



National Center for Disaster Medicine and Public Health

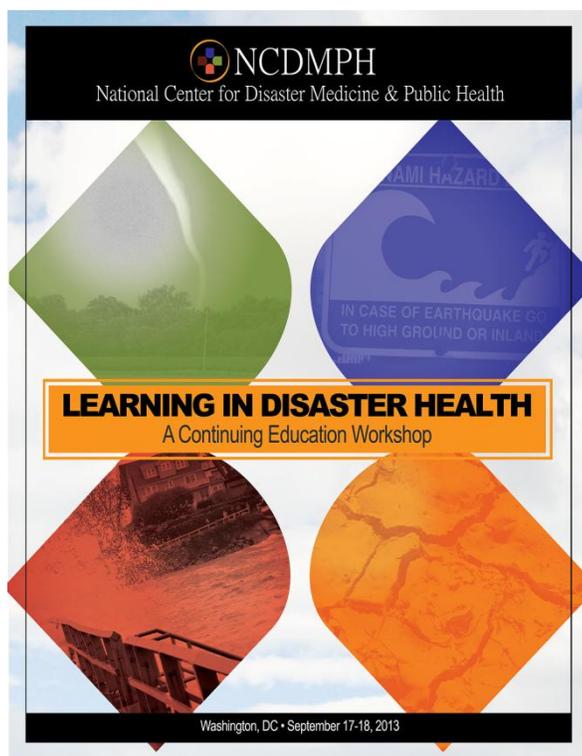
Proceedings of
Learning in Disaster Health:
A Continuing Education Workshop

Authors:

Kelly Harrison Gully
Elizabeth Brasington

Editors:

Kenneth Schor, DO, MPH
Kandra Strauss-Riggs, MPH



In coordination with the
Uniformed Services
University
and the
Henry M. Jackson
Foundation



Table of Contents

Workshop Planning Committee.....	3
Suggested Citation	3
Disclaimer.....	3
Introduction and Welcoming Remarks	4
September 17, 2013 Session Descriptions	6
September 18, 2013 Session Descriptions.....	19
Concluding Remarks.....	26
Poster Abstract Presentations.....	28
Appendix A - Workshop Agenda	44
Appendix B – Enhancing Learning through Social Media.....	48



NCDMPH Staff engage with attendees during the Learning in Disaster Health Workshop in September 2013.

Workshop Planning Committee

Many thanks to the workshop planning team:

Brian Altman, PhD

Robin Lowe

Elizabeth Brasington

Kenneth Schor, DO, MPH

Hillary Craddock, MPH

Laura Singer

Thomas Fitzgerald, MPH

Kandra Strauss-Riggs, MPH

Kelly Gulley

Lauren Walsh, MPH



The staff of the NCDMPH (February 2013) [left to right] Kelly Harrison Gulley, Kandra Strass-Riggs, Dr. Kenneth Schor, Hillary Craddock, Thomas Fitzgerald, Robin R. Lowe, Dr. Brian Altman, Elizabeth Brasington, Lauren Walsh

Suggested Citation

Gulley K, Brasington L. Proceedings of Learning in Disaster Health: A Continuing Education Workshop. Rockville, MD, 2013. Available from:

<http://ncdmph.usuhs.edu/Documents/Proceedings-of-Learning-in-Disaster-Health.pdf>

Disclaimer

The views expressed are those of the author and do not reflect the official policy or position of the National Center for Disaster Medicine and Public Health, the Uniformed Services University of the Health Sciences, the Department of Defense or the United States Government.



Introduction and Welcoming Remarks

Welcome and Opening Remarks

Kenneth W. Schor, DO, MPH, Acting Director, NCDMPH



Dr. Kenneth Schor gives welcome and opening remarks at the Learning in Disaster Health Workshop in September 2013.

Background and Session Description

The National Center for Disaster Medicine and Public Health (NCDMPH) *Learning in Disaster Health: A Continuing Education Workshop* was held on September 17-18, 2013 in Washington, DC. Content from the workshop included interdisciplinary sessions which explored learning in the context of disaster health and included the presentation of research in a poster competition. The workshop aimed to answer the question: How should the nation effectively conduct education and training in disaster health to mitigate death and injuries from all-hazards disasters?

The NCDMPH was established in 2008 by Homeland Security Presidential Directive 21 (HSPD-21), which calls for the Center to be an "academic center of excellence in disaster medicine and public health." The NCDMPH is an academic center of the Uniformed Services University of the Health Sciences, the Nation's only federal health sciences university and medical school.

The USUHS's mission is to train, educate and prepare uniformed services health professionals, officers and leaders to directly support the Military Health System, the National Security and National Defense Strategies of the United States and the readiness of our Armed Forces. USU is the Nation's only federal health sciences university and ranked as the top-tier medical school in U.S. News & World Report's "Best Graduate Schools 2014." NCDMPH is one of a number of Centers at the university.

Dr. Kenneth W. Schor, Acting Director of the NCDMPH, welcomed workshop attendees to the event in the morning of September 17, 2013. He began by stating the workshop's goals and objectives in order to focus attendees on what they might learn from the event. The goals of the workshop were to focus on education and training in disaster health and provide an interdisciplinary academic forum to:

- Explore concepts of adult learning in the context of disaster health
- Highlight the implications of the latest research and practice for disaster health learning and performance and identify key areas for future research (via a poster competition)
- Present a unique opportunity for collaboration among disaster health, human resource development and adult education professionals
- Identify potential solutions for maximizing learning in a resource constrained environment

Dr. Schor highlighted some of the work completed by the NCDMPH (see our website, <http://ncdmph.usuhs.edu>). Highlighted products included an online table of resources linked to the 11 core competencies of disaster health, disaster health curriculum recommendations, online pediatric lessons for self directed learning, two ongoing field research projects on health care coalitions and long term community recovery from major hurricanes, and online *Resilience through Learning* resource pages on an assortment of relevant disaster health topics to facilitate just in time learning.

Dr. Schor concluded his opening remarks by emphasizing the NCDMPH vision of working toward a nation of resilient communities with a competent health workforce prepared to respond to and mitigate all-hazards disasters. To help accomplish this vision the NCDMPH overtly structured this workshop in an interdisciplinary manner, welcoming attendees from a broad range of disciplines (health professions, adult learning, and human resource development) and from across Federal Departments, with State, Local, governments, and among professional associations, academia, and other private/partners.

Dr. Schor explained that the workshop provided a forum for experts from around the nation to share current education and training research and practice that is relevant to the disaster health community. The themes discussed at the workshop set the stage for further advancement of education, training and learning in the field of disaster health.

Dr. Schor introduced one of the co-chairs of the NCDMPH advisory group, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness & Response (FETIG), Mr. Graydon "Gregg" Lord, MS. Mr. Lord is the Director of the Emergency Care Coordination Center of the Office of the Assistant Secretary for Preparedness and Response of the Department of Health and Human Services. The function of the FETIG is to serve as the coordinating mechanism for public health and medical disaster preparedness and response core curricula, training, and education across Federal agencies, departments, and other stakeholders. Mr. Lord expressed strong support from the Co-Chairs of the FETIG for the NCDMPH, the workshop, and our mutual goals.

September 17, 2013 Session Descriptions

General Session: *Bridging Disaster Health & Learning, Education and Training / Disaster Preparedness: Improving Capacity and Resilience through Education and Training*

Charles L. Rice, MD, President, Uniformed Services University of the Health Sciences (USU)



Dr. Rice delivers the first general session presentation on September 17, 2013.

Key Points

- Dr. Rice discusses the domestic and international impacts and trends of disasters.
- There is a need for professional education and standards in disaster relief and education.
- Shortfalls in responders speak to a demand for professionalism and an emphasis on better education and training programs for the disaster health workforce.
- USU has a role in disaster education and response through NCDMPH and other academic centers of excellence.

Session Description

Dr. Charles L. Rice, President of USU, started by introducing the newly appointed Dean of the School of Medicine at USU, Dr. Arthur Kellermann MD, MPH, FACEP. Dr. Kellermann was the founding chairman of the Department of Emergency Medicine at Emory University in Atlanta, Georgia and has long been involved in the field of disaster health.

Next, Dr. Rice discussed the impacts and trends of disasters which reinforce the need for professional education and standards in disaster education. He also highlighted USU's role in disaster education and response. Disasters have a global impact where over the last ten years there have been: 3900 natural disasters, 1.1 million people killed, 1.9 billion people affected, \$1.7 trillion in economic losses and terrorism has increased from 1800 to 5000 incidents per year. These numbers are more remarkable since they only reflect those disasters where a declaration of a state of emergency and a call for international assistance occurred. The military and federal response authorities depend on well trained health providers to respond to a wide

range of disasters including earthquakes, volcanoes, and hurricanes to regional wild fires, and long term climatologic events such as droughts and floods.

Factors that may contribute to the increase in vulnerability may include climate change, deforestation and desertification, and population growth and concentration. Additional items to consider are the global response and the increased awareness and media coverage of disasters.

