

ORIGINAL ARTICLES

Surveillance report

EPIDEMIOLOGIC SURVEILLANCE SYSTEM IMPLEMENTED IN THE HAUTES-ALPES DISTRICT, FRANCE, DURING THE WINTER OLYMPIC GAMES, TORINO 2006

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Some of the competitions of the Olympic Winter Games in Torino, 10 to 26 February 2006, were organised in France near the city of Briançon, in the department of Hautes-Alpes.

An epidemiologic surveillance system was set up by the local health authorities. The goals were to detect in a timely fashion any phenomenon which could justify prevention or sanitary control action, and to guide interventions in the case of outbreak or environmental pollution.

Surveillance was implemented from 30 January to 15 March 2006 in the Briançon area.

Mortality was tracked using by analysing the number and cause of deaths.

A sentinel network of general practitioners was set up and reported the frequency of acute gastroenteritis, influenza-like illness and measles. Medical laboratories provided data about the analyses they undertook. Hospital emergency department and emergency ambulance service activities were followed up. Statutory notification diseases and toxic effects of carbon monoxide surveillances were reinforced.

Analysed data were transmitted daily to the health authorities. A French/English report was sent weekly to all participants.

The participation rate was close to 100%, and data transmission deadlines were respected. No adverse health event was identified. The strong acceptability of this surveillance system comes from its good understanding by the participants. This surveillance, structured around routine and ad-hoc systems, allowed the establishment of the foundations of a network to be used in case of outbreak or environmental pollution.

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Key words: Mass gathering, early warning system, syndrome-based surveillance, Europe

Background

The Olympic Winter Games 2006 took place from 10 to 26 February 2006 in Torino, Piemonte, Italy. This event was followed by the Paralympic Games, held from 10 to 19 March. An integrated epidemiological surveillance and response system, set up by the regional and national Italian health authorities during the Games, had as its goal the early detection of any adverse health events (particularly clusters of communicable diseases) [1].

As some of the competitions were held at Sestriere, close to the French-Italian border, with the nearest French city being Briançon,

in the Hautes-Alpes department, it was judged that many spectators would choose to find accommodation on the French side, particularly in and around Briançon. The French health authorities considered that there was a possibility of health hazards related to such mass gatherings, because of [2]:

- large numbers of people gathering in the same place, which could increase the risk of disease transmission;
- possible saturation of healthcare structures;
- installation of temporary restaurants with potentially precarious hygiene conditions despite reinforcement of hygiene inspections;
- mobility of the population concerned.

Only a small number of adverse health events, such as diseases or outbreaks, had been detected during previous mass gatherings [3-5], but the large concentration of people expected in a very limited area heightened the necessity of developing a surveillance strategy.

An epidemic intelligence mass gathering system was set up by the local public health authorities: the Direction départementale des affaires sanitaires et sociales (Ddass) des Hautes-Alpes, and the Cellule interrégionale d'épidémiologie Sud (Cire Sud). The aim was the early detection of any event that could justify prevention or sanitary control measures, and to guide interventions in the case of outbreak or environmental pollution.

Methods

Surveillance was implemented from 30 January to 15 March 2006, a period of time which covered the Games and the French school holidays in the Briançon area [FIGURE 1].

The system aimed to complement to the Italian system; surveillance targeted diseases with strong infectious epidemic potential (such as meningitis, legionellosis and gastroenteritis) or events which could represent a specific risk in the area under surveillance (such as very low environmental temperatures or carbon monoxide poisoning). Reinforcement of the carbon monoxide poisoning monitoring was carried out, because private residences with poor quality heating equipment were known to be available to rent during the Games.

Surveillance was based partly on existing surveillance systems that were enhanced during the Games and partly on systems set up for the occasion. Surveillance allowed indicators of mortality, morbidity and activity to be tracked.

