provision of specialised medical interpreters for SOCOG's medical program is an Olympic first.

Many of the public health strategies developed for the Games rely on strong inter-agency collaborations, particularly among the NSW Department of Health, other NSW government departments and agencies, the NSW area health services, and local councils. Such partnerships underpin the plans for food safety and environmental health during the Games and will be vital in the event of any large-scale health emergencies. Stronger links among

agencies and a greater understanding of respective roles and functions will be a valuable legacy of the Olympic public health planning and preparation processes.

Most of the structures, linkages and strategies that have been developed to support public health aspects of the Games will continue long after they are over. General public health infrastructure in NSW, and more specifically the capacity to effectively manage the public health aspects of mass gatherings, will be permanently enhanced.

Public health services in NSW are now ready and waiting for the Games to begin. The public health experience during the Games, and the lessons learnt, will be reported in future editions of the Bulletin. ☘

## COORDINATION OF THE NSW HEALTH OLYMPIC EFFORT

**Maria Visotina**  
 Manager, Olympic Planning  
 NSW Department of Health

The logistical and organisational complexities of the Sydney 2000 Olympic and Paralympic Games ('the Games') make coordination of the delivery of the associated health services of vital importance.

The principle of 'business as usual' has underpinned the planning of health services for the Games—with the rationale being that normal, 'tried and tested' methods of service delivery should be maintained. However, the unique challenges for health presented by the Games have required that some novel approaches be developed and adopted. Consequently, excellent communication and coordination mechanisms are needed to ensure that all stakeholders understand their respective responsibilities, and that appropriate command and control arrangements are in place to manage situations as they arise.

This paper outlines the mechanisms used to plan the health services for the Games and the coordination mechanisms to be used during the operational phase of the Games.

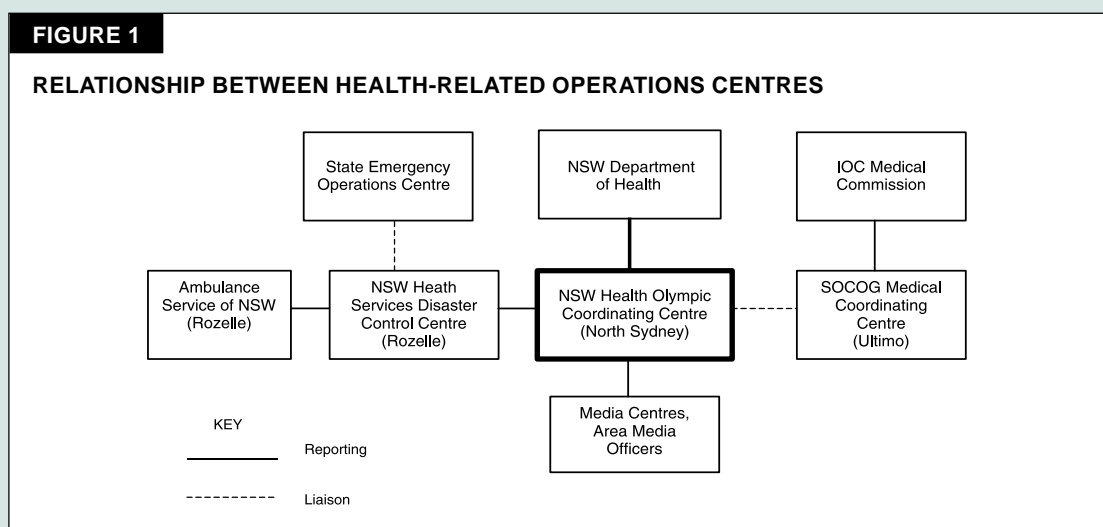
### PLANNING MECHANISMS

The NSW Department of Health has been involved in planning for the Games since the inception of the Sydney Olympic Bid Medical Committee in September 1991. Following the success of the bid, planning for the Games has been facilitated by direct observation of the Centennial Olympic Games in Atlanta in 1996 and the Commonwealth Games in Kuala Lumpur in 1998.

The Olympic Health and Medical Committee, chaired by the Director-General Michael Reid, with representation from the NSW Department of Health (the Department) as lead agency, the Sydney Organising Committee for the Olympic Games (SOCOG), the Sydney Paralympic Organising Committee (SPOC) and the Olympic Coordination Authority (OCA) has been the peak health planning body. It reviewed and approved the *Strategic*

**FIGURE 1**

**RELATIONSHIP BETWEEN HEALTH-RELATED OPERATIONS CENTRES**



*Plan for Health Services for the Sydney 2000 Olympic and Paralympic Games*, which together with the *Statement of Resource Requirements and Budget* and the *Memorandum of Understanding (MOU)*, outline the mutual responsibilities of agencies, the scope of services to be provided, and the resource requirements to support those services.

The Department's Olympic Planning Unit has been responsible for developing detailed plans to implement the commitments outlined in the MOU. Through a number of expert working groups, the Unit has provided guidelines for area health services to inform their local planning processes.

Metropolitan area health services have formed Olympic Steering Committees, with the twin objectives of ensuring that plans for service delivery obligations under the MOU are in place and ensuring that health services prepare for the wider effect of the Games on the community.

### SERVICE DELIVERY MODEL

The MOU with Olympic agencies committed NSW Health to providing the following services:

- hospital care
- health care interpreters
- public health services
- ambulance services
- counter-disaster planning and coordination.

At the outset, a service delivery model was needed that took account of the unique circumstances and constraints of the Games environment. These included:

- SOCOG's significant health care role, with a workforce of around 3,500 volunteers providing services to athletes, spectators and visitors at training, competition and non-competition venues;
- the effect on services arising out of Sydney's temporary but significant increase in population, requiring some services to maintain optimum capacity, while others would be unaffected or have reduced activity due to the effect of school holidays;
- restrictions on the movement of personnel as a result of access and security arrangements at venues.

This led to the genesis of the NSW Health Olympic Workforce, whose work is detailed elsewhere in this edition of the Bulletin.

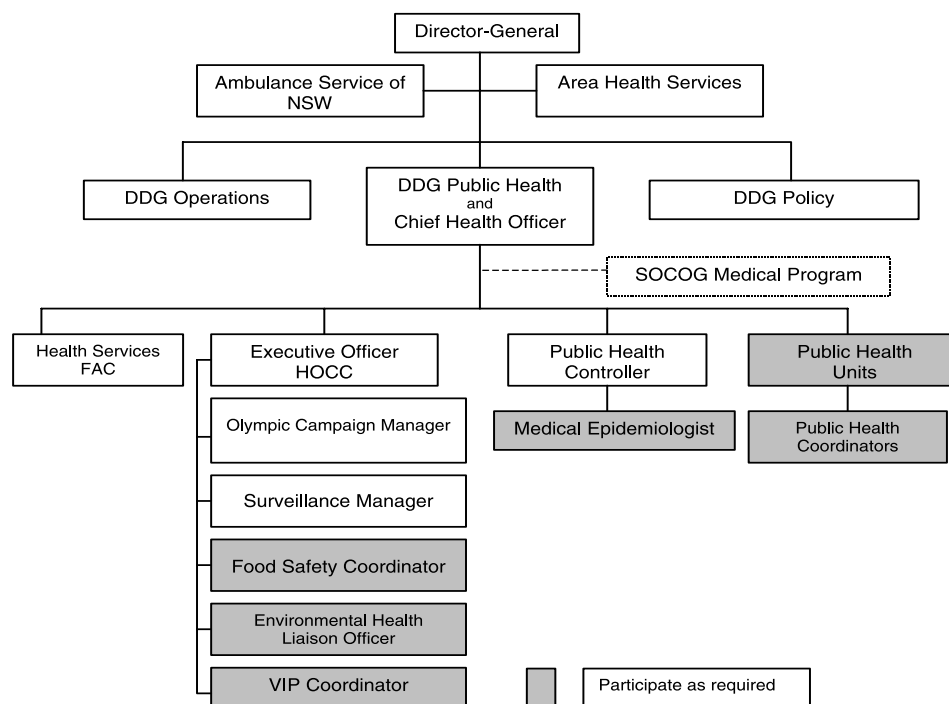
### NSW HEALTH OLYMPIC WORKFORCE

The NSW Health Olympic Workforce consists of:

- temporary employees recruited from outside the NSW health system to provide specific services for the Games;
- hospital and area health service employees temporarily seconded to the Department to provide specific services for the Games;

**FIGURE 2**

#### NSW HEALTH OLYMPIC COORDINATING CENTRE



- hospital and area health service employees performing their existing roles but having additional or altered reporting requirements for the duration of the Games;
- Department of Health staff employed on a temporary basis to provide Games services, or permanent staff redeployed to Games roles for the duration.

A significant component of the NSW Health Olympic Workforce has been drawn from local government, a commitment that is unprecedented in its scale and which may serve as a model for future cooperative efforts.

### COORDINATION MECHANISMS

In order to monitor health service use and to facilitate strategic responses to health issues as they arise, the NSW Health Olympic Coordination Centre (HOCC) will be established at 73 Miller Street, North Sydney. The existing Olympic Planning Unit will provide the core staff for the Centre and service its intelligence gathering and response requirements.

HOCC will have a 24-hour contact number, and will be staffed by duty officers from 2 September to 1 November 2000, to facilitate liaison between the Department, SOCOG, OCA, hospitals and area health services on

operational issues as they arise. Figure 1 illustrates the linkages between the HOCC and other key health coordination centres active at the time of the Games. Important functions of HOCC will include:

- activation of coordinated public health responses. This will be informed by the Olympic Surveillance System (see the article by Thackway on page 142) and based on recommendations of a Surveillance Review Team which will convene daily, preparatory to a daily HOCC meeting. Figure 2 illustrates the HOCC reporting and communications linkages with various components of the health system.
- coordination of media responses.

### CONCLUSION

The Olympic Athlete's Village will soon open, and this will activate NSW Health operational plans for the Games. There is a buzz of excitement that after four years of active planning, the Games are finally here. Hopefully all those in NSW Health who have worked so hard to prepare for the event will be able to take the advice of an Atlanta colleague: 'Remember to take some time and enjoy the Olympic experience! I know how fast it has arrived, AND how quickly it will be over.' ❏

## COUNTER DISASTER PLANNING FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

*Michael Flynn*

*Director, Counter Disaster and Olympic Planning Branch  
NSW Department of Health*

Sydney's submission for its 1992 bid to host the Summer Games of the XXVII Olympiad included the following statement: 'Sydney has no history of natural disasters, so disaster planning for the Olympics has been based on the New South Wales Multiple Casualty, Emergency and Disaster Medical Response Plan (MEDPLAN).'<sup>1</sup>

Much progress has been made in the field of disaster medicine policy development since this original submission. The concept of 'disaster' has been expanded to encompass such non-traditional events as loss of utility supply and technological failure. The importance of the media has been given increased recognition.

