

has experienced catastrophic flooding, on the heels of almost two decades of yearly major flooding. This paper describes the community and individual psychosocial responses to the current Red River flood, based on resiliency paradigms and the backdrop of successful mitigation of serial disasters. In addition, the author will present examples of real-time networking with colleagues around the world who are responding to natural disasters.

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(A-309) Flood Disaster Averted: Red River Resilience

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Flood Disaster Averted: Red River Resilience It is estimated that floods make up 40% of all natural disasters and that the majority of natural disaster deaths are attributable to these events. The vast majority of literature on mental health and disaster revolves around response and recovery after the event. Mitigation of flooding can have a tremendous impact on health, including the prevention of common physical ailments including diarrhea, hepatitis, typhoid, tetanus, malnutrition, dermatologic conditions, orthopedic injuries, etc... It can also reduce mental health difficulties including stress, anxiety, depression, PTSD and other disorders. Psychosocial reactions to trauma are recognized to be among the most long-term and debilitating outcomes of disasters. This presentation describes a community's successful efforts to prevent a major flood disaster in the midst of a changing risk landscape. The authors focus on factors contributing to the resilience of a community in the upper Midwest of the United States in responding to the threat of a catastrophic natural disaster. In addition, the presentation includes the building blocks for successful integration of mental health presence through all phases of disaster: mitigation, preparedness, response and recovery. Andrew J. McLean, MD Medical Director, Department of Human Services, State of North Dakota. 2624 9th Ave. SW, Fargo, ND 58103 ajmclean@nd.gov, amclean@medicine.nodak.edu James M. Shultz, MS PhD Director, Center for Disaster & Extreme Event Preparedness (DEEP Center) University of Miami Miller School of Medicine Clinical Research Building 1120 NW 14 St. Miami, FL 33160, USA and Partner, High-Alert International Orlando, FL, USA 305-219-9011 jamesmichaelshultz@gmail.com. jshultz1@med.miami.edu. jshultz@high-alert.com.

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(A310) Academic Training for Paramedics - A Unique University Based Model

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Introduction: The paramedic profession is relatively new, dating to the 1970's. In Israel, it was introduced in 1980 and paralleled the introduction of advanced life support units (ALS) to Israel's national emergency medical services (EMS), Magen David Adom (MDA). The curriculum and assigned roles were adopted with minor changes from Anglo-American systems. Initially,

paramedics were assigned alongside physicians, but in recent years a growing percentage of units operate without an on-board physician. Despite the increasing complexity of required tasks and the move toward paramedic-led crews, paramedic training has changed little. Most are trained through a non-academic, certificate granting tracts. In 1998, a fully academic bachelor's degree program was launched at the Ben-Gurion University (BGU).

Methods: The programs aims, curriculum, and experience are described, based on past and current curriculum and on interviews with past and current staff and students.

Results: The BGU program is a three year program that grants its graduates both a University BA and professional paramedic certification. The program is housed as a university department within the Faculty of Health Sciences. First year courses center on basic sciences. The second year centers on classroom and simulation-based learning of the clinical topics. The third is devoted mostly to clinical clerkships, in hospital wards in the first semester and on MDA ALS units in the second. To date, the program boasts more than 300 graduates, many attaining higher academic degrees in healthcare sciences and many who work in Israel's national EMS.

Discussion: The BGU academic paramedic training program is the only such program in Israel and one of a few worldwide. Questions regarding the increasing responsibility and task complexity require a move from certificate training to University degree granting learning and the possible contribution of such

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(A312) Evaluation of a Continuing Education Intervention to Improve Management of Mass-Casualty Incidents

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Introduction: Emergency medical services (EMS) personnel must continuously educate themselves on mass-casualty management. Emergency medical services personnel in Israel are provided with continuing education programs aimed at maintaining knowledge and skills to manage different types of mass-casualty incidents (MCIs). There are 11 Magen David Adom (MDA) regions that have different incidences and experience with MCIs.

Objective: The purpose of this study was to evaluate the effectiveness of an intervention for the management of conventional and mega MCIs.

Methods: A 17-item, multiple choice question pre-test ($n = 640$) and post-test ($n = 536$) were administered after a brief continuing education intervention based on lectures and discussion in all 11 EMS regions. The MCI and mega MCI scores were combined to provide an overall MCI score. An independent t-test and ANOVA were used to examine for differences by age, seniority, role, and area of employment of EMS personnel. ($p = 0.05$)

Results: Reliability of the pre- and post-tests was 0.70. The overall mean score and standard deviation for the pre- and post-test was $64.31\% \pm 14.2\%$ and $75.0\% \pm 14.0\%$ respectively ($p = 0.000$). Distribution of scores on the pre- and post-tests were: 80%, 11.8% pre-test, 42.7% post-test. No significant differences were found in pre-/post-test scores by area. Older personnel

(> 50 years of age), and those who had been working in EMS for longer periods were found to have significantly lower scores ($p = 0.05$). Overall scores of paramedics was significantly higher than driver/medics. ($p = 0.05$).

