

dents have demonstrated that most patients who present at a healthcare facility during a disaster or other major emergency do not necessarily arrive via ambulance. If these reports are accurate, then hospitals and EMS systems should plan differently to prepare for a mass convergence of patients at the healthcare system and consider alternative patterns of patient referral including self-referral when performing major incident planning.

**Methods:** Using numerous search engines and databases, reports of patient care during or after disasters or major emergency incidents were identified. These reports were queried for specific information on how the patients presented to, or were referred to the healthcare location.

**Results:** Almost all case reports identified discuss the importance of the prehospital emergency care system. However, many suggest that only a fraction of the treated patients arrive via ambulance, particularly in the early post-event stages of a disaster.

**Conclusions:** Hospitals should develop emergency plans that consider the alternative referral patterns of patients during a disaster or major emergency. Hospital staff should be proficient in triage, decontamination, and safety and security procedures, in the event that they encounter a patient surge in their facility immediately following the onset of a disaster.

**Keywords:** ambulance; emergency medical services; hospital; patient surge; prehospital

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### (182) Attitudes of the Israeli Population on Coping with Epidemic Outbreaks

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**Background:** Successful epidemic planning and preparation ensure that, in the case of an epidemic, there will be minimal panic, the most efficient treatment will be provided, and the population will return quickly to its pre-epidemic status.

**Purpose:** The purpose of this study was to determine the attitude of the Israeli population regarding epidemic outbreaks.

**Methods:** A questionnaire was sent to the public; information from a sample of 801 individuals representing the Israeli population; and telephone survey including every area code in Israel was performed.

**Results:** Of those surveyed, 82% agreed that fear causes panic, and 72% agreed to be quarantined during an epidemic, and to follow all instructions. Women were more likely than men to follow instructions.

Of those surveyed, 75% of the public believed that the media encourage anxiety and fear among the population. A total of 87% preferred that information regarding the epidemic be presented to them directly by the Ministry of Health and infectious disease experts. Of those surveyed, 94% agreed that the public health system must prepare the population before an epidemic outbreak. A total of 93% believed that there is a need to strengthen international connections for oversight and control of infectious diseases.

**Conclusions:** The health system must prepare the public prior to an outbreak. Information regarding epidemic outbreaks and the safety precautions that must be followed during these outbreaks should be presented to the public directly by the Ministry of Health and infectious disease experts. Women represent important communications targets. The sample population agreed to be quarantined during an epidemic and to follow all instructions. An epidemic outbreak preparedness plan using this information should be implemented.

**Keywords:** attitude; communications; epidemic; Israel; preparedness; quarantine

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### (183) Pharmaceutical Services and Preparedness in Brazil

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The Millennium Goals of the World Health Organization (WHO) include the protection of vulnerable persons. The Hyogo Declaration of the United Nations presents the need for the dissemination of information regarding disaster prevention, enhancing preparedness, and emergency response. It is imperative that governments develop and implement policies related to response for disasters such as epidemics. Brazil has a broad health system, which includes pharmaceutical services, but it does not have any established organization for dealing with disasters. The pharmaceutical services and possible areas within those services should be involved in disaster preparedness will be described, by analyzing policies and health structures that may play a role in augmenting the local response to an epidemic.

Pharmaceutical services will be characterized by reviewing official documents and legislation, and by interviewing key stakeholders. Epidemic response guidelines for pharmaceutical services will be developed based on international standards and the logical framework for pharmaceutical services in Brazil. Validation of the guidelines will be achieved by gaining consensus technique. When faced with disasters caused by natural or human interventions, this study may be critical for furnishing crucial information to decision-makers on the development and implementation of policies regarding the preparedness and response of pharmaceutical services.

**Keywords:** Brazil; epidemic; guidelines; pharmaceuticals; preparedness

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### (184) Information-Sharing Environment in Disaster and Emergency Situations

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An effective Information-Sharing Environment (ISE) is a key factor for the successful accomplishment of sensitive

missions in which there is an extreme risk for mass casualties (e.g., situations such as battles, disasters, and emergencies). In the present work, a Disaster and Emergency ISE is analyzed as a multidimensional problem. The dimensions of the environment include: (1) disciplines; (2) processes; (3) means; (4) players; (5) time; and (6) resources. Special attention is focused on the content and quality of information, standards, and formats of presentations that are aimed at knowledge enhancement rather than just data exchange. The authors assess time as a crucial parameter that should be taken into account within ISE.