Even with disaster response being a growing industry, it has many shortfalls such as failures in coordination, ineffective interventions, inadequate documentation of outcomes, absence of standards and competencies, lack of sustainment, over emphasis on medical intervention and lack of cultural competency. These shortfalls in responders speak to a demand for professionalism and an emphasis on better education and training programs for the disaster health workforce.

Such shortfalls are a motivation to change the current disaster framework. In the past, disaster response by the military was a by-product of its inherent deployment capacity. The emphasis was on general response considerations with little or no lessons learned. The current national strategy defines a significant role for the military in disaster and humanitarian assistance response. The United States is building sustained presence and partnerships in vulnerable areas that are seeing marked urban growth. By 2050, the world's urban population will represent about 70 percent of a projected global population of 9 billion. This represents a challenge for disaster risk reduction. Much of this new urbanization will unfold in hazard-exposed countries and in regions with weak disaster risk management capabilities.

As the frequency of disaster response and visibility to the general public, increases, it continues to be apparent that there are deficiencies in the system used to manage disasters. This was not limited to the provision of health care and public health, but our community is experienced in setting standards and establishing competency based credentials. By the beginning of the 21st Century it was realized that education and training programs needed to be established to begin professionalization of the humanitarian response workforce.

Dr. Rice went on to discuss the disaster health education and training being conducted by the Uniformed Services University's many academic centers. The USU was an early leader in the movement toward professional education and training in disaster health both domestically, through the National Disaster Life Support Foundation Education Consortium (NDLS-EC), and internationally with the Diploma in Medical Care Catastrophes (DMCC). Over the years, three centers dedicated to various aspects of disaster health have been established at USU. These academic centers include: the Center for the Study of Traumatic Stress (CSTS), the Center for Disaster and Humanitarian Assistance Medicine (CDHAM) and the National Center for Disaster Medicine and Public Health (NCDMPH).

The world will continue to be confronted with extensive suffering from disasters. The need to develop competency-based qualifications for providing disaster health care is well established. USU, through the work at the NCDMPH, will continue its leading role in disaster education and curriculum development.

September 17, 2013 Session Descriptions continued

General Session: *Adult Learning: Creating the Bridge for Disaster Health*

Moderator-David M. Abramson, PhD, MPH, Deputy Director, National Center for Disaster Preparedness, Earth Institute Columbia University

Chad Priest, RN, MSN, JD, Chief Executive Officer, MESH Coalition

Ronald M. Cervero, PhD, Associate Vice-President for Instruction, The University of Georgia



Listed left to right: Dr. Kenneth Schor, Dr. Ronald Cervero, Mr. Chad Priest, and Dr. David Abramson.

Session Key Points

- The fields of adult learning, human resource development can assist the field of disaster health to improve and maximize learning for all disaster health professionals.
- The nation recently responded with success to the Boston Bombings but there is still more work to be done to prepare, respond and recover from future disasters.
- Successful learning, training and education are important to improve the nation's response and resiliency to all hazards disasters.

Session Description

The session *Adult Learning: Creating the Bridge for Disaster Health*, brought together three panelists, Dr. David Abramson, Dr. Ronald Cervero and Mr. Chad Priest, for a creative and relaxed “fireside chat” style session involving open debate and discussion. Dr. Abramson was the moderator who posed questions about creating the “bridge” between the discipline of adult

learning and disaster health. Dr. Abramson probed his fellow panelists with questions about what this “bridge” would look like from each of their perspectives.

Each speaker began by discussing their background and unique experiences. Dr. Abramson’s current positions include those of Deputy Director and Director of Research at Columbia University’s National Center for Disaster Preparedness, and he is an Assistant Professor of Sociomedical Sciences at the Mailman School of Public Health. Dr. Cervero is the associate vice president for instruction at the University of Georgia. Mr. Priest is the Chief Executive Officer of the MESH Coalition, an innovative public-private healthcare coalition in Indianapolis, Indiana.

Dr. Abramson started the discussion with a [quote from the *New Yorker* published immediately following the Boston bombings](#). The author, Atul Gawande, is a Harvard-trained surgeon and *New Yorker* staff writer. He wrote,

“Talking to people about that day, I was struck by how ready and almost rehearsed they were for this event. A decade earlier, nothing approaching their level of collaboration and efficiency would have occurred. We have, as one colleague put it to me, replaced our pre-9/11 naïveté with post-9/11 sobriety. Where before we’d have been struck dumb with shock about such events, now we are almost calculating about them. When ball bearings and nails were found in the wounds of the victims, everyone understood the bombs had been packed with them as projectiles. At every hospital, clinicians considered the possibility of chemical or radiation contamination, a second wave of attacks, or a direct attack on a hospital. Even nonmedical friends e-mailed and texted me to warn people about secondary and tertiary explosive devices aimed at responders. Everyone’s imaginations have come to encompass these once unimaginable events.”

Following the quote, Dr. Abramson posed the questions, “Are we done?” and “Do we take credit for the response as good education and good training?” Both panelists agree that it was good that response to the Boston Bombings was more efficient than in previous cases but that there’s still work to be done.

Next, Dr. Abramson questioned the difference between having a capable system with an incompetent workforce and having an incapable system with a competent workforce. He indicated that the answer is scenario dependent while it is imperative the system and the individual must work together. The question of whether or not there should be an enforcement of learning was brought up and Mr. Priest pointed out that the answer depends on what is being discussed. In regards to mass disasters or bombings, he argued, that learning for the workforce is never done as far as disaster competency training is concerned. An issue to consider is the variation in practice that exists. Considerable cost and energy is used when training the disaster health workforce, yet when confronted with a disaster one often ends up doing what everyone around them is doing. The question then becomes, what is the value of the education that they’re receiving? Dr. Cervero stated that it may not necessarily be an education problem but one more so of a political nature. Mr. Priest counters this argument and states that he thinks the issue really

boils down to good decision-making. The panelists agree that the evaluation of evidence of training, as it pertains to professional practice and health outcomes, should be reviewed with a focus on practice-based education. It is important that the disaster health workforce have a baseline of knowledge but it needs to be taken a step further towards evidence based, applied practice.

Along with educating professionals the speakers believe that the field has a great, “...need for evaluation metrics.” There are systems of quick care already in place (i.e. mass volunteers) but they are not well coordinated. The speakers agreed that it is not only medical professionals who need training and education but it is also the many NGO’s and volunteers who respond. Uneducated responders in a disaster are crippling.

The question of, “what have we done wrong with adult learning related to disasters” was posed by Dr. Abramson. Mr. Priest answered that, “we haven’t taken a really good look at what we know if required and that our problem is that we keep doubling down on the same mistake.” Dr. Cervero added that too much adult education is focused on just knowledge which is delivered in a didactic manner and isn’t based on a practiced model. Some suggested training/education improvements included active learning, and involving leadership and decision makers in the process.

The session concluded with audience member questions. Mr. Priest’s final thought described an ideal vision for the field of disaster health. He hopes for a world where we maximize learning for the workforce while staying humble and continuing to learn. Dr. Cervero’s final comment, “the status quo always wins by us doing nothing,” encouraged the audience to find their own ‘bridge’ between disaster health and adult learning in their own organization. Only then can the field of disaster health truly be prepared to respond and recover from all hazards disasters.



Dr. Cervero (left), Mr. Priest (center), and Dr. Abramson (right) lead a creative and relaxed “fireside chat” style session involving open debate and discussion.

September 17, 2013 Session Descriptions continued

Breakout Session A: *Maximizing Learning Transfer for Disaster Health Training & Response*

Lidia Stana Ilcus, Colonel, USAF, MC, FS, Barksdale AFB

Holly Hutchins, PhD, Associate Professor and Undergraduate Human Resource Development (HRD) Program Coordinator, HRD Program, University of Houston

Session Key Points

- Transfer of training is important to the field of disaster health in that the discipline is ‘high stakes’ and transfer must occur in novel, highly emotional, ambiguous and ever-changing situations.
- Providing opportunities to use and practice is an important aspect of post-training and can increase learning transfer.
- There are tools one can use to measure and assess learning transfer in the classroom, in the field and in the workplace.

Session Description

This session was divided into two parts. First, Dr. Holly Hutchins began by explaining the factors that influence transfer of training and by identifying practices to support and assist positive transfer of training before, during and after training. Next Dr. Ilcus drew from her personal experiences to describe and identify how learning transfer can be applied to disaster health training.

Dr. Hutchins began by giving a broad overview of the concept of transfer of training. Transfer of training is the trainees’ ability to generalize and maintain knowledge, behavior, skills and abilities (KSBA’s) acquired in training. Transfer of training is important to the field of disaster health in that the discipline is ‘high stakes’ and transfer must occur in novel, highly emotional, ambiguous and ever-changing situations. Disaster health leaves little room for mistakes or misapplication of learning all while having higher public and political scrutiny. It is challenging to coordinate an effective response in emergency situations.

