Immediate Medical Response for a Mass-Casualty Incident in Japan—Lessons Learned from the Akihabara Stabbing Spree in 2008

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Purpose: The purpose of this study was to describe the medical responses to a mass-casualty incident (MCI) caused by a stabbing spree in Japan. The Akihabara stabbing spree in 2008 left seven people dead and 10 wounded.

Methods: On 08 June 2008, a man hit pedestrians with a truck and then stabbed people using a survival knife on a street in Tokyo's Akihabara district. The Tokyo Disaster Medical Assistance Team (DMAT), supported the Tokyo Fire Department (TFD) as a medical advisor, was dispatched to the scene.

Results: The issues concerning the MCI include:

1. A Medical Command System is required. The TFD medical advisor, who works for the medical control, is eligible to be a medical incident commander for the Tokyo DMAT;
2. The type of incident is not clear at the onset. Safety should be guaranteed by information and personal protective equipment (PPE) like bulletproof vests;
3. Onlookers should stand clear and adequate zoning by police is necessary;
4. Volunteers performed basic life support. Some of the bystanders seemed to be healthcare providers. However, it was unclear who was responsible for them. It is necessary to make rules for volunteers who wish to assist with the medical activities; and
5. The communications system did not function well. Radios are required for the DMAT.

Conclusions: During a MCI caused by a stabbing spree, safety can be assured by providing information and PPE, adequate zoning, and rules for volunteers.

Keywords: Disaster Medical Assistance Team; Japan; lessons learned; mass-casualty incident; medical response; stabbing

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Storm Surge: Hurricane Ike, What Can We Learn to Prepare for Future Natural Disasters?

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Introduction: On 13 September 2008, Hurricane Ike made landfall in Texas, causing billions of dollars of damage and closing most emergency departments. As expected, significant increases in patient volume were experienced, consisting of increased specific complaints.

Methods: An observational, retrospective study at an academic Level-1 Trauma Center was conducted. Data were obtained from the Electronic Medical Record and patient tracking software. The patient's time of arrival, presenting complaint, and final diagnosis were compiled. Numbers were compared to data from the previous year.

Results: During the 72 hours following landfall, 462 patients presented to the emergency department: 97 in the first 26 hours, and 365 in remaining 46 hours. For three hours before landfall and nine hours after (12 am to 12 pm on Saturday) only 19 patients presented, a 66% reduction. The patient volume then exploded, with 124 patients in the next 12 hours peaking at 18 patients/hour, a 50% increase in patient volume. On Day 3, the volume remained 68% above baseline. Patient presentation peaks consisted of pre-storm dialysis patients, carbon monoxide exposures, post-storm motor vehicle crashes, and storm clean-up injuries. Troughs corresponded with the arrival of rain and winds and daily curfews.

Conclusions: Today's advancing technology allows us to better predict disasters caused by natural hazards such as hurricanes. In the emergency department, forewarning also allows us to better prepare for the needs of those affected by a natural disaster, but it also presents its own problems.

Keywords: disaster planning; emergency department; Hurricane Ike; patient presentation; surge capacity

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Oral Presentations—International Law and Ethics

Terrorism-Related Injuries and Ethics—What Does the Evidence Show?

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Background: Trauma is an event that occurs "out of the blue" and causes various emotions and feelings. Injured children express more extreme emotions and are more sensitive. Do these emotions influence the decisions made by medical personnel regarding terrorism-related casualties?

Objective: The objective of this study was to assess the differences in treatment and hospitalization during mass-casualty incidents (MCIs) for: (1) children compared to adults; and (2) MCIs caused by explosions compared to firearm casualties.

Methods: Terrorism-related casualties from 10 trauma centers included in the Israel Trauma Registry, which includes patients who were hospitalized, transferred or who died in the emergency department from October 2000 to December 2005.

Results: Of a total 2,425 terrorism-related casualties, 53% had an Injury Severity Scale (ISS) score of ≥16 and who were operated on during the first two hours after the attack. Among those with ISS scores 1–14, children (ages 0–12 years) were more likely than adults (ages 23–59 years) to be admitted to the intensive care unit (19% and 9%), respectively. Among patients with ISS scores ≥16, more children were admitted to the ICU than adults, (72% and 64%, respectively). Among patients with ISS scores 1-8, 46% of children were hospitalized for one day compared to 22% of adults. In-hospitality mortality among severe terrorism-related injuries (ISS ≥16) was 7% for children and 20% for adults.

