More than a sprint to the finish

Planning health support for the Sydney 2000 Olympic and Paralympic Games

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THE FIRST MARATHON RACE took place during the Athens Olympic Games of 1896, the first Games of the modern era. The idea was suggested to Baron Pierre de Coubertin, the organiser of the first modern Olympic Games, by his colleague Michel Breal, a French philologist.[1] No such race ever took place in the ancient games held at Olympia, but the event was intended to recall a legendary feat by the Athenian who ran from Marathon to Athens to carry the news of the Athenian victory over the invading Persians in 490 BC (and who reputedly died of exhaustion upon delivering his message).

The first Olympic marathon was won by another Athenian, Spyridon Louis. Today, Athens is preparing to host the Games in 2004, and once again the Olympic marathon will be run from the village of Marathon to Athens.

After a gentle downhill run from the starting point of the 42.195 km race, the route diverges at the 5 km mark for a short loop around the tomb of the Marathon warriors, dedicated to the 192 Greeks who fell in the battle of Marathon. Thereafter, the course winds through picturesque semi-rural Greek villages. About 20 km into the race, the course commences a gradual but steady ascent, plateauing at a height above sea level of 225 m at the 32 km mark. The course continues at this height for about 3 km. The last 7 km should be an easy descending run, albeit through a sometimes smoggy Athens environment, to the finish line. However, as those who have completed a marathon would know, the final 7 km will be anything but easy. If not preceded by months of training, and unless the first 35 km is carefully paced, the descending run will be as difficult as the final ascent on Mt Everest.

In many ways, hosting a modern Olympiad requires a planning and logistics effort comparable to preparing for and running the marathon. The planning must be sustained over a long period to ensure that the necessary infrastructure is in place. The success of the final intensive effort during the two weeks of the Games depends on years of preparation.

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Strategic planning — the training

Sydney's preparation for the Sydney 2000 Olympic and Paralympic Games commenced well before the announcement of the bid outcome by the President of the International Olympic Committee (IOC) in Monte Carlo in September 1993. It involved scrutiny of the experience of cities that had hosted or bid unsuccessfully for the Olympics and Paralympics or the Commonwealth Games. This included the successful (1956) and unsuccessful (1996) bids by Melbourne, and the conduct of the Commonwealth (Empire) Games held in Sydney (1938), Auckland (1950 and 1990), Perth (1962), Christchurch (1974) and Brisbane (1982). Preparations for the Olympic bid required close cooperation between sporting bodies, the private sector, and government.

The complexity of staging the modern Olympics requires full cooperation between government and sporting agencies such as the IOC and their national representative bodies. Apart from the host State, the relevant governments in Australia with primary responsibilities for the Sydney 2000 Games are the Commonwealth, the Australian Capital Territory and the States of Queensland, Victoria and South Australia. When support for related events such as the Olympic and Paralympic Torch Relays are considered, the 2000 Olympics involves all Australian States and Territories, as well as neighbouring nations in the South Pacific.

Shortly after the announcement of the successful bid, the Sydney Organising Committee for the Olympic Games (SOCOG) and the Sydney Paralympic Organising Committee (SPOC) were established. Within New South Wales, government agencies, including the Department of Health, upgraded their own pre-bid planning. On 30 June 1995, the Olympic Coordination Authority (OCA) was established to provide "whole of government" support to SOCOG and SPOC.

Apart from the provision of sporting venues capable of staging the full spectrum of events, the host country must be prepared to accommodate athletes, officials and spectators from all over the world. Catering, communications, transport, public safety, health care and entertainment must be provided.

Development of the infrastructure to provide facilities, trans-

port, accommodation and communications is well described in the OCA annual report.[2] Health support to the Olympic and Paralympic Games involves some specialised considerations.

