mental-readiness skills and that this fact has often separated those who win a gold medal from those who do not. In recent years, this research has been extended to other occupations, including the field of surgery, policing, and now disaster-emergency-response, and similar results were found. For example, in the study entitled "Gold Medal Policing: Mental Readiness and Performance Excellence" (McDonald, 2006), peak-performing police officers demonstrated excellent technical and physical skills but excelled in mental readiness skills. Traditionally, the focus of most core-competencies has been on the technical and physical skills necessary to perform the duties. Given what we now know about the significance of mental-readiness skills, we can specifically develop and formally recognize these skills. That is, in addition to seeking the technical and physical skills required of a job, particular emphasis is places on refining the mental skills that ultimately makes the difference between satisfactory performance and peak performance. The goal of any field-training, is to produce a competent, independent, functioning frontline-responder. Such a responder will demonstrate concrete, observable "performance indicators." Current research on peak performers has been integrated into developing comprehensive performance indicators. This outcome can benefit the recruitment, selection, training and evaluation of professions seeking to enter into the unique world of disaster emergency medicine.

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(A157) Interprofessional Education as a Vehicle to Instill Teamwork Mentality for Disaster Preparedness and Response in Healthcare Professional Students

S. Mackintosh,[1] D. Mcclure[2]

1. Interprofessional Education, Pomona, United States of America
2. College Of Veterinary Medicine, Pomona, United States of America

There is a crucial need for teamwork in disaster management. Gaps in collaborative efforts resulted in significant loss of life and property during recent disasters. Such losses could have been minimized with enhanced teamwork. Unfortunately, the current US healthcare system fosters a fractured structure where health professions work in isolated silos. While coordinated disaster management has done much to overcome this, the silo mentality still inhibits maximal achievement toward the four phases of emergency and disaster preparedness and response. Since 2007, Western University of Health Sciences (Western U) has embarked upon an initiative focusing upon the concept of patient-centered, collaborative care in students from the beginning of the clinical education process. The intent of the program is to instill in all students non-technical competencies that promote teamwork such as communication, collaboration, and understanding scope of practice. The long term vision is to develop a three phase program (case based, team training and clinical experience) that will take the student through an awareness level to an application level of the competencies. The second phase of the program utilizes the TeamSTEPPS® training to instill these competencies in students. The application and assessment of the teaching points will be through community and patient safety exercises that include topics such as disaster preparedness and response. In conjunction with the TeamSTEPPS® training, the students from the nine professional programs (DO, PA, PT, PharmD, Graduate Nursing, Vet Med, Dental, Podiatry, and Optometry) will also be exposed to principles and practices of disaster response. By intensifying teamwork principles as the basis of disaster preparedness, the response pool for disaster response will be amplified, and future healthcare practitioners will be more aware of teamwork strategies necessary in a disaster setting. The intent of this presentation is to introduce this academic model including early outcome data.

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(A158) Preventing Disasters: Public Health Vulnerability Reduction as a Sustainable Adaptation to Climate Change

M. Keim

National Center for Environmental Health, 30303, United States of America

Background: Global warming is predicted to increase the number and severity of extreme weather events. (IPCC 2007) But we can lessen the effects of these disasters. "Critically important will be factors that directly shape the health of populations such as education, health care, public health prevention and infrastructure." (IPCC 2007) A comprehensive approach to disaster risk reduction (DRR) has been proposed for climate change adaptation. (Thomalla 2006) DRR is cost-effective. One dollar invested in DRR can save $2-10 in disaster response and recovery costs. (Mechler 2005) Disasters occur as a result of the combination of population exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity to reduce or cope with the potential negative consequences.

Discussion: By reducing human vulnerability to disasters, we can lessen—and at times even prevent—their impact. Vulnerability may be lessened by: 1) reducing human exposures to the hazard by a reduction of human vulnerability, 2) lessening human susceptibility to the hazard, and 3) building resilience to the impact of the hazard. (Keim 2008) Public health disasters are prevented when populations are protected from exposure to the hazard. Public awareness and education can be used to promote a "culture of prevention" and to encourage local prevention activities. Public health disasters may also be mitigated through both structural and social measures undertaken to limit a health hazard's adverse impact. (IPCC 2007) Community-level public health can play an important part in lessening human vulnerability to climate-related disasters through promotion of "healthy people, healthy homes and healthy, disaster resilience communities." (Srinivasan 2003)

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(A159) Core Competencies for Emergency Preparedness Education for Health Profession Schools

D. Markenson,[1] M. Reilly[2]

1. Center for Disaster Medicine, New York, United States of America
2. School of Health Sciences and Practice, New York, United States of America

Background: The possibility of natural disasters and public health emergencies coupled with the possibility of terrorism clearly support the need to incorporate emergency preparedness

and response material into the curricula for every health professional school in the nation.

