International Survey of Information and Communication Systems for Early Detection of Public Health Threats
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Background: There is a growing need for global information and communication (ICT) systems that continuously monitor and analyze data and generate alerts for public health threats. Barriers to building a reliable and efficient global surveillance and early detection system include the use of significantly different systems in different countries or even in the same country, data are collected in different languages, and with the availability of data as well as the ability to use and analyze the data. A critical problem is the lack of quick access to the relevant information. Despite recent technological developments, implementation has been fragmented and consequently, there still is a gap between the existing functional systems and desired global systems that integrate all relevant data regarding the early detection of threats to public health.

Objective: The objective of the study was to map the current state-of-the-art in the area of surveillance and early warning ICT systems for threats to public health and to identify major gaps, problems, and challenges. The study focused on three major types of surveillance and early warning systems:

1. Disease surveillance through healthcare systems;
2. Monitoring environmental factors with a potential impact on health; and
3. Monitoring events through the electronic media.

Methods: This study was financed by the European Commission as a part of the Seventh European Research Framework Program (FP7). Organizations from Spain, France, Italy, and Israel, as well as at the European level and in the US.

Results: On-Site Instant Report and Information System (OSIRIS C3) is a C4I platform that provides real-time command, control, and communications through instant, horizontal and vertical data flows, greatly reducing voice communications, and by doing so, preventing information decay. OSIRIS C3 provides goal-oriented strategic and tactical planning, and multi-agency command and control in almost any available communication channel including TETRA. By using state-of-the-art technologies inspired in video games, and friendly and interactive touch screen user interfaces, OSIRIS C3 requires a short learning curve.

Conclusions: The OSIRIS C3 is an all-in-one solution for disaster management and emergency response that is able to provide support for all levels of the command chain.

Keywords: command; communications; control; information system; On-Site Instant Report and Information System

ESi® Builds a Global Information Network in Response to the H1N1 Virus
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On 26 April 2009, reports of a new and deadly influenza strain (H1N1) hit the international wire services, and the news spread quickly around the world. Reuters reported: "A deadly swine flu never seen before has broken out in Mexico, killing at least 16 people and raising fears of a possible pandemic."

In May 2009, as cases of H1N1 began to spread, ESi, the creators of WebEOC®, the world's first Web-enabled crisis information management software, considered how to best support the WebEOC user community. Hundreds of emergency operations centers (EOCs) around the world use WebEOC, and ESi decided to apply its technology to allow EOCs to share information and work together as a unit.

ESi created a Global Fusion Network based on ESiWebFUSION™, which allows WebEOC server-to-server communication by acting as the central communications hub to route messages across the network. The system was proven during the 2009 inauguration of US President Barack Obama and the 2008 hurricane season in the US.

The critical information needed for an effective response to an event like H1N1 is varied. For governmental agencies,