The Games will bring tens of thousands of visitors to Australia from all over the world. Such a mass gathering increases the risk of transmission of infectious diseases and the risk of injuries from crowd crushes. With the crowds and intense international media attention come risks of disruption through social issue protest or (conceivably) terrorist action. An accident like the bridge collapse at the Maccabiah Games in 1997 would constitute a major disaster[3] requiring a substantial prehospital health care response capability.

Athletes performing at the edge of human endurance will be at risk of injury. Some athletes will have been tempted to use performance enhancing drugs, and there is an ongoing struggle between laboratory scientists and errant athletes in developing and avoiding detection techniques. The complexities of this battle should not be underestimated. Although some substances are easy to categorise as performance enhancing drugs, others are less so, particularly in the case of Paralympians, who may require medication continually as part of their normal living.

In addition to sports medicine and related specialist care, there is a requirement for the host country to provide sophisticated laboratory facilities and to develop and promulgate legally unchallengable protocols for the collection, transmission, testing and storage of samples. The question of long term preservation of samples, including blood samples, for future analysis has still to be determined.

There are health factors to be considered that extend beyond the human dimension. Australia has a vital economic stake in its primary industries. For this reason, the equestrian events in the 1956 Melbourne Olympics were held not in Australia but in Stockholm. Taking into account Australia's strict quarantine laws, veterinary surgeons and officers from the Australian Quarantine and Inspection Service have developed detailed protocols to allow importation of horses from selected countries for the events to be held at the Sydney International Equestrian Centre at Horsley Park.[4]

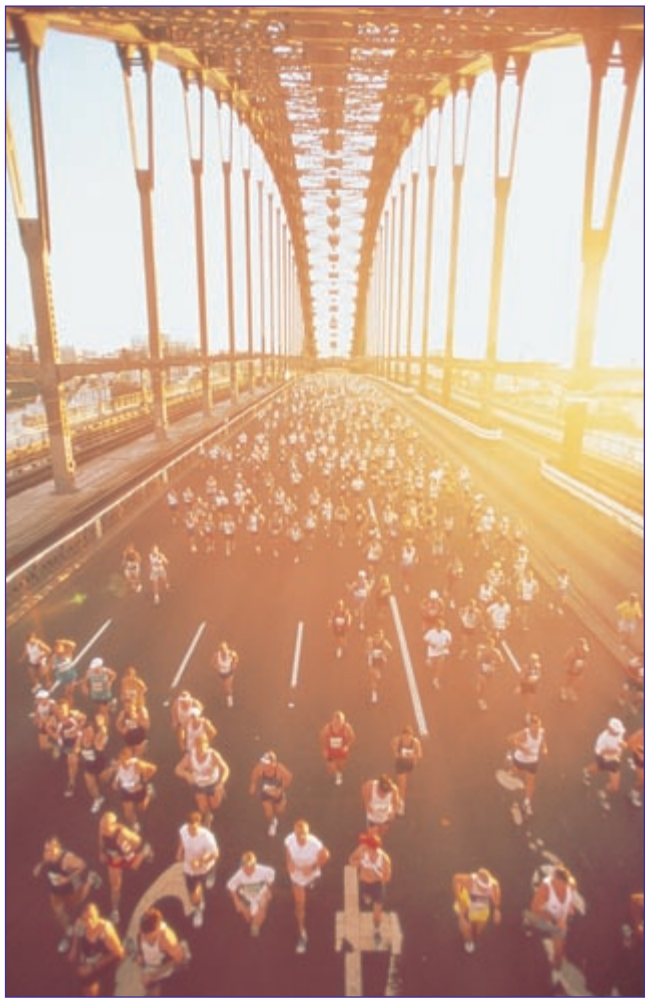
Australia's Olympic record

Australia and Greece are the only two nations who have competed in every one of the 23 Modern Olympics that have been staged.

Only five nations have hosted more than one Olympic Games:

- France (Paris 1900 and 1924)
- USA (St Louis 1904, Los Angeles 1932 and 1984, Atlanta 1996),
- United Kingdom (London 1908 and 1948),
- Germany (Berlin 1936, Munich 1972)
- Australia (Melbourne 1956, Sydney 2000).

