

procedures, responder safety and survival, and emergency communications.

Recommendations: Medical response to disasters is a complex task. First responders perform in a volatile environment to provide maximum care to the needy. Medical first responders should be screened carefully for physical, emotional and mental fitness as well as relativity of medical knowledge background to perform in these less than ideal settings. Medical first responders should synchronize their practice along with the SAR units, or ideally they should be considered as a part of the SAR Team. They should be rigorously trained in different aspects of SAR, as well as disaster and emergency medical care in the field. They should regularly participate in deployment exercises and scenario-based training in cooperation with the other units to maximize the smoothness of interaction between different units, as well as within the same unit with members of different backgrounds.

Conclusion: Turkey lacks the availability of well-trained, disaster, medical first responders. There has been an attempt by the Ministry of Health to address this need. However, forming and training teams to perform according to specified standards and under a unified disaster command has not yet been successful.

Keywords: capabilities; first responders; medical; response; search and rescue (SAR); Turkey

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The Journalist's Experience

Martin Bell, MP

former War Correspondent, BBC

Theme 15: Hot Topic – International Humanitarian Disaster Relief – Tensions and Challenges

Chair: Anthony Zwi

Theme 16: Rural and Remote Emergency Health Care

Chairs: Mads Gilbert; James Ferguson

Theme 17: Landmines

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Free Papers Theme 22: Education-1 Simulations

Graphic Simulation System for Preparedness of Emergency Department Staff for Mass Casualty Incidents

L. Levi;¹ D. Bregman²

1. Israel
2. Information Systems Department, School of Business Administration, Israel

Problem: Drills are an effective yet resource-consuming technique for improving team preparedness to manage mass-casualty incidents (MCIs). Limited-scale drills,

mainly tabletop and communication exercises, are good alternatives, but still harbor deficits, which could be overcome with an interactive simulation system with good graphic interfaces.

Solution: The success of designing such a system, created by students using basic tools, like Visual Basic and MS Access, are described. Basic database terms for the incident types, casualties, treatment requirements, as well as capabilities were used from previous work. The graphic representation included not only the location and movement of casualties and staff, but visualization of treatment phases, as well as problems in management.

The trainee of each of four simultaneous regions actually can treat each victim with choosing possibilities (from small right click window) and requires only minimal typing. The dynamic database can provide online reports that also can be used for the debriefing and benchmarking for the management of that MCI.

Conclusion: Several examples of the system tested in various hospitals will be shown, which gained positive feedback especially for its friendliness and documentation of solutions.

Keywords: design; drills; emergency department; mass-casualty incident; simulation

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What is a Disaster!? Hospital Disaster Preparedness: Are Hospital Clinical Staff Well-Informed? Does a Mock Disaster Exercise Make a Difference?

B. Bartley;¹ L. Walsh;² J. Stella;² J. Fisher²

1. Barwon Health, Australia
2. Australia

Historically, hospital disaster preparedness has had limited input from clinicians in Australasia. The existence of the “dusty” Disaster Folder is well documented. However, the current climate of terrorism has heightened public awareness of mass casualty incidents. There is a high community expectation that healthcare systems are prepared to cope with any possible event. In Victoria, Australia, there has been a major upsurge in interest in this field among Emergency Medicine clinicians. Other specialties have been less well represented at statewide tabletop exercises and forums.

A statewide, multi-agency “compressed time” mock train crash, “Exercise Kardinia Express”, involving 300 patients, took place in North Geelong on Sunday, 10 October 2004. Forty-five moulage patients visited the Geelong emergency department for triage, assessment, and initiation of treatment. Tabletop exercises were performed for the rest of the hospital. As part of the exercise, there was a hot debriefing in the emergency department that day and an enterprise-wide formal debriefing one week later. A one-hour lecture was delivered to the hospital-wide community in the preceding week. Fifty senior medical and nursing staff were surveyed before and after this process to assess their knowledge of the disaster plan and their opinion of hospital disaster preparedness. The pre-intervention data demonstrated some major concerns and deficiencies in knowledge regarding hospital disaster preparedness among both the emergency department and the non-emergency

department staff. This study will assess whether the intervention generated an improvement in disaster preparedness in either or both groups.