### DISASTER MEDICINE AND ITS ROLE IN PUBLIC HEALTH

Within NSW Health the counter disaster plan, MEDPLAN, was in the process of being replaced by a substantially revised policy (retitled HEALTHPLAN) at the time of the

Thredbo landslide (31 July 1997).<sup>2,3</sup> This tragedy, which resulted in the loss of 18 lives, involved a significant deployment of emergency workers, including health workers, in a challenging environment over several weeks. Lessons learned from this disaster affirmed the importance of the roles of public health, mental health and ambulance services in the emergency response, as well as those of other participating and supporting organisations within the disaster plan. Concurrently, the role and resources of the Counter Disaster Unit in the Public Health Division of the NSW Department of Health were expanded.

### DISASTER PLANNING FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

The Olympic Games is arguably the most significant mass gathering in the world. Although relatively rare, mass gatherings have been associated with significant morbidity and death. Examples include crowd crushes at Hillsborough Stadium in the United Kingdom, the collapse of a pedestrian bridge at the 1997 Maccabiah Games in Israel, and terrorist activities at the Munich Games in 1972.<sup>4,5</sup> The blue glass memorial, inscribed in English and Hebrew, on the 'Munich XX Olympiad'

solar light tower located on the Olympic Boulevard at Homebush Bay, serves as a reminder of the potential for non-accidental disasters to be superimposed on the complexities inherent in planning for such an event.

Planning for such a contingency requires the commitment of significant resources to the development of new treatment protocols, to training and exercises, and to the acquisition of personal protective equipment (PPE) and specialised pharmaceuticals hitherto used primarily by the military. It has also involved structural modifications of selected public hospital emergency departments to ensure preservation of their ability to deliver their core functions.

Disaster planning for the Games has also required a degree of public engagement through the media to place into perspective some of the more extreme scenarios canvassed by various groups.<sup>6,7</sup> Reference to previous Australian experience with putative or potential, natural or 'man-made' threats to public health has facilitated this engagement process.<sup>8</sup>

Around 100 NSW Health personnel and 30 from other agencies have undertaken advanced disaster medicine training in the 18-month period January 1999–June 2000. A further 220 personnel have undertaken multi-agency and specially tailored Health Aspects of Chemical, Biological and Radiological (CBR) response training. Material from both groups of courses has been made available to participants to enable them to provide general awareness training to other NSW Health personnel. The enhancement of the State's disaster medicine capability to meet hitherto unmet needs for the optimal management of a wide range of industrial and agricultural hazardous materials (HAZMAT) will be one of the Olympic legacies.

From an urban mass gathering perspective, the Games have been likened to '15 consecutive New Year's Eve–New Year's Day celebrations'. During September, pre-formed Disaster Medical Response Teams will be available to be deployed to any site in the Sydney metropolitan area to support the designated 'combat' agencies in the field. Counter Disaster Unit staff have participated in a range of exercises to test and refine their response protocols. The Sun-Herald City to Surf race on 16 July 2000 in support of around 50,000 runners was utilised as one of the final exercises prior to the Games.

### **LIAISON**

An extensive consultative process with interested stakeholders has been crucial to the NSW Health planning process for the Games. This has included consultations with:

- international, commonwealth (including the Australian Defence Force), state and territory health agencies
- the Olympic Coordination Authority

- SOCOG–SPOC
- the State Emergency Management Committee
- relevant 'combat' agencies including the Ambulance Service of NSW, NSW Fire Brigades and the NSW Police Service
- professional health networks (such as the communicable disease networks of Australia and New Zealand, and the public health laboratories network)
- NSW forensic services
- NSW area health services (via Health Service Functional Area Coordinators) and their Olympic Planning Committees
- local government authorities
- the City of Sydney Olympic Coordination Committee
- the Protocol Section of the Premier's Department (health support for visiting dignitaries).

### **COORDINATION, COMMAND, CONTROL AND COMMUNICATION (C4)**

The ability to communicate information quickly and accurately lies close to the core business of any major organisation, especially health. Aligned to this is the need to have highly visible lines of command and control. Within NSW Health, the Counter Disaster Unit has developed a framework to ensure close links with external operations centres (the Olympic Security Command Centre, Olympic Precinct and Regional Operations Centre, and the State Emergency Operations Centre) and rapid dissemination of information to area health services, units and supporting networks.

New Year's Eve–New Year's Day 1999–2000 (Y2K) Transition Planning served to facilitate an unprecedented degree of cooperation and communication between a wide range of government and non-government agencies. It also served as a medium for accelerating the commissioning of a new Health Services Disaster Control Centre (HSDCC) at Rozelle. For the first time, Web-based electronic information transfer was employed and this technology has been enhanced (Health Incident Reporting Information System, or HIRIS) and will be utilised during the Games. The HSDCC will be linked to all other Operations Centres including the NSW Health Olympic Coordinating Centre (HOCC) in North Sydney. NSW Health Public Affairs has worked closely with media representatives from other agencies to ensure that information will be provided in a timely and accurate manner.

NSW Health's involvement in the response to the April 1999 Sydney hailstorm, and the activation of the Commonwealth Plan for the Reception of Refugees for the Kosovar and East Timorese refugee groups also provided invaluable operational experience.

## SUMMARY AND CONCLUSION

Five days after Sydney's successful Olympic and Paralympic bid application was announced in Monte Carlo, the first meeting of the Australian Medical Disaster Coordination Group (AMDCG),<sup>9</sup> a sub-group of the Australian Health Ministers Advisory Council (AHMAC) was held at Alice Springs. The seventh AMDCG meeting was held recently in Melbourne (2–4 April 2000). The successful collaborative outcomes of this seven-year period reported to AHMAC include authoritative and up to date publications in the fields of disaster medicine,<sup>10</sup> mass gatherings,<sup>11</sup> and chemical, biological and radiological hazards.<sup>12</sup>

NSW Health has devoted substantial resources to the accepted emergency management principles of planning, preparation and prevention outlined in these and other documents, in progressively developing its strategic plan for service delivery during the Games.

Counter disaster planning, expressed through NSW HEALTHPLAN and supporting Olympic Games Standing Operating Procedures, has been framed to ensure that an appropriate and effective response can be mounted in the event of any untoward happening.

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## HEALTH SURVEILLANCE DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

*Sarah Thackway,  
on behalf of the Olympic Surveillance Working Party  
Olympic Planning Unit  
NSW Department of Health*

This article describes the Olympic Surveillance System developed by NSW Health to monitor the health of the population of Sydney during the Sydney 2000 Olympic and Paralympic Games. The surveillance system will be the most comprehensive ever undertaken in NSW and will provide more coverage than the systems used during previous Olympic Games.

### HEALTH SURVEILLANCE DURING MASS GATHERINGS

Mass gatherings, such as sporting events and outdoor celebrations, require the provision of medical services for

the large numbers of people who attend.<sup>1–3</sup> In addition, the crowding of people into relatively closed environments may promote the transmission of infectious agents spread via the respiratory route (for example, measles and influenza).<sup>4–5</sup>

The provision of medical and public health services is enhanced by epidemiological surveillance, an important tool implemented to monitor unusual patterns of illness. Surveillance systems act as an early warning to detect communicable disease outbreaks that can occur during these gatherings, as well as unusual patterns of non-infectious conditions such as injuries that may require public health intervention. In previous Olympic Games, a variety of surveillance systems have been implemented to monitor for outbreaks of disease.<sup>6–8</sup>

## HEALTH SURVEILLANCE DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

Apart from the health risks associated with mass gatherings, the Games will be held during Spring, a time generally associated with an increased incidence of certain communicable diseases. Of specific concern are food-borne and water-borne diseases and conditions spread through droplets, such as pertussis and measles. Consequently, existing surveillance systems have been enhanced to create the Olympic Health Surveillance System (Figure 3). This system enables NSW Health to rapidly detect increases in reports of communicable diseases and any unusual patterns of illness or injury. Appropriate action will then be initiated to prevent further morbidity.

The overall strategy is to build up a total picture of health across Sydney during the Games period using a number of formal data collection systems and informal reporting mechanisms.

### COMPONENTS OF THE OLYMPIC HEALTH SURVEILLANCE SYSTEM

#### Notifiable Diseases Database (NDD)

Under the NSW Public Health Act 1991, medical practitioners, hospital chief executives (or general managers), pathology laboratories, directors of child care centres and school principals are required to notify certain medical conditions to the nearest public health unit. These data are used to track the incidence of communicable diseases across the State and form the basis of surveillance reports published in the *NSW Public Health Bulletin*.

The Notifiable Diseases Database (NDD) will continue to be used to detect outbreaks of communicable diseases. During the Games period, however, enhanced surveillance will be undertaken, including active laboratory surveillance of acute diseases and enhanced reporting structures. These enhancements are described in more detail in the article by Menzies on page 146.

#### Emergency Department Olympic Surveillance System

Fifteen Emergency Departments have been selected as sentinel sites for the NSW Emergency Department Olympic Surveillance System (EDOSS): Auburn, Concord Repatriation, Liverpool, Nepean, Prince of Wales, Royal Prince Alfred, St Vincent's, Sydney, Royal North Shore, Ryde, Sydney Children's, St George, The New Children's and Westmead.

A database has been designed to capture information from selected hospitals on patients presenting with the following conditions or symptoms:

- diarrhoea (with or without blood—where suspected cause is an infectious or chemical agent)

- vomiting (where suspected cause is an infectious or chemical agent)
- pneumonia
- influenza-like illness
- pertussis
- meningitis
- acute viral hepatitis
- febrile illness with a rash
- injuries occurring outside of the home environment
- illicit drug-related episodes.

Data surveillance officers in the emergency departments will collect the information in 'real-time' and forward it electronically to the NSW Department of Health each day.

