



PHSA Laboratories
A service of the Provincial Health Services Authority

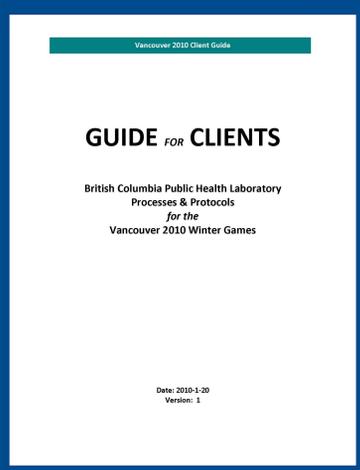


Figure 1. Public health laboratory client reference guide for the Vancouver 2010 Winter Games.

CONTACT
* Yin Chang
Lab Surveillance & Outbreak Coordinator
yin.chang@bccdc.ca
www.phsa.ca/bccdcpublichealthlab.ca

Public Health Laboratory Planning for the Vancouver 2010 Winter Games

Y. CHANG*, N. CHIN, L. HOANG, and, J. ISAAC-RENTON
Public Health Microbiology & Reference Laboratory, BC Centre for Disease Control, Vancouver, BC

INTRODUCTION

The Vancouver 2010 Olympic and Paralympic Winter Games (Games) were held between February 12 and February 28 (Olympic Games) and March 12 and March 21 (Paralympic Games). Events were held within the Vancouver Coastal Health Authority region in the cities of Vancouver, Whistler and Richmond with public health services offered at regular locations (hospitals and clinics) as well as temporary locations (at Polyclinics within Athletes Villages) exclusive to the Games.

This mass gathering event presented a challenge in providing public health laboratory services for an enlarged and potentially different population to that of the local population. Athletes during the Winter Games typically come from Nordic countries where vaccination rates for infectious diseases are high. However, this influx of visitors and concentration of people at events and other celebrations also presented an opportunity for the spread of other communicable diseases not to mention the potential for bioterrorism. The location of the Whistler events and Athlete's Village was also a transport concern for the public health laboratory located 123 km away in Vancouver, connected by a constrained coastal highway.

METHODS

One of the first activities done to prepare for the Games included a risk assessment for potential diseases and agents. The time of the year suggested that influenza and norovirus (plus other enteric and foodborne illness) outbreaks were causes for concern, with the prospective for large outbreaks associated with mass gatherings. Enhancements were thus focused in these key areas but with preparations made for overall testing readiness. Due to the Pandemic H1N1 influenza virus outbreak of 2009, the laboratory was primed for any surge in influenza testing volumes. A similar approach was taken to prepare for elevated Norovirus requests including cross-training of additional staff and having surplus reagents on hand. The Games also precipitated the laboratory's membership into the Canadian Laboratory Response Network and initiated a relationship with the federal Microbiological Emergency Response Team (MERT) who acted as custodians of protocols for the rapid testing of BT agents.

The laboratory aimed to streamline the process of sample arrival, testing and results reporting and to provide rapid turnaround. While transport was technically beyond our control, several options were made available aside from the official courier for the Games. A new requisition form was created to flag priority samples and to provide a reduced test menu. Communications protocols, both internal and external, were devised to ensure that samples were treated as STAT. Finally, a dedicated client services phone line to provide information and results was set up. These preparations culminated into a client reference guide (Figure1) that described processes for sample collection, transport, and testing and communication flow. This process was mirrored for BT testing through connectivity with MERT.

METHODS contin.

The Games served as an opportunity to establish and enhance communication links with Polyclinics, public health partners within BC Health Authorities (particularly the host of the Games, Vancouver Coastal Health Authority) as well as with Federal groups and our Cross Border partners in the US and Alberta. An information sharing session with key partners was held where public health laboratory processes for the Games were presented and a mechanism for feedback and agreement was made available.

A communications centre (Labs Emergency Operations Team or EOT) was also established for event coordination with surveillance as a large function of the team. A network of hospital/community laboratories in region of the Games was launched as an enteric surveillance system, monitoring test volumes for above normal activity. Data from these partner laboratories contributed to daily surveillance reports that also described influenza activity, Norovirus activity, unusual requests, food quality testing & water surveillance and any other outbreaks.

