Background: In recent years, US hospitals have dedicated significant resources to improve their EP, especially following September 11, 2001. Over the same period, cost containment pressures and consolidation within the US health care system had lead to more hospitals owned by single parent organizations. As hospitals are under continued pressure both to be ready for disasters, and to maximize value, there is limited data describing the role of the system's administrative organization in supporting the preparedness of their hospitals.
Methods: We developed and administered a survey regarding health systems' EP efforts to 97 academic health systems. Data gathered included program funding, governance, preparedness and response roles, and resources provided to system members
Results: Of the 38 responding health systems, 87% were non-profit. Median revenues were nearly $2.5B USD. Systems had a median of 16,500 employees and nine member entities. 74% reported having system-level EP staff. 24% had an annual operating budget of $100,000 - $1M. Most frequently occurring activities included: creating plans, trainings, or exercise templates (68%); providing access to subject matter experts (68%); promoting staff preparedness (68%); and developing plans (66%). We identified discrepancies between respondents' descriptions of the resources their system provides for member entities compared with resources they believed should be provided.
Conclusion: Currently, there is wide variation in the resources, capabilities, and programs supporting EP at the system-level among academic health systems. The most common system-level resources provided to system entities include a mass-notification system, subject matter expertise during planning and emergencies, centralizing emergency supply contracts, and providing support for training and exercises. It is unknown which of these systems and resources may be most needed and/or most effective, as outcome data has not yet been collected.

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Emergency Services Rapid Assessment Tool in San Salvador, El Salvador

Eric Cioe-Pena[1], *Nicholas Fling*[2]
1. Emergency Medicine, Northwell Staten Island University Hospital, Staten Island/NY/United States of America
2. Denver School Of Medicine, University of Colorado, Aurora/CO/United States of America

Study/Objective: Our study assessed the emergency care system of the hospitals in the San Salvador metropolitan area in El Salvador. San Salvador is the capital and largest city and the epicenter for trauma and emergency care need.
Background: In El Salvador, over 32% of all deaths are due to trauma, and cardiovascular emergencies are a rapidly rising incidence of both morbidity and mortality. Doctors working in Emergency Wards (EWs) are on the front line of caring for trauma patients. However, emergency medicine training is not yet developed nor standardized.
Methods: This study utilized the SidHARTe Emergency Services Rapid Assessment Tool (ESRAT), which analyzes resources related to emergency care within a hospital. Survey teams went to the 8 public hospitals to interview key stakeholders in the EW as well as hospital administrators. Structured interviews were conducted about hospital capacity and resources, and observations regarding emergency care supplies were recorded. Epidemiological factors such as access to essential supplies, services and medications were determined using simple statistical methods.
Results: A total of 8 hospitals were surveyed with responses obtained from 97.2% (70/72) of the individuals sought. Emergency care in 100% of hospitals surveyed is free to the patient. As well, 100% reported consistent electricity, though 37.5% reported inconsistent access to running water. All 100% reported access to all essential lab studies listed in the survey, and reliable access to supplies of blood. Half of EWs surveyed report access to an ultrasound machine, and only 37.5% report the ability to contact trained staff after-hours. EWs were stocked with, on-average, 60% (31.9/53) of "Essential Emergency Medicines," 81% (52/64) of "Essential Emergency Supplies," and 90% of "Essential Emergency Equipment" (5.4/6).
Conclusion: This survey establishes a baseline capability of the public hospitals in San Salvador, and serves as an important benchmark for the continued development of emergency care resources and services nationwide.

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Impact of Participation in Focus Groups on Perceived Preparedness for Emerging Threats

Bruria Adini[1], *Avi Israeli*[2], *Moran Bodas*[1], *Kobi Peleg*[1]
1. Disaster Management & Injury Prevention, Tel-Aviv University, Tel Aviv/Israel
2. Hadassah Hebrew University, Jerusalem/Israel

Study/Objective: To examine the impact of participation in focus groups on perceived emergency preparedness for an emerging threat of attack on civilian populations.
Background: Health care systems are required to develop preparedness for all hazards that risk public health and safety. Policies for managing emerging (newly evolving) threats should be prepared based on multi-disciplinary perspectives that promote an effective and comprehensive response. Focus groups are instrumental in designing policies, but their impact on perceived emergency preparedness has not as yet been presented.
Methods: Five multi-disciplinary focus groups were created to review risk assessment and recommend policies for managing an emerging threat of missile attacks against civilian populations, including: providing community health care services; hospitals' operational continuity; casualty evacuation; continuous medical care to vulnerable populations; and providing medical services in 'closed military zones.' Fifty-nine national and regional managers of the Israeli health care services rotated between the focus groups, recommending applicable policies for all identified challenges. A survey concerning perceived individual and systemic preparedness for the emerging threat was completed pre-post participation in the focus groups.