In a typical training outcome approach the training design model assumes a “soon” or “near” transfer. Transfer of training is assumed based on both satisfaction and learning (e.g. Kirkpatrick’s 4 Level Framework where reactions are the foundation followed by learning, transfer and finally results). Most training design is focused on individual performance. Evaluation of training models must be sensitive to individual, training design and work/climate factors influencing performance.

There are many factors which influence transfer of training. Using a flow chart Dr. Hutchins showed that learner characteristics, training design, and work environment all contribute to learning, transfer and individual / organizational performance.

It is important to prepare your learners before training begins in order to maximize participant motivation (to enhance performance through learning) and ability (cognitive ability and agility). Educators must assess learner relevant and knowledge skills such as basic or technical skills. In addition, the educator must convey expectations of performance while tying those to intrinsic and extrinsic rewards. Engaging the learner in pre-work experiences or aids such as materials, assessments, and goal-setting with a manager is important part of transfer. Identifying support partners and processes such as people and technology is a good pre-training step.

Dr. Hutchins used “Broad’s Transfer Planning Matrix” to show an example of how one might identify support for training before during and after learning for different learning support roles. Research shows that support from all levels of management (or learner support) maximizes transfer of training.

After training it is important to activate goals or action plans while considering other learning experiences as support such as coaching, mentoring and teaching. Assist the learner in managing barriers to transfer while linking transfer with meaningful learner rewards. Providing opportunities to use and practice is an important aspect of post-training. Engage stakeholder support using coaching and feedback, sharing, accountability and practice. In some cases performance technology support can cue trainers to use learning and/or for accountability and tracking of learning. Dr. Hutchins then explained several ways to utilize assessments to measure transfer of learning/training.

Dr. Ilcus applied the theory presented by Dr. Hutchins to her personal military experiences. Effective training should maximize outcomes, impacts and effects. The pre-planning, partnerships capacity building and sustainability are key aspects to maximize learning. In particular she highlighted the “[TransMeasure Tool](#)” which is a survey to assist in identifying gaps, analyzing effectiveness and relevance of teaching/training. The tool clearly and simply allows the trainer or trainee to assess transfer of training rate, and pre and post training knowledge levels.

September 17, 2013 Session Descriptions continued

Breakout Session B: *Populations with Access and Functional Needs: What are the Learning Gaps?*

Moderator-Andrew Garrett, MD, MPH, Division Director, National Disaster Medical System, Office of Emergency Management, Health and Human Services, Office of the Assistant Secretary for Preparedness and Response

Marcie Roth, Director, Office of Disability Integration and Coordination, Department of Homeland Security / FEMA

Allison Blake, PhD, LSW, Commissioner, New Jersey Department of Children and Families

Kenneth W. Schor DO, MPH, Acting Director, NCDMPH

Session Key Points

- It is important to prepare for everyone in a community when faced with a disaster.
- The disabled, children and the elderly are populations with access and functional needs which must be considered in preparing, responding to and recovering from all hazards disasters.
- The disaster health workforce must be mindful in filling learning gaps in order to best respond and meet the needs of everyone in their community.
- A mindset of “we are they” is important so as not to marginalize people with access and functional needs.

Session Description

Dr. Andrew Garrett introduced this panel discussion on learning gap for populations with access and functional needs. Three panelists joined Dr. Garrett and each represented a different population set with access and functional needs. Marcie Roth, Director of the Office of Disability Integration and Coordination in the Department of Homeland Security/FEMA discussed learning gaps for the disabled. Commissioner Allison Blake of the New Jersey Department of Children and Families spoke on learning gaps for the pediatric population. And finally, Dr. Kenneth Schor, Acting Director of the NCDMPH, presented learning gaps for the geriatric population.

Dr. Garrett stated that it is important to prepare for everyone in a community when faced with a disaster. A more holistic view prepares and protects those who have access and functional need and those who have temporary conditions. For instance, on average in the U.S., children under age 15 are 23% of the population, the elderly are 12.4%, those considered “disabled” are 11%, and those not proficient in English comprise 8.1% (not at all) and 16.3% (not well). This leaves a minority of the overall population without an access and functional need. Thus, a mindset of “we are they” is important so as not to marginalize people with access and functional needs. In addition to this inclusive approach, access and functional needs are not limited to

medical needs. Rather they include psychological and social needs. By applying a biopsychosocial model, disaster preparedness, response, and recovery is strengthened. The biopsychosocial model is an approach positing that biological, psychological (involving thoughts, emotions, and behaviors), and social factors, all play a significant role in human functioning in the context of disease or illness.

Marcie Roth, Director of the Office of Disability Integration and Coordination at the Federal Emergency Management Agency (FEMA) works to provide guidance, tools, methods and strategies to integrate and coordinate emergency management inclusive of individuals with access and functional needs. The disability Inclusive Emergency Management office was established in 2010 and works across the community to coordinate with and integrate the disabled into emergency management. Twenty percent of the US population report having a disability while globally there are 1 billion people with a disability. She discussed learning gaps for the disabled in preparation, response and recovery from a disaster:

- exercises/training for the whole community to address access and functional needs in a disaster
- access to information pertaining to access and functional needs during a disaster
- evacuation and transportation knowledge
- sheltering needs for those with access and functional needs

Next Commissioner Allison Blake spoke about access and functional needs learning gaps for children in disasters. Commissioner Blake represents the New Jersey Department of Children and Families and formulated her learning gaps based on her experiences with disasters in her state. Her learning gaps for children included:

1. Children and their families need more than food and shelter in a disaster
2. Training for emergency management professionals that is focused on the basic concepts (feeding, hygiene, supplies, rest/sleep and play)
3. Mass care must include basic needs such as food/clothing/shelter, privacy, sanitation, medication access/management and communication access and functionality
4. The immediate response to a disaster must include plans for children/families to return to normalcy such as returning to school/day care, play (other than TV), and private space for adolescents
5. Recognize the stresses that parents are feeling and recognize the potential impact on children (neglect/abuse, domestic violence and sexual violence/exploitation)
6. Recovery strategies need to include family and community activities such as clinical support, opportunities to help others as a part of the healing process and time for normal family activities

Commissioner Blake concluded by speaking about several handouts that are available electronically at <http://ncdmph.USU.edu/KnowledgeLearning/2013-09WorkshopAgenda.htm>. The handouts highlight some important work that New Jersey is conducting to prepare children and families for disasters.

The last panelist was Dr. Kenneth Schor, Acting Director of NCDMPH. In the context of disaster preparedness training in the area of geriatrics there is an absence of requirements and adequate training for physicians, nurses and social workers. He questioned if there is an emerging requirement for long term care facility administrators. Then he discussed the importance of such training requirements in order to avoid adverse health outcomes in elderly during and after a disaster. Dr. Schor spoke about 5 learning gaps in protecting the elderly from the effects of a disaster:

1. During the disaster preparedness phase
 - Locations where are the elderly: community or institutional dwelling
 - Identifying elderly healthcare continuity needs
 - Training and education for all who may respond to a disaster on needs
2. During the disaster response phase
 - Considerations beyond the preparedness phase
 - Evacuation planning and triage for the elderly
 - Communication
3. During the disaster recovery phase
 - Re-establish community-based services networks for the elderly
 - Return the displaced elderly
 - Connect services to the elderly
4. Cross-cutting need
 - Behavioral and mental health needs



Attendees listen to a presentation at the Learning in Disaster Health Workshop.

September 17, 2013 Session Descriptions continued

General Session: *How to Maximize Learning in a Resource Constrained Environment*

Alberto J. Cañas, MS, PhD, Associate Director and Senior Research Scientist, Institute for Human and Machine Cognition

Maria Cseh, PhD, Associate Professor of Human and Organizational Learning, George Washington University

LCDR Skip A. Payne, M.S.P.H., REHS/RS, LCDR, Program Officer, Training and Support Services, Division of the Civilian Volunteer Medical Reserve Corps, Office of the Surgeon General

Session Key Points

- Concept maps are a useful tool for capturing knowledge.
- Informal learning occurs through everyday experiences that lead to learning.
- Focusing resources on distributed learning has many rewards the most important of which is the ability to maximize learning and deliver content to a larger public health and medical audience.

Session Description

This session was divided into three distinct sections. The first two portions presented learning theory and applications from the discipline of adult learning. The final portion demonstrated how the Medical Reserve Corps applies adult learning principles to training a workforce.

Dr. Alberto Cañas, Associate Director and Senior Research Scientist from the Institute for Human and Machine Cognition began by discussing a knowledge capture model called concept mapping. Concept maps are graphical tools for organizing and representing knowledge. Using concept mapping in lieu of PowerPoint slides, Dr. Cañas demonstrated the power of this knowledge capture tool. He explained that knowledge is composed of concepts or “atoms” of knowledge. In concept mapping these concepts are enclosed in circle or boxes. Using perceived regularities or patterns one can link these “atoms” through propositions or linking phrases and create a relationship between two concepts.