Mass gatherings in Sydney over the past year, such as the Olympic Test Events (September 1999), New Year's Eve (1999–2000) and the Sydney Gay and Lesbian Mardi Gras (March 2000) provided opportunities to trial the systems' operational capability and detect issues related to target case identification and data collection. In May 2000, a full dress rehearsal of the system was successfully undertaken. Other methods used to ensure data quality and increase validity were: the conduct of a validation study, provision of in-services to emergency department clinical staff, the development of a detailed procedures manual in plain English and training of data surveillance officers.

#### Health surveillance on cruise ships

Health data will also be collected from the nine cruise ships berthed in Sydney during the Games. This system is described in detail in the article by Waples et al. on page 150.

#### SOCOG Medical Encounters Reporting System

During the Olympic Games, SOCOG will operate a medical encounters reporting system (MERS). This system will record basic medical data for all presentations to medical centres and St John's Ambulance Officers located at Olympic venues.

#### Environmental monitoring

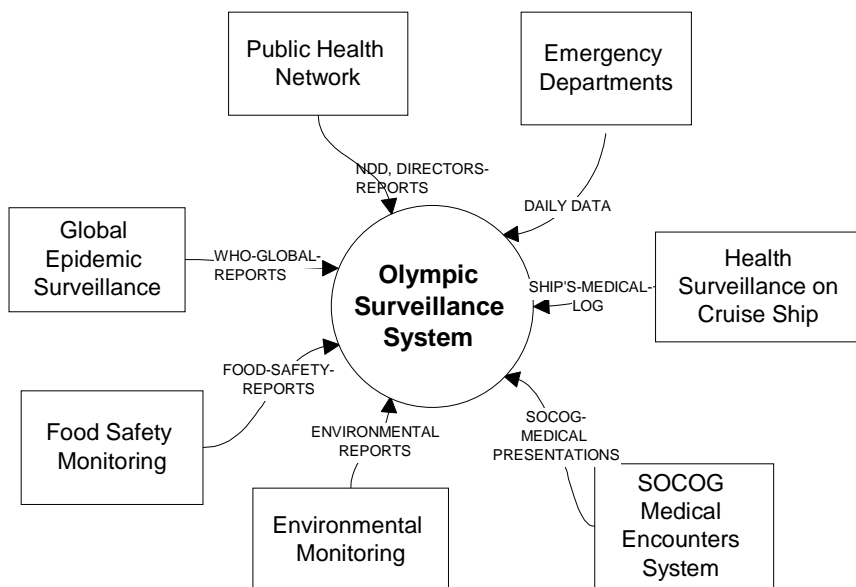
Reports from environmental health inspection teams inside Olympic Venues (see the article by Banwell on page 147) will be relayed to the NSW Department of Health each day.

#### Food safety monitoring

Reports from food safety inspection teams inside Olympic venues (see the article by Holroyd et al. on page 151) will be relayed to the NSW Department of Health each day.

#### Global epidemic surveillance

In the lead up to and during the Games period, it will be essential to be aware of current infectious disease outbreaks occurring around the world. Data from various Web and email sites will be used for exchanging outbreak information.

**FIGURE 3****NSW HEALTH OLYMPIC SURVEILLANCE SYSTEM**

Data from the Olympic Health Surveillance System will be processed in the NSW Department of Health. The Epidemiology and Surveillance Branch's data warehouse (the Health Outcomes Information Statistical Toolkit, or HOIST) will automatically generate daily reports for the major components of the system. A team of experts from the NSW Department of Health and the six metropolitan Sydney public health units will analyse surveillance reports daily over the Games period, and will activate appropriate public health responses.

The Olympic Health Surveillance System developed for the Sydney 2000 Olympic and Paralympic Games is the most complete ever developed for such an event. It will serve as a model for health surveillance during future mass gatherings in Sydney, and will inform the planning for health surveillance in future Olympic games.

The outcomes of the Olympic Health Surveillance System will be reported in forthcoming editions of the Bulletin.

#### ACKNOWLEDGEMENTS

The members of the Olympic Surveillance Working Party are: Louisa Jorm (Chair), Pam Albany, Mark Bartlett, Sue Campbell-Lloyd, Kerry Chant, Tim Churches, Valerie Delpech, Bernie Gromek, John Kaldor, Jeremy McNulty, Rob Menzies, Ross O'Donoghue, Jim Snyder, Lee Taylor, Sarah Thackway, Maria Visotina, Peter Waples, Rachel Zordan.

The Working Party acknowledges the significant contribution by Tony Butler in the initial development of this system. Devon Indig and Lara McIntyre also made valuable contributions.

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## NSW PUBLIC HEALTH BULLETIN

The *NSW Public Health Bulletin* is a publication of the NSW Department of Health. The editor is Dr Lynne Madden, Manager, Public Health Training and Development Unit. The assistant editor is Ms Allison Salmon. Dr Michael Giffin is managing editor.

The *Bulletin* aims to provide its readers with population health data and information to support effective public health action.

### Submission of articles

Articles, news and comments should be 1000 words or less in length and include a summary of the key points to be made in the first paragraph. References should be set out in the Vancouver style, described in the *New England Journal of Medicine*, 1997; 336: 309–315. Send submitted articles on paper and in electronic form, either on disc (Word for Windows is preferred), or by email. The article must be accompanied by a letter signed by all authors. Full instructions for authors are available on request from the editor.

### Editorial correspondence

Please address all correspondence and potential contributions to The Editor, *NSW Public Health Bulletin*, Locked Mail Bag 961, North Sydney NSW 2059 or to [Lmadd@doh.health.nsw.gov.au](mailto:Lmadd@doh.health.nsw.gov.au). Tel (02) 9391 9956, Fax (02) 9391 9232.

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## HEALTH SURVEILLANCE AT OLYMPIC VENUES: THE MEDICAL ENCOUNTER REPORTING SYSTEM

### Tim Churches

Manager Public Health Information  
Epidemiology and Surveillance Branch  
NSW Department of Health

Uniquely large numbers of people from all over the world will concentrate at Olympic venues scattered across Sydney, during the weeks in which the Sydney 2000 Olympic and Paralympic Games will be held. The Sydney Organising Committee for the Olympic Games (SOCOG), under the aegis of the International Olympic Committee (IOC) Medical Commission, is responsible for organising appropriate medical services at these venues.

These services include:

- specialist sports medicine facilities for athletes at competition and training venues;
- general medical facilities accessible to spectators, staff, SOCOG volunteers, the media and visiting Olympic officials at competition venues;
- a comprehensive Polyclinic at the Homebush Olympic Village providing medical and allied health services, including dental care, optometry, podiatry, physiotherapy, massage and pharmacy services;
- medical support at the press and broadcast centres, the media village and at designated Olympic hotels;

- access to Olympic designated hospitals for athletes (Concord), Olympic Family (Royal Prince Alfred) and spectators (Westmead);
- transport from Olympic sites to hospital by the Ambulance Service of NSW;
- provision of a comprehensive health care interpreter service (see the article by Gerber on page 155).

During the Games period, information on every encounter with these services (other than hospital and ambulance services) will be captured on a standard form. One side of this form acts as a medical and treatment record for each patient; the other side captures demographic details of the patient and categorised information about the nature of the injury, illness or health problem from which the patient is suffering and, in the case of injuries, the circumstances in which the injury occurred.

Several times each day throughout the Olympic period, the demographic and categorical information on each encounter form will be faxed to SOCOG headquarters in Ultimo where it will be entered into a central database. Each evening, these data will be used to generate a number of surveillance reports, using an automated system designed and implemented on behalf of SOCOG by the Epidemiology and Surveillance Branch of the NSW Department of Health.

The first surveillance report, generated in both English and French, is intended for use by the IOC Medical Commission (which will meet each evening to review medical and health matters). This report presents time series of the frequencies of occurrence of broad categories of illnesses and injuries among different subgroups (including athletes, Olympic Family members, officials, spectators, and nationality groups) and at different venues. It also contains more detailed analysis of the most frequently occurring problems and of any unusual patterns of illness or injury, as well as analyses of the nature of injuries for which competitors have sought treatment. Further ad hoc analysis of the cumulative data will be carried out each evening if required.

The second surveillance report, in English only, is intended for use by the NSW Department of Health and SOCOG medical staff. While similar to the IOC Medical Commission report, it focuses on general public health issues, with detailed analyses of food-related, communicable and potentially communicable illnesses and of the types of injuries suffered by spectators at each venue. This information, in conjunction with information provided by the other health surveillance systems described in this issue of the Bulletin (see the article by Thackway on page 142), will contribute to ensuring rapid and appropriate response to public health issues that arise during the Games. ❧

## COMMUNICABLE DISEASE SURVEILLANCE DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

**Robert Menzies**

*Communicable Diseases Surveillance and Control Unit  
NSW Department of Health*

A computerised communicable disease surveillance system has been operating in NSW since 1990. The existing system for surveillance of notifiable communicable diseases will be used during the Olympics, with some enhancements to improve timeliness and reliability. In addition, the Emergency Department Olympic Surveillance system (EDOSS) will collect information on cases of selected communicable diseases presenting at emergency departments. EDOSS is further described in the article by Thackway on page 142.

### COMMUNICABLE DISEASE SURVEILLANCE AT PRESENT

Under the NSW Public Health Act 1991, medical practitioners, hospitals, laboratories, schools and child care centres are required to notify a range of communicable conditions (currently 40) to the NSW Department of Health, usually via the local public health unit (PHU). This system relies predominantly on notifications from laboratories, as they confirm most diagnoses. Also, laboratories routinely distribute results of pathology tests, so it is administratively straightforward for them to notify. Laboratories provide more than 80 per cent of notifications.

The notification process triggers public health action as well as contributing to the collection of surveillance data. Staff at PHUs respond to each notification, using protocols specified in the Department's Notifiable Diseases Manual, to limit further transmission.<sup>1</sup> The procedures, which differ with each disease, include discussion with the patient's general practitioner, prophylactic immunisation or treatment of contacts, and provision of information on the disease to patients and others concerned.

Notifications are entered on the Notifiable Disease Database (NDD) at each PHU, which holds data from

residents of that area health service only. The Communicable Disease Surveillance and Control Unit (CDSCU) at the NSW Department of Health maintains a complete dataset for the State. All changes made to the data held by PHUs are electronically transferred each day to CDSCU. Access to statewide data is provided through the Epidemiology and Surveillance Branch's data warehouse, the Health Outcome Information Statistical Toolkit (HOIST). HOIST processes the NDD dataset each night and makes it available in a standardised de-identified form to approved staff throughout NSW Health. A range of graphs and tables are also prepared nightly, which are available to approved staff via the Department's Intranet (see Figure 4).

