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Enhanced syndromic surveillance during the 9th Indian Ocean Island Games, 2015

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Objective

To describe how syndromic surveillance was enhanced to detect health events during the 9th Indian Ocean Island Games (IOIG) in Reunion Island.

Introduction

The 9th IOIG took place in Reunion Island from July 31 to August 9, 2015. This sport event gathered approximatively 1 640 athletes, 2 000 volunteers and several thousand spectators from seven islands: Comoros, Madagascar, Maldives, Mauritius, Mayotte, Seychelles and Reunion.

In response to the import risk of infectious diseases from these countries where some of them are endemics, the syndromic surveillance system, which captures 100% of all Emergency Department visits, was enhanced in order to detect any health event.

Methods

In Reunion Island, syndromic surveillance system is based on OSCOUR® network (Organisation de la surveillance coordonnée des urgences) that collects data from all emergency departments of the island. Data are daily transmitted to the French national public health agency then are available to the regional office. At the regional level, data are integrated into an application that allows the built of predefined syndromic groups according to the health risks related to mass gatherings (Table 1, parts 1 to 3) and complemented by specific syndromic groups (table 1, part 4). Daily analyses with temporal [1] and spatial-temporal [2] algorithms were performed during the surveillance period of July 27 to August 13, 2015. In addition to this monitoring, ED physicians were requested to proactively tag Y33 (ICD-10) as secondary diagnosis, each ED visits related to IOIG. Line lists were reviewed daily. Each day, an epidemiological report was send to public health authorities.

Results

From July 31 to August 9, 2015, the activity of EDs was in accordance with that expected. No health events were detected by the syndromic surveillance system except for the syndrome "alcohol intoxication" for which consecutive signals were observed from August 6 to 9, 2015. This increase occurs commonly at the beginning of each month (due to the social benefits payday) [3] nevertheless this event has probably been increased by IOIG (finals for team sports and games closing ceremony). In total, 8 ED visits were tagged Y33 as secondary diagnosis. In over half the cases, visits were related to trauma.

Conclusions

The syndromic surveillance system proved to be useful for the surveillance of mass gathering events due to its capacity to detect health events but also to provide reassurance public health authorities [4]. As described in literature [5], few ED visits were tagged in relation to IOIG. Indeed, the tag of ED visits was implemented two weeks before the games, and given the shifts of ED physicians, some of them may have not been informed. In the future, preparation meetings with physicians will have to be planned several months before in order to improve the response rate for mass gathering events.

Table1. Syndromic groups monitored by the surveillance syndromic system during IOIG, 2015

Part 1. Syndromic groups routinely monitored
- overall activity
- trauma
- alcohol intoxication
- asthma
- anxiety disorders
- allergy
Part 2. Syndromic groups/communicable diseases retaled to conditional environment
- Influenza
- Gastroenteritis
- Viral meningitis
- ENT infection
- Fever and rash
- Isolated fever
- Notifiable diseases (measles, meningococcal meningitis, etc.)
- Acute lower respiratory tract infections
- Conjunctivitis
Part 3. Syndromic groups related to bioterrorism agent exposition
- Abdominal pain
- Neurologic symptoms
- Dyspnoea/respiratory failure
- Malaise
Part 4. Specific syndromic groups related to IOIG
- Pain
- Dehydration
- Hypothermia
- Hyperthermia/heat stroke

Keywords

syndromic surveillance; emergency department; sporting event; mass gathering

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All emergency departements of Reunion Island

References

1. Vilain P, Pagès F, Mougin-Damour K, *et al*. Using an Emergency Department Syndromic Surveillance System to Assess the Impact of Cyclone Bejisa, Reunion Island. Online Journal of Public Health Informatics. 2015;7(1):e171.
2. Vilain P, Cossin S, Filleul L. Interest of Prospective Spatio-Temporal Analysis from ED Data to Detect Unusual Health Events. Online Journal of Public Health Informatics. 2016;8(1):e171.
3. Vilain P, Larrieu S, Combes X, *et al*. Using a Syndromic Approach to Study Health Impact and Risk Factors of Alcohol Intoxication in Reunion Island. Online Journal of Public Health Informatics. 2014;6(1):e171.
4. Henning KJ. What is syndromic surveillance? MMWR Suppl. 2004;53:5-11.
5. Kajita E, Z. Luarca M, Chiang C, Wu H, Hwang B. Syndromic Surveillance of Emergency Department Visits for the 2015 Special Olympics. Online Journal of Public Health Informatics. 2016;8(1):e129.

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