Meaningful learning refers to learning where one relates new knowledge (concepts and propositions) to what they already know. Concept mapping aids the user in building one’s own learning experience by creating relationships between concepts. Using what the learner already knows is the key to constructing a concept map and successfully completing meaningful and sustainable learning.

Next, Dr. Maria Cseh an Associate Professor of Human and Organizational Learning from George Washington University spoke about informal learning. Informal learning occurs through everyday experiences that lead to learning. In informal learning the learner has a degree

of control over the objectives, content and process of learning and is able to reflect on the process afterwards. Informal learning is impacted by intentionality, awareness and consciousness in four forms: social learning, self-directed learning, experiential learning and incidental learning. According to research 70-90% of learning in organizations is informal.

There are many informal learning strategies which the disaster health community may take advantage of to increase learning experiences. In-person learning (personal relationship-enhanced) such as storytelling, cognitive apprenticeship, mentoring or coaching, or proximal learning through meaningful conversations are all good methods of informal learning. In social media related learning (technology-enhanced/mediated learning) blogging, using Facebook or using mobile technology are all great methods of encouraging learning in the workplace. Dr. Cseh explained that in all disciplines including disaster health, there are five systemic tensions that need to be balanced when designing effective learning solutions. These tensions are:

1. The employees' desire to learn versus the pressures of the job,
2. Investing in strategic learning initiatives versus the need to keep organizational operating costs low,
3. Formal learning versus informal learning,
4. Maintaining flexibility within a local context versus organization-wide standards that create efficiency and accountability, and
5. People versus technology.

Finally, Dr. Cseh stressed that the environment in which learning may take place is important. Informal meeting places that are comfortable and relaxing locations based on the "water-cooler" phenomenon are important. Flexible mobile learning environments that are accessible 24 hours from anywhere are useful. An organizations culture, policies, processes supporting creativity and innovation can enhance learning.

The last speaker was LCDR Skip Payne from the Division of the Civilian Volunteer Medical Reserve Corps (DCVMRC/MRC). He spoke about MRC experiences with adaptive learning and training in austere fiscal climates.

LCDR Payne gave a brief overview of the MRC. Following 9/11 and the anthrax attacks, thousands of unaffiliated volunteers showed up at sites to help. The issues with this is that there was no way to: ID or credential volunteers, cover them under liability laws, know that they had proper Incident Command System (ICS) training or ensure a management structure was in place for the volunteers. The MRC seeks to correct these issues through the MRC model. MRC volunteers include a wide range of individuals such as medical and public health professionals, students, and other interested individuals. In attempting to train all the various MRC members, the organization maps ideas, thoughts and processes so leadership can easily review work output from each unit. Also, MRC attempts to focus some of their resources on a shared distributed learning network. This increases MRC's ability to deliver content to the larger public health and medical audience. In addition, it's more efficient than increased funding to any single training program.

LCDR Payne went on to outline other times an organization has attempted to distribute learning in this way. His three examples involved distributed computing, distributed “gaming” or peer networks and distributed learning management (such as TRAIN). These are important and applicable examples because they all deal with a system with limited resources (like MRC). Also, they all have a cost, but the costs are born collectively by voluntary participants. And last, these examples all involve a system which operates under a “network of trust” to build a better product or service, as MRC does.

This DCVMRC uses distributed learning such as MindMapping® as a knowledge and task capture tool. They use MindMapping® to build presentations and share ideas through the division. It also is used to manage workloads and generate SOP’s where leadership can get a snapshot of work assignments. Next, LCDR Payne gave an example of presentation building at DCVMRC and how managing workload is monitored through this. He also gave an example of MRC ideation sharing (or training dynamics). Focusing resources on distributed learning has many rewards the most important of which is the ability to maximize learning and deliver content to a larger public health and medical audience.



NCDMPH Staff assist attendees at the registration desk.

September 18, 2013 Session Descriptions

General Session: *Understanding the Broad Context of Disaster Health Learning*

Richard King, PhD, Associate Professor, Health Care Sciences/Emergency Medical Education, UT Southwestern Medical Center

Session Key Points

- Awareness of key events and initiatives in disaster health education is important to frame the current state of the field.
- There are many indicators that disaster health is an emerging discipline. First there is general consensus that the discipline makes sense and is needed.
- It will be important to define “gaps” in disaster health learning and workforce preparedness as needs.

Session Description

Dr. Richard King from the University of Texas Southwestern Medical Center presented a session titled, *Understanding the Broad Context of Disaster Health Learning*. The objectives of the session were to:

- discuss the key events and initiatives in disaster health education,
- describe the differences between capabilities, competencies and educational science and,
- discuss the next steps towards a discipline of disaster health.

Dr. King gave a wonderful timeline of notable disasters and subsequent legislation from the 2000 to present including such events as the 9/11 and anthrax attacks, Hurricane Katrina, Rita, Isaac and Sandy to the more recent Boston Marathon bombing. Types of recent major disaster declaration events range each year to common events such as severe storms to more specific events such as explosions or mudslides. Given this range and common frequency of disaster events, it is clear that there will always be new threats and further improvements in preparedness must be made.

Some post 9/11 initiatives include the Homeland Security Presidential Directive-5 (HSPD-5), National Incident Management System (NIMS), National Response Plan (NRP), and National Response Framework (NRF of 2008 and revised in 2013). Dr. King explained the meaning of each of these initiatives. NIMS is “a core set of concepts, principles, terminology, and technologies” which explain the incident command system, include training, and qualifications and certifications for key roles. NIMS explains that “personnel with roles in emergency management and incident response at all levels of government – including persons with leadership positions, such as elected and appointed officials – should be appropriately trained to improve all-hazards capabilities nationwide.” Another critical element of NIMS preparedness is the use of national standards that allow for common compatible structures for the qualification, licensure, and certification of emergency management/response personnel. NIMS lists the primary functions of each major ISC position/role.

Moving forward in his timeline, Dr. King addressed post-Katrina disaster health initiatives like Pandemic and All Hazards Preparedness Act (PAHPA), Assistant Secretary for Preparedness and Response (ASPR), Homeland Security Presidential Directive 21 (HSPD-21), core curricula, NCDMPH and the National Health Security Strategy. Dr. King explained that PAHPA enacted to, “...improve the

Nation's public health and medical preparedness and response capabilities for emergencies, whether deliberate, accidental, or natural." PAHPA directs the Secretary of HHS to lead all PH and Medical response to public health emergencies and incidents covered by NPR (NRF) and ESF-8. Also, this act established ASPR as principal advisor to HHS and public health emergencies. It also authorizes funding of the Centers for Public Health Preparedness. PAHPA also deals with curricula and training. The Secretary (HHS), in coordination with the Secretary of Defense, and in consultation with relevant public and private entities, shall develop core health and medical response curricula and training by adapting applicable existing curricula and training programs.

There are many indicators that disaster health is an emerging discipline. First there is general consensus that the discipline makes sense and is needed. There are currently bona-fide educational intuitions issues certificates and degrees within the growing field. There are several peer-reviewed scientific literature publications and specialty journals. In addition, information sharing is occurring through professional organizations and conferences, such as this workshop. There is a generally accepted body of knowledge with specific terminology, facts, concepts, procedures, processes and principles. There is a clear sense that the jobs, roles, duties, tasks, working conditions, capabilities and performance criteria for those working in a disaster health capacity.

Dr. King moved on to discuss the differences between capabilities and competencies. He defines capabilities as the means to accomplish one or more tasks under specific conditions and to specific performance standards. The CDC has important public health emergency preparedness capabilities applicable to disaster health. He discussed competencies which he defines as an enduring characteristic of a person that reliably predicts how well a person will perform (in a superior, average, or below-average manner) in a job or situation, using an established performance criterion or standard. According to the ACGME, competency-based education focuses on learner performance (learning outcomes) in achieving specific objectives of the curriculum. An example of 11 disaster health core competencies come from the Disaster Medicine and Public Health Preparedness Journal article titled, "Core Competencies for Disaster Medicine and Public Health".

Dr. King discussed the methodological trade-offs between developing competencies through subject matter experts versus through superior criterion performers. When using expert panels to identify competencies it is important to know that this process can be prone to bias. Some factors that a panel may identify may not predict actual perform and it is important to validate this methodology.

To finish his session, Dr. King discussed the future of disaster health. First he suggested that one further explore the various contextual frameworks discussed above. Next one should align the many strategic linkages, themes and audiences outlines in the frameworks. It will be important to define "gaps" in disaster health learning and workforce preparedness as needs. He stressed the importance to evaluate the existing disaster health competencies and their functionality within the emerging discipline. He suggested that the field use educational science principles to support the creation of competent professionals. No matter the next steps, Dr. King asserted that including everyone will help to develop the very best next generation of disaster health professionals.