### ENHANCEMENTS FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

The notification process for communicable diseases is usually 'passive', that is, initiated by the notifier. During the Games period, however, 'active' surveillance will be carried out for 22 high priority notifiable communicable diseases. This will involve PHU staff contacting all laboratories in their area each morning to collect notifications. This will improve the timeliness of notification and reduce the chance that cases slip through the system without being notified.

During the Games, it will be critical to ensure the reliable and timely flow of data, in order to provide alerts of outbreaks or changed disease patterns as soon as possible. All notifications of high priority diseases will be entered on NDD on the day of receipt. Data will be transferred nightly to CDSCU and processed overnight by HOIST. The transfer of data from PHU to CDSCU has sometimes been a weak link, causing delays of days or weeks. To avoid delays during the Games:

- an alternative method of file transfer via floppy disc will be available;

- improved electronic feedback on the status of data transfer will be provided, so that problems will be identified within 24 hours;
- area health services will provide priority IT support to PHU networks;
- the contractor supporting the NDD software will be on standby to deal with software problems;
- data will be entered by CDSCU staff if any PHU experiences extended difficulties.

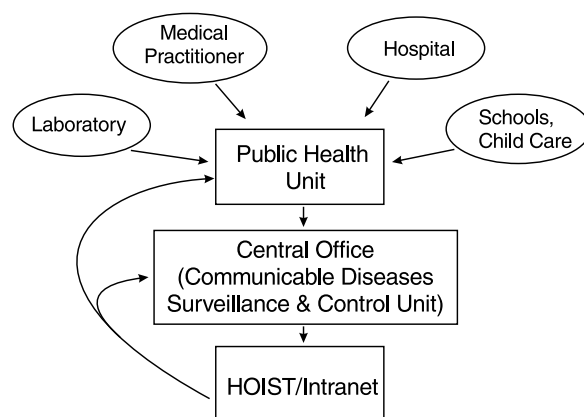
These changes to the electronic data flow for notifications of communicable diseases will continue to be used after the Sydney 2000 Olympic and Paralympic Games. The enhancements initiated for the Games will thereby yield benefits for the surveillance and control of communicable diseases in NSW in the longer term.

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**FIGURE 4**

#### COMMUNICABLE DISEASE DATA FLOW



## ENVIRONMENTAL HEALTH PREPARATION FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

**Karen Banwell**

*Olympic Planning Unit  
NSW Department of Health*

Preventing exposure to environmental hazards is essential to protecting the health and safety of the public during an event such as the Sydney 2000 Olympic and Paralympic Games.

Environmental health activities during the Centenary Olympic and Paralympic Games in Atlanta 1996 concentrated on food safety. In addition, special regulations and procedures for solid waste, vector control, swimming pools, recreational waters, temporary food services, tourist accommodation and sewage disposal were enacted for the Games period.<sup>1</sup>

NSW Health has also focused on food safety in its preparations for the Games (see the article by Holroyd et al. on page 151). High priority has also been given to a range of other environmental health issues, particularly preventing Legionnaires' disease. This article outlines NSW Health's preparations for enhancing existing environmental health responsibilities for the Games.

#### ENVIRONMENTAL HEALTH PLANNING

Early in its planning for the Games, the Olympic Public Health Planning Committee identified key public health issues for management. These provided a framework for developing the Olympic Environmental Health Operational Plan. This Plan is aimed at identifying partnerships, prioritising activities, identifying media

issues and providing guidance for local public health unit operational plans.

The Plan has two main components, aimed at:

- minimising the risk to public health in areas *outside* of Olympic venues and dedicated Olympic areas
- providing an environmental health presence and inspection services *inside* Olympic venues and dedicated areas.

The Environmental Health Operational Plan identified a range of activities that were viewed as essential in the protection of public health. These were summarised under the headings of:

- air quality
- water quality
- sanitation
- waste
- vector control
- emergency management
- premises
- standing operating procedures for Olympic venues
- cruise ships (see article by Waples et al. on page 150).

Priority was given to three issues:

- the development of a *Legionella* plan (outlined below)
- education on preventing *Cryptosporidium* in pools
- improved public health preparedness for mass gatherings.

### **The Legionella Plan**

Although most cases of Legionnaires' disease occur in isolation, recent outbreaks of the disease, including one associated with the Melbourne Aquarium, have attracted international media attention. Minimising the risk of an outbreak of Legionnaires' disease has been a key priority leading up to and during the Games, because large numbers of people will congregate in areas of the city where water cooling systems with cooling towers are located.

Implementation of the *Legionella* Plan depends on partnerships between public health unit Olympic Coordinators and environmental health officers from local government across metropolitan Sydney. Local government is responsible for maintaining registers of cooling towers. Councils have expanded their inspection regimen of cooling towers and there are specific local plans in preparation for the Games.

Strategies in place to maximise compliance with the cleaning and maintenance provisions for cooling towers, outlined in the NSW Public Health Act 1991, include:

- maintenance of a Geographical Information System (GIS) database of all cooling towers registered with local councils
- registration of all buildings owned by the Commonwealth government with the relevant local council
- review of the Legionella Emergency Management Plan
- inspection of cooling towers in areas of potential risk
- provision of educational material on best management to building owners and operators.

### **ENVIRONMENTAL HEALTH SERVICES IN OLYMPIC VENUES**

The NSW Department of Health will provide an environmental health presence within Olympic and

Paralympic venues. The key tasks involved are outlined in Environmental Health Standing Procedures for Olympic Venues.

A pre-inspection of each venue will be carried out prior to sporting events commencing. This will involve final inspections of all water cooling systems and checks on provision of adequate waste services within medical centres, provision of sanitation and general safety matters. Routine inspections of waste and sanitation services will be carried out at intervals during the Games.

### **After the Games**

The Games have provided an excellent opportunity to build environmental health awareness in many sectors—particularly shipping and building maintenance. Improved liaison between local councils and the NSW Health system will yield ongoing benefits. For the first time, large numbers of environmental health officers from the public health network and local councils are working closely together. The result will be a better understanding of respective roles and responsibilities, and a lasting legacy of networks and associations.

### **ACKNOWLEDGEMENTS**

I would like to acknowledge the support and leading role played by the public health units, local councils and the Olympic Environmental Health Steering Committee in the development and implementation of this plan.

### **REFERENCE**

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## **INTRODUCING A NSW VESSEL INSPECTION PROGRAM FOR CRUISE SHIPS**

**Karen Banwell and Tony Butler**  
*Olympic Planning Unit  
NSW Department of Health*

**Mark Ferson, Steve Hatzi and Paul Paraskevopoulos**  
*South Eastern Sydney Public Health Unit*

This article outlines the background to the introduction of a Vessel Inspection Program in NSW. The program aims to ensure the health and safety of passengers and crew on cruise ships through a hygiene inspection regimen.

During the Sydney 2000 Olympic and Paralympic Games, nine cruise ships and two tall ships will be moored in Sydney Harbour for just over three weeks. Eight ships will serve as floating hotels for Olympic sponsors and their guests, and one will serve as accommodation for international broadcasting personnel. The floating hotels will provide approximately 6,000 beds at any one time with an overall throughput of around 32,000 people. The average length of stay is expected to be three to four days.

Outbreaks of disease on cruise ships are well documented.<sup>1-3</sup> Gastroenteritis, Legionnaires' disease,

influenza and tuberculosis have all been reported.<sup>4</sup> The potential for outbreaks of disease to affect a large number of individuals arises from the closed environment aboard ships that can promote the spread of infection. Because large numbers of people gather in confined spaces the person-to-person transmission rate is probably higher than for land-based accommodation. Disease can also be introduced from taking on board contaminated water and food supplies, unhygienic work practices, and poorly maintained swimming or spa pools and ventilation systems.

When specific infectious diseases are identified on board a vessel that has arrived in Australia from international waters, they are reported to the Australian Quarantine Inspection Service via the *Pratique* or human health clearance paper, as defined in the Quarantine Act 1908. Reporting of cases of disease between Commonwealth and NSW Government agencies is informal. The NSW Ombudsman identified a lack of a clear and coordinated reporting system of disease to the NSW Department of Health following an outbreak of probable viral gastroenteritis on board a Sydney-based cruise vessel in 1996. The NSW Vessel Inspection Program was developed in response.

Within the cruise shipping industry there is also believed to be substantial under-reporting of illness by passengers. As little as 25 per cent of passengers with diarrhoea have been found to present to the ship's doctor.<sup>1</sup> Under the NSW Public Health Act 1991 medical practitioners are obliged to report outbreaks of gastroenteritis in institutions (which might conceivably include cruise ships) and clusters of food poisoning in two or more associated cases. Respiratory illness is not notifiable, except for the requirement for hospitals to report cases of suspected Legionnaires' disease.

Since 1992, officers of the South Eastern Sydney Public Health Unit (SESPHU) have investigated health complaints on ships visiting the Port of Sydney, which falls within the jurisdiction of the South Eastern Sydney Area Health Service. However, the large number of ships coming to Sydney for the 2000 Olympic and Paralympic Games demanded that a more formal process be developed to ensure the health and safety of passengers and crew, particularly as ships are not usually moored for such extended periods.

### **THE NSW VESSEL INSPECTION PROGRAM**

The NSW Vessel Inspection Program (VIP) was developed to provide cruise ship owners with suitable guidance about NSW legislation. The NSW Food Act 1989 and the NSW Public Health Act 1991 have provisions that allow for the inspection of cruise ships and the collection of information on illness. The VIP represents a collaborative effort between the cruise ship industry, the NSW Department of Health and SESPHU and builds on the informal inspection system that exists between the SESPHU and the local cruise ship industry.