The system collected the following information:

- Mortality was monitored daily through deaths recorded by the Town Hall in Briançon, and the analysis of the causes reported on the death certificates sent to the Ddass.
- Acute gastroenteritis, influenza-like illness, and measles surveillance was carried out through a sentinel network of general practitioners (GPs) set up especially for this period.

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FIGURE 1

Area under surveillance, Winter Olympic Games, Hautes-Alpes, France, 30 January - 15 March 2006

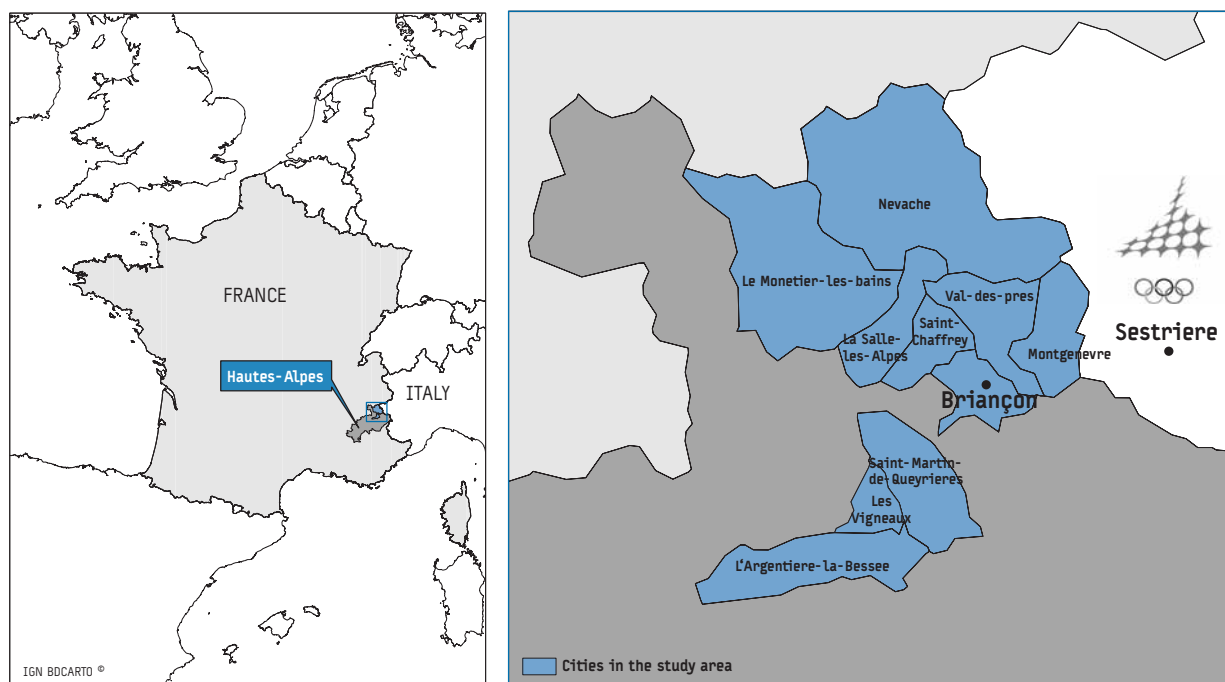
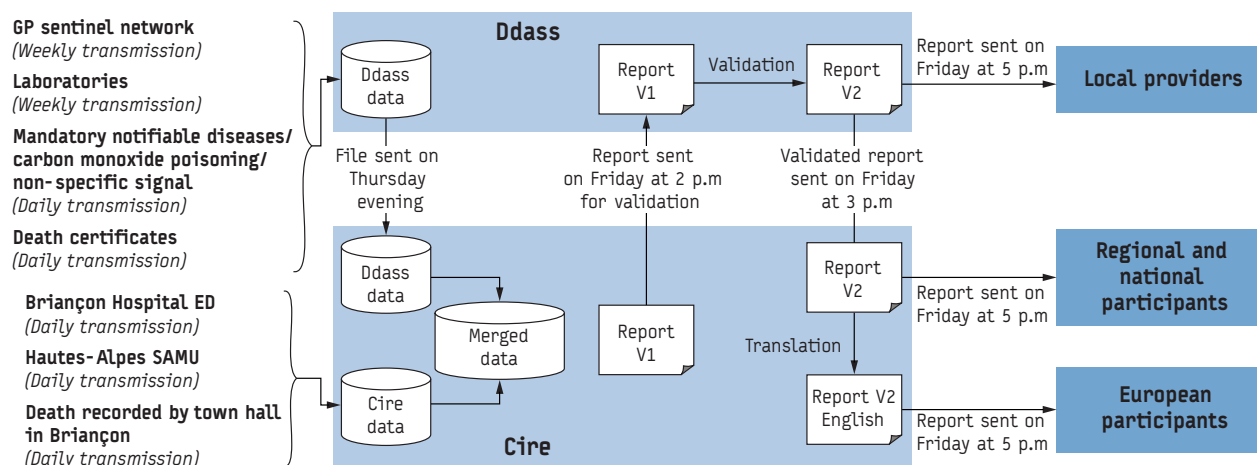