Conclusions: Both pre- and post-tests were reliable. Post-test scores improved significantly after the intervention. Age and seniority are factors that must be considered when developing continuing education interventions. Possibility should be given to implementing role specific continuing education interventions. Attrition of knowledge must be investigated.

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(A313) Integrating Paramedics into the Health System — Israel as a Case Study

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Background: Since its development in the 1970s, the paramedic profession has tried to expand its traditional role of providing pre-hospital emergency care in ambulances into new fields of practice (e.g. community care). Paramedics in Israel are employed almost exclusively in the emergency medical services (EMS). Similar to other countries, the manpower shortage in the Israeli health system forced policy-makers to consider the expansion of traditional roles of various healthcare professions including paramedics.

Objectives: This presentation seeks to: (1) map the current situation and challenges facing paramedics in Israel; (2) examine paramedics' professional status among policy-makers; and (3) examine the best way to integrate paramedics in the Israeli health-system.

Methods: Qualitative interviews were conducted with 20 senior policy-makers in the Israeli EMS system, Academia, Health Ministry, and military. A policy analysis of documents, laws, regulations, and public media was conducted.

Results: The Ministry of Health in Israel did not play a significant role in the regulation of the profession. Nevertheless, according to the interviewees, paramedics have gained considerable professional recognition among policy-makers, healthcare professionals, and the general public. Following the medical manpower crisis that is evolving in Israel, and the trends that are common in many western countries of expanding the traditional roles of allied health professions, most policy-makers in Israel see the paramedic role evolving into new field of practice. According to policy-makers, legislators, and EMS officials, the major challenges that the paramedic profession faces deal with legislative and professional (mainly academization) issues.

Conclusions: The paramedic profession must adapt itself to the new medical environment. More research should be conducted to build a model, adapted for different local national context, to expand the traditional role of paramedics. This will influence training, research and policy-making regarding the paramedic profession, and will change the traditional professional medical borders.

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(A314) Challenges Faced in Establishing the Emergency Prehospital Ambulance Service in North Central Sri Lanka: Developing Something from Nothing

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The existence of a prehospital emergency care system signifies how secure an area is in aftermath of a health-related emergency. The systems save lives during most out-of-hospital health emergencies. Until 2010, there was no regular prehospital care system in Anuradhapura, or even in the entire north central region of Sri Lanka. Trauma patients were brought to the hospital generally with little or no prehospital care. They were transported to hospital by relatives or other people at the scene with using whatever vehicle was available at the time, which in many occasions was a trishaw. The concept of developing a prehospital emergency ambulance service to cover the municipality of Anuradhapura as a pilot project was formulated in 2009. The objectives were to: (1) provide emergency prehospital care in the municipality; (2) identify the difficulties; and (3) assess the feasibility of implementing it in the entire district. Some of the challenges faced in the process from the initial draft of the concept up to now include: 1. Studying an established emergency medical services (EMS) system; 2. Developing a pressure group in hospital; 3. Convincing the need to administration; 4. Funding in the initial period; 5. Selecting the proper team and supportive peers; 6. Providing standard training to selected staff; 7. Formulating duty norms and standard operating procedures; 8. Infrastructure development, acquiring instruments, and vehicles with limited fund capacities; 9. Cooperating with the trade unions and external/internal negative forces; 10. Rallying the collaborators with same interest; 11. Handling donors; 12. Getting the support of other key institutions (police/municipal council); 13. Utilizing local media to help promote the project; 14. Social mobilization to ensure sustainability; and 15. Ensuring worker satisfaction, encouragement, and liaison with other units of hospital.

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(A315) Improvement of the Prehospital Healthcare System in Iran

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Background: The prehospital time delay in acute health problem still is a problem in most low- and middle-income countries, like Iran. It often is possible to minimize adverse consequences by promptly providing effective prehospital services

Aim: This study was designed to compare the response time interval occurring during the prehospital care process in Tehran during the last decade.

Methods: A retrospective, comparative study was designed, and the mean response time intervals in relation to prehospital care were identified from September 1999 until September 2000 were compared with data from September 2009 until September 2010. Data were collected from Tehran emergency medical services (EMS) center registries.