evacuation drills, especially the clearance of an intensive care or an operating room; access to evacuation routes; visibility of safety guidelines; need of specific evacuation equipment for the movement of patients; mission and tasks of the hospital's first response team and the medical incident manager; communication and information flow and the establishment of the hospital's coordination committee.
Conclusion: 1. Simulated hospital evacuation exercises increased the hospital emergency preparedness, awareness and response to disasters within the hospital, in particular in a CCD, otherwise difficult to assess. 2. All three CCD experienced the same challenges and identified similar flaws. 3. A hospital disaster exercise manual might be of valuable help.
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(A143) European Project SICMA (Simulation of Crisis Management Activities) for Medical Management of Maxi Emergency Trauma Patients

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Introduction: Modern emergencies and disasters are progressively changing from relatively simple, predictable events controllable with standard management solutions to complex critical situations for which managers and first responders require innovative and affordable tools.
Methods: The European Project SICMA (Simulation of Crisis Management Activities) provides a modeling of the behavior of the entire Health Service System during field emergency operations, as well as the rules it operates by. Use of simulation technologies offers a significant improvement on current management activities allowing decision makers to confront several organizational alternatives not only with static situations but with evolving scenarios.
Results: SICMA simulates main structural and behavioral elements of maxi emergency and mass casualties, from individual casualties and evolution of their health status, activity of the police force and fire brigade on the accident site, crowd dynamics, sanitary personnel expertise, to ambulance and helicopter transportation depending on traffic and weather conditions. The system also simulates rescue doctrines (i.e. "Casualty Clearing Station" or "Scoop and run"), transportation priorities according to color codes, doctrines for assignment of new casualty to neighboring hospitals, hospital resources and involvement, final clinical outcome of individual casualties. Patient health status and physiological reserve of single casualty is based on the ABCD ATLS system, considering with a simple algorithm both level of damage and rate of worsening in time.
Conclusion: Utilizing this simulation system, managers who predispose organizational and logistic procedures may modify the main elements in order to identify the optimal resource allocation and the best procedures to save the most human lives.
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(A144) Health Status Casualty Model for Simulation of Crisis Management Activities (EU SICMA Project)

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Introduction: The European Project SICMA (Simulation of Crisis Management Activities) provides a modeling of the behavior of the entire Health Service System during field emergency operations, as well as the rules it operates by. The first step toward chain procedure modelling in the management of major emergencies is the representation of a traumatized patient whose health status can be followed in time during simulation. Since management of the trauma patient follows criteria of stabilization of main physiological functions, a trauma patient model was developed based on fundamental pathophysiological functions independently of specific lesion characterization. Methods: Each patient's health status was modelled according to 5 parameters (ATLS): A(airway), B(breathing), C(circulatory), D(disability), E(Exposure). Patient samples are extracted from a 10.000.000 patient database, generated by considering real anatomical lesions compatible with type and severity of considered scenarios (explosion, building collapse, fire, gunfight). Simulated lesion characteristics were then converted to pathophysiological parameters. Each physiological compensation parameter was represented by: (1) baseline value expressed as percentage of altered function; (2) function reduction rate over time, obtained by a mathematical approximation of clinical worsening. From level of function, rate of worsening and function-specific death thresholds, estimated time-to-death according to sustained damage is computed.
Results: This model allows simulation of evolution of patient health status both in absence of medical care, but also under therapy, in terms of immediate increment of each single parameter ("temporary" treatment), and of reduction or zeroing of parameter dec14rement rate ("definitive" treatment).
Conclusion: This model, based on evaluation of physiological parameters, presents an advantage over the consideration of single lesions, because simulating logical procedures that guide treatment choice in real situations can provide a more accurate assessment of casualities for those actors assigned to management of major emergencies.
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(A145) Simulation for the Assessment and Optimization of Medical Disaster Management

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Background: The ultimate goal of medical disaster management must be to predictably orchestrate transition from "standard of care" to "sufficiency of care" using evidence-based methods. However, neither descriptive reports of disaster responses nor epidemiological studies investigating disaster risk factors have been able to provide validated outcome measures as to what constitutes a "good" disaster response. Moreover, it either has