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Mass gathering surveillance & response activities in Jamaica during warm-up and first stage period games of ICC Cricket World Cup 2007 in the West Indies

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Background

During the ICC Cricket World Cup 2007 sixteen teams were competing in nine different countries in West Indies over a 47 day period. This meant a large numbers of individuals in a specific area for a specific purpose and for a limited period of time, determining a mass gathering event. It is known that there is a potentially increased risk of transmission of infectious diseases at mass gatherings, to deal with this increased risk special surveillance activities were set up, to reinforce existing routine surveillance systems.

Jamaica was one of the hosting countries. Additional surveillance activities were developed in the country in collaboration with the Caribbean Epidemiology Center (CAREC) and other international agencies, including Pan American Health Organization (PAHO). Main objectives of the process were prevention, early detection of public health events and outbreak control. The activity described here started two weeks prior to first warm up game and ended the day after last official match of the Stage Group (from 18th February to 24th March 2007).

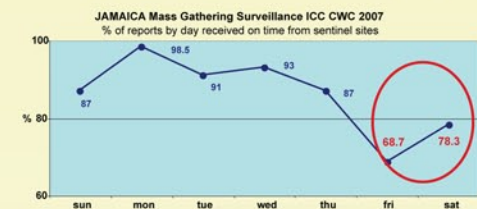
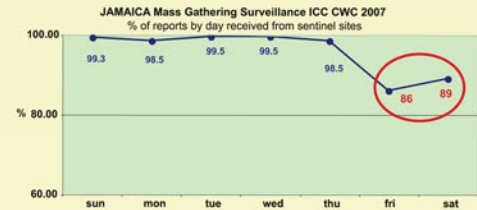
Methods

Additional surveillance consisted in active daily reporting of selected syndromes and health events using specific case definitions. Surveillance staff and related stakeholders were trained to be familiar with an accurate case definition for following syndromes and conditions: acute flaccid paralysis (AFP), fever and hemorrhagic symptoms, fever and jaundice, fever and neurological symptoms, fever and respiratory symptoms (ARI) < 5 yrs and ? 5 yrs, fever and rash, gastroenteritis < 5 yrs and ? 5 yrs, undifferentiated fever < 5 and ? 5 yrs, heat stroke, injuries (violence and non-violence related), fever and myalgia, conjunctivitis, chickenpox.

Reduced number of sites was identified including 13 hospitals, 7 health centers, 28 hotels and 6 match venues. Laboratories were required to report daily positive microbiology results. Sentinel sites were sending daily data related to previous day to their Parish Health Department. The National Surveillance Unit of Ministry of Health received data from the Parishes by fax or email every morning and entered them, after verification, on a CAREC database system online. Data were analyzed for each sentinel site using EARS (Early Aberration Reporting System), a software created to detect unusual events considering the trend over previous two weeks. Adherence to case definition was verified when unusual events occurred by assessing presence of reported symptoms at local level. Feedback at local level consisted in a bulletin sent daily to health departments and including data, response activities, information about timeliness and accuracy of reporting.

Considerations on quality of reporting

96% of expected reports were received. Missing reports were mainly from hotels (65.5%) and during weekends (57%). Analysis by day underlined difficulties during weekend activity due to insufficient human resources, especially at hotel sites (68% of missing reports at end of activities). Timely reporting was 96.7% during weekdays and 73.5% during weekends; 57% of missing reports were expected to be received on weekend.



Considerations on quality of data received

Fitting of case definition was verified when unusual events occurred checking with personnel at local level the effective presence of symptoms reported. Errors in using case definitions were observed during the first weeks, mostly on "Fever and Rash" definition: introduction of Chickenpox in the system and clarification that any case fitting in the definition case has to be considered (even if uncertain as to whether due to an infectious disease) was helpful.

Results of surveillance

All suspected cases were followed up and verified in collaboration with local health departments and laboratories. Correct use of case definition improved with time. No major outbreaks occurred.

Example of use of EARS Early Aberration Reporting System Software at a hotel site



Conclusion

MGSS during CWP 2007 accomplished the objective to set up an early warning system based on syndromic surveillance to add to the routine national surveillance activity. The system had positive impact on existing surveillance and helped by identifying some weakness to address in routine activities. Main problems were related to insufficient human resources and to lack of preliminary testing. No major outbreaks occurred.

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