September 18, 2013 Session Descriptions Continued

Breakout Session A: *Harnessing Social Media for Disaster Health Learning*

Alisha B. Griswold, BS, Emergency Management and Training and Exercise Specialist, Port of Seattle

Sharon Stoerger, PhD, Director - ITI Program, Lecturer - Assistant Professor, School of Communication and Information, Rutgers University



Dr. Stoerger and Ms. Griswold present on social media use for disaster health professionals.

Session Key Points

- Learning develops identities, communities, engagement and meaningful experiences for the learner.
- In the social media era, learning is self directed, crowd sourced, has a worldwide audience, involves knowledge filtering and is accessible 24/7.
- “Connectivism” is a new learning theory for the social media age.
- All disaster health professionals should be aware of each kind of social media platform and their possible usage in the professional world to assist with disaster preparedness, response and recovery.

Session Description

Harnessing Social Media for Disaster Health Learning was a two part interactive session. The session started with Dr. Sharon Stoerger who explained the learning principles behind social media learning. The session concluded with an interactive online demonstration by Alisha Griswold of social media learning tools for use by disaster health professionals and their organizations.

Dr. Stoerger of Rutgers University School of Communication and Information began the session by asking the audience: “What is learning?” She explained that learning develops identities, communities, engagement and meaningful experiences for the learner. She discussed learning theory and explained that it is a model or lens to help one understand the learning process. She quickly outlines three traditional learning theories:

- 1) Behaviorism – (understand/remember) learning is a process of reacting to external stimuli
- 2) Cognitivism – (create/evaluate) learning is a process of acquiring and storing information
- 3) Constructivism – (analyze/apply) learning is a process of constructing subjective reality based

In the social media era, learning is self directed, crowd sourced, has a worldwide audience, involves knowledge filtering and is accessible 24/7. She questioned if there is a new learning theory needed to cover social media learning. She suggested “connectivism” as a learning theory for the social media age. The digital age to-go ‘cup’ of mobile information that can be accessed anytime, anywhere but is location sensitive. Social media has a variety of sources, allows for instant feedback, new content creation and message amplification.

The social media age comes with its own language and literacy. It is important for disaster health social media users to understand the nuances of networking, privacy, identity management, self-presentation and content creating, remixing, organizing and filtering.

Next, Alisha Griswold walked the audience through many social media platforms to show how disaster health can benefit from these mediums. She asserted that all professionals should be aware of each platform and their possible usage in the professional world. The National Strategy for Biosurveillance was the first government document to promote daily use of social media. She gave several examples of how social media can be used to promote a message or track the rate of illness in the general population using keywords. As a surveillance tool, Twitter can keep one up to date on important health trends. She walked the audience through the following social media sites: Twitter, Facebook, YouTube, Reddit, LinkedIn, and Google Plus+.

The session concluded with an engaging question and answer time where both speakers gave one the spot, online examples for ways disaster health professionals could utilize social media for learning.

September 18, 2013 Session Descriptions Continued

Breakout Session B: *Hybrid Exercises: A New Disaster Learning Tool*

John J. Burke, MS, Fire Prevention Officer, Sandwich Fire-Rescue Department, Adjunct Professor, Boston University School of Medicine



Mr. Burke conducts a hybrid mini-top exercise during his session at the Learning in Disaster Health Workshop.

Session Key Points

- Hybrid models combine elements of a workshop, seminar, tabletop and drill into one exercise. The hybrid model does this all while having varying targeting objectives and a short duration (only 2.5 to 3 hrs in length).
- A key element of the model is that it should always include a private sector participant to improve relations with the municipal sector partners.
- The hybrid exercise model builds public and private partnerships that should be maintained after the exercise.
- The hybrid exercise model allows for maximized learning and engagement in a shorter time span while testing scenarios that are applicable to one's work environment.

Session Description

John J. Burke of the Boston University School of Medicine and the Sandwich Fire-Rescue Department presented a dynamic and interactive session on hybrid exercise. He began his session by discussing the benchmark program for exercises, the Homeland Security Exercise and Evaluation Program (HSEEP). Exercises have many types such as workshops, seminars, tabletops, drills, functional and full-scale exercises. HSEEP website assists with the design and implemental schedule of exercises.

The Boston University Healthcare Emergency Management (BU HEM) Graduate Program hopes to take exercises to the next level with the hybrid model. Hybrid models combine elements of a workshop, seminar, tabletop and drill into one exercise. The hybrid model does this all while having varying targeting objectives and a short duration (only 2.5 to 3 hrs in length). The model has many benefits including a short time frame that is more palatable for keeping costs down and for attention span.

Another benefit is the hybrid model allows for using a real scenario which increases by in and participation. One is able to do more (3) hybrids instead of one full day functional exercise.

Hybrid exercises have several strategic flexibilities when used to their maximize benefit. One should write a hybrid exercise to include the maximum amount of participation of many agencies. Each agency should be assigned a role that is most applicable. The benefit of this is that agencies can learn what others will do and have to integrate their response and plans with others.

The hybrid exercise model originated in the Sandwich, MA and has moved forward through the BU HEM program. A key element of the model is that it should always include a private sector participant to improve relations with the municipal sector partners. The hybrid exercise model builds public and private partnerships that should be maintained after the exercise.

Mr. Burke continued by giving examples where hybrid exercises were utilized. The first was “Operation Irene” which was conducted in 2009, 2010 and 2011 at Spaulding Hospital in Cape Cod. These exercises included table top exercises on Hospital Hurricane Plans with functional pieces such as boarding up windows, credentialing volunteers at the facility and evacuating patients. The exercise only lasted 3 hours and was great preparation for Hurricane Irene which hit Cap Cod in 2011.

The next example was “Operation Rolling Chaos” which was a hybrid table top exercise in Chelsea, MA for MWRA, the City of Chelsea and Gulf Oil Corporation. The exercise involved just in time training on Department of Transportation ERG books. The table top piece discussed continuity of operation plans and response plans for hazardous materials for the City. The exercise also had a functional component utilizing ERG and doing a communication notification drill for agencies with interest.

The final example Mr. Burke gave was “mini top” exercises. Mini top exercise is a 45-60 minute roundtable exercise to discuss a very specific topic and find a quick resolution. This is a great type of exercise for Local Emergency Planning Committee (LEPC) meetings and classroom sessions. Mr. Burke then led the attendees through a mini top exercise called “Operation DC Rumble” to demonstrate its effectiveness.

“Operation DC Rumble’s” scenario: A 4.7 magnitude earthquake striking the Washington DC area. There is moderate damage throughout the District including historical sites and roadways. Georgetown University Conference Center (workshop location) has sustained minor to moderate damage and the conference is asked to evacuate. No vehicles are allowed to exit and the transit system is down. NCDMPH staff on site has asked for a reunification center site and protocol to be established.

Attendees were asked to answer the following questions:

-How do we locate everyone?

-Utilize your GPS application (downloaded at the beginning of the session).

Attendees broke into response groups starting with the incident commander, the reunification group, the accountability group, the unit, the research unit and the GPS Unit. Each group and unit is given objectives for the remainder of the session.

At the end of the mini top exercises, Mr. Burke wrapped up the session with some conclusions. The hybrid model is a new way to exercise while including education and functionality. The time and length of the exercise is critical to participation and learner engagement. A hybrid exercise model allows educators to training with more frequency and use a variety of training topics over any given fiscal year. This new model allows for maximized learning and engagement in a shorter time span while testing scenarios that are applicable to one’s work environment.

Day 2 – September 18, 2013 Session Descriptions Continued

Closing Keynote

Senator Tom Daschle, Former Senate Majority Leader (D-SD), Senior Policy Advisor DLA Piper US LLP



Senator Tom Daschle delivers the Closing Keynote at the Learning in Disaster Health Workshop.

Session Key Points

- Senator Daschle thanked all the workshop attendees for their commitment to their country and for better preparing us all for disasters.
- Preventions, protection, mitigation, response and recovery are five components of disaster management which are important to better respond and recover from all disaster incidents.
- Senator Daschle suggested five ways to build a more prepared and resilient nation: resiliency, innovation, collaboration, engagement and new leadership.

Session Description

The conference came to a close with Senator Tom Daschle, Former Senate Majority Leader (D-SD) who is now a Senior Policy Advisory at DLA Piper US LLP. He delivered a powerful speech on his experiences with the anthrax attacks, the government's involvement and knowledge in disaster preparedness and his recommendations to enhance disaster health. Senator Daschle thanked all the workshop attendees for their commitment to their country and for better preparing us all for disasters.

Senator Daschle recalled his own personal experience with both 9/11 and the anthrax attacks of 2001. On October 15, 2013, an intern in his senate office encountered an anthrax-laden envelope whole opening mail. He explained many thing that went right after this letter was opened but also many issues and challenges that occurred after the event. The nation was not prepared for the likes of the anthrax of the mayhem that it caused. Senator Daschle spoke about the lack of knowledge surrounding anthrax mail and the lack of clear planning or guidance following the incident.

