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

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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

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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.

Conclusion: The presentation will describe deployment in field hospital use (Oct 2016), and also during a formal assessment of the Xenplate system by the World Health Organization in a large-scale multi-day disaster simulation in the UK (Dec 2016), together with plans for future development.

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Establishing mHealth Injury Surveillance Systems in Kenya

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Study/Objective: To use the mHealth injury surveillance tool to improve data quality, reduce feedback time, enable data sharing and improve the efficiency of the existing process.
Background: Trauma registries play an integral role in injury surveillance, and in the monitoring and evaluation of trauma care. Success in establishing and maintaining trauma registries is limited in low-resource settings. Efforts have been made to establish hospital-based trauma registries at multiple sites in Kenya. Data was initially collected on a paper form upon patient interview, later transcribed into computer software, and exported monthly for review and analysis. Challenges included: missing data, errors in transcription, backlog of data entry, and lack of reliable software for data management and export.
Methods: A literature review was performed for low-cost and freeware solutions, taking into consideration ease of programming and functionality to the end-user. Using FormEntry, the existing paper surveillance tool was adapted for mobile devices, and designed for real-time upload to a web-based database upon completion of each entry.
Results: Successful registries have been established in five sites in Kenya with a patient population of 24,000 over a period of two years. Feedback from end users was positive, with increased efficiency of the process from data collection to analysis. In addition to expected outcomes, the use of mobile technology has decreased human resource requirements, while increasing interest and awareness for the program.
Conclusion: Trauma registries are an important source of injury surveillance data and developing quality of care processes. The use of appropriate mHealth injury surveillance tools can be used to bridge the data gap in low-resource settings such as Kenya with further potential to scale-up.

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Development of an Electronic Patient Record Structure for use in a Disaster Response

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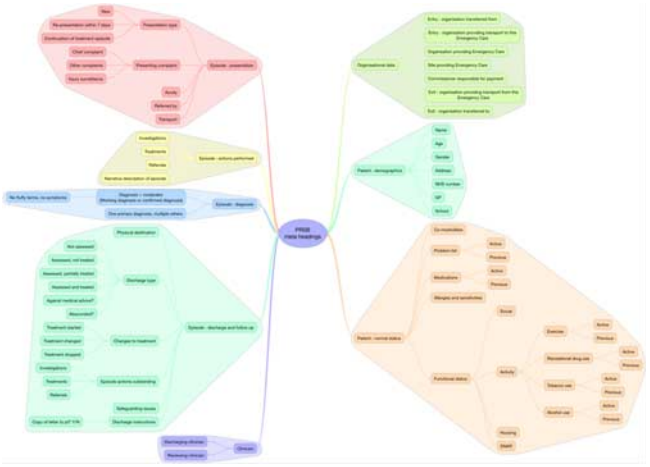
Study/Objective: Analyzing and optimizing the response to a disaster is made very difficult by the use of unstructured data captured on paper. Such data is difficult to aggregate and analyze in a consistent and meaningful manner – both in real-time for management and clinical quality assurance, and afterwards for comparative analysis and 'whole system' learning to improve disaster management.
Background: The SENDAI framework challenged the disaster management community to standardize core medical data in disaster situations; however it is not always clear what should be collected. If poorly designed, the data fields overlap and duplicate each other, which results in frustrated clinicians and dubious analysis.
Methods: We describe how the UK-EMT has tackled this challenge, building on the data-set work that has been coordinated by WHO. We have worked with informatics experts from the Royal College of Emergency Medicine, to develop a data set based on the UK National Health Service 'Emergency Care Data Set' (ECDS) that is being implemented across England in 2017.
Results: Every care episode includes a 'chief complaint', a measure of acuity (P1/P2/P3), investigations, treatments and a diagnosis and discharge/follow-up arrangements. The UK-EMT form codes into this structure, enabling reliable analysis – both real-time and post-hoc.
Conclusion: The scale of the NHS (25 million ECDS episodes per year) will enable evidence-based pathways, outcomes, patient information and decision support to be adapted for use in a disaster response where appropriate. A key principle in the NHS ECDS is that although acute/emergency care as a whole is nonlinear, each episode of care is linear (see diagram), and episodes can be linked to understand how people are using health care. The same principles apply in a disaster response and adapting the ECDS record structure has enabled rapid progress to a usable electronic clinical record. The data structure is shown in this diagram:



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