Results: The EMS center of Tehran dispatched 213 ambulances every day in 1999–2000 compared with 1,200 in 2009–2010. During the 2009–2010 period, the mean response time for city locations was 14.18(+ /-4) minutes, compared with 1999–2000 the mean response time for city location was 16(+ /- 8). The mean response time from the time period of 1999–2000 also was longer than for 2009–2010 (14.18 vs. 16.58 minutes).
Conclusions: Despite the prominent increase in the number of ambulance dispatching everyday, the mean response time in Tehran decreased during last decade. This improvement can be due to the improvement of the prehospital system in Tehran, including the number of: ambulances, trained staff, EMS stations, etc. However, it still is far from a national standard (eight minutes for city).
Prehosp Disaster Med 2011;26(Suppl. 1):s88–s89
doi:10.1017/S1049023X11002998

(A316) Pre-Hospital Emergency Care in Sudan - Current Practices in Disaster Management (DM)

K. Elbashir,[1] R. Gore,[2] C. Bloem,[2] P. Roblin,[2] G. Ostrovskiy,[3] T. Abuaaraki,[4] M. Yousif,[5] B. Arquilla[2]
1. Kings County Hospital Center, Brooklyn, United States of America
2. Emergency Medicine, Brooklyn, United States of America
3. Weil Cornell Medical College, Qatar, Qatar
4. Khartoum Ministry of Health, Khartoum, Sudan
5. Khartoum North Teaching Hospital, Khartoum, Sudan

Introduction: The problems of pre-hospital care and training in the developing world are very similar – resource limitations and training deficiencies. Humanitarian conditions in the Sudan have been among the worst in the world including both man-made and natural disasters. Effectively responding to emergencies is of paramount importance.
Methods: The information was collected by a group of Sudanese physicians working in the emergency department at a large urban public hospital in Khartoum, Sudan and in the U.S. for the purpose of establishing structured training programs for pre-hospital responders.
Results: There are currently 37 registered state operated minivan ambulances serving ~8 million people in the capital city of Khartoum. There is 1 central dispatching command center operated by the state Ministry of Health (MOH) that serves 29 hospitals. Services are available by calling a central "999" emergency response number. There are no private ambulances in Khartoum; however, most patients are transported by private or public transportation. Ambulance transport teams consist of ~2 ambulance emergency assistants with limited medical training. Ambulance transport costs are covered either by insurance for the insured; however, the majority of patients are self paid. Emergencies are also managed by the Department of Civil Defense, which is a branch of the Sudanese MOH that responds to natural and man-made disasters. There are 2 layers of this team; 420 physician with masters degrees in DM and emergency rescue workers. These emergency rescue workers do not have formalized training. Other important findings are: lack of training centers for first emergency responders, no standardized practice guide lines among pre-hospital care personnel.
Conclusion: Emergency response in the Sudan is a relatively new practice but has shown a promising trend for the continued development of a highly advanced and functional pre-hospital/emergency response system. More structured training through collaborative efforts and substantial resources are needed.
Prehosp Disaster Med 2011;26(Suppl. 1):s89
doi:10.1017/S1049023X11003001

(A317) Evaluation Outcomes - Capacity Building for Emergency Medical Services along National Highway No. 5 in Hai Duong Province, Vietnam – October 2009

P. Bollinger[1], S. Baird[2]
1. International Programs, Tigard, OR, United States of America
2. Albany, OR, United States of America

Background: This project was designed to reduce secondary injury of road traffic accidents (RTA) victims in Hai Duong (HDRC) province in Vietnam in collaboration with the Red Cross with funding from Medical Teams International (MTI). The approximate number of beneficiaries was 601,820, including the 1,820 direct beneficiaries who received first responder training and emergency treatment. The 600,000 indirect beneficiaries is the population along a 45km corridor of National Highway #5 crossing Hai Duong province.
Methods: In late October 2009 an evaluation team from MTI reviewed the training of Vietnam Red Cross volunteers in Hai Duong province. The pre-evaluation activities (review of patient contact log books and patient interviews) were conducted by the MTI-Vietnam staff. 58 trained lead volunteers and 20 community members participated in this evaluation. Additionally 92 patients who had been treated by the volunteers were also interviewed.
Results: Findings included: a) the volunteers who received training stated an increase in their confidence to respond to emergencies, b) a 65% increase of Red Cross volunteers, c) a increased awareness of EMS within the province, d) greater community engagement at emergency scenes, and e) broad respect from the community towards the HDRC volunteers.
Discussion: Considerations for the future include: a) development of a continuing education program, b) increase of supplies to volunteers, c) more training involving multi casualty incidents, d) development of a communications protocol between volunteers and other healthcare providers and e) limit CPR training to drowning related events.
Conclusion: The outcomes exceeded the planned goals: knowledge and retention of course materials and skills is good, confidence levels of volunteers increased and those that are involved in emergency events in Hai Duong province are safer. The profile of EMS and first responders as a critical component of community health has been measurably raised among key stakeholders and the community.
Prehosp Disaster Med 2011;26(Suppl. 1):s89
doi:10.1017/S1049023X11003013

(A319) Using a Computer Simulation (CS) to Improve Training and Event Management of Paramedics for Mass Casualty Incidents (MCI)

E. Jaffe,[1] A. Dagan,[2] E. Zahavi[1]
1. Emergency Medicine, Beer Sheva, Israel
2. Emergency Medicine, Jerusalem, Israel

Using a Computer Simulation (CS) to improve training and event management of paramedics for Mass Casualty Incidents

(MCI). Eli Jaffe, Avi Dagan, Eyal Zahavi, Einat Aviel, Bruria Adini. The Department of Emergency Medicine, Ben-Gurion University of the Negev Magen David Adom (MDA) is the national emergency organization in Israel. Over the past few decades MDA personnel have been required to deal with MCIs involving large numbers of casualties. Recently, there have been fewer terrorist related MCIs, however, there is a continuing need for to maintain the knowledge and skills of paramedics to manage MCIs.

