

performance strategies for frontline-responders, namely surgeons, air traffic controllers, police, and world-class athletes. This research-based approach confirms that best performers in high-risk situations prepare similarly to elite athlete, specifically relating to their emphasis on mental readiness. A framework (Orlick's "Model of Excellence") developed by researchers who worked with Olympic athletes has a proven replication within very different high-risk disciplines. Both quantitative and qualitative analysis of mental readiness was provided based on in-depth interviews with exceptional professionals regarding their best and less-than-best performances. These findings were assessed to determine the presence of common success elements, including: (1) commitment; (2) confidence; (3) mental preparedness; (4) focus/refocus; and (5) seeking and accepting feedback. This refined assessment tool combines the methodological rigour of academic research with a highly readable and practical analysis of specific techniques that increase effectiveness. Challenges were defined from a frontline-perspective. The balance between technical, physical, and mental readiness were compared. Success skills, performance blocks and influencing factors for optimal performance were detailed. Ten practical recommendations are discussed relating how preparedness of frontline-operations strengthens performance, productivity, and morale. An "Operational Readiness Assessment" is a powerful tool with proven value in hospital, paramilitary, corporate, and industrial settings in which there is a need to be well prepared for, risks of injury or death, large equipment/financial expenditures, complacency, fatigue, and significant consequences of errors. It has been described as an indispensable addition to current work in recruitment, career development, e-learning, role-modeling and future research benchmarks. For example, new performance-indicators for mental readiness were incorporated into surgical-resident evaluations, national situational-awareness training was instituted for seasoned air-traffic controllers, and mental-survival e-modules now enhance police coach-officer programs. Ultimately, a "winning" strategy for managing risk is promoting a healthy, prepared workforce resulting in a safer community.

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(A164) Emergency Preparedness Model for a Level-One Trauma Center

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This Level-1 Trauma Center, with a service area covering a population of approximately four million people, treats approximately 80,000 patients per year. In 2010 it is anticipated that > 23,000 patients will be admitted, and > 850,000 patient encounters will occur within the network. This year was especially fruitful with the World Series, Dallas Cowboys, and other large crowd events simultaneously. The disaster plan prepares the hospital for the Super Bowl in February 2011, and its anticipated 250,000 extra people. The emergency preparedness program is a unique hybrid model integrating hospital accreditation guidelines, governmental guidelines, and regulations with the daily experiences at the trauma center. Emergency Preparedness is a program of the Trauma Department; this relationship provides a direct connection between the emergency preparedness

program and direct execution of the plan. The emergency preparedness coordinator is responsible for directing the hospital command center at the time of a disaster requiring activation of the plan. The four phases of emergency planning: (1) Mitigation; (2) Preparedness; (3) Response; and (4) Recovery comprise the core of the plan. However, memoranda of understanding with local, regional, and state emergency operation professionals and organizations are enacted so depleted resources can be replenished. This integration provides for a flexible web that allows sharing of expertise and resources. Trauma Research is available for conducting measurable assessments of emergency preparedness drills and exercises, as well as actual disasters and emergencies where a paucity of research exists. Compliance with all relative agencies is important. A successful emergency preparedness plan directly incorporates daily experiences. This model allows for the continued provision of standards of care and continuity of service during disasters and emergency situations on a daily basis.

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(A165) Red Cross Health Erus, a Modular Approach to the Challenge of Evolving Emergencies

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Emergency Response Units (ERUs) were pioneered over a decade ago by the International Federation of Red Cross and Red Crescent Societies (IFRC), with the intention of providing a standardized, rapid global tool for response in disasters. Health ERUs are one example of several types of ERUs on stand-by in various countries around the world. Their tented infrastructure, basic medical equipment, and pre-trained personnel allow for the provision of surge medical capacity where it is needed. Commonly used set-ups include a Basic Health Care Unit and a Referral Hospital. The recently-introduced Rapid Deployment Emergency Hospital allows for a lighter, highly mobile infrastructure, with surgical and emergency medical capacity. The modular design of these ERUs allows for deployment with materials "tailored" to the disaster. Their flexibility has been demonstrated in public health emergencies such as the nation-wide cholera epidemic that occurred in Zimbabwe (2008) and more recently in earthquake-damaged Haiti (2010) and flood-affected Pakistan (2010). Health ERUs already on the ground in post-earthquake Haiti were able to re-organize equipment for use in cholera treatment units and centers, and additional ERUs were deployed specifically to set-up treatment centers. In Pakistan, a mobile clinic set-up was used to deliver primary health services to displaced populations, including psychosocial support initiatives and community health messages to minimize the emergence of communicable diseases. The Community Health module (CHM) is a new module in development since 2009. Experience has shown that disrupted health systems, combined with displaced populations can create a fertile environment for communicable disease outbreaks. The CHM addresses primary, secondary and tertiary prevention early in emergencies by engaging communities and more specifically National Society volunteers in epidemic control. The modular design of Health

ERUs allow for a rapid and comprehensive approach to delivery of health care in a disaster, with a longitudinal perspective of population needs.