Greece will become the sixth nation in this group (Athens 1894 and 2004). (Games were also held in Athens in 1906, but these Games are not usually counted in the Olympiad sequence.)



Marathon runners cross the Sydney Harbour Bridge. On 30 April 2000, the Sydney Organising Committee for the Olympic Games ran the Host City Marathon, a test event for the Sydney 2000 Games. Test events and simulations are part of the intensive preparations for the Games. (Photograph courtesy of ALLSPORT AUSTRALIA®, photographer Nick Wilson.)

Strategic health care planning

The NSW Department of Health (NSW*HEALTH*) has been involved in planning for the Games since the inception of the Sydney Olympic Bid Medical Committee in September 1991.

A Departmental Olympic Health Care Working Group, subsequently known as the Olympic Health and Medical Working Committee, was formed in 1994 under the Chairmanship of the NSW Director General of Health. SOCOG, SPOC and OCA have all been represented on this peak health planning body.[5]

The SOCOG Medical Subcommittee was established in 1995. The Chairman of the Sydney Olympic Bid Medical Committee subsequently served on the NSW*HEALTH* Olympic Working Group and was appointed as the SOCOG/SPOC Chief Medical Officer in 1996, ensuring close liaison and cooperation between the two agencies.

As part of the strategic plan developed by the Olympic Health and Medical Working Committee, and after reviewing the provision of medical facilities at the Atlanta Games in 1996, a decision was made to assign responsibility for provision of different services to either SOCOG/SPOC, or to NSW*HEALTH*.

Under this arrangement, the SOCOG/SPOC Chief Medical Officer is responsible for the provision of:[6]

- health care for athletes and the Olympic/Paralympic family
- first aid for spectators within Olympic/Paralympic venues
- management of the anti-doping program
- gender verification for female athletes (on request).

The logistical effort behind this responsibility is substantial, and relies heavily on the use of around 3500 volunteers.[7]

NSW*HEALTH* was allocated responsibility for the delivery of all other health services, including the major response to a disaster or mass casualty event. The final strategic planning progress culminated in the approval of the "NSW Health Services Operational Plan for the Sydney 2000 Olympic and Paralympic Games" in November 1998.

In this plan, NSW*HEALTH* accepted responsibility for provision of:[8]

- public health, including environmental health, services
- ambulance services
- hospital services
- medical interpreter services
- counter-disaster planning and coordination.

Key factors in the development and delivery of this plan included a careful assessment and study of the health care requirements of the Olympic Games held in Barcelona (1992) and Atlanta (1996), and the Commonwealth Games held in Kuala Lumpur in 1998.

Operational planning — carefully pacing the first 35 km

Acceptance of the operational plan in 1998 along with resolution of resource issues allowed detailed operational planning to commence. The detailed plans for the public health preparations for The Games have been described elsewhere.[10]

The requirement for liaison between branches of NSW*HEALTH* and a wide range of external agencies in NSW, interstate and overseas, led to the linking of Olympic Planning with NSW*HEALTH*'s Counter Disaster Unit. The Counter Disaster and Olympic Planning Branch operates within the Public Health Division of NSW*HEALTH*. Apart from SOCOG/SPOC, external liaison has been established and sustained with other NSW agencies, including local government, health departments within the other Australian States and the Australian Capital Territory, the Commonwealth (including the Australian Defence Force) and with a number of other nations.

In all of these liaisons, the key to successful implementation of health care plans has been the establishment of clear lines of communication, with timely dissemination of policy and operational procedures development. It has also been important to solve workforce issues by carefully selecting appropriate personnel, and developing and providing necessary training (eg, in the use of personal protective equipment for working in the prehospital environment). All this must be achieved while maintaining normal health services to the NSW public in the lead-up to the Games and providing essential health care during the Games.