FIGURE 2

Organisation of data collection, redaction and transmission of the weekly report, Winter Olympic Games, Hautes-Alpes, France, 30 January - 15 March 2006



The two private and public microbiology laboratories in Briançon provided test result data for stool cultures, hepatitis A serology and methaemoglobinaemia. Daily data were collected and reported once a week.

- The activities of Briançon Hospital's Emergency Department and the Hautes-Alpes Emergency Ambulance Service (SAMU) were followed daily through the routine non-specific surveillance system implemented by Cire Sud.
- Selected complaints (acute gastroenteritis, carbon monoxide poisoning and illness related to low environmental temperatures) recorded in Briançon Hospital's Emergency Department were followed up via the French national surveillance network of hospital emergency departments. Data collection began on 9 February; the delay was due to logistical problems.
- Surveillance data for mandatory notifiable diseases [6] and carbon monoxide poisoning were reported daily, as usual, and communication channels were reinforced.
- Preventive measures were also taken in and around Briançon:

monitoring the quality of food and accommodation services, in accordance with statutory food hygiene standards, intensification of routine water quality checks and adjusted and reinforced water treatment, public information campaigns about legionellosis and carbon monoxide poisoning, and enhanced controls of quality standards for personal skiing equipment.

Ad hoc tools were created: computerised data collection sheets for Ddass and Cire, standardised forms for GPs and laboratories. Some data were collected by the Ddass and some by the Cire Sud [FIGURE 2].

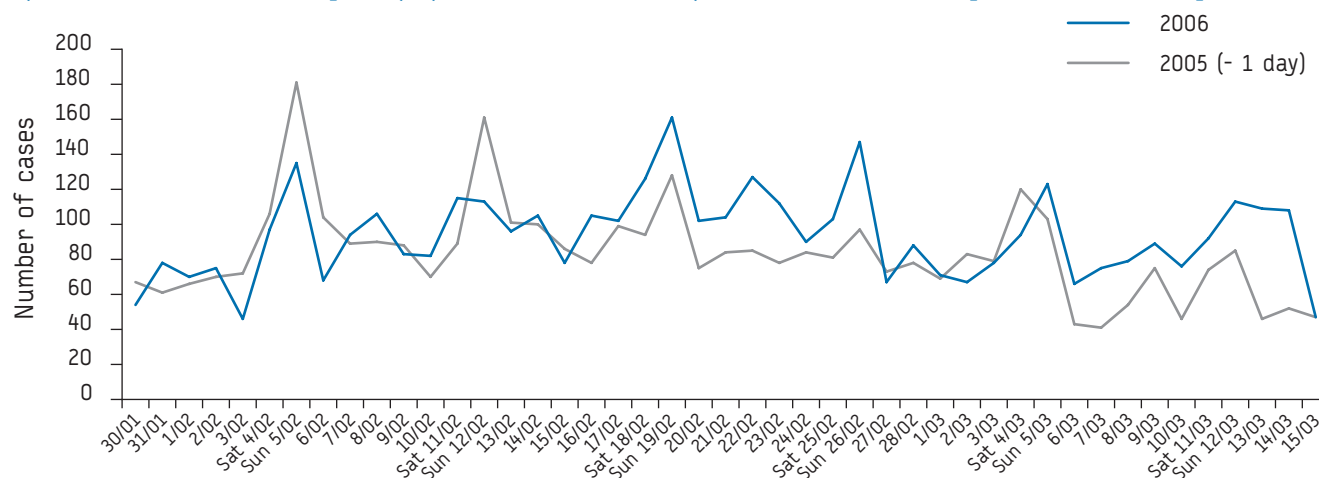
Two analysis systems were implemented: one based on historical data (not available for all the indicators) – threshold built on the upper limit of the 95% confidence interval – and one based on the method of the control charts for individual measurements [7].