Discussion: To date, the focus has been on the education of the existing healthcare workforce. Students' needs differ from those of practitioners in that there is a fundamental difference between educational competencies and occupational competencies. It is also important to recognize that to assure proper preparedness there must be a clear connection between departments of public health and all other healthcare entities. To this end we included public health students in the creation of competencies and have shown that non-clinical practitioners can, and indeed must, be included in this process.

Observations: We describe a process and present a list of emergency preparedness core competencies for health care professions and their applicability to Medical, Dental, Nursing and Public Health students. While we have designed this set of competencies using these disciplines, they may be easily adapted to other healthcare disciplines. The only variations would be in the assignment of proficiency levels and the decision of whether or not clinical competencies are appropriate. The core competencies have been divided into the following four categories which represent broad subject areas and the separation of the competencies related to direct patient care:

- Emergency Management Principles
- Terrorism and Public Health Emergency Preparedness
- Public Health Surveillance and Response
- Patient Care for Disasters, Terrorism and Public Heath Emergencies.

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(A162) Preparing Plans! Helping First Responders Prepare the Population

K.M. Simon-Agolory, K.Z. Watkins
Doe Nnsa Disaster Recovery Center, Wilberforce, United States of America

It is common knowledge that having an individual or family disaster plan is vital for saving lives and property before, during and after a disaster. First responders have the daunting task of helping many people during a disaster. It would make their jobs easier if people had disaster plans before a disaster. However, for a variety of reasons, few people have a disaster plan. People often do not develop disaster plans due to the time required to devise a plan, a lack of knowledge of the benefits of having a plan, or the effort required for the primarily manual process of developing a disaster plan. Wilberforce University has designed a solution called Wilberforce's Information Library Boosting Emergency Recovery (WILBER) which is a customized, online tool to quickly and automatically generate disaster plans to help save lives and property as well as mitigate the impacts of a potential disaster. WILBER utilizes an interdisciplinary approach to automatically generate a basic disaster preparedness plan. The system addresses a wide range of disasters but focuses on floods, earthquakes and technological disasters such as terrorism and nuclear disasters. WILBER automatically processes locally relevant data intelligently and combines mathematical analysis; distributed computing; individual and business risk management; current and historical information from a comprehensive Geographical Information Systems (GIS) that includes imagery, infrastructure, demographic, and environmental data; and wireless sensors for real time condition assessment. Not planning for a disaster only increases the potential magnitude of a disaster. WILBER allows citizens to quickly establish immediate procedures in the event of an emergency which in turn can lessen the burden on first responders and reduces the likelihood of loss of life. This research is funded by the Department of Energy's National Nuclear Security Administration and conducted by the Wilberforce University Disaster Recovery Center in Wilberforce, Ohio, USA.

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(A163) Hospital Evacuation Plan

A. Khorram- Manesh,[1] C. Nero,[2] P. Ortenwall[2]
1. Research and Education, Gothenburg, Sweden
2. Gothenburg, Sweden

Introduction: Hospitals, as one major cornerstone of contingency planning, are often expected to be fully functional during a major incident. However, the continuous streamlining of todays healthcare system with a constrained economy, lean production principles and increasing complexity together with changing levels of the threats may result in an evacuation, should hospitals themselves be the targets for a disastrous action.

Objective: The aims of this study were 1) to evaluate an appropriate risk and vulnerability analysis model as a basis for hospital evacuation plan, 2) to identify hazards triggering an evacuation 3) to evaluate the response needed in an evacuation situation and 4) to clarify the impact of such an evacuation plan on the ordinary emergency medical plan.

Material and Methods: A systematic online literature search based on the following keywords; evacuation/closure, hospitals/medical facilities, and disaster/hazards; alone or with planning, and also a risk and vulnerability analysis as a case study at the hospital in Lidkoping, Sweden, were conducted.

Results: Our findings indicate that hospitals are vulnerable to different risks such as technological dysfunctions, climate changes and terror actions, which can result in an evacuation of patients. In such a situation, well functional transport organization and availability of temporary facilities along with good communication are necessities to assure patient safety. Such functional abilities may be assessed by planning, education and continuous training.

Discussion and Conclusion: There is a need for an elaborated evacuation planning for hospitals. Such plan should continuously be drilled based on a risk and vulnerability analysis and be integrated in the ordinary medical emergency plan. Simulations of different scenarios are one way to determine risks and identify proper actions before a major incident or disaster strikes.

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(A163a) Gold-Medal Performance: "Operational Readiness Assessments" for High-Risk Workplaces

J.M. Mcdonald
Institute of Population Health, Ottawa, Canada

This presentation will demonstrate that the use of an "Operational Readiness Assessment" was successful in identifying high-