Planning for the Olympics taxes the full spectrum of the combined capabilities of government and private agencies. Superimposed upon this is the added complication of planning for deliberate acts of violence and criminal activity ranging from the actions of a lone, socially disturbed individual to a fully fledged terrorist attack. Robertson, in this journal[11] and elsewhere,[12] has provided a thoughtful overview of the extension of weapons of mass destruction into the civilian environment.

The attack of the Aum Shinrikyo sect in the Tokyo subway in March 1995, the Oklahoma City Federal Court bombing in April of the same year, as well as the Centennial Park bombing during the 1996 Atlanta Olympics, dictate that contingency planning for such events must be undertaken however unlikely that threat may be. No one can guarantee an incident-free Olympics and it is possible that hoax calls will be made. Detailed contingency planning for such occurrences will draw upon both Australian and overseas experience.[12-16] Finally, planning must encompass the expectation that diverse groups may choose to exercise their rights to draw publicity to a range of causes either in consultation with the authorities, or without prior warning.

The task of planning for such contingencies has been facilitated by the timely publication of a series of manuals by Emergency Management Australia in their Australian Emergency Manuals series.[17-19] Nonetheless, these publications provide general guidance only, and several specific questions must be addressed by the operational planners if they are to provide an appropriate and credible response to the unexpected:

- For how many casualties does one prepare? Is it 4, 40, 400, 4000 or more?
- How are specialised pharmaceuticals and personal protective equipment to be supplied?
- How can requirements for licensing, prescribing and administration of these pharmaceuticals be met?
- How do personal protective equipment and training for its use meet Occupational Health and Safety standards?
- Where should supplies be located?
- What is the proper balance between preparing for the

"worst case" scenario and maintaining delivery of normal health services?[20,21]

Fortunately, health planners in Australia have been able to call upon a wide range of national and international experts in many fields to provide considered answers to these questions.

Tactical planning — the final 7 km

Having established the operational framework, the final challenge will be to ensure that sufficient trained personnel are available from the opening of the Olympic Village on 2 September until the close of the Paralympic Village on 1 November 2000.

In all, about 400 people will be deployed as the NSW*HEALTH* Olympic health care workforce.[5] Several disease surveillance programs will be employed during the Games, including surveillance of the cruise ships berthed in Sydney Harbour for accommodation.[22,23]

In addition to field deployments into Olympic venues and the urban domain, they will be manning coordination and operation centres closely linked to other key functional operational control centres.

Edwin Flack competed in the first modern Olympiad in Athens, and with successes in the 800 and 1500 metres, will forever be remembered as Australia's first gold medallist. He also was the leading runner for part of the first marathon before withdrawing at the 37 km mark due to exhaustion. Health care preparations for the Sydney Games have been thorough and sustained, designed to carry us successfully to the end of this marathon task.

Let the Games begin!

Hospitals designated to serve the Games[8]

Concord Repatriation General Hospital: for all Olympic athletes and the Paralympic Family. It is located close to most competition venues.

Auburn Hospital: for health service accommodation and to provide an assembly area for Games health staff.

Royal Prince Alfred Hospital: for the Olympic Family who will be residing in hotels in the city centre, and for spectators from the Darling Harbour and city centre venues.

Westmead Hospital: for spectators from Sydney Olympic Park (where most competition will take place) and the softball venue at Blacktown.

New Children's Hospital: for children from those venues supported by Westmead Hospital.

Prince of Wales Hospital: for spectators of events in the eastern part of the city.

Sydney Children's Hospital: for children from those venues supported by Prince of Wales Hospital.

Nepean Hospital: for spectators from the Penrith Lakes venue.

Liverpool Hospital: for spectators from the Fairfield City Farm, Horsley Park, Cecil Park and Bankstown Velodrome venues.

St Vincent's Hospital: support for many of the Olympic-related activities occurring in the city centre.

Royal North Shore Hospital: support to the International Youth Camp, the marathons and (together with a related facility, **Ryde Hospital**) the water polo venue at Ryde.

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