Every day, data collected were analysed jointly by the Cire Sud and the Ddass. In addition, the Cire Sud consulted the daily report published by the Italian Epidemiological Consultation Team [1].

In case of unexpected events, the concerned Italian regional

FIGURE 3

Daily number of recorded cases per day by the SAMU – 30 January to 15 March 2006 – compared with the same period in 2005



Days

(Piemonte) and national health authorities, the European Centre for Disease Control and Prevention (ECDC), and the French National Institute for Public Health Surveillance (InVS) would have been alerted.

Once a week, all the data were merged by the Cire Sud [FIGURE 2].

A weekly report in both French and English was sent every Friday to the data providers, the regional and national Italian health authorities, the ECDC, and the InVS [FIGURE 2]. It was made available on the internet [8].

The surveillance system was evaluated through a satisfaction survey of the Gs sentinel network and the completeness of data and transmission deadlines.

Results

Twenty nine deaths were registered by the town hall in Briançon. There was no excess of deaths compared with the previous year. Two deaths due to mountain accidents in the area under surveillance, but not related to the Games, were identified by the analysis of the causes of death reported on death certificates.

During the period of surveillance, the daily average number of cases recorded by the SAMU was 94 (range: 46 – 161). The overall volume of activity was 12% higher than during the same period in the previous year [Figure 3]. However, the activity recorded in 2006 was more specifically higher than 2005 after 16 February.

The daily average number of cases recorded by the emergency department at Briançon Hospital was 58 (range: 36 – 85), with an overall volume of activity 7% lower than the previous year at the same period. There was a daily average of 16 admissions to hospital after a consultation at the emergency department (range: 9–27), 18% lower than the number registered during the same period in 2005. On average, one patient in three was admitted to hospital after a consultation at the emergency department. Among the 2024 consultations for which selected complaints were recorded, only 24 acute viral gastroenteritis, 11 influenza-like illnesses and three cases of illness related to low environmental temperatures were reported. Most admissions were related to trauma.

Of the consultations of the GP Sentinel network, 6% were for acute gastroenteritis and 12% for influenza-like illness. Only one consultation for measles was recorded. Peak of visits for influenza-like illness were observed during weekends.

No cluster of cases was detected by the two public and private microbiology laboratories in Briançon during the period of surveillance. Among the 91 stool cultures and the 31 hepatitis

A serologies recorded, 6 and 2, respectively, were positive. No methaemoglobinaemia tests were requested.

No mandatory notifiable diseases and no carbon monoxide poisoning were reported in the area. An outbreak of severe gastroenteritis due to *Mycobacterium avium paratuberculosis* in a ski resort was recorded, but this diagnosis was refuted after investigation.

