

of their families (accommodation, transportation, etc.); (9) transporting patients to rehabilitation centers; and (10) connecting the soldier with the Division of Rehabilitation in the Ministry of Defense.

Conclusions: This unique model enables coordination and collaboration between the army and the civilian hospitals. It ensures optimal treatment for sick and injured soldiers, and plays a crucial role during war and emergencies.

Keywords: civil-military; hospital; Israel; military; tertiary care

Prehosp Disaster Med

The Federal Bureau of Investigation/Centers for Disease Control and Prevention Joint Criminal and Epidemiological Investigations Course: Enhancing Relationships to Improve Biothreat Readiness

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Introduction: Bioterrorism incidents necessitate that law enforcement and public health communities coordinate criminal and epidemiological investigations to protect public health and safety. Since these entities may not interact routinely, information sharing and investigation coordination can be challenging. To facilitate inter-agency communication, the (US) Centers for Disease Control and Prevention (CDC) and the Federal Bureau of Investigation (FBI) developed a Joint Criminal and Epidemiological Investigations Course for public health and law enforcement personnel. The course is designed to develop relationships and promote information exchange between public health and law enforcement.

Methods: The joint investigations course is a two-day curriculum of lectures and exercises that is facilitated by CDC and FBI instructors. Lectures provide an overview of investigative methods and information sharing practices while the exercises reinforce the principles and techniques highlighted in the lectures.

Results: Since 2004, the Joint Investigations Course has been conducted 13 times, training >800 students. Since there has not been a major bioterrorism incident in the US since 2001, it is difficult to determine if there is significantly increased information sharing and collaboration between public health and law enforcement. Course evaluations indicated that the training has sometimes served as the first opportunity for public health and law enforcement interaction in a jurisdiction. Additionally, it has been reported that jurisdictions that have completed the course have used joint investigation methods to respond successfully to incidents involving threat agents.

Conclusions: The course is considered an effective method for developing essential linkages between law enforcement and public health in responding to bioterrorism. While the course initially was developed in the US, it may be a useful model for use by other countries.

Keywords: bioterrorism; Centers for Disease Control and Prevention; criminal; epidemiology; Federal Bureau of Investigation; investigation

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Threat of Ambulance Car Bombs Arriving at Hospitals and Other Mass-Casualty Scenes—Intelligence Review and Methods for Mitigation

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Introduction: Hospitals are no longer safe havens, as they can be alluring targets to terrorists in various parts of the world. Among possible modes of operation, one *modus operandi* stood out—terrorist groups plan and attempt to infiltrate hospitals using ambulances that are transporting trauma patients from scenes of mass casualties. The threat of terrorists arriving at the emergency department requires measures to counter such a possibility, without the medical condition of the evacuees deteriorating.

Methods: Researchers consulted with trauma specialists and wrote new standard operating procedures (SOPs) regarding the security clearance of ambulances, which were verified by the Israeli Police and Ministry of Health. They also trained the security staff and implemented the plan.

Results: In the years since the implementation of the new SOPs, and through a multitude of terrorist attacks and other national emergencies, thousands of ambulances were screened by security guards at the entrances to Israeli hospitals. In none of the cases, has a victim or medical staff member claimed that the medical condition deteriorated due to these tighter security measures.

Conclusions: Although stopping or delaying ambulances conveying victims with trauma wounds can deteriorate the medical condition of the victims, allowing the uninterrupted approach of ambulances into the hospitals poses an imminent hazard.

Based on the results of this SOP, delaying an ambulance for 30–40 seconds has no negative effect on the victims. Yet, the security screening nullifies the possibility of infiltration by this *modus operandi*, even during mass-casualty incidents, when a large number of ambulances are arriving at the hospital.

Keywords: ambulance; car bomb; hospital; mass-casualty incident; standard operating procedure; terrorism

Prehosp Disaster Med

The Israeli Committee on Conventional Mass Casualty Situations

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The Israeli Committee on Conventional Mass Casualty Situations (ICCMCS) has been a part of the Emergency Division of the Ministry of Health for >30 years. Its members are appointed by the General Director of the Ministry of Health. Members include doctors, nurses, health administrators, and representatives of the Pre-Hospital Forces.

The committee advises the Minister of Health on the guidelines for dealing with Conventional MCS. With the approval of the Ministry of Health, these guidelines are distributed to all hospitals, where local committees transform them to written standing orders that are returned to the Emergency Division for approval.