Cruise ships sail through a range of international jurisdictions, so it is important that any new program is consistent with existing programs. The VIP is closely modelled on the United States Public Health Service Vessel Sanitation Program (US VSP) conducted by the Centres for Disease Control and Prevention (CDC), based in Atlanta, Georgia. This program has been successful in reducing diarrhoeal illness on board cruise ships since its introduction in 1975.<sup>3</sup>

### **Aims of the Vessel Inspection Program**

The aims of the VIP are to identify and minimise contaminated food or water and unhygienic work practices or conditions that may contribute to the introduction, transmission or spread of communicable diseases on cruise ships. Inspections are carried out on the water supply, food preparation and bar areas and any other area where food is prepared and served. The general cleanliness and management of food storage areas, ventilation, swimming pools, spa pools and auxiliary services such as child care and hairdressing are also investigated. Each ship is assigned a score out of 100 based on the above criteria. Scores of less than 85 are flagged as unsatisfactory.<sup>3</sup> In extreme cases, a recommendation 'not to sail' can be served by the NSW Chief Health Officer until all risks to health have been rectified.

### **Olympic Games Schedule**

A NSW Health team has undergone training using the VIP and will carry out full inspections on each ship that will be berthed in Sydney during the Games. Depending on the result of the inspection and the food services that will be provided, follow up inspections will be carried out based on an assessment of risk for the time the ships are berthed in Sydney. Because the provision of potable water and wastewater services to the ships will be land-based, special attention will be given to the connection and supply of these services.

### **Future challenges for the Vessel Inspection Program**

The United States cruise shipping market presently has 280 ships sailing mainly out of Miami, but also Los Angeles, Seattle and Houston. The cruise shipping market in Asia is also growing fast. In keeping with the demand, shipping companies are upgrading and constructing new ships with some currently being built similar to the super liners of the past and catering for up to 2500 passengers and 1500 crew. The experience of the 2000 Olympic and Paralympic Games will leave the NSW VIP well prepared for the challenges posed if any such ships make their way to Sydney.

### **ACKNOWLEDGEMENTS**

We would like to acknowledge the assistance of Captain Dan Harper and Lieutenant Commander Jon Schnoor from the United States Centers for Disease Control and Prevention, and members of the Healthy Cruise Working Group, for their help in the development of this program.

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## HEALTH SURVEILLANCE ON CRUISE SHIPS DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

*Peter Waples, Sarah Thackway and Karen Banwell*  
Olympic Planning Unit  
NSW Department of Health

*Mark Ferson and Steve Hatzi*  
South Eastern Sydney Public Health Unit

During the Sydney 2000 Olympic and Paralympic Games, nine cruise ships will be berthed in Sydney Harbour, acting

as floating hotels for an estimated 32,000 guests. Outbreaks of disease including gastroenteritis, Legionnaire's disease, influenza, and tuberculosis (TB) are well documented aboard cruise ships,<sup>1-7</sup> and the closed environment aboard the ships may promote the occurrence of outbreaks of disease that can affect large numbers of individuals. During the Games, there is also a potential for outbreaks of disease to occur from sources outside cruise ships but affecting ships' passengers.

This article describes the plans for health surveillance on cruise ships during the Games, which will be an important component of the larger Olympic Health Surveillance System (OHSS). The overall OHSS is described in the article by Thackway on page 142, while the NSW Vessel Inspection Program, a hygienic inspection regimen for cruise ships, is described in the article by Banwell and Butler et al. (page 148).

### HEALTH SURVEILLANCE ON CRUISE SHIPS DURING THE GAMES

During the Games, health surveillance on cruise ships will have two reporting streams (see Figure 5):

- Notifiable Disease Reporting (NDR)
- Cruise Ship Olympic Surveillance System (CSOSS).

#### Notifiable Disease Reporting

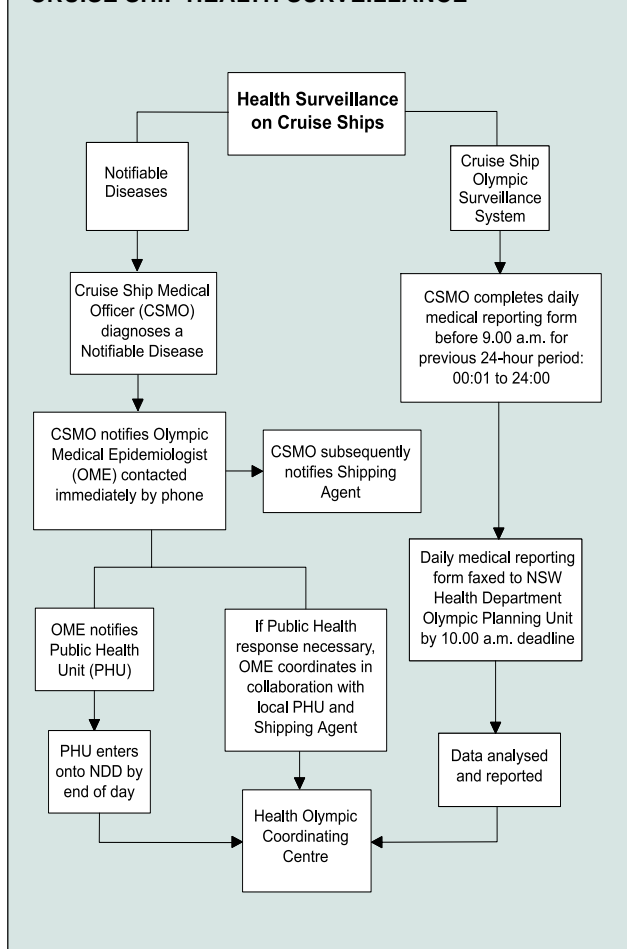
During the Games period, all cruise ships will be required to comply with the NSW Public Health Act and Regulations (1991), and notify the NSW Department of Health of:

- outbreaks of gastroenteritis
- two or more linked cases of food poisoning
- other notifiable diseases.

Cruise Ship Medical Officers will report any notifiable diseases, unusual disease clusters or public health-related problems to the Olympic Medical Epidemiologist (see article by Banwell and Butler et al. on page 148). The Medical Epidemiologist will then advise the appropriate public health agency (see Figure 5).

**FIGURE 5**

### CRUISE SHIP HEALTH SURVEILLANCE



### Cruise Ship Olympic Surveillance System

The Cruise Ship Olympic Surveillance System (CSOSS) is designed to enhance the existing notifiable diseases reporting system, and to actively identify unusual patterns of illness and disease on cruise ships. This surveillance mechanism builds on a reporting system operated by the South Eastern Sydney Public Health Unit and Sydney-based cruise vessel operators.

During the Games, cruise ship medical staff will be requested to complete an Olympic Cruise Ship Daily Medical Report for inclusion into the NSW Department of Health's OHSS. This daily report outlines the number of passengers on each ship, the number of medical consultations, hospitalisations, deaths and cases with the following specific symptoms and conditions:

- influenza-like illness
- suspected pneumonia
- gastroenteritis.

The summary report forms will be faxed daily to the Department of Health, and analysed and reported through the NSW Health Olympic Coordinating Centre (HOCC). The Olympic Medical Epidemiologist will be notified immediately of any acute health concerns or cases showing unusual symptoms of possible public health significance.

The large number of cruise ships that will converge in Sydney for the Sydney 2000 Olympic and Paralympic Games has presented a unique opportunity to develop and test a comprehensive system for surveillance of health on these vessels. It is hoped that the Sydney experience will inform planning for the next Olympic Games in Athens

in 2004, which will be serviced by a much greater number of cruise ships.

### ACKNOWLEDGEMENTS

Peter Waples is currently participating in the NSW Public Health Officer Training Program. The authors would like to thank Paul Paraskevopoulos for his involvement in developing the cruise ship medical reporting system.

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## FOOD SAFETY MANAGEMENT AT OLYMPIC VENUES DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

*Steve Holroyd, John Shields and Peter Waples*  
*Olympic Planning Unit*  
*NSW Department of Health*

Ensuring food safety is a key element in the success of the Sydney 2000 Olympic and Paralympic Games (the Games). A major food-borne disease outbreak has been identified as one of the leading threats to public safety. In terms of the food quantities required for an event such as the Games, estimates suggest that 1.8 million meals will be served to athletes and officials and one million meals will be prepared for staff. Given the enormity of the task, the Food Safety Strategy for the Games has been in development since 1996. 'Prevention rather than cure' and inter-agency cooperation are the key themes of the plan. In the past few years, the food safety team has worked closely with the Olympic organisers (SOCOG) and other

government bodies to increase awareness of food safety.

### THE ATLANTA EXPERIENCE

During the 1996 Atlanta Olympic Games over 5,000 food safety inspections were conducted at Olympic venues.<sup>1</sup> More than 100 illegal food operations were closed down and over seven tonnes of food destroyed. The maintenance of this intense inspection schedule was considered to be a key contributing factor to the absence of any reported food-borne illness outbreak. The inspections were aided by special government legislation that put tight controls on the practices of temporary food premises. There was 24-hour coverage of the Olympic Village.<sup>1</sup>

### OPERATION FOODWATCH

Outside Olympic venues, Operation Foodwatch will play an important role in minimising the occurrence of food-

borne illness during the period that Sydney will host the Games.

Operation Foodwatch is a program of enhanced food hygiene surveillance for food premises in the public domain. Local Councils and Public Health Units throughout greater Metropolitan Sydney report to a centrally-located database, which has been operating since early 1999. The information gathered by this system is used to categorise food premises, based on inspection histories. This information is used to target high risk outlets for more intensive inspection and follow up.

### THE SYDNEY 2000 OLYMPIC GAMES PLAN

The Food Safety Strategy for Olympic venues involves the following actions:

- specification of special food hygiene conditions in SOCOG contracts and the highlighting of statutory obligations (for example, contractual obligations placed on Olympic venue caterers include the requirements that Hazard Analysis and Critical Control Point, or HACCP, Food Safety Plans be in place);<sup>2</sup>
- identification of all contracted food operations located within Olympic venues;
- allocation of a broad food safety risk rating (high, medium or low risk) to each food service outlet, according to whether they are serving potentially hazardous food types;
- coordination of ongoing site inspections and hygiene compliance checks and audits at all venues;
- recording of all food safety surveillance activities and central collation of data including daily summary reporting;
- implementation of the Strategy at test events prior to the Games to trial the inspection process and, if necessary, refine and enhance it.

Some of the key tasks in monitoring venue-based food operations will include:

- ongoing inspections of food premises and outlets to ensure compliance with food hygiene standards
- routine inspection of delivery and distribution vehicles
- selective sampling and testing of foods
- investigation of complaints received from the general public
- active surveillance for food-borne disease outbreaks.