Objective: To examine performance of paramedics exposed to a CS compared to a control group exposed to a traditional lecture based learning experience.

Method: An interactive CS based on the MDA standard operating procedure for managing MCIs was developed. The participants were randomly divided into two groups. Group 1 received the lecture format, and Group 2 the CS. Both groups were given a pre-test (Group 1 average score 56.3, Group 2 average score 53.1), and two post-tests. One immediately following completion of the intervention, and a second a month after completion of the course.

Results: Average scores for the CS Group (n = 15) was significantly different on the first post-test (Group 1 average score 53.2, Group 2 average score 68.7), by 30% and on the second (Group 1 average score 71.9, Group 2 average score 80.8) by 12% compared to the Lecture Group ($N = 17$) ($P = < 0.00$).

Conclusion: CS allow for the use of multiple media formats based on real events, and are able to replicate reality using real media material. MDA has recommended that continuing education interventions for emergency medical personnel for maintaining knowledge and skills required for the management of MCIs utilize a CS based training methods.

Prehosp Disaster Med 2011;26(Suppl. 1):s89–s90
doi:10.1017/S1049023X11003037

(A321) Animals in Emergency Management: Veterinary Medical Triage and Treatment

H. Case
Scientific Activities Division, Schaumburg, United States of America

Veterinarians have been engaged in emergency preparedness and response activities for many years. The American Veterinary Medical Association (AVMA) founded in 1863 and representing approximately 83% of United States veterinarians, and the American Veterinary Medical Foundation, established by the AVMA in 1963, have been active in emergency preparedness and response, including the development of a world class veterinary disaster response program (VMAT) since 1993. Animals and humans share a special bond in the United States. According to the 2007 AVMA US Pet Ownership and Demographics Sourcebook, there are 72 million dogs, 81.7 million cats, 11.2 million birds and 7.3 million horses in US households. Approximately 60% of all US households own at least one pet, and 64% own more than one pet. Additionally, nearly 60% of pet owners consider their pets to be members of the family, and nearly 50% of pet owners consider their pets to be companions. Few US pet owners consider their pet to be property (approximately 2%). Following Hurricane Katrina, the Pets Evacuation and Transportation Standards Act of 2006 (PETS Act) became US law to ensure that state and local emergency preparedness plans address the needs of individuals with household pets and service animals following a major disaster or emergency. Recently a US effort to identify best practices in disaster veterinary care was sponsored by the US Department of Agriculture and the National Alliance of State Animal Agriculture Emergency Programs and chaired by members of the AVMA. Best practices were identified, including physical examination and triage, vaccination and parasite treatment and prophylaxis, decontamination, euthanasia, medical care of search and rescue dogs, field diagnostics, and components of a disaster veterinary medical equipment cache.

Prehosp Disaster Med 2011;26(Suppl. 1):s90
doi:10.1017/S1049023X11003050

(A322) Animals in Disasters and Emergencies: A Version of Wild Kingdom

J. Madigan
Department of Medicine and Epidemiology, Davis, United States of America

Dr. Madigan will discuss the evolution of awareness of the need for emergency preparedness and response for the animal component in disasters and emergencies in the United States and internationally. Emergencies and disasters affect animals and those who own them, including companion animals, animals who's use is for sustainment or groups of animals which serve as a key component of individuals economic existence. Numerous studies have shown the public will delay or refuse evacuation from impending risks if they have to leave their animals behind. A significant component of the public will refuse use of non pet associated shelters which then affects public safety and wellbeing. Emergency responders can be put at risk because of rescues required of non-evacuated individuals staying with their animals. Emergency responders may be called to be involved in animal rescues or animal evacuation. Animals impacted by disasters may incur injury, entrapment, and lack of food and water. Veterinary triage, emergency rescue, treatment and humane euthanasia are driven by animal welfare concerns as well as legislation mandating care of animals in declared disasters in some countries. Dr. Madigan's presentation will provide discussion and video examples of organized response to small and large scale animal emergency and disasters associated with 15 years as Chief of the UC Davis Veterinary Emergency Response Team. Additionally the training components needed for effective and safe preparedness and response will be discussed.

Prehosp Disaster Med 2011;26(Suppl. 1):s90
doi:10.1017/S1049023X11003062

(A323) Wildfire Associated Burn Injury of 1400 Sheep in Northern California: A Coordinated Mass Casualty Veterinary Response

J. Madigan,[1] J. Rowe,[1] J. Angelos,[1] W.F. Herthel,[1] D. Matz,[1] M. Dinucci,[2] V. Fletcher[3]
1. School of Veterinary Medicine, Davis, United States of America
2. Auburn, United States of America
3. Woodland, United States of America

Introduction: Wildfires can injure animals both from burns and inhalation of smoke and particulates. In 2006 a rapidly moving grass wildfire burned 12 square miles in Yolo County.