In order to better respond and recover from all disaster incidents, including an anthrax attack, he proposed five components of disaster preparedness management. They included prevention, protection, mitigation, response and recovery.

He finished his moving talk with suggesting five ways that we all can work together to build a more prepared and resilient nation. His suggestions were:

- 1) Resiliency – the ability to take on unexpected developments
- 2) Innovation – continuing with the status quo will not improve the nation’s preparedness
- 3) Collaboration – tear down the silos and walls to work together
- 4) Engagement – engage in the process to help build a better system, and
- 5) New leadership – we all need to be leaders and set good examples

If we all work together with these qualities in mind it will make a difference for the entire nation.



Dr. Schor (immediate left of sign), Senator Daschle (immediate right of sign), Dr. Rice (far right) and friends gather for a photo before the closing keynote on September 18, 2013.

Concluding Remarks

Kenneth W. Schor DO, MPH, Acting Director, NCDMPH



Dr. Schor delivers concluding remarks.

Session Key Points

- Ernest L. Boyer's four functions of scholarship (discovery, integration, application and teaching) can be used by attendees to reflect on what they learning at the two day workshop.

Session Description

To round out the two day event, Dr. Kenneth Schor, Acting Director, NCDMPH gave closing remarks. He reflected on workshop sessions over the previous two days and applied the content to Ernest L. Boyer's, of the Carnegie Foundation (1990), four functions of scholarship: *scholarship of discovery*, *scholarship of integration*, *scholarship of application* and *scholarship of teaching*. He asked the audience to also think about what they had learned throughout the workshop and to ask themselves the following four questions:

- 1) *Discovery*: What are new questions or research you might now want to pursue as a result of attending this workshop?
- 2) *Integration*: What ideas have you discovered from other disciplines, such as adult learning or human resources, which you might integrate into your own setting?
- 3) *Application*: How might you apply your new knowledge to consequential problems in disaster health?
- 4) *Teaching*: When you mentor/teach others, how might this workshop inform your approach?

Dr. Schor concluded his remarks by thanking attendees for their participation.

Poster Abstract Presentations



Photo shows a few of the posters displayed at the Learning in Disaster Health Workshop

Poster marked with a  indicate one of four Outstanding Poster Award winners.

Poster number 1 and 20 intentionally missing because the poster was not displayed.

2. Improving Patient Data Access in Disasters

David Becker, MS

John Crowley

Expanding and supporting a simple and cheap way to improve data exchange with US government and UN agencies and hundreds of non-governmental organizations working in the field of disaster response and reconstruction can solve several problems. Rather than risk building elaborate and expensive USG-specific solutions that do not appeal to non-USG actors, the USG can lead the way by adopting an international protocol that will improve response times and coordination in crises, without imposing new time and personnel costs on others or requiring new software systems. The UN is trying a new way forward using a proven approach from other arenas: establishing open data standards with key players in the ecosystem. This approach seeks to establish the data standards to describe humanitarian actions using the Semantic Web (aka Web 3.0). In this way, organizations could continue to use their existing information systems with a Humanitarian Exchange Language (HXL) adapter² to enable the systems to a) describe their data schema, and b) exchange and transform data between each other's systems using the W3C's Resource Description Format or RDF. Thus HXL allows hundreds of

independent organizations to continue to use their preferred systems and using HXL will not require staff in a crisis zone to spend time filling out more forms or going to new websites for information.

An important area for development is patient records during a major disaster. A medical taxonomy could be developed that permits multiple international organizations to exchange patient data while controlling access and maintaining confidentiality, combining several existing national efforts. The UN is now building support for the HXL platform for subsequent partnerships. To move this work forward, the UN will need the network effects of the USG adopting and expanding the standard, thereby making it more attractive for others to join in.

3. Disaster education among faith-based organizations in South Los Angeles

Rita Burke, PhD, MPH

Ann Lin

Valerie Muller

Bridget Berg

Jeffrey S. Upperman

BACKGROUND: Faith-based organizations (FBOs) represent a source of stability and presence in a community and frequently serve their community following disasters. However, their role and activities are generally not systematized, nor are they usually part of the disaster mitigation planning process. By providing FBOs with tools and education on how to support their community's resilience, they can be more systematically and effectively involved in disaster planning efforts within a structured system.

METHODS: An educational session was scheduled with six congregations of the faith-based organizations in the South Service Planning Area (SPA) of Los Angeles County. The educational sessions included content about disaster preparedness and resilience and a pre- and post-test was administered during the session to assess knowledge gained. An evaluation of the course was also administered. All statistical analysis was conducted using SAS v 9.2.

RESULTS: A total of 47 participants were included in the study. The mean age was 53 and almost 83% were female. Almost 45% reported having dependents and 64% had at least some college education. On a scale of 1-4, respondents self-rated their level of disaster preparedness at 3.4. Out of a possible 9 points, participants scored an average of 5.3 points on the pre-test and 8.0 on the post test ($p < 0.0001$). Finally, on a scale of 1-4, participants rated their overall satisfaction with the session as 3.9.

CONCLUSIONS: Faith-based organizations have the potential and willingness to become a system with resources that can be harnessed before, during and after disaster. The willingness of participants to be a resource for their communities is consistent with studies that suggest the potential for FBOs to promote health and well-being among both congregation and community members. The current study adds disaster preparedness and resiliency as a topic that also needs to be promoted among FBOs and the communities they serve.

4. Virtual Reality-based collaborative training for Hospital Incident Command System skills development

Victor Cid, MS

Stacey Arnesen

Cindy Notobartolo

Donna Sasenick

Christina Crue

Patrick Rose

The National Library of Medicine is conducting research and development activities in support of the Bethesda Hospitals' Emergency Preparedness Partnership (BHEPP). BHEPP hospitals identified difficulties in training staff on the application of the Hospital Incident Command System (HICS). Issues included: cost and complexity of conducting functional and full-scale exercises; staff engagement issues; difficulty scheduling exercises due to complex work shifts, staff turnover and staff availability; difficulty simulating event conditions and information flow realistically during exercises; complexity of capturing and analyzing trainees' performance data; and the impact of exercises on normal hospital activities. To address these issues we are researching the effectiveness of Virtual Reality technologies to provide scenario-based training on using HICS. Methods: staff were interviewed to characterize current HICS training practices and issues; traditional training exercises and post-exercise "hot-wash" meetings were observed; a virtual-reality platform was developed to simulate the operational environment and key information/communications tools; training was conducted via the virtual platform and data was captured for further analysis; staff feedback was obtained in a post-exercise "hot-wash"; an after action report was produced. Results: While a virtual-reality exercise can take as much effort to plan as a traditional functional or table-top exercise, preliminary results suggest that the virtual reality training can be significantly more effective to develop and strengthen HICS skills than traditional exercises in this hospital context. The virtual-reality training technology provides an engaging experience for trainees; it allows simulating disaster events in a realistic way; allows seamlessly accessing and using information from a variety of tools; the platform is available 24/7 for collaborative training and can be accessed from anywhere there is an Internet connection;

detailed trainee performance data can be easily captured for analysis; it minimizes the effect on normal hospital operations. Additionally, the technology can be used to conduct other scenario-based training activities.



5. Integration and Performance of Mental Health Triage Core Competencies In Los Angeles County Statewide Disaster Exercise

Chirag Desai MSIII

Sandra Shielfs, LMFT, LA

Background: Efficient management of disasters includes the acute management of psychological casualties to minimize the risk of chronic disorder and impairment. The PsySTART rapid disaster mental health triage system was developed and validated for use in identifying disaster victims suffering from significant psychological stress and has now integrated its color tag acuity system into an online platform, allowing for patient categorization to be done directly from a mobile device and real-time data surveillance.

Objectives: Evaluate the integration of PsySTART disaster mental health triage core competencies into the Hospital Incident Command System

Methods: The Los Angeles County Emergency Medical Services Agency conducted a full-scale exercise on November 15th 2012 that included 60 standardized disaster patients from a hypothetical 7.8M earthquake scenario. The core of the field training exercise relied on the efficient and appropriate management of the influx of patients, who had both mental health and medical concerns integrated into their respective scenarios, at the facility and county level. Participating healthcare facilities were trained prior to the exercise in evaluating each patient scenario for objective exposures according to the PsySTART methodology. This training involved the use of a novel web-based application, allowing providers on scene to immediately upload PsySTART triage tags and the first ever opportunity for an Emergency Operation Center to incorporate real-time mental health data into an exercise. The data will be compared to results from the 2010 exercise, when PsySTART did not have the online functionality, and any qualitative issues with the training and integration of the technology will be considered.

Results: Results pending.

Conclusion: With its newly developed online platform, it is believed that PsySTART's ability to triage disaster victims directly from a mobile device will enhance integration into disaster protocols on multiple levels, streamline data analysis, and improve resource allocation. Already implemented in real-world disasters such as the Sandy Hook

shootings and Hurricane Sandy, PsySTART can become a standardized approach among healthcare and rescue agencies in mutual aid and incident coordination to manage acute mental health emergencies.