### FOOD SAFETY WORKFORCE

The Olympic food safety workforce will be drawn from both local government and NSW Health. Food safety surveillance personnel will implement the actions identified in the Food Safety Strategy for the 15 venues located within Sydney Olympic Park. Local government officers and food inspectors from area health service public health units will carry out food surveillance work in the 14 competition venues within the Sydney East, Darling Harbour and Sydney West Olympic Precincts. This workforce will operate during the pre-Olympic, Olympic and Paralympic periods in September and October 2000.

The detailed planning underpinning the Olympic Food Safety Strategy, and the strong collaborative approach between NSW Health and Local Government in implementing it, should minimise food-borne illnesses during the Games.

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## COORDINATING PUBLIC HEALTH SERVICES AT OLYMPIC VENUES DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

**Sarah Thackway**  
*Surveillance Manager, Olympic Planning Unit  
NSW Department of Health*

**Tim Owen**  
*Public Health Officer,  
NSW Public Health Officer Training Program  
NSW Department of Health*

NSW Health is responsible for providing public health services to support Olympic and Paralympic venues under

SOCOG's jurisdiction. These include:

- competition venues
- residential areas:
  - athletes village
  - Olympic 'Family' hotels mainly in the central business district of Sydney
  - media village at Lidcombe
  - youth camp at St Joseph's College at Hunters Hill



- SOCOG medical centres and the SOCOG Polyclinic at Homebush Bay.

To manage and coordinate the public health issues arising at these venues, a 'virtual' public health unit will be established, composed of individuals performing functions from a number of locations. This Olympic–Paralympic Public Health Unit will:

- provide expert public health advice to SOCOG medical personnel
- act as a central point of notification of scheduled medical conditions diagnosed at SOCOG medical centres or the Polyclinic
- conduct investigation of disease clusters at venues
- conduct public health follow-up, where necessary
- provide liaison between NSW Health, SOCOG, local public health units, and other key parties.

The Olympic–Paralympic Public Health Unit will operate from the day the Olympic village opens, through to the end of the Olympic Games, and again during the period of the Paralympic Games. During the Olympic Games period, the Unit's staff will consist of a surveillance manager, surveillance officer, food safety coordinator, environmental health coordinator, medical epidemiologist, public health nurse and public health officer, and teams of food inspectors and environmental health officers. During the Paralympic Games a smaller number of competitors, officials, and spectators are expected, and

most will be based at Sydney Olympic Park. For this reason, fewer staff will operate the Olympic–Paralympic Public Health Unit during this period.

A Public Health Investigation Team will also be formed as a back-up resource for deployment in the event of a public health investigation requiring resources beyond those of the Olympic–Paralympic Public Health Unit. This Public Health Investigation Team will consist of additional food inspectors, environmental health officers, public health nurses and a public health officer. As well as providing support to the Olympic–Paralympic Public Health Unit, the Public Health Investigation Team will provide other support as determined by the Public Health Controller under the NSW HEALTHPLAN counter disaster plan.

In order to minimise disruptions to the metropolitan public health units that are already heavily involved in Olympic activities, many of the staff for the Olympic–Paralympic Public Health Unit and the Public Health Investigation Teams have been drawn from rural public health units and the NSW Public Health Officer Training Program.

The establishment of an Olympic–Paralympic Public Health Unit will ensure that comprehensive and coordinated public health services are available to those people residing in or attending events at venues under SOCOG's jurisdiction. ❧

## PUBLIC HEALTH PLANNING FOR THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES IN METROPOLITAN AREA HEALTH SERVICES

**Catherine Bennett**

*Northern Sydney Public Health Unit*

**Mark Bartlett**

*Western Sector Public Health Unit*

**Graham Burgess**

*Central Sydney Public Health Unit*

**Brian Spooner**

*South Eastern Sydney Public Health Unit*

In addition to an increase in visitors to Sydney and movement to and from Olympic venues, many activities and attractions are planned throughout the Sydney metropolitan area for the period of the Sydney 2000 Olympic and Paralympic Games. Public health planning and strategy development has been conducted at the NSW Department of Health, area health service, public health unit, and local government levels to ensure that all possible steps have been taken to mitigate public health risk.

This article outlines the direction taken by metropolitan public health units in the lead up to the Games and the roles and responsibilities of the metropolitan public health units' Olympic Public Health Coordinators.

### PUBLIC HEALTH PLANNING

Public health planning for risk reduction strategies and services for the Sydney 2000 Olympic and Paralympic Games began in 1996 with the formation of the NSW Department of Health Olympic Public Health Committee. In collaboration with the NSW Public Health Network (the 17 public health units and the Health Protection Branch of the NSW Department of Health), the Committee oversaw the development of several strategy documents, including the *Public Health Service Strategy for the Sydney 2000 Olympic and Paralympic Games*,<sup>1</sup> and *Public Health Unit Operational Issues for the Sydney 2000 Olympic Games—Public Health Protection 'Outside the Fence'*.<sup>2</sup>

These documents formed the basis for subsequent NSW Health plans.

The primary focus for public health risk minimisation and monitoring outside Olympic venues are food safety, air and water quality,<sup>3</sup> and communicable disease reporting and surveillance.<sup>4</sup> Other areas of attention include health promotion interventions (for example, sexual health and sun protection), contingency planning for mass gatherings and disaster incidents and strengthening emergency management structures at the local government level.

The NSW Department of Health and NSW public health units recognised the increased potential for public health threats and the consequent demands on the public health infrastructure associated with the Games. Consequently, the NSW Department of Health funded positions, located both at the Department and within Sydney metropolitan public health units, to oversee public health preparedness. Five positions were identified for the Sydney metropolitan public health units.

### **COORDINATORS' ROLE**

The public health coordinators' positions were created to:

- gather intelligence to inform local public health planning, including identification of localities and activities that present potential risks;
- develop, prioritise and coordinate a range of health protection strategies;
- develop local protocols and procedures;
- gather and disseminate information on Olympic test events, training camps and metropolitan Olympic related mass gatherings, as well as Olympic traffic management, transport and other issues that may have public health implications;
- oversee the development of local Olympic Public Health Plans;
- ensure effective implementation of local Olympic Public Health Plans through liaison with staff from public health units, local government and other agencies.

### **PARTNERSHIPS**

Local government is a key partner in implementing many of NSW Health's public health risk reduction initiatives for the Games. Clarifying respective roles in public health-related planning, risk assessment, inspections, disease surveillance and response has been an important element in the planning process. The public health coordinators play a critical liaison role between public health units and the Sydney metropolitan local government councils to

ensure that food safety and other risk reduction programs are on target.

Councils have been encouraged to identify local premises or activities that may present increased public health risk during the Games period: for example, food premises in popular eating precincts, and premises with cooling towers. Policies for managing these possible risks are in place. Councils have also been encouraged to include contingency plans for public health in their local emergency management plans, appoint local Public Health Controllers and prepare resource registers. This process is also occurring at public health unit level.

In addition to strengthening partnerships with local government, closer partnerships have been fostered between NSW Health and other agencies, such as the Waterways Authority and the Water Police. Public health units have also been working closely with Olympic planning committees within Health Areas. This interaction has raised the profile of public health, for example through hospital emergency department involvement in the Emergency Department Olympic Surveillance System (see the article by Thackway on page 142) or collaboration in emergency management planning. New public health programs which will have ongoing benefits, such as the Vessel Inspection Program for cruise and charter ships (see the article by Banwell and Butler et al. on page 148) have evolved out of NSW Health initiatives. Stronger links among agencies and a greater understanding of respective roles and functions will be a valuable legacy of the Olympic public health planning and preparation processes.

### **ACKNOWLEDGEMENT**

The authors would like to thank the metropolitan Public Health Unit Directors (Tony Capon, Kerry Chant, Mark Ferson, Leena Gupta, Don Holt, and Krishna Hort) for their editorial review of this paper and contributions to structure and content.

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# SPECIALIST MEDICAL INTERPRETERS FOR THE SYDNEY 2000 GAMES

*Marjolein Gerber*

*Program Coordinator Medical Interpreter Service  
Olympic Planning Unit  
NSW Department of Health*

The provision of language services has been an integral part of previous Olympic Games, but the Sydney 2000 Games will be the first Games in Olympic history to be supported by specialist professional medical interpreters.<sup>1</sup> To facilitate communication with members of the Olympic Family (athletes, officials and the volunteer workforce serving the Games) and spectators, specialist medical interpreters will be available to SOCOG medical staff at the Olympic Village Polyclinic and other Olympic and Paralympic competition and non-competition venues. The Olympic Medical Interpreter Service (OMIS) will be responsible for providing all medical interpreter services, drawing on the existing NSW Health Care Interpreter Service (HCIS) network of interpreters.

## NSW HEALTH CARE INTERPRETER SERVICE

The NSW Health Care Interpreter Service is the largest on-site interpreter service provider in Australia. It was established in 1977 to meet the health needs of ethnic communities, and to improve their access to public health facilities. Its high quality professional interpreter service is provided on a 24-hour seven-day-a-week basis to all facilities within the NSW public health system. The HCIS network spans eight area health services, including rural NSW, and employs the equivalent of 186 full-time staff and approximately 850 sessional-contract interpreters. During 1998-1999 it provided 330,626 occasions of service in 98 languages, predominantly to hospitals (outpatients and inpatients), community health centres and early childhood centres.<sup>2</sup> The most common method of service delivery is face-to-face interpreting, with back-up telephone interpreting provided in emergencies by the Commonwealth Department of Immigration and Multi-cultural Affairs Translation and Interpreter Service (TIS).

HCIS interpreters have recognised qualifications from the National Accreditation Authority of Translators and Interpreters (NAATI) and undertake ongoing professional development in medical terminology, mental health, and other areas of health, to equip them to work in the diverse range of health care settings in the NSW public health system.

All health care providers working in NSW public health facilities are bound by the NSW Health Department policy, *Standard Procedures for the Use of Health Care Interpreters*, Circular 94/10,<sup>3</sup> to ensure that non-English speaking clients with English language difficulties have access to professional health care interpreters when attending public health facilities.

## MEDICAL INTERPRETER SERVICE PROVISION DURING THE SYDNEY 2000 OLYMPIC AND PARALYMPIC GAMES

Under a contractual arrangement between SOCOG and the NSW Department of Health, the OMIS will be the sole provider of medical interpreter services at the Olympic Village Polyclinic (a comprehensive assessment and emergency care clinic) and all competition and non-competition Olympic and Paralympic venues where the SOCOG medical program will operate.