Data transmission deadlines were met. The satisfaction survey of the GP sentinel network showed that GPs were satisfied with the organisation of the system, because of the simplicity of the procedures, the limited number of collected variables, the modes of data transmission and the content of weekly reports. Completeness of data transmitted by the GP's was 89%. For other systems, completeness was 100%, mostly because of automatic computerised data transmission.

Discussion

The 2006 Olympic Winter Games had a very limited impact on illness and adverse events in the neighbouring French department of Hautes-Alpes. No alert was issued by the French epidemiological surveillance system. In Italy, no increase was seen during the Games in visits to healthcare facilities in the area where the games were held [9].

Surveillance was based on the mandatory diseases system and the routine non-specific surveillance system used by the Cire Sud, collecting data from hospitals, emergency ambulance services and mortality statistics collected by the local municipal authority, completed by GPs and medical laboratories. In this limited geographical area under surveillance, the high number of participants involved in the system, covering all different sectors of medical activities, would probably have detected any health event which could reveal a potential risk for the population.

The surveillance system was found to have been adapted successfully to its assigned objectives by both data providers and decision makers. The system implemented was a good complement to inspection and control measures, and allowed the establishment of the foundations of a network to be used in case of outbreak or environmental pollution.

Acknowledgements

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Surveillance report

RECOGNITION OF THREATS CAUSED BY INFECTIOUS DISEASES IN THE NETHERLANDS: THE EARLY WARNING COMMITTEE

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The early warning committee was established in order to recognise threats to public health caused by infectious diseases in the Netherlands in a timely and complete fashion. This article describes the outcome of a retrospective and descriptive evaluation into the completeness of the recognitions made by the early warning committee.

Information about outbreaks of infectious disease in the Netherlands in 2002 and 2003, as reported in the *Nederlands Tijdschrift voor Geneeskunde* (Dutch Journal of Medicine), and about infectious disease events in other countries, was compared with reports of the regular weekly meetings of the Dutch early warning committee. If an outbreak or a foreign event was not mentioned in the meetings of the early warning committee, the cause for this was established. For events in other countries, it was established on the basis of whether or not the event could have been a threat to public health in the Netherlands.

All outbreaks of infectious disease in the Netherlands, published or mentioned in the *Nederlands Tijdschrift voor Geneeskunde* were discussed by the early warning committee. Three of the events occurring in other countries in 2002 had not been discussed by the committee although, based on the criteria for a potential threat to the Netherlands, they should have been: the outbreak of avian influenza A/H5N1 in domestic fowl in Hong Kong, the increase among hospitalised patients of carriers of extended-spectrum β -lactamase producing micro-organisms in Scotland, and outbreaks of measles in several countries. In 2003, all events in other countries that could have posed a threat to the Netherlands were discussed by the early warning committee.

In 2002 and 2003, the early warning committee recognised nearly all threats due to infectious diseases and outbreaks of infectious diseases which were of national importance and published in various sources of literature.

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Key words: early warning, threats, public health, infectious diseases

Introduction

Threats to public health caused by infectious diseases usually appear without warning, but can have major consequences within a very short period of time. Recognition of these threats is essential [1]. The early warning committee was established in the Netherlands in 1999 under the authority of the Inspectie voor de Gezondheidszorg (Health Care Inspectorate). Its main task is to assess information from various sources, both foreign and national, in order to recognise threats to public health caused by infectious diseases in a timely fashion. If necessary, further outbreak investigation can be done, or measurements to control the outbreak can be taken [2, 3].

The weekly meeting of the early warning committee takes place at the Rijksinstituut voor Volksgezondheid en Milieu (RIVM, National Institute for Public Health and the Environment). The participants are microbiologists and epidemiologists from various departments of the RIVM, including the Landelijke Coördinatiestructuur Infectieziektebestrijding (LCI, National Coordination Centre for Outbreak Management), as well as representatives from the Voedsel en Waren Autoriteit (VWA, Food Safety Authority). Prior to the meeting, each participant selects, from various sources of information, items