6. A Curriculum to Build Nurse Readiness and Organizational Citizenship: Building a Ready Workforce for Emergency Preparedness

Cathleen Evans, MSN, RN

A Curriculum to Build Nurse Readiness and Organizational Citizenship: Building a Ready Workforce for Emergency Preparedness focuses on the groundwork to develop a pilot curriculum for all-hazards first receiver nurse preparedness in view of the complexity and diversity of emergency preparedness, disaster management, stakeholder concerns, educational needs, and curriculum structure. This curriculum course project was developed and designed from evidence using an extensive literature review. A practical design translates cognitive knowledge about individual readiness and organizational citizenship into actual competencies that could be demonstrated through internal and external drills.

The constructs of educational needs and the variety of practice environments, establish basic fundamental competencies needed for all nurses who will function as first receivers. Nurses care for patients and will be in even greater demand during emergencies and disaster incidents. This situation reveals three truths. The first truth is that the nurse may be in a patient care environment at the time of an emergency or disaster event. Secondly, anticipated staffing needs to care for patients may not be met because the nurse will not or cannot come to the site of care. The third truth is that, if an individual nurse's professional and personal values are understood, addressed, and supported, then it is more likely that the nurse will report and /or stay at work to provide needed patient care. This curriculum begins to address these needs.



7. Training Social Work Students through Disaster Work

Patricia Findley, DrPH, MSW

Sandra Morosa, MA

Although social workers are trained in crisis response, communication skills, and case management, social workers are frequently not among first responders to disasters. There has been some movement to include evidence-based trauma treatment into social work curriculum, but field placements for students to work in the area of disaster response are limited by the nature of the events. Furthermore, with social work's emphasis on social justice, access, and attention to the most vulnerable populations, social workers can bring many skills to assist in the wake of disasters. This presentation provides an overview of

how a school of social work mobilized to respond to Super Storm Sandy by integrating graduate social work students into disaster-related clinical and non-profit organization management activities to assist victims of the event through field internships. Super Storm Sandy struck New Jersey and New York in a very destructive way in late October 2012, yet the effects are ongoing with survivors requiring concrete service provision as well as directed mental health counseling. Through the program, students, termed Disaster Fellows, were given supplemental training on disaster response and disaster mental health counseling in addition to their usual advanced social work training governed by the Council on Social Work Education; they applied their training through supervised field internships which started in January 2013. The poster presents an overview of the individuals assisted, the needs they presented, and how the students intervened. The poster will also describe the trainings provided and how current social work curriculum supports the role of the social worker in disaster preparedness and response.

8. Zombies Are Good For Your Health

Walt Franz, MD, COL, USAR, MC

Objective: The Mayo Clinic Disaster Humanitarian Assistance Response Team (DHART) is a volunteer group of health provider faculty, medical students, community emergency response experts and administrative/technology mentors who work together to improve community response to disasters while providing educational opportunities in non-traditional curriculum topics for medical students. This poster provides a summary of 2 years experience with DHART culminating in the most recent field exercise (FTX) in May 2013.

Methods: The FTX involved a notional outbreak of Hemorrhagic Acral Dermatitis Anesthetic Delirium (HADAD) in our community. HADAD was chosen as “syndrome” because it would simulate a “zombie” in popular nomenclature. Medical students developed video press releases to represent early lay media reports. After the press reports were released, medical students were then involved in planning a mission (FTX) at a regional Scout camp to simulate deployment of the DHART. The scenario involved registration and triage of HADAD patients, establishment of a Role II treatment facility, notional immunization of HADAD patients and evacuation to higher levels of care when appropriate. Moulaged mannequins and volunteer casualties were utilized throughout the exercise.

Results: Over 100 Scouts, medical providers, medical students, public health officials, community emergency response experts and Army Reserve and AGR participants participated in a 3 hour FTX. Safety of all participants was closely monitored along with

an emphasis on treating the simulated casualties with dignity and confidentiality at the same level as actual care episodes. Public health principles were stressed throughout the exercise. The FTX was accomplished with negligible cost.

9. Dentists as Emergency Responders: A National Disaster Life Support Course, Presented to Senior Dental Students

David Glotzer, DDS

Benjamin Godder, DMD

Introduction: The concept of medical surge capacity, the ability to provide medical evaluation and medical care above the limits of the existing community infrastructure, is an essential of preparedness planning. Experience has shown that besides traditional first responders, in the event of a major natural disaster, or a massive terror attack, it may be necessary to call upon large numbers of non-traditional, healthcare personnel.

It is the official policy of the American Dental Association (ADA), and the American Dental Education Association (ADEA), that the dental profession seeks a role in disaster response. The current U.S. Congress in March, passed the Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 that among other issues, specifically permits the dental profession, and dental offices to be incorporated as assets, into federal and state emergency disaster planning.

Method: New York University, College of Dentistry (NYUCD) has made it a priority to educate students in disaster preparedness throughout its 4-year curriculum. This culminates in a 12- hour senior course in which Basic Disaster Life Support (BDLS) is presented. The course introduces clinical, and public health concepts, for an all-hazards approach to public health emergency management. In addition, students are instructed in the potential community public health roles they might play, in such organizations as the Medical Reserve Corps.

Conclusion: Dentists receive a sound general medical background during their professional education and have training and skills in surgery, suturing, giving injections, dispensing medications, infection control, reading radiographs, and treating people under stress. Healthcare workers, who are knowledgeable, are more likely to engage actively and safely, and this will result in a more comprehensive public health response.

After viewing the poster, attendees will be aware of how one dental school employed approved disaster related courses, to teach better public health effectiveness to the profession.



10. Strengthening Nursing Curriculum to Support Humanitarian Assistance and Disaster Preparedness Competencies

Brenda Guzik, BSW, MA, MHScRN

Jay B. Roberts, MA

This study sought to identify how Bachelor of Science in Nursing (BSN) programs integrate disaster education into BSN curriculum while investigating which disaster competencies are expected to be taught as part of the general baseline BSN education. The Commission on Collegiate Nursing Education (CCNE) standards, the National League for Nursing Accrediting Commission (NLNAC) standards, and the National Council Licensure Examination for Registered Nurses' (NCLEX-RNA test plan were crosswalked against the Centers for Disease Control and Prevention-Terrorism Injuries: Information, Dissemination and Exchange (CDC-TIIDE) competency framework. Competencies covered (at least partially) in the accreditation standards or the NCLEX-RNA's test plan include: Professional and Organizational Preparedness, Situational Awareness, Personal Safety Measures, Impact of Mass Casualty Incidents, and Principles of Clinical Management. Those not covered include Personal/Family Preparedness; Internal/External Risk and Crisis Communication Strategies; Ethical Principles for Disasters and Public Health Emergencies; Legal Principles for Disasters and Public Health Emergencies; and Individual/Community Recovery. This study also sought to determine if BSN programs adequately prepare nurses to respond to disasters. A national survey of deans of BSN programs throughout the United States was conducted to identify the amount of disaster nursing being taught, methods used to deliver content, and outcomes achieved. Sampling included schools accredited by the CCNE and the NLNAC. While there were many topic areas that BSN programs included in their curricula, a number of gaps in basic disaster nursing concepts were identified. Such as personal preparedness, professional preparedness, surge capacity, and legal preparedness related to infection control and emergency response planning. Even though progress has been made in some areas of disaster nursing education (incident management, risk communication, nursing and public health indicators, and ethics); gaps still remain regarding the prioritization of disaster nursing education and the adoption of disaster nursing evidence based competencies into BSN curricula.

11. Learning during a disaster, the role of safety and health training for responders

Joseph Hughes, MPH

James Remington, NIEHS

Aubrey Miller, PhD, NIEHS

During responses to the World Trade Center, Hurricane Katrina, the BP Oil Spill and Superstorm Sandy, the National Institute for Environmental Health Sciences (HHS-NIH-

NIEHS) Worker Education and Training Program (WETP) in cooperation with the Federal Emergency Management Agency, the US Army Corps of Engineers, and the Occupational Safety and Health Administration, has delivered safety and health training to thousands of responders during each of these major national emergencies. This poster will review the lessons learned from these efforts and how these learnings will be utilized in future disasters. The poster will cover issues of funding, development of curricula and materials, mobilization and deployment of safety and health training teams, and coordination among participating federal, state and local agencies, as well as provide insights into the issue of pre-deployment training. The role of emergency response workers have increased, broadening into an 'all-hazards' approach, involving an active role in both man-made and natural disasters. This increased role brings challenges that the public health community must address through increased education and training, as well as improved communication and collaboration with and among local, regional, and state organizations, local hospitals, and the community. National, regional and local partnerships and mutual aid agreements, as well as joint exercises and training greatly help to leverage available resources, raise awareness, and expand the number of workers with access to current health and safety training opportunities. Key to the success of these efforts is the development of local training partnerships between hazmat emergency responders, environmental cleanup workers, and safety and health professionals. The goal of this poster will be to describe guidance in developing local training partnerships for developing health and safety training programs for all-hazards disaster preparedness.