Results: Based on focus groups' outputs, holistic policies for managing the emerging threat were created and approved by the national/regional authorities. Analysis of pre-post perceptions of focus groups' participants showed an increase in numerous elements including perceived proficiency (3.71 ± 0.67 vs 4.60 ± 0.53, respectively; $P < .001$), and trust in colleagues' competencies in emergency response (3.56 ± 0.75 vs 4.37 ± 0.61, respectively; $P < .001$). Correlations were found between perceived individual preparedness and systemic readiness (rho = .410; $P < .001$) and proficiency in risk assessment (rho = .630; $P < .001$).
Conclusion: Participation in focus groups facilitated design of policies for emerging threats and contributed to increasing perceived individual preparedness and empowerment. It is recommended to include operators and managers of health care entities in the process of policy making, in order to improve capacity-building and strengthen readiness to manage expected and unexpected emergencies.

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Developing a Minimum Summary Sheet for Sudden Onset Disasters: The UK, EMT Approach

Anisa J.N. Jafar[1], Chrissy Alcock[2], Rachel Fletcher[2], Thomas C. Hughes[3], Brigid Hayden[2], Philip Gaffney[4], John Simpson[2], Anthony Redmond[1]

1. University Of Manchester, HCRI, Manchester/United Kingdom
2. UK Med, Manchester/United Kingdom
3. Emergency Department, John Radcliffe Hospital, Oxford/United Kingdom
4. Xenplate, Cambridge/United Kingdom

Study/Objective: The WHO has, for some time, been working to standardize and professionals in the humanitarian field. One branch of this work has been to develop a minimum data set for daily reporting of Emergency Medical Team (EMT) activity during Sudden Onset Disasters (SODs). This minimum data set is under final development following expert stakeholder consultation in Tokyo and Jerusalem during 2016.
Background: The UK EMT have developed a minimum summary sheet for each patient seen in field hospitals during SODs. This sheet has been designed with the most recent updates, from the WHO stakeholder consultation in mind. As representatives of the UK EMT were able to contribute to the consultation, they were able to collaborate and understand other teams' approaches to patient records. This international level idea-sharing has allowed the UK EMT to develop a record, combining paper and electronic formats in a way similar to the CMAT and B-FAST approach. The record has been further developed to exist simultaneously (both integrated and standalone) in paper and electronic format, in order to match the technology available in the field at any one time.
Methods: Once finalized and aligned with the final WHO minimum data set output, this summary sheet will be field tested.
Results: Modifications will be made to ensure it collects patient data accurately and efficiently, with the primary aim of providing patients with a useful care summary, and a secondary aim of collecting much needed field data in order to continually improve practice.
Conclusion: The results of this field testing will be the subject of future work.

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Development of a Secure and Resilient IT System to Deliver an Electronic Patient Record System for Use in a Disaster

Thomas C. Hughes[1], Anisa J.N. Jafar[2], Chrissy Alcock[3], Brigid Hayden[3], Philip Gaffney[4], John Simpson[3], Anthony Redmond[2]

1. Emergency Department, University of Oxford, Oxford/United Kingdom
2. University Of Manchester, HCRI, Manchester/United Kingdom
3. UK Med, Manchester/United Kingdom
4. Xenplate, Cambridge/United Kingdom

Study/Objective: Electronic patient records are in widespread use in high-income countries. The factors that make electronic records useful in everyday practice are magnified in a disaster response, particularly the ability to:

- minimize poor/absent data due to paper management and handwriting;
- identify patients consistently eg, using barcodes;
- take pictures/video;
- automate workflow – "if patient has low O2 saturations, a Chest X-ray is ordered;"
- share information in real-time enabling pro-active rather than reactive management;
- ensure consistent data capture, enabling meaningful analysis; and
- automate reporting, minimizing burden on front-line staff.

Background: The situations in which the IT will be used, throw up a formidable group of challenges to the designers and users of IT; the design brief included the following:

- data security certified to ISO 27001 standard;
- need to be able to operate "off-line" – wireless data transmission is notoriously unreliable; and
- ability to reconfigure data collection in-country without local support.

Methods: • Resilience

- the isolated nature of disaster medicine means that any IT system must be highly resilient eg, automatically "self-healing." This includes being able to deal with foreseeable problems including:
- failure of any single point ("failover"); and
- recovery ("failback").

With no human intervention and no loss of service (see diagram in Conclusion).
Results:

- Ability to integrate with medical devices and certification to ISO 13485 standard.
- Information governance issues – all patient identifiable data must stay in-country.
- Ability to integrate paper use prior to electronic system activation.
- Power needs of servers and clients.