RESULTS

During the Games internal communications for optimal sample identification, processing and results reporting were crucial for the quick turnaround that these samples demanded. The Games identifier located on the special requisition form enabled access to sample results through a daily extract. This was a backup measure in the event that volumes were too great to be managed through internal notification by technologists.

In total, the laboratory received 13 samples, mostly for influenza testing (Figure 2). Enhanced laboratory testing was performed during the period of the Games using the Luminox x-Map platform that detects a panel of 14 different respiratory viruses and subtypes. Of the 8 samples submitted for influenza testing, 3 were negative for respiratory viruses with the remaining 5 positive for: Coronavirus 229E (1), Rhinovirus/Enterovirus (2), Respiratory Syncytial Virus (1), and Parainfluenza virus 4 (1). There were no laboratory samples submitted in

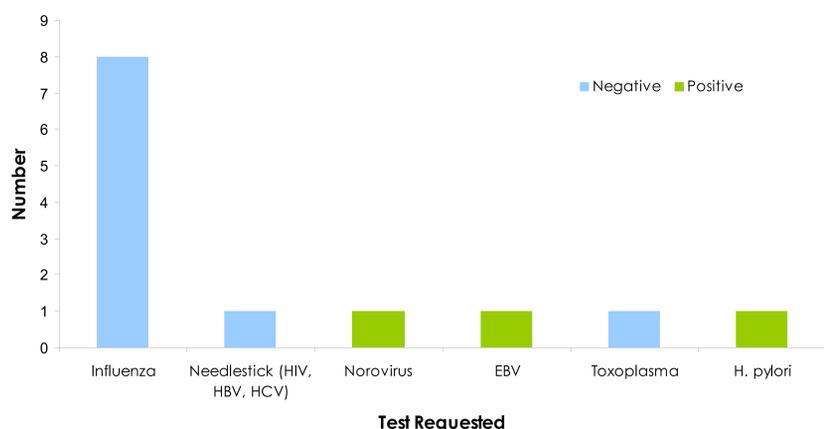


Figure 2. Public health laboratory test requests and results during the Vancouver 2010 Winter Games.

RESULTS contin.

connection to any enteric outbreaks during the Games (although one sample was positive for Norovirus at the end of the Olympic Games), nor was there need to use CLRN protocols for BT testing. Enteric surveillance data similarly did not reveal any above normal activity during the Games.

Due to the notification processes that were implemented both externally and internally, all samples were tested within 24 hours, most within a few hours of receipt. There were, however, instances where the transportation from Whistler exceeded 5 hours, which when coupled with late arrival in the laboratory, meant that overtime would have to be done by analytical staff. In addition, there were instances where samples were sent to the wrong laboratory before coming to the public health laboratory. This suggests that triaging of samples were a problem, especially in locations with a high turnover of volunteer staff.

The Labs EOT produced daily surveillance reports and participated on calls with public health partners including the Vancouver Organizing Committee, Ministry of Health, BC Ambulance Service, BC Coroners Service, Federal Health Portfolio and the BC Health Authorities. These regular calls provided opportunities for sharing information related to the Games as well as other non-Games related information occurring in other Health Authorities and across the border in Washington State.

CONCLUSIONS

Public health events were very minor in the context of the overall health impact of the Games where more acute care and injury services were needed.

The potential need for prompt public health services and that at elevated scales prompted the laboratory to evaluate likely risks and then improve capacity in those areas where gaps were found. A particularly valuable legacy was the capability of more rapid BT testing using CLRN protocols and overall further cross-trained staff. The event also promoted much collaboration among a laboratory team who were eager to be part of such a high profile event.

One area that could have been improved was the transport from the Whistler area. Had any true emergencies requiring immediate laboratory testing occurred, the transport time of 5 hours would not have been acceptable. The lack of controlled transport and having to rely on a changing temporary workforce that were not always familiar with public health testing, were challenges.

***** ACKNOWLEDGEMENTS

The authors would like to thank all the staff at the provincial public health laboratory for their dedication and hard work preparing for and during the Vancouver 2010 Winter Games.