

A total of 33 people (8 male, 23 female, including 3 children) were killed by the water, with approximately 150 significantly injured. EMS runs increased 250% from normal daily averages, with island-wide responses significantly delayed by flood damage. The hospital in Pago Pago, situated near the shore and only 10 meters above sea level, utilized 75 staff to evacuate 68 inpatients to high ground as soon as tremors were felt. This process was completed in 20 minutes with no associated morbidity or mortality. Patient injury patterns for the event are similar to recent literature reports. Mobile clinics and alternate care sites established at outlying dispensaries were used to decentralize healthcare from the hospital. DMAT/DMORT teams from Oregon and Hawaii supported local healthcare initiatives. Post-disaster public health surveillance focused on identifying and limiting food/water-borne illnesses, dengue fever, and influenza-like-illness outbreaks, as well as disaster related PTSD.

Conclusion: The disaster response to the tsunami in American Samoa was effective. Disaster planning was appropriate and rapidly implemented. Post-disaster public health emergencies were minimized.

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(P1-22) Emergency Management Plan for H1N1 Major Epidemic Event – An Experience of a Private Hospital in Sao Paulo – Brazil

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Objective: To describe the Emergency Management Plan for H1N1 Major Epidemic Event to reduce the impact of the patients in a general emergency department.

Method: Einstein hospital has a catastrophe management program which is regularly tested for several scenarios: accidents, fire, and biological attack among others. Special concern is given for pandemics since we need to keep employees' fit to keep the hospital running as usual.

Results: On April 24, WHO issued an alert about the rising cases of influenza virus H1N1. Immediately we provided a plan of care for suspected or confirmed cases based on WHO and CDC guidelines. On April 29 increased level of alert to Phase 5 (pandemic imminent). The crisis management group created a multidisciplinary team with actions directed to Einstein's doctors and staff, 6,000 registered professionals, engineering, emergency care, laboratory, occupational medicine, hygiene, waste disposal, among others. Communication was maintained with government to update the official guidelines. Two specific drills were performed to train staff and support teams. Debriefings were made to all participants and lessons learnt were incorporated.

Results: Official figures showed that in São Paulo until August 2 have been reported 6,383 cases, 11.8% (756 cases) of these were reported by HIAE. From 5 May 2009 to 05 December 2009, 1,324 cases were reported. There were only four deaths of patients with influenza A H1N1 and two acquired in hospital and the daily business were not compromised by the epidemic showing the importance of a crises management plan.

Conclusion: The methodology of realistic simulations has showed effectiveness in the planning of how to manage Major Epidemic Events and improvement actions from this exercise has been showing best results for the patient flow and safety whenever this kind of situation happens at Hospital Albert Einstein.

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(P1-23) The Potential Terrorist Possession of Weaponized Plague in North Africa: A Forensic Epidemiology Case Study and Discussion of Principles in Tizi Ouzou, Algeria

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Background: A report of black death, presumably pneumonic plague (*Yersinia Pestis*) occurred in the terrorist group Al Qaeda in the Land of Islamic Maghreb (AQLIM) in 2009. Up to 40 members of AQLIM are reported to have perished rapidly.

Discussion: The event was managed by Algeria, but questions remain as to the nature of this event and the level of investigation that was applied. This paper is a discussion of the principle elements of a forensic epidemiology investigation that should have, but did not take place in Algeria. The need for improved forensic epidemiology investigation capability is illustrated in this event due the unique problems inherent in the investigation of intentional outbreaks.

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(P1-24) Future Weapons of Mass Destruction: Preparing For Emerging Threats

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Introduction: Civilian Weapons of Mass Destruction (WMD) training involves preparing for threats well-known to the military since World War II. Present and future developments in Chemical-Biological (CB) research have resulted in new potential agents, modes of action, and methods of delivery. Chemical-Biological defense training should include these new agents and anticipate contact with previously unknown ones. The natural response to an unknown threat is fear and panic, out of proportion to the actual threat. Specific training in management of new pathogens and toxidromes should be incorporated into existing preparedness regimes. Leadership skills that address uncertainty and inspire constructive responses will increase resiliency.