Keywords: Australia; disaster; emergency medical services; exercise; hospital; mock; preparedness

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Development and Implementation of a Simulation Exercise for the Special Unit for Disaster Medicine in Collaboration with the “Hellenic Volunteer Rescue Team” Non-Governmental Organization

A. Zygoura,¹ K. Sidiropoulos,¹ P. Vergopoulou,¹
G. Argyropoulos,¹ C. Imertziadis,² H. Kapnopoulos,²
P. Koukopoulos,² I. Kostopoulos,² G. Letsios,²
C. Papalouizos,² C. Shinarakis,² K. Fotopoulos²

1. Hellenic National Centre for Emergency Care (HNCEC), Greece
2. Greece

The objective of organizing such an exercise for the first time is to test the effectiveness of working together with non-governmental organizations (NGOs) on search and rescue operations in case of mass-casualty incidents due to natural disasters, transportation crashes, and terrorist attacks. The scenario of the exercise involved disruption of the Corynth Isthm Bridge because of an earthquake and the subsequent rescue of the victims.

The Hellenic NGO team was responsible for search and rescue while the Special Unit for Disaster Medicine had the responsibility of triaging, treating, and transporting the victims to the hospital. There were no informational meetings to prepared each team arranged prior to the exercise.

To respond to the needs of the exercise, the NGOs participated with 30 people, 20 of whom had special training in rescue. They set up the necessary equipment for rope transportation over the Isthm. The Special Unit for Disaster Medicine participated with one team of 12 paramedics and one medical doctor, two rescue vehicles, and one mobile coordination center. On arrival at the disaster site, the title of incident commander was assigned, and team officers organized and started the triage and treatment process. The head of the medical services and one paramedic were assigned as observers. Nine victims were rescued, triaged, treated, and transported to the hospital in the first 30 minutes.

In conclusion, it was found that NGOs trained in search and rescue and the Special Unit team can collaborate to respond to mass casualties, and provide the best results. However, it is better if previously common exercises are effectuated to know each other and know about each other's work.

Keywords: communication; exercise; Greece; non-governmental organizations (NGOs); search and rescue; Special Unit for Disaster Medicine

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Use of Simulations in Prehospital Trauma Education of Paramedics: Development of an Educational Model

Andrea Wyatt; Brian Fallows; Frank Archer

Monash University Centre for Ambulance and Paramedic Studies, Victoria, Australia

Introduction: A literature review suggests that simulation training improves pre-clinical and possibly actual clinical performance in a range of health disciplines, and therefore, could be expected reasonably to do the same for paramedics. A project was undertaken, based on the observations of the Consultative Committee on Road Traffic Fatalities in Victoria over a 5-year period, that identified consistent management, diagnostic, and technique errors in prehospital trauma care associated with adverse outcomes.

Objectives: The study aimed to answer the question: “Do clinical simulations using a Human Patient Simulator in the education of paramedics in trauma care reduce error rates in pre-clinical performance?” In addition, the study examined the educational methods underpinning the conduct of clinical simulations.

Methods: The research design was a randomised, controlled study using a pre/post-test design. The participants were student Ambulance and Intensive Care Paramedics (n = 120) at three different phases of training. Ethics approval was obtained.

Results: Significant improvement in post-test performance was demonstrated by students undertaking simulation-based learning as compared to students undertaking case-study based learning ($p = 0.008$). A sub-group analysis demonstrated that the most significant difference between control and study groups was evident in novice paramedics ($p = 0.014$). This difference diminished in the more experienced student ambulance paramedic group ($p = 0.059$) and was not evident in the student intensive care paramedic group ($p = 0.767$). The method adopted for the conduct of simulations was further developed, identifying a third level to incorporate the impact of situational elements on learning.

Discussion: Several issues can be considered with respect to the results of this project. Firstly, it is suggested that the use of simulations is beneficial in prehospital trauma paramedic training. Consideration also should be given to the use of simulation in other health disciplines. Secondly, these results have provided new evidence to question some of the general assumptions concerning the conduct of clinical simulations at the Monash University Centre for Ambulance and Paramedic Studies (MUCAPS), which were the basis of the methods adopted for this project.

Conclusions: Results suggest that the use of clinical simulations is beneficial as a learning tool, with significant improvement in study group post-test scores when compared to control group post-test scores. These benefits, in terms of improved performance, were of particular significance in the novice group. Benefit also was demonstrated when mean gains were compared between control and study groups; however, these did not show a significant difference. These findings have implications for the development of future paramedic education programs. A new