

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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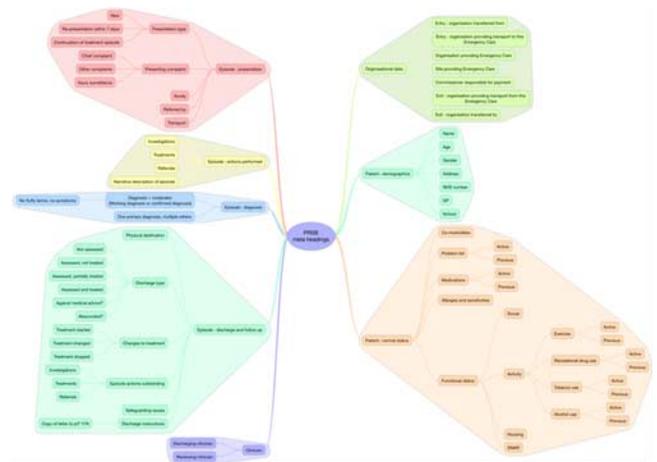
Study/Objective: Analyzing and optimizing the response to a disaster is made very difficult by the use of unstructured data captured on paper. Such data is difficult to aggregate and analyze in a consistent and meaningful manner – both in real-time for management and clinical quality assurance, and afterwards 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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