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),[9] 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,[10] mass gatherings,[11] and chemical, biological and radiological hazards.[12]

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

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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.[1–3] 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).[4–5]

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.[6–8]

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

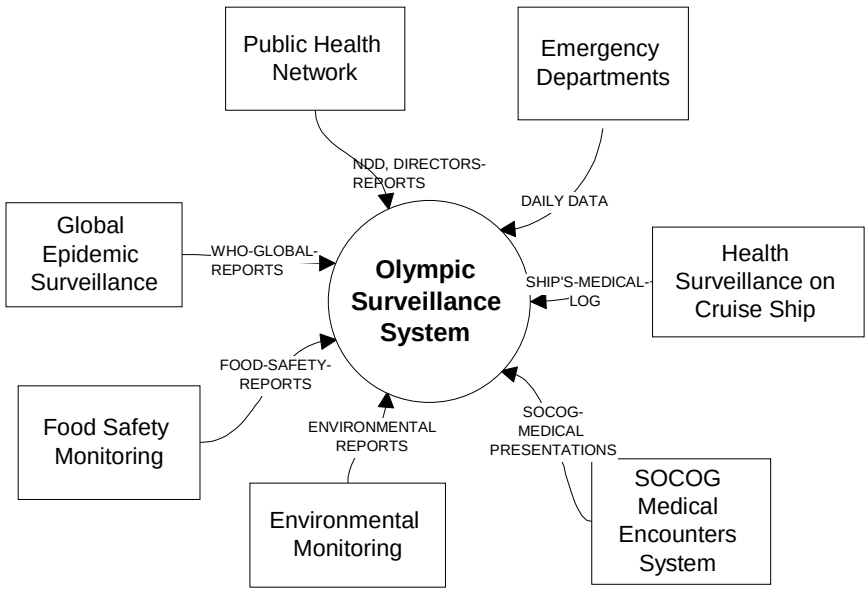
Reports from food safety inspection teams inside Olympic venues (see the article by Holroyd et al. on page 151) will be relayed to the NSW Department of Health each day.

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.

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