radically improve throughput and quality with no or little additional cost. The implementation of the FM in the emergency department setting to alleviate overcrowding has never been attempted, and it could revolutionize emergency department operations management.
Methods: Emergency department patient flow data affecting factors and outcomes from a large tertiary medical center, exclusively utilizing electronic patient records, will be collected. Root causes and influencing variables of emergency department overcrowding will be mapped and analyzed using FM tools. Later, alleviating measures will be developed and evaluated. During phase two, data will be collected from two additional emergency departments, measuring the impact of implementation of FM operational changes on emergency department flow parameters such as length of stay, wait times, clinical outcomes, and patient and staff satisfaction.
Results: Data collection and analysis of phase one of the study will be completed by March 2011 and presented at the conference. The authors speculate that the FM tools will allow better understanding of the root causes and affecting variables of emergency department overcrowding and help plan and later implement efficient interventions.
Discussion: The implementation of the novel management strategies of FM has revolutionized operations in many industries and services, helping them to drastically improve performance. The emergency department is a perfect candidate for the use of these tools, due to the overwhelming current operational difficulties (with overcrowding as a prominent symptom) and its complex high volume and high acuity patient flow.
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(A123) Developing World Disaster Health Research - Present Evidence and Future Priorities

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Developing world disaster Health research - Present Evidence & future priorities
Introduction: Considering that 85% of disasters and 95% of disaster-related deaths occur in the developing world, the overwhelming number of casualties has contributed insignificantly to the world's peer-reviewed literature. The existing & available evidence on disasters in peer-reviewed journals about the developing world, was examined for quality and quantity in this systematic review.
Methods: The free PubMed database was searched using the MeSH (Medical Subject Heading) terms 'disasters', 'disaster medicine, 'rescue work', 'relief work' and 'conflict' and then refined using the MeSH terms 'developing country'. The final list of selected manuscripts were analyzed by type of article, level of evidence, theme of the manuscript and topic, author affiliation & region of the study.
Results: Citations using MeSH search terms 'disasters', 'disaster medicine, 'rescue work', 'relief work' & 'conflict' yielded 63,196 results. After these results were refined using the second MeSH term "developing country", 438 articles were retained. Less than 1% (0.69%) citations in PubMed dealt with developing country disasters. Half of the manuscripts (46.5%) were found to be original research articles (36.1%) or reviews (10.4%), while more than a quarter (29.5%) were commentaries. 97.4% (149/153) of all 'original research articles' were Level IV or V evidence. A fifth (20.3%) of the authors of all manuscripts on developing world disasters were from the developing world (82/404); Predominant themes (29.1%) were missions, healthcare provision and humanitarian aid during the acute phase of developing world disasters.
Conclusion: Less than 1% of all disaster-related publications are about developing world disasters. Also, the developed world, authors four-fifths of the articles about developing world disasters, and contributes the predominant perspective. Aid for sustaining long-term disaster research may be a more useful investment in mitigating future disasters, than short-term humanitarian aid missions to the developing world.
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(A124a) Developing Pediatric Emergency Preparedness Performance Measures

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Background: The most obvious deficiency in the current evaluation of disaster response is the lack of objective, quantifiable measures of performance. This frequently leads to assessments that are highly subjective depending on the evaluator, does not provide those who are planning with targets to achieve, and does not allow for measures that they have improved their preparedness. The goal of this research project is to offer recommendations for government agencies at the federal, regional, and local levels, public health departments, and health care institutions to aid in the development of pediatric emergency management performance measures.
Interventions: The goal was achieved through the application of traditional quality principles to the assessment of emergency management efforts and to the use of innovative analytic methodologies to develop comprehensive approaches to performance measurement in emergency management.
Discussion and Observations: When one discusses performance measures, it is important to remember that these are metrics we use to improve the quality of care. With regard to emergency management, performance measures are used to increase capacity and efficiency. A classic approach to health care performance measures is to discuss them with regard to the domains of structure, process, and outcome. Recently, in addition to these domains, volume has also become an important predictor of clinical outcomes. Although we believe that these domains can be applied to emergency management functions and the development of performance measures for disasters, there are some fundamental differences when compared with their use in development and categorization of traditional health care metrics which have been built in to our modification of these domains to emergency preparedness. This approach, quantitative methodology and consensus

development process, when applied, will significantly advance pediatric preparedness. Ultimately, these pediatric specific measures must exist and be used to assess current levels of performance and guide resource allocation and targeted improvement efforts.
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(A127) Major Trauma in a Swedish Paediatric Population – A Survey of Children Admitted to a Neuro Intensive Care Unit (NICU)