This approach has been the basis of the Supercourse, a library that contains >2,800 free lectures on disaster prevention issues. With the distribution of hurricane lectures in 2005, the use of the Supercourse demonstrated that “Just-In-Time” knowledge can be distributed rapidly and virtually free-of-charge throughout the secure network.

The next step to satisfy time requirements of a modern ISE, is to organize the Supercourse into fast reaction units. The non-commercial scope of the Supercourse is based on the fact that there are numerous experts that are eager to share their knowledge and while the actors on the battlefield lack of time to solve commercial problems. This approach also has been implemented in the Italian Disaster Data Base (IDDB)—a collection of information shared by government institutions, professionals from different fields, non-governmental organizations, and volunteers. The Supercourse and IDDB experience potentially could serve as a model for ISE construction.

**Keywords:** data sharing; disasters; emergencies; Information Sharing Environment; network

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### (185) A Disaster Exercise Is a Useful Environment to Test Scientific Instruments for Disaster Research

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**Introduction:** Evaluation of medical care during disasters is difficult. During a national disaster exercise (DE), three research instruments (RI) were tested.

**Objectives:** The main objectives were to investigate the possibility to use a DE as a scientific instrument and to evaluate the DE. Part 1 tested an existing quantitative evaluation tool (ET) of the Health Incident Management System (HIMS). Part 2 tested a triage registration format (TRF) for victim distribution planning (VDP). Part 3 assessed the Casualty Distribution Plan (CDP) and hospital treatment capability (HTC).

**Method:** The ET was translated, adapted to the national structure, and presented as a questionnaire using a 5-point Likert scale. Data on VDP were gathered from registrations of Mobile Medical Teams, casualty collection points, ambulances, trauma center (TC), and mock victims. Registrations from ambulance services and TC were used for CDP and HTC.

**Results:** Of all participants, 90% (n = 217) could be contacted about the HIMS; >95% of all questions were answered. The effects of the HIMS were noted as positive

except for multidisciplinary cooperation. The VDP of 52 (51%) patients who reached the TC could be traced. Data from triage charts (87%), ambulance charts (57%), TC charts (100%), and MV forms (95%) were retrieved. The TRF could be used to evaluate patient flow; triage decisions could not be evaluated. At one location, patient flow exceeded the established HTC during one hour.

**Conclusions:** Existing and new disaster RI can be tested during a DE. Improvements, like validation of the RI, have been identified and can be tested during future DE.

**Keywords:** disaster exercise; disaster research; evaluation tool; Health Incident Management System; research instrument

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### (187) Main Factors in Estimating Travel Time after Disasters

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Traveling after events caused by manmade or naturally occurring hazards is an important factor to consider when managing such events. Naturally-caused events such as earthquakes, tsunamis, and floods can impact transportation networks and human behaviors.

By recognizing main factors that can impact the performance of a transportation network, a conceptual method for estimating travel time during events is presented. The methods of this research include observing the human behaviors and physical damage after disasters and classifying them into different groups. By using this method, the main problems after the occurrence of events are recognized, and the associated time delay is evaluated. The results of this research provide a procedure for estimating the travel time for emergency and other types of vehicles after disasters.

**Keywords:** disaster; event; preparedness; transportation; travel time

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### (188) Primary Healthcare System in Small Islands

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**Introduction:** The primary healthcare system has a crucial role in communities located on small islands and archipelagos stricken by an emergency or disaster. The main purpose of the study was to evaluate the level of emergency preparedness of the primary care system in the Archipelago of the Azores in Portugal.

**Methods:** A questionnaire was distributed to all 16 Primary Health Care Centres (PHCCs) on the Archipelago: (1) 12 Type 1 PHCCs in those that provide emergency care and inpatient admission services; and (2) four Type 2 PHCCs, those that do not provide in-patient services. The survey responses of Type 1 PHCCs were grouped into six main groups based on criteria and analyzed in “benchmarking categories”. Scores for each group were proposed. A final score also was established for