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(A166) Disaster Risk Reduction - Extreme Heat Preparedness

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Background: South Australia is often referred to as the driest state in the driest continent on earth and the community expects summers to be hot. However since 2007 South Australia has experienced several periods of extreme heat which have challenged and required the emergency services including health to consider a new preparedness approach. Any extreme weather condition can cause disruption to the community and the effects of such events as extreme heat are not always immediately obvious. However these effects can silently cause death and an increase to the health burden of the community.

Discussion: In South Australia the term ‘Extreme Heat’ as opposed to ‘Heatwave’ has been quite deliberately chosen as this describes more accurately an unusual climatic situation characterised by higher temperatures and greater length of time than normally expected. A number of studies have been undertaken to consider the impact on the health of the South Australian community and its health services and specific action plans and communication strategies have been developed to respond to extreme heat and encourage an increasing level of community resilience. This paper will describe recent events, some of the research undertaken and the preparedness, planning and response strategies implemented to reduce and manage the risk.

Conclusion: The response strategies introduced in South Australia have been recognised for their excellence and in 2010 SA Health was the recipient of several awards at both state and national level for this work.

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(A167) Patient Tracking In Disaster Drills

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Introduction: Disaster Drills, the world over, test several aspects of disaster response encompassing inter-agency coordination, institutional response and individual proficiency. This abstract analyzes the efficiency and gaps in patient triage in a large inter-agency disaster drill conducted in Mumbai in December 2010.

Methods: Over eighty simulated patients at the mock disaster site in Mumbai were triaged for transport to two hospitals via prioritized EMS vehicle and other modalities. Each patient was tagged with an identifier and his/her final destination compared to the intended destination to gauge accuracy of triage. Arrival and departure time-stamps at each location helped plot triage efficiency

and variation in inter-group response times. EMS responders were trained in START triage during the preparatory phase.

Results: There was no significant difference in time to transport “red” and “yellow” patients to the triage zone. Patients in the “accident buses” were triaged twice as slowly as those outside in spite of the zone being declared safe to enter, by the controlling authorities. 11% of “red patients” were down-triaged and 30% of yellows were “over-triaged.” A significant bottle-neck developed between field triage zone and transport zones.

Conclusions: Our group has conducted disaster drills in several large cities in Sri Lanka, India and the Dominican Republic. Expanding focus to document time-stamps and triage accuracy highlighted need for more robust triage training, allowing local agencies to prioritize training for EMS responders in the coming months. Demonstrating how inaccurate triage could potentially overwhelm the system helped local agencies recognize the need to train first responders in START triage.

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(A168) Medicine at Sea

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Cruising has become a major part of the tourist industry. In 2010, the total passengers carried worldwide was estimated at 18.4 million, on about 230 cruise ships. Large ships can hold up to 6,000 passengers and > 2,000 crew members. A large cruise ship is rather like an island, with two different communities: the well-trained crew, hopefully prepared for every eventuality and trying to make their guest’s stay as pleasant as possible; and the guests, there to have fun. The guest population varies, with up to 40% under 21 years old during school breaks, and the average age is in the fifties or sixties on longer cruises to scenic places such as Alaska. Most of the time ships cannot be reached by helicopter and the medical teams need to cope with a wide range of emergencies from cardiopulmonary, trauma, and psychiatric issues. There are strict public health measures enforced and a range of legislation reducing the risks of cruising to a minimum. This paper reviews the training of the crew for medical emergencies, the incidence of disease, the incidence of medical disembarkation and major incidents on board, and the role of medical teams.

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(A172a) Development of Emergency Medical System in High Speed Train and Station

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Introduction: High speed train is defined as train which can run at the speed of more than 200Km/h and Korean version of high speed train (Korean Train Express: KTX) runs at 300Km/h on average. Because of high speed, safety is the most important issue of high speed train, so the early detection of technical error and