All OMIS staff and contract interpreters have been recruited from within the current HCIS. Furthermore, existing HCIS criteria for employment have been applied in selecting staff and contractors, including: NAATI accreditation, completion of medical terminology training and adequate experience in interpreting in the public health system. All OMIS staff will undergo a brief orientation program before the Games.

The OMIS will operate from the Polyclinic within the Olympic Village between the hours of 7.30 a.m. and 10.30 p.m. seven days per week between 2 September and the closing of the Paralympic Athletes' Village on 1 November. On-site interpreters will be present to provide services in the Arabic, French, Cantonese-Mandarin, Russian and Spanish languages. Approximately 68 additional languages will be provided for by sessional-contract medical interpreters by telephone to the Polyclinic and all other SOCOG venue-based medical facilities.

The existing area HCIS will provide interpreters if a patient is transferred from any SOCOG venue to a NSW hospital.

## REPORTING REQUIREMENTS

Data on medical interpreter activity will be provided to the Health Olympic Coordinating Centre on a daily basis during the Games. To assist planning for future Games, a comprehensive report on the OMIS will be prepared at the conclusion of the Sydney 2000 Olympic and Paralympic Games.

## REFERENCES

1. Chesher, Terry. *Health Care Interpreting for Sydney 2000. A review of language services organisation and utilisation during the Barcelona and Atlanta Olympics to assist NSW Health in planning for the support of the Sydney 2000 Games by the Health Care Interpreter Service.* Report to NSW Department of Health 1997. Unpublished
2. NSW Department of Health Ethnic Affairs Priority Statement Report (EAPS). 1998-99.
3. NSW Health Department. *Standard Procedures for Use of Health Care Interpreter Services Circular 94/10.* ☒

# TUBERCULOSIS

## WHAT IS TUBERCULOSIS?

- Tuberculosis (TB) is a curable disease caused by the bacteria (germ) *Mycobacterium tuberculosis*.
- TB can damage a person's lungs or other parts of the body and cause serious illness.

## HOW IS TB SPREAD?

- TB is spread through the air when a person with TB in the lungs or throat coughs, sneezes or speaks, sending germs into the air.
- When other people breathe in these germs they can become infected.
- Most people get TB germs from someone they spend a lot of time with, like a family member, friend or close co-worker.
- TB is *NOT* spread by household items (for example, by cutlery, crockery, drinking glasses, sheets, clothes or telephones) so it is not necessary to use separate household items.

## WHAT IS 'TB INFECTION'?

- TB infection means the TB germs are in the body but they are '**inactive**'. After TB germs enter the body, in most cases, the body's defences control the germs. However, these germs can stay alive inside the body for years in an **inactive** state.
- While TB germs are **inactive**, they can't do any damage, and they can't spread to other people. The person is '**infected**', but not sick. For most (90 per cent of people) the germs will always be inactive. The only way a person will know if they have been infected is if they have a positive result to a special skin test.

## WHEN DOES 'INFECTION' BECOME 'DISEASE'?

- It is possible, even after many years, for inactive TB germs to become active when the body's defences are weakened. This may be due to ageing, a serious illness, stressful event, drug or alcohol misuse, HIV infection (the virus that causes AIDS) or other conditions.
- When inactive TB germs become active, they begin multiplying and can damage the lungs or other parts of the body. If the TB germs become active, TB disease can develop.
- Only about 10 per cent of people who are infected with TB germs will get TB disease.

## WHAT ARE THE SIGNS OF TB?

TB can attack any part of the body, but the lungs are the most common site. People with TB may have some or all of the following symptoms:

- a cough that lasts for more than three weeks
- fevers
- unexplained weight loss
- night sweats
- always feeling tired
- loss of appetite.
- Sometimes, a person with TB can cough up blood stained sputum. Some people with active TB disease may have only mild symptoms.

## WHAT ARE THE COMMON TESTS FOR TB?

- The **Tuberculin Skin Test** (Mantoux test) shows whether a person is likely to have been infected.
- A **chest x-ray** can show whether TB has affected the lungs.
- A **sputum test** shows if TB germs are present in the sputum coughed up.

## WHAT SHOULD YOU DO IF YOU THINK YOU HAVE TB?

Contact your local Chest Clinic or see your family Doctor.

## SHOULD I GET TESTED FOR TB?

- If the chest clinic or your doctor thinks you may have TB infection or disease, then you may need to be tested. The tests can be done at the chest clinic.
- All TB investigations and treatment are provided free and confidentially at chest clinics.

## HOW IS TB TREATED?

- **TB Infection:** the doctor may prescribe a course of tablets (preventive therapy) or follow up with regular chest x-rays.
- **TB Disease:** a combination of special antibiotics is prescribed for at least six months. A chest clinic nurse will watch you take the TB antibiotics, to check for any side effects and make sure treatment is completed.
- People with TB can be cured if they complete treatment.

- People with TB can continue treatment and normal activities when they are not infectious.
- If people with TB do not take their medication, they can become seriously ill, and may even die.

#### ARE TB PATIENTS ALWAYS INFECTIOUS?

- People with TB of the lungs or throat can be infectious to others.
- People with TB in other parts of the body are not infectious.
- In most cases, after two weeks of taking medication, patients with TB disease will no longer spread germs.

#### WHO DO TB PATIENTS HAVE TO TELL ABOUT THEIR TB?

Like any other illness, only the doctors and chest clinic staff need to know a person has TB.

The chest clinic staff will decide which 'contacts' need testing. 'Contacts' are often other family members, but sometimes may be close friends or work mates. Contact tracing is always done sensitively and confidentially.

#### CHEST CLINIC SERVICES INCLUDE:

- all the necessary contact tracing and screening
- the care and management of patients with TB.

Note:

- a referral from a doctor is *NOT* needed to attend a chest clinic.
- a Medicare card is *NOT* needed.

*For more information, please contact your local Chest Clinic, Public Health Unit or Doctor. ☎*

## COMMUNICABLE DISEASES, NSW: AUGUST 2000

### TRENDS

This month we introduce four small changes in our presentation of notifications of communicable diseases:

- the title of this presentation will change from Infectious Diseases to Communicable Diseases;
- in Figure 6, a graph showing the number of cases of influenza diagnosed by virological techniques from six major public laboratories replaces our usual graph showing the number of cases of rubella. (Rubella notifications will continue to be reported in Table 1.) Voluntary reports of influenza are received from May through to September each year. The number of participating laboratories increased from four to six in 1998;
- to compensate for reporting delays, Figure 6 now includes a line in each graph showing predicted notifications after adjusting for likely reporting delays;

- Table 1 now includes a column for cases residing in prison (that is, within the Corrections Health Service).

The data in Table 1 and Figure 6 show:

- a decline in notifications of **arbovirus infections** (expected with the fewer mosquitoes as a result of colder weather);
- a rise in notifications of **meningococcal disease** (cases usually increase in mid-winter) serving as a reminder for clinicians to have an increased level of alertness for cases, to treat suspected cases early with intravenous antibiotics, and to notify suspected cases to the local public health unit;
- a rise in **pertussis** notifications in some areas of the State, notably New England, and a continuing high level in the Hunter;
- **Influenza** activity remains at low levels, with 17 influenza type A and 10 influenza type B diagnoses

reported from viral laboratories in June.

### SHIGELLOSIS OUTBREAK AMONG INNER-SYDNEY MEN

NSW Health and South Eastern Sydney Area Health Service are currently investigating an outbreak of **shigellosis** among inner-Sydney men who have sex with men. Shigellosis is a highly infectious bacterial infection affecting the bowel and is characterised by diarrhoea (which may contain blood and mucus), nausea, fever, abdominal cramps and vomiting. It is spread by the faecal-oral route, and the incubation period is usually one to three days.

There are four subgroups of shigella and over 30 serotypes. Serotyping of the organism in NSW is usually performed by Institute of Clinical Pathology and Medical Research (ICPMR) laboratory, Westmead Hospital. Shigellosis is not currently a notifiable condition in NSW. Laboratory staff report that the condition is relatively uncommon in NSW, with fewer than five isolates received by ICPMR for serotyping each month.

Local doctors and laboratories reported an increase in shigellosis diagnoses in March 2000. ICPMR has identified the increase is mainly of *Shigella sonnei* serotype G isolates, with over 80 cases identified from early March 2000 until mid-June 2000. This compares to 21 cases in all of 1997, 50 in 1998 and 28 in 1999. Over 90 per cent of cases have been males and most are thought to be gay men between 20–40 years. Some of these are HIV-positive men, several of whom have required treatment in hospital. Further investigations are underway, and a control plan is being implemented.

Clinicians are urged to:

- consider shigellosis in the diagnosis of men with unexplained diarrhoea, and arrange stool examinations where clinically suspected;
- advise persons with diarrhoea to:
  - wash their hands thoroughly with soap and running water after using the toilet
  - not to handle food for others or have sexual contact with others for at least a week after symptoms have completely resolved;
- antibiotic treatment of laboratory-confirmed shigellosis may help reduce the duration of symptoms and the period of infectiousness. Treatment may therefore be helpful, especially for patients with prolonged illness. St Vincents Hospital in South Eastern Sydney reports that many of the bacteria examined in this outbreak have shown resistance to ampicillin and cotrimoxazole. Where clinically indicated, norfloxacin 400 mg orally,

12-hourly for seven to 10 days is recommended for adult patients associated with this outbreak.

### Reference

1. Therapeutic Guidelines, Antibiotic. 10th edition. Melbourne: Therapeutic Guidelines Limited: March 1998.

### CREUTZFELDT-JACOB DISEASE AND OTHER HUMAN TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES

NSW Health has adopted the National Health and Medical Research Council (NHMRC) document, *Creutzfeldt-Jakob Disease and the Human Transmissible Spongiform Encephalopathies: Guidelines on patient management and infection control*, published in December 1995. These Guidelines are to be used by health care facilities to develop infection control and disinfection and sterilisation strategies to reduce the risk of transmission of Creutzfeldt-Jakob Disease (CJD).

CJD is a rare, transmissible spongiform encephalopathy that is characterised by progressive dementia accompanied by a variety of neurological signs, with an invariably fatal outcome after a clinical course that may last from a few weeks to several years.<sup>1</sup> CJD occurs sporadically at an annual rate of one person per million per year.<sup>3</sup>

The infectious agents are thought to be prions. Prions are made of an abnormal form of internal cell membrane protein (PrP), which are theorised to be in the transmission of disease.<sup>2,3</sup> Prions are relatively hardy.

