Social fortitude impacts on decision-making during emergencies, and should be integrated in response plans based on: (1) ongoing evaluation of the status of the healthcare system; (2) up-to-date information regarding risks and potential consequences; (3) mechanisms for supporting decision-making; (4) supervision over-implementation of decisions made; and (5) flexibility for modifying decisions according to the evolving situation. The Israeli MOH's position is that all measures should be taken to avoid evacuation of medical institutions during emergencies.

Keywords: civilian population; evacuation; hospital; Ministry of Health; staying power
Prehosp Disaster Med

Coping with Emergency Situations during Operation Cast Lead—Nurses at Soroka Hospital

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Introduction: During the conflict of the Cast Lead offensive, life in much of southern Israel, including Beer-Sheva, the Negev capital, was paralyzed. Thousands of Israelis were within the striking range of Hamas rockets. Schools and universities closed temporarily due to rocket threats. Residents, especially mothers and children, left their homes. The ambiguity of the situation caused episodes of anxiety and depression. During the situation, wounded soldiers and injured civilians were evacuated to hospitals. Nurses worked intensively around-the-clock, and were exposed to numerous stresses.

The objectives of this prospective study were to identify and compare changes in staff anxiety and depression levels during and following the war period over a two month period during and following the crisis. In addition, the effect of the hospital's organizational climate on nurses' emotional and physical state was examined.

Methods: A total of 314 nurses with a mean age of 42.2 years were studied. The generalized anxiety disorder and depression screening tests were used twice as study instruments.

Results: For approximately 25% of the hospital nurses, the war period was their first confrontation with an emergency stress situation at work. Approximately 68% were requested to work overtime. A total of 59% appreciated the hospital's ongoing, updated information about its security and safety arrangements. The correlations between a sense of organizational solidarity (SOS) were strong (p <0.0001) and highly negative with anxiety and depression. In turn, the correlations between SOS with a sense of physical and mental relief were strong and highly positive. The anxiety and depression levels were moderate and were decreased significantly two months later.

Conclusions: The war situation affected the nurses' emotional and physical state. Constant updates of hospital data enhanced a sense of cohesion, reduced stress, raised motivation, and improved a sense of belonging.

Keywords: coping; emergency; nurse; Operation Cast Lead; stress
Prehosp Disaster Med

Consolidating a Resilience Network to Boost Civilian Resilience during Emergencies

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Introduction: Israel's current security conditions could endanger the Israeli home front to the point that it would face a "national crisis". Such a crisis would expose the majority of the population to severe physical danger and shortages and compromise the resources and capacities of governmental agencies attending to the needs of the population. Therefore, Israel must consolidate a network of thousands of civilian nodes in order to enhance local and national resilience. Developed within the Israeli context, this model can be adapted to any global situation that calls for community-led emergency preparedness.

Methods: This strategy is the outcome of a joint research project between the Reut Institute and the Israel Trauma Coalition, under the sponsorship of the UJA-The Federation of New York. The research was based on meetings with dozens of Israeli experts in all relevant sectors, including government, local authorities, businesses, non-governmental organizations (NGOs), media, and academia. In addition, the Israeli home front performance during the 2nd Lebanon War and Operation Cast Lead, and comparative international research of approaches to resilience in the US, Singapore, Japan, South Korea, Australia, Sweden, and the UK was reviewed.

Results: The strategy for coping with national crises is based on organizing society—individuals and households, corporations, NGOs, and educational and public institutions—as a Resilience Network that is based on a "Culture of Preparedness". The Resilience Network can be mobilized quickly and at low cost, since most of the required resources already exist within the aforementioned sectors of society. A Resilience Network can contribute to the successful response to emergencies in Israel and worldwide.

Keywords: civilian; emergency; network; resilience
Prehosp Disaster Med

Information Systems in Mass-Casualty Events and Disasters

OSIRIS C3—On-Site Instant Report and Information System

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Introduction: Disaster management and emergency response can reveal the best and the worst of any organization. As links in a chain, if one could pinpoint five critical areas with major impact in disaster outcome, most people would name: (1) planning; (2) training; (3) command; (4) control; and (5) communications. Internationally, governments and emergency managers rely on a multitude of systems to provide for these critical processes.

Methods: Four major, leading companies in their fields of expertise collaborated on an idea to innovate and develop a tool for 21st century emergency management and disaster response. The solution had to incorporate lessons learned

from major and minor disasters in the last century, predict 21st century multi-agency and international scenarios, and account for the players' (managers and field teams) perspective and experience.

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

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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.

Systems included in the study were those operating in Spain, France, Italy, and Israel, as well as at the European level and in the US.

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, Denmark, and Israel were project partners. Each partner performed a detailed survey of the systems currently operating or under development in their own country. Additional research was done to identify systems at the European level and in the US. All of these systems were surveyed and analyzed according to a predetermined set of criteria that focused predominantly on the information and communication technology aspect of the systems.

Results: Fifty systems were identified and analyzed. There is a great disparity among existing systems in terms of definitions, standards, methodology, and levels of technological sophistication, particularly in the area of information and communication technology. Disease surveillance systems through the healthcare system are the most numerous, while at the same time, they are the least sophisticated in terms of ICT technology. There is a lack of knowledge and coordination among different types of monitoring systems, even at the local and national levels, and a lack of integration among all relevant systems at all levels—local, national, and international. Most systems are "expert-team" dependent and do not have the capacity for generating automated inferences based on rules or algorithms.

Discussion: Much of the information and communication technology required to build and operate global surveillance and early detection systems exists and is being used in some places. The issues of semantic interoperability and standardized technical and professional protocols must be addressed. What is required are political decisions at the national and international levels that acknowledge the need for global systems in this area and for collaboration and allocation of resources to construct them as well as enabling legislation for data sharing.

Keywords: communication; detection; information technology; public health; survey; threat

Prehosp Disaster Med

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,

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