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Purpose: To describe the demographics, mechanism, pattern, and severity of injury, prehospital and hospital care (first 24 hours) and the patient outcome in severely injured children in a NICU. This study was made to complete the study of Swedish children admitted to a paediatric intensive care unit (PICU) due to major trauma in the same region and during the same period.
Method: The medical records of 124 traumatized children (0–16 years of age), admitted to the NICU in Gothenburg 1992–2001, were retrospectively examined. The Injury Severity Score (ISS), Glasgow Paediatric Coma Scale (GSC), Revised Trauma Score (T-RTS/RTS), Paediatric Trauma Score (PTS), Trauma Score Injury Severity Score (TRISS) and Paediatric Risk of Mortality Score (PRISM) estimated the severity of injury.
Results: About 7/100 000 children with severe injuries were admitted to the NICU each year from 1992–2001 inclusive. Epidemiology showed a similar pattern as in other OECD countries. Severity of injury was recorded as an ISS median of 17. Mortality rate in our series was 6%.
Conclusion: Major trauma with admission to a NICU is rare in Swedish children. With management in conjunction with a pediatric centre, these children have a good survival rate.
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(A128) Awareness and Preparedness of Western Children's Hospitals for Disasters

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Disasters involving children are becoming more and more frequent. Thus, optimal preparedness will be a challenge for every Western pediatric disaster specialist. However, for any appropriate decision to be made, there must be a practical tool for accurately evaluating the levels of specific disaster awareness and preparedness. This tool is based on the idea that child injury prevention campaigns [n = 6] are usable as a platform for the simulation of specific pediatric disaster scenarios, and that different simulations might be able to modulate overall awareness and overall preparedness levels, as well as affect the training provided. Data are gathered from a disaster phase-related (Haddon-Matrix) set of questionnaires answered by key disaster response personnel [n = 58]. Overall awareness for a pediatric disaster scored highest for the "in the world" scenarios, with less, but with similar scores for "in the country" and "in the region" scenarios. Overall preparedness scored low for "in the world", with higher scores for "in the country" and "in the region". Both, overall awareness and overall preparedness scored inconsistently for "in the hospital" in the first instance, but later in the matrix, "in the hospital" had the highest scores. In general, basic knowledge about disaster plans is moderate, and knowledge about existence and activation of preparedness measures is above average. Individual position-taking and feelings of personal competency in position-taking is low, especially among junior staff. Currently, only a group of seniors are able report participation in a specific training. This platform is an upgradable tool for the awareness of and preparedness for pediatric disaster assessments, regarding phases, locations, and training, with promising trends for their modulation, especially among junior staff.
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(A129) A Pediatric Surgeon's Viewpoint of a Concealed Disaster

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Childhood is one of the most vulnerable parts in a human's life. Thus, any physical and psychological harm against children requires special attention, especially if inflicted and not accidental. Such children should be considered multi-trauma victims and managed by a multidisciplinary team and trauma algorithm. In this team of specialized carers, the pediatric surgeon will import his/her expertise on general management and treatment and simultaneously refer basic knowledge to more junior doctors that might be in charge in the future. Fifty-eight injured victims (mean age = 1.5 years of age, range = 1 day–18 years of age, male:female ratio = 1:1) were analyzed in this study. Their injuries were subcategorized into battery (13), assault (11), neglect (3), sexual abuse (2), prevention failure (6), career-related (19), and miscellaneous (5). All victims were first seen by a pediatric surgeon before receiving multidisciplinary consultations. Treatment results and modalities varied according to the complexity of the diagnoses requiring a well-trained and skilled pediatric surgeon. Accompanying post-traumatic stress disorders within the children as well as psychological distress among the parents and grandparents were quite frequent. Besides medico-surgical treatment, empathic care is essential. In the majority of cases the children, benefited from pediatric surgical care.
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(A130) Advantages of Apparatus of External Fixation in Severe Injuries of Extremities in Children

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Purpose: To study advantages of external fixation in severe injuries of extremities in children.
Material and Method: 305 children at the age from 3 to 17 years with polytrauma (ISS > 18) were studied. From them skeletal injuries took place in 198 patients, cranioskeletal trauma - 125,