



## Bioterrorism surveillance during the Sydney 2000 Olympic Games

*How dreadful knowledge of the truth can be when there's no help in the truth<sup>1</sup>.*

Surveillance will not discover a bioterrorist attack and, on its own, would be futile in attempting to manage a suspected attack. Lessons from the West Nile Virus encephalitis outbreak in New York<sup>2</sup> in 1999 and the release of *Bacillus anthracis* through the US postal system in 2001 demonstrate the primacy of clinical diagnosis in recognition.

The real use of surveillance is in rapidly defining the scope and extent of the problem. Jorm and colleagues<sup>3</sup> reported the results of the public health surveillance programme used during the Sydney 2000 Olympic Games. The system was targeted at episodes that had a potential public health action to manage the occurrence, and identified the value of timely reporting when resources are under significant pressure.

A by-product of this was the daily monitoring of likely syndromes arising from communicable diseases seen at points of medical care (emergency departments, Olympic clinics and cruise ships used as residential facilities). Using this data within the Police Olympic Security Command Centre, it was possible to link the information to threats and intelligence reports related to the Olympic Games.

No pattern of disease suggestive of bioterrorism occurred during the Games and little emerged that suggested a credible threat during the Games. However, the system could have been scaled up further had such an incident occurred, saving significant time in characterising the nature of the event and its likely scope. The linkage of timely

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health information to operational investigations will be essential to manage a real release in the future.

To manage an emerging problem two elements are needed: an assessment of the scope of the problem and a knowledge of the resources available to manage that problem. Surveillance, in whatever form it takes, should be directed at determining the bounds or magnitude of the disease outbreak for which resources will be required to combat it. A bioterrorist attack is a criminal act and must, of necessity, involve law enforcement agencies, a non-traditional partner in the public health arena, and the use of a set of resources outside of the control of health authorities.

The Sydney 2000 Olympic Games presented many of the challenges of a high profile world event where timely information was required to identify and deal with public health problems that might have emerged (including food safety, injury, water quality and infectious disease issues). It also followed the Centennial Olympic Games in Atlanta where a significant number of resources were allocated to potential threats from chemical, biological and radiological (CBR) materials that might have been released deliberately to harm attendees.

The combination of both traditional public health concerns associated with a mass gathering and newer concerns about the deliberate use of biological agents, required a system to at least track patient presentations attributable to food-borne illness and communicable diseases due to exposure by an aerosol or ingestion route. The timeframe required for action in responding to a bioterrorist attack can be very short if prophylaxis is indicated or treatment required and where intense scrutiny is applied to public authorities managing a perceived or real problem.

It is the linkage to corrective actions and resources that permits management of the situation. For the Sydney Games, most effort was directed at the more likely public health threats as described by Jorm. For CBR threats, the bio-surveillance initiative was directed at internal threat management procedures within the Olympic Security Command Centre. A daily record of respiratory and food related illness from the overall surveillance system was used to plot baseline trends and point of care data reviewed for similar trends.

The use of respiratory and flu-like illness presentations have been suggested as possible indicators of a bioterrorist attack. This is a rather naive view since the broad categories do not equate to a precise case definition attributable to a specific biological agent. Experience from the West Nile virus outbreaks in New York and the recognition of anthrax in the USA during 2001<sup>4</sup> emphasise that clinical recognition of the index case or cases is required to allow directed surveillance. At best a broad syndromic surveillance system establishes the baseline data to which active surveillance can be added. It



also has the significant benefit of showing that, in the presence of a steady or falling rate of respiratory illness, an outbreak is not present.

During the Sydney Games the incidence of respiratory disease fell throughout the period of surveillance. Moreover, point of care data at the Olympic Village and residential cruise ships confirmed that no legionella or influenza outbreak was underway. Both of these diseases emerged as suggested problems during the Games, but timely information permitted prompt and repeated assurances that this was not the case.

Events have moved on and the feasibility of developing weaponised deliverable biological agents outside of state control is more apparent<sup>5</sup>. The manner in which small quantities of *Bacillus anthracis* can be disseminated within whole buildings is now known.

These factors suggest the future lies in institutionalising some of the links between health and law enforcement to better manage threats. Effort should be directed at the development of less labour intensive surveillance systems that piggy-back off clinical information systems so that they are ready to be used during a suspected attack and permit

health professionals to treat patients with available resources.

## References

1. Sophocles Oedipus Rex as listed at <http://www.quotationreference.com/> Accessed on 9 March 2003.
2. Fine A & Layton M. Lessons from the West Nile viral encephalitis outbreak in New York City, 1999: implications for bioterrorism preparedness. *Clinical Infectious Diseases* 2001; 32:277-82.
3. Jorm LR, Thackway SV, Churches TR & Hills MW. Watching the Games: public health surveillance for the Sydney 2000 Olympic Games. *J Epidemiol Community Health* 2003; 57:102-108.
4. Hughes JM & Gerberding JL. Anthrax bioterrorism: lessons learned and future directions. *Emerging Infectious Diseases* 2002; 8:1013-1014.
5. Hills M. Further development of the health response to chemical biological and radiological emergencies. *Australian Military Medicine* 2002; 11:84-87.

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# The function of the National Chemical Biological and Radiological Working Group

The Tokyo sarin incident of March 1995 was a wake up call to emergency managers around the globe. What had been considered a remote possibility was now a chilling reality. The deliberate use of highly toxic chemical materials on an unsuspecting population was a new issue that now confronted emergency planners.

In Australia, following a workshop held at the Emergency Management Australia Institute at Mt Macedon in August 1995, a working party was established to examine the issue in more detail and make recommendations as to what measures should be taken to improve our national preparedness for similar incidents.

The Olympic Games provided additional impetus to improve our preparedness to respond to chemical, biological and radiological (CBR) incidents. A CBR sub-working party was established as part of

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the Olympic security framework to develop capabilities to respond to CBR incidents that could occur during the Games. The main focus was on developing CBR response capabilities in Sydney, including the Olympic venues. During the lead up to the games a number of measures were implemented that improved the capacity to respond.

Following the Games, it was decided that a national CBR forum should be established to build on the work done for the Games.

The National CBR Working Group sponsored by Emergency Management Australia was established and held its first meeting on 6-7 August 2001. The working group membership comprises the chairs of the respective State and Territories CBR committees, as well as Commonwealth agencies that have a key role to play during a CBR incident, and includes a representative from the Public Health Laboratory Network (PHLN). The working group reports to the Australian Emergency Management Committee.

The terms of reference of the national CBR working group include:

- **Purpose:** To coordinate development of national CBR capabilities in Australia.
- **Objectives** are to:
  - Develop procedures and arrangements for dealing with a CBR incident.