Conclusions: Injured children are treated with more empathy and sensitivity than adults. Among MCI victims, differences in treatment and hospitalizations were found.

Keywords: children; ethics; injury; intensive care unit; terrorism; trauma
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Ethical Problems for International Health Volunteers

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Health care in the developed world is the realm of skilled and highly trained personnel who utilize advanced technology and work within developed systems. These professionals are in great demand and have multiple opportunities, good incomes, and high prestige. Less affluent regions often have great unmet healthcare needs, insufficient personnel, and undeveloped health infrastructure. Following disasters, non-governmental organizations and government-sponsored agencies may have salaried administrative personnel, but there often is a shortage of practicing, clinically skilled professionals. There often is an influx of international volunteers, many working in post-disaster curative services. Frequently, these providers have limited international experience. Providing health care during emergencies, ecological disasters, and in impoverished societies has many difficulties; the logistical ones include the absence of running water, electricity, or radiology equipment, are predictable. What may be more difficult to prepare for and to deal with are the ethical challenges that may be faced in resource-poor settings; especially in regions with chronic disparities in health care and the allocation of social resources. The purpose of this presentation is to raise awareness of these potential conflicts, and with this awareness, allow providers to predetermine how to deal best with these issues.

Keywords: awareness; ethical problems; health care; international volunteers; personnel
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A New Ethical Model for Examining Emergency Medicine

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Emergency responses typically have employed an ethical approach of rule consequentialism. However, this approach is highly susceptible to paternalistic tendencies, as it ignores the bio-ethical principle of autonomy, and undermines informed consent and joint decision-making. Rule consequentialism also can perpetuate injustices, provide an impersonal view of life, and ignore cultural relativism in certain settings.

A review of the different types of ethical models used in emergency medicine, their characteristics, and their shortcomings was conducted. A proposed model that combines bio-ethical principles with classic ethical theory will be suggested, that demonstrates the intricate relationship between all of these principles.

The model can be utilized in any emergent medical care setting to identify overlooked ethical principles and ideals that can be modified into care plans. A graphical representation of ethical theories and their overlap is especially useful in emergent settings requiring quick decision-making, but also during planning and in appraisal during debriefings.

In the modern era, a greater emphasis on autonomy re-emerged that considered the choices and preferences of patients. Client-centered care is becoming more predominant in medicine, and medical advances mean that most emergency responses quickly progress to rehabilitative care. These principles of autonomy must be incorporated in emergency medical relief to create a more balanced approach toward emergency medical response.

Keywords: bio-ethics; emergency medicine; ethics; response; theory
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Regulating the Helping Hand: Improving Legal Preparedness for Cross-Border Disaster Medicine

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Introduction: Medical care is a highly regulated field in nearly every country. Therefore, it should not be much of a surprise that legal issues regularly arise in cross-border disaster operations with the potential to profoundly impact the effectiveness of international assistance. Little attention has been paid to preparing for and addressing these kinds of issues.

This paper will report on research undertaken by the International Federation of Red Cross and Red Crescent Societies (IFRC) on International Disaster Response Law, discussing new developments in the international legal framework for addressing these issues.

Methods: For seven years, the IFRC has studied legal issues in cross-border disaster assistance. Its activities have included several dozen case studies, a global survey of governments and humanitarian stakeholders, and a series of meetings and high-level conferences.

Results: The IFRC has found a consistent set of regulatory problems in major disaster relief operations related to the entry and regulation of international relief. These include some issues specific to the health field, including regulation of drug donations and the recognition of foreign medical qualifications. To address the gaps in domestic and international regulatory structures, the IFRC spearheaded the development of new set of international guidelines.

Conclusions: The legal risks for international health providers in disaster settings are real and should be better integrated into program planning. For their part, governments must become more proactive in ensuring that legal frameworks are flexible enough to mitigate these problems.

Keywords: cross-border operations; ethics; international law; international relief; legal framework; legal preparedness
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