Methods: Literature Review

Results: Recent and Future CB Agents: (1) 4th Generation AchE inhibitors: Novichoks, Substance 33, etc.; (2) Genetically enhanced bacteria and engineered chimeric diseases; (3) Modified viral diseases: Variola, Influenza, filoviruses, flaviviruses, arenaviruses; (4) Bacteriophage induced diseases; (5) Agents targeting specific racial or genetic groups; (6) Mid-spectrum agents; (6) Bioregulators: Substance P, vasopressin, enkephalin, etc.; (7) Novel toxins: tetrodotoxin, SEB, saxitoxin, etc.; (8) Hallucinogens and incapacitants (LSD, DMT, carfentanyl, cis-fluoro-ohmefentanyl); (9) Prions and infectious nucleic

acids Delivery: (1) New delivery methods: micro- and nano-robots modeled on insects (MEMS systems), microencapsulation; (2) Directed Energy Weapons Mitigation: (1) Development of systems for identifying and dealing with unknown agents and symptoms; (2) Hazard Identification, Risk Estimation, Risk Reduction Strategies, Residual Risk Evaluation and Monitoring, Mitigation and Recovery Leadership skills needed during uncertainty: Sense making, Visioning, Relating, Inventing.

Conclusions: Preparing for events without training for new and novel CB agents leaves us unprepared. Incorporating modern science with leadership skills will lessen the impact of future CB release and improve organizational resiliency. The main mistake people make is that they fear current problems more than future ones. Carl von Clausewitz Chance favors the prepared mind.

Louis Pasteur.

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(P1-25) Risk Management in Emergency Situations: Does Germ Simulation Improve the Level of Care?

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Simulation is a major part of the training process for emergency medical professionals. The scenery, sounds, smells, situations, etc. all have been replicated for the benefit of the student. These simulation factors prepare the student to react according to the trainings they received in a controlled environment, but what about germ simulation? The premise of this research is to determine if the outcome of treatment changes when germ simulation is added as a factor. The majority of emergency medical simulations do not factor germs into the situation, and potentially leave the emergency responders exposed, which causes liability, complications, side effects, etc. Generally, the current standards for care and certification include lessons on blood-borne pathogens, disease prevention, personal protective equipment, etc., but there still is a shortcoming between the classroom lessons and a real situation. This research helps answer the following questions: What is the simulation method that can best replicate a real situation? How much potential disease exposure can an emergency medical responder expect? Does the level of treatment increase with the introduction of a germ simulation? What behavior changes occur when germs become a main factor in a simulation? The goal of this research and presentation is to find out if the amount of risk can be reduced with more comprehensive simulations. Ultimately, researchers hope to diminish the risk of disease and illness spreading among responders and at the same time increase the level of care among disaster victims.

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(P1-26) Abdominal Trauma: Arteriography versus Laparotomy

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Selective non-operative management of abdominal visceral lesions is one of the most important and challenging changes that occurred in trauma patient care over the last 20 years. The main advantage

of this type of management is the avoidance of unnecessary/non-therapeutic laparotomies. Trauma surgeons who deal with this type of treatment are worried of missed abdominal injuries. Modern diagnostic tools (spiral computed tomography, ultrasound, angiography, laparoscopy) allow trauma surgeons to accurately characterize the lesions to be addressed non-operatively. This presentation discusses the main elements of selective, non-operative management of principle solid visceral lesions (liver, spleen, and kidney). The advantages and limitations of the main diagnostic instruments used for evaluation of trauma patients allocated to non-operative management will be highlighted. Polytrauma patients in a Level-1 trauma center over the last five years were selected and outcomes were analyzed. Pancreatic trauma remains an operative injury. However, surgeons must temper the enthusiasm for non-operative management of patients with solid organ injury, and exclude patients who would best be treated with surgery from this management scheme. Emergency care of the patients according the golden hour and team ability must be considered.

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(P1-27) Jumbo Air Crash: A Serious Disaster Management Question

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The new jumbo jets, such as the Airbus680, which can transport 600 to 800 passengers, need special consideration in case of a crash, especially if the crash occurs near the airport. Survival parameters depend on the effect of the brutal deceleration and the high probability of thermic effects due to fire, but also the toxicity of the smoke. These new jets requires a different approach to planning for crashes. The scale of the disaster will be totally new in terms of numbers of casualties, numbers of fatalities, and numbers of family members to for whom to provide psychological and technical information. In addition, the problem of identification of the victims will be heightened, and will require more forensic teams. There is, in fact, only one way to manage this kind of disaster: international cooperation and coordination.

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(P1-28) Primary Health Care (PHC) Approach in Emergencies and Disasters

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This presentation will focus on outlining the issues and challenges to developing a framework for a PHC approach for emergencies and disasters. The emphasis will be how the use of the PHC principles to achieve equity and social justice can improve disaster response. These approaches include; universal coverage/equity, community participation, intersectoral collaboration and the use of appropriate technology. Discussion will include; the revitalization of PHC and the role of PHC in emergencies and the challenges of the PHC approach in emergencies. Responding to emergencies from the perspective of disaster risk