As the state of Israel has experienced a number of MCSs, experiences are included in the guidelines. Thus,

during the last 30 years, the methods for coping with conventional MCSs have been developed.

The committee meets every two months and discusses problems encountered during real events or drills. If the problem is major, a change in the guidelines may be suggested.

In recent years, the committee also has been involved in drills. Members of the committee take an active role in planning these drills. Months before the drill, the committee visits the hospital, learns how the hospital intends to cope with the influx of injured victims, and provides its comments and opinions. Later, the committee develops the drill to test whether the hospital's concepts work.

The members of the committee also developed a tabletop simulation. This simulation is run in each hospital by the members of the committee, and is part of the preparedness program of hospitals for MCSs.

Keywords: drill; Israel; Israeli Committee on Conventional Mass-Casualty Situations; planning

Prehosp Disaster Med

Disaster Liquidation Actors Requirements Integration in Emergency Research Project Development for Interoperability Improvement

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A lot of impermeable “smash” interfaces exist among rescue/emergency agencies in the European Union. Contemporary global threats occur in this era of political and economic changes of the global environments, which include discontinuous turbulent, and chaotic, struggles, battles, and crises. The interoperability achievement of smashed interfaces is an aim of many security collaboration research projects, mainly the EC FP7 ST-CAST project. A change in control/regulation behavior of rescue/emergency organizations, the approaches of corporations and agencies will change disaster medicine systems. The quantitative behavior of crisis participants and actors is not a priority for never-ending crisis/emergency management during disasters. The most effective behaviors aim to enhance cooperation, collaboration, integration, and technological ascendancy of all actors and security and research personnel. The priority is not the behavior aimed at quantitative production rate, predator effort, noxious emulation, rival force predominance, or unscrupulous irresponsibility. The purpose of controlling the behavior of the organizations and human corporations during crises is not the biggest plunder, the smallest deprivation. The indicators of successful security research project solutions are the quality, effectiveness, serviceability, elimination of threats, opportunities, and the relief of disaster-affected participants. They indicate decreased risks, improved value added, flexibility, operability, interoperability, and mobility of projected and developing entities. It all requires changes in approach and new remedy methodology, which the Dynamic Vector Logistics of Processes (DYVELOP) fully offers. It was first used in national security research project development and a solution in the Worldwide Interoperable Mobile Access (WiMAX) environment. It resulted in the creation of new, real system, and the technology of an auto-

nomous outdoor computer aided Interoper-mobile WiMAX Workshop for First Responders of Czech Integrated Rescue System, which will be introduced via a live PowerPoint presentation.

Keywords: disaster; emergency; interoperability; research

Prehosp Disaster Med

Unusual Biological Events—Outbreaks, Pandemics

The 2001 Anthrax Attacks: Lingering Effects

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During the weeks after the terrorist attacks against the United States on 11 September, 2001, letters containing powdered anthrax spores were sent to the media and political figures via the US mail. As a result, 22 people contracted anthrax, five of whom died; and thousands were deemed to have been at risk of exposure. Moreover, dozens of offices and buildings were shut down after becoming contaminated with spores from the letters. The attacks, which caused massive anxiety and disruption, amounted to the largest bioterrorism assault ever launched in the US. Eight years later, important questions about the attacks remain unresolved including the definitive identity of the perpetrator, an explanation for continuing symptoms of some survivors, and the level of preparedness for other biological attacks. This presentation examines these issues along with lessons learned from the 2001 attacks.

Keywords: anthrax; anxiety; biological attack; terrorism; US

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Vaccine Purchasing for an Influenza Pandemic: Comparative Cost-Benefit Model

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Introduction: The next influenza pandemic is expected to spread rapidly, causing worldwide morbidity, mortality, and economic disruption. Effective vaccines are pivotal to thwart the spread of a pandemic virus and to prevent illness and death. However, the global vaccine supply is several billion doses short of the necessary amount, as is currently evident during the H1N1 event. Without prior knowledge of the strain that will cause the next pandemic, one key strategy to afford a reasonable chance for obtaining vaccines during the next pandemic, through an advanced purchase agreement with the vaccine manufacturers. This strategy is costly, and influenced by many unknowns. A mathematical model for the assessment of the advanced purchase agreement strategy will be presented in economic terms.

Methods: Each strategy's cost, impact on reduction in morbidity and mortality compared with a non-intervention base-