Transmission to humans has been reported to occur after corneal transplants, through contaminated stereotactic instruments and dura mater grafts, and from injection of pituitary-derived growth hormone. Transmission from neurosurgical instruments has been suspected but not conclusively proven.<sup>2</sup>

Potential infectious body fluids and tissue include cerebrospinal fluid, brain, spinal cord, and eye. Other tissues that may be infectious and require cautious handling are lymph glands, kidney, and lung.

### References

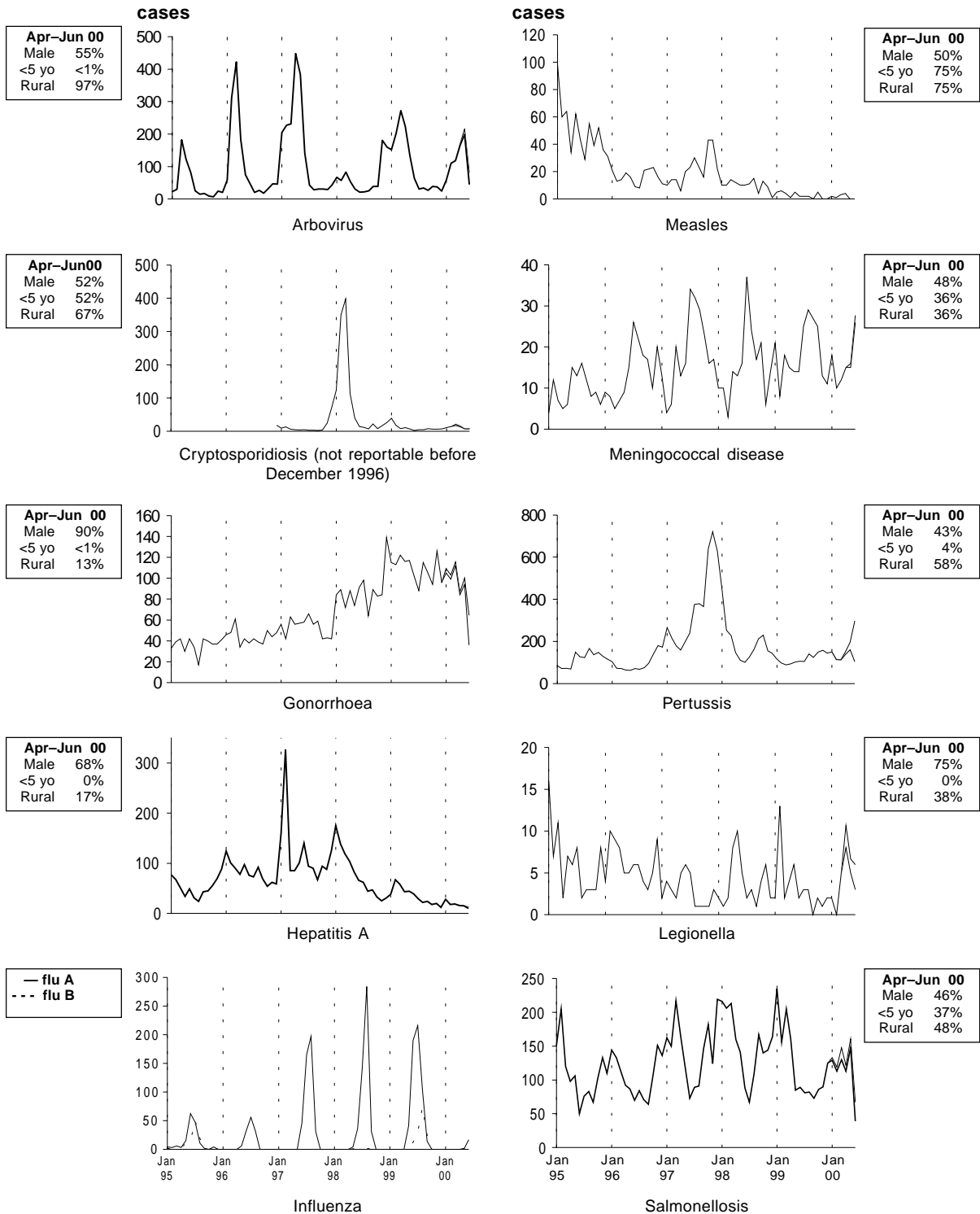
1. Brown P. *Guidelines for high risk autopsy cases: Special precautions for Creutzfeldt-Jakob Disease*. Illinois: College of American Pathologists, 1990.
2. Funk, EA. (1996). Creutzfeldt-Jakob Disease and other Prion (transmissible neurodegenerative) Diseases. *APIC Infection Control and Applied Epidemiology: Principles and Practice*. St Louis: Mosby, 1996.
3. National Health and Medical Research Council. *Creutzfeldt-Jakob Disease and other Human Transmissible Spongiform Encephalopathies: Guidelines on patient management and infection control*. Canberra: Australian Government Publishing Service, 1996. ☒

**FIGURE 6**

**REPORTS OF SELECTED COMMUNICABLE DISEASES, NSW, JANUARY 1995 TO JUNE 2000, BY MONTH OF ONSET**

These are preliminary data: case counts in recent months may increase because of reporting delays. Laboratory-confirmed cases, except for measles, meningococcal disease and pertussis — actual — predicted after adjusting for likely reporting delays.

**NSW population**  
 Male 50%  
 <5 yo 7%  
 Rural 42%



\* For definition, see *NSW Public Health Bulletin*, April 2000

TABLE 1

## REPORTS OF NOTIFIABLE CONDITIONS RECEIVED IN JUNE 2000 BY AREA HEALTH SERVICES

Condition	Area Health Service (2000)																		Total		
	CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA	FWA	GMA	SA	CHS	for Jun*	To date†	
<b>Blood-borne and sexually transmitted</b>																					
AIDS	1	3	1	1	-	-	1	-	2	-	-	-	-	-	-	-	-	-	9	69	
HIV infection*	-	-	-	-	-	-	-	Reported every two months				-	-	-	-	-	-	-	-	-	90
Hepatitis B - acute viral*	-	-	1	2	1	-	1	-	2	-	-	-	-	-	-	-	-	1	8	41	
Hepatitis B - other*	36	25	64	6	122	5	3	3	42	3	1	5	-	1	9	2	3	13	344	2,245	
Hepatitis C - acute viral*	2	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	5	36	
Hepatitis C - other*	61	41	78	27	82	39	29	27	53	38	25	11	9	22	2	8	13	116	682	4,545	
Hepatitis D - unspecified*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Hepatitis, acute viral (not otherwise specified)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chancroid*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlamydia (genital)*	23	7	27	8	9	3	16	15	53	15	9	12	4	9	14	4	3	2	233	1,391	
Gonorrhoea*	11	9	8	1	6	2	-	-	38	1	-	1	-	2	2	-	1	-	82	601	
Syphilis	10	-	5	-	11	2	-	-	7	2	2	2	-	2	-	-	-	1	44	273	
<b>Vector-borne</b>																					
Arboviral infection (BFV)*	-	-	-	-	-	-	2	1	1	3	7	-	-	-	-	-	1	-	15	117	
Arboviral infection (RRV)*	-	1	1	1	-	2	24	2	2	7	12	14	8	1	13	7	4	-	99	577	
Arboviral infection (Other)*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	24	
Malaria*	1	-	2	1	15	-	2	3	2	-	-	-	-	-	-	-	-	-	26	123	
<b>Zoonoses</b>																					
Brucellosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Leptospirosis*	-	-	-	-	-	-	1	-	-	2	-	3	-	-	-	-	-	-	6	31	
Q fever*	-	-	-	-	-	-	1	-	-	1	2	-	2	1	-	-	-	-	7	55	
<b>Respiratory and other</b>																					
Blood lead level*	2	7	-	-	25	4	11	2	7	2	1	2	2	-	-	2	1	-	68	670	
Legionnaires' Longbeachae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
Legionnaires' Pneumophila*	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	18	
Legionnaires' (Other)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
Leprosy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Meningococcal infection (invasive)	1	3	2	4	3	1	2	3	5	-	1	-	-	-	-	-	-	-	25	95	
Mycobacterial tuberculosis	3	3	1	-	2	2	-	1	3	1	3	1	-	-	-	-	-	-	20	191	
Mycobacteria other than TB	9	11	-	1	-	-	2	1	6	1	9	-	-	2	-	-	-	-	42	184	
<b>Vaccine-preventable</b>																					
Adverse event after immunisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
H.influenzae b infection (invasive)*	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	
Mumps*	1	1	7	-	5	1	-	-	2	-	-	-	-	-	-	-	-	-	17	49	
Pertussis	5	24	33	12	23	7	59	8	20	1	1	15	4	2	-	18	8	-	240	919	
Rubella*	-	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	3	26	
Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
<b>Faecal-oral</b>																					
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cholera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cryptosporidiosis*	-	-	-	1	-	-	1	-	-	3	-	-	-	-	-	2	1	-	8	70	
Giardiasis*	4	7	10	1	12	4	8	2	12	10	6	3	6	2	1	-	-	-	88	550	
Food borne illness (not otherwise specified)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	
Gastroenteritis (in an institution)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	
Haemolytic uraemic syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
Hepatitis A*	4	1	2	1	-	1	-	-	4	-	-	-	-	-	-	-	-	-	13	113	
Hepatitis E*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	
Listeriosis*	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7	
Salmonellosis (not otherwise specified)*	7	5	-	3	13	2	4	1	12	11	2	3	3	2	-	3	4	-	75	734	
Typhoid and paratyphoid*	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	18	
Verotoxin producing Ecoli*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

\* lab-confirmed cases only

† includes cases with unknown postcode

CSA = Central Sydney Area  
NSA = Northern Sydney Area  
WSA = Western Sydney AreaWEN = Wentworth Area  
SWS = South Western Sydney Area  
CCA = Central Coast AreaHUN = Hunter Area  
ILL = Illawarra Area  
SES = South Eastern Sydney AreaNRA = Northern Rivers Area  
MNC = North Coast Area  
NEA = New England AreaMAC = Macquarie Area  
MWA = Mid Western Area  
FWA = Far West AreaGMA = Greater Murray Area  
SA = Southern Area  
CHS = Corrections Health Service