12. Clinical Skills and Knowledge Required to Care for Children in Disaster, Humanitarian and Civic Assistance Missions

Heather Johnson, LtCol, USAF (Ret), DNP, FNP-BC, FAANP

Introduction. Children comprise 30 to 50% of patient encounters during disaster, humanitarian and civic assistance operations. Military Health Care Providers (HCPs) have an integral role during disaster, humanitarian, and civic assistance (DHCA) missions and must be prepared to care for children in austere environs.

Purpose. The purpose of this systematic, integrative review of the literature was to describe the knowledge and clinical skills that military HCPs might require to care for children during civic assistance, humanitarian, and disaster relief missions.

Data Sources. A systematic search protocol was developed and searches of PubMed and CINAHL were conducted. Search terms included such terms as Disaster*, Geological Processes, Military Personnel, and Pediatrics. Thirty-one articles were included from database and manual searches.

Conclusions. After final analysis, 49 themes emerged from the literature. The most frequently mentioned subjects included: infectious diseases, vaccines, malnutrition, sanitation and wound care. The major concepts were endemic, environmental, vector-borne and vaccine-preventable diseases; enhanced pediatric primary care; and skills and knowledge specific to disaster, humanitarian and civic assistance operations.

Implications for Practice. The information provided is a critical step in developing curriculum specific to caring for children in DHCA. While the focus was military HCPs, the knowledge is easily translated to civilian HCPs who provide care to children in these situations.

13. A Pathway to Excellence: Disaster Curricular Recommendations for the Pediatric Population

Heather Johnson, LtCol, USAF (Ret), DNP, FNP-BC, FAANP

Catherine Ling, PhD, FNP

Kelly Harrison Gulley, BA

Introduction. The pediatric population is especially vulnerable during disaster and the need to focus disaster education for children is critical. The current system of competencies and curricular recommendations surrounding disaster management and response is a veritable Gordian knot. Health care educators can be readily overwhelmed with competencies and underwhelmed with succinct curricular recommendations, topics and resources.

Purpose. The purpose of this project was to provide multi-disciplinary healthcare educators with a peer-reviewed set of pediatric-focused curricular recommendations and specific resources as an instrument for developing evidence-informed disaster training for health professionals.

Data Sources. Recommendations and resources were synthesized from National Center for Disaster Medicine and Public Health Core Competencies for Disaster Medicine and Public Health; Pediatric Disaster Preparedness Curriculum Development Consensus Report; disaster management models and frameworks, expert opinions, and other governmental/non-governmental sources.

Proposed utilization. Curriculum Recommendations for Disaster Health Professionals:

The Pediatric Population is organized according to what health professionals are expected to know in order to best care for children in a disaster (competencies) and when the professionals would need to use these competencies (phase of disaster response). The

recommendations provide a strategy to help educators, program directors, and curriculum developers form curricula for educating all disaster health professionals on pediatric issues. The document has three tools to aid educators in tailoring disaster education for the pediatric population: a Design Process Diagram, Topical Overview, and Learning Objective and Resource Table. The resource table include toolkits, guidelines, background and salient readings.

Implications for Practice. The information found in the document is not a prescriptive curriculum, but rather a set of recommendations. Educators can tailor these recommendations for their particular needs and circumstances, selecting those learning objectives, topics, and resources which are appropriate for their learners' needs, and the scope of their education and training programs.

14. Including At-Risk Individuals and Behavioral Health in Emergency Preparedness, Response, and Recovery

Rachel Kaul, MSW

Cheryl Levine, PhD

CDR Harvy Ball

Olivia Sparer

This poster presentation will enhance participants' conceptual and applied competencies related to disaster preparedness, response, and recovery requirements of at-risk individuals (people with functional needs that may interfere with the ability to access or receive medical care) and behavioral health (the provision of mental health, substance abuse, and stress management services to disaster survivors and responders). We will also describe the role of ASPR's Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC) to provide subject matter expertise, education, and coordination to internal and external partners to ensure that behavioral health issues and the needs of at-risk individuals are integrated in the public health and medical emergency preparedness, response, and recovery activities of the nation, as well as into education and training. We will summarize community resilience and provide a toolkit of guided fact sheets that will support participants' ability to evaluate and revise their disaster-preparedness plans and educational materials. This presentation will: identify and describe the five major types of functional needs of at-risk individuals and the key behavioral health concerns and common reactions affecting survivors and responders; demonstrate how plans that address the needs of at-risk individuals and include provisions for behavioral health can improve response management and integration, reduce delays and duplication, and enrich integrated and accessible disaster services; and identify concepts and toolkit materials that enhance planning, preparedness, response, and recovery, including recent and promising educational materials related to at-risk

individuals and behavioral health.

15. Strengthening Readiness and Response through Collaborative Preparedness

Education

Vanessa Kenealy, JD

Susan Webb

Health care volunteers are a vital part of a community's emergency response capability. To be truly effective, however, volunteers must be afforded greater awareness, knowledge, and understanding of current topics and challenges in public health preparedness. Working with the Massachusetts Department of Public Health (MDPH) and the Medical Reserve Corps Units of Massachusetts (MRC), the Massachusetts Medical Society's (MMS) has developed and coordinated an annual preparedness educational program for volunteer responders. The conference focuses on a timely and visible preparedness topic such as integrating individuals with functional needs into preparedness plans, identifying special populations in the community, and providing medical care in an emergency shelter setting. The program has evolved over the last five years. Through MMS partnership with MDPH and several volunteer groups, the program has expanded to comprise other disciplines, including mental health and veterinary medicine, as well as broader audience of allied health professionals and lay responders. The annual educational program has also proved to be an important tool in volunteer recruitment and retention. Sponsoring a conference that is of interest to volunteers is essential to keeping them informed and engaged. Current issues in public health preparedness and disaster response are discussed when a topic is chosen. The event is offered free of charge to existing volunteers. In addition, the program is offered as a simultaneous webinar to make the event accessible to volunteers across the state. Our poster will depict the MMS' partnership with the MDPH, state MRC units, and other volunteers groups to enhance volunteer readiness to respond through the development of a coordinated preparedness educational program. Participants will learn about the importance of collaboration, and gain knowledge of lessons learned all of which will give them the tools to move forward with their own collaborative efforts in their city, town, or state.

16. Getting the Pulse of Healthcare Coalitions: Findings from the National Healthcare Coalition Questionnaire (HCQ)

Monica Lathan-Dye, PhD

Nancy Tian, PhD, LT

Clifton Smith, LCDR

Background: The Healthcare Coalition Questionnaire (HCQ) is a survey administered to healthcare coalitions nationwide to provide a baseline perspective of coalitions that may guide policy recommendations and technical assistance.

Methods: We surveyed a sample of 450 healthcare coalitions representing 44 States and 2 municipalities using a piloted 43- item HCQ administered via Survey Monkey from November 2012- December 2012. Coalition Points of Contact (POC) were asked to provide answers to the questionnaire that best reflect the status of their coalitions. POCs self-reported on the overall healthcare coalition's composition, infrastructure, functions, and perceived progress and impact. Both quantitative and qualitative data were analyzed using aggregate proportions and text analysis on narrative responses.

Results: With a 94% response rate, the HCQ found that healthcare coalitions had fairly diverse demographic characteristics. Over 75% of healthcare coalitions had established lead agencies, diverse memberships, formal or informal agreements, participated in collaborations with other planning entities, and received federal funding. However, more than half of healthcare coalitions lacked strategic plans and administrative support structures. More than 70% of healthcare coalitions reported operations in place that informed situational awareness (i.e., information sharing and interoperable equipment) and enhanced medical surge (i.e., testing response systems, assisting surge capacity). Yet, lower levels (40%) of comprehensive response plans were identified. Healthcare coalitions reported notable progress in overall coordination, information sharing, and leveraging resource with less progress in areas such as short-term recovery, fatality management, and allocation of scarce resources.

Conclusions: Overall, the HCQ was a preliminary look at healthcare coalitions that could be used as a baseline to aid in developing more focused technical assistance and sharing of promising practices. The HCQ offered a targeted approach to help assess healthcare coalitions and enhance performance measurement. In addition, more research to track healthcare coalition progress over time is needed.



17. CDC Responder Workforce Needs Assessment

Gabrielle O'Meara, BA

Robyn Sobelson, PhD

CDC's Office of Public Health Preparedness and Response conducted a responder workforce needs assessment (RNA) for the purpose of identifying perceived preparedness and response training needs for the CDC workforce. The RNA findings will guide decision-making to determine a training portfolio that appropriately reflects current

Agency priorities. The primary evaluation questions addressed by the RNA were:

How well does the current training system prepare CDC staff to respond to emergency events? What gaps exist in the current training system? What trainings are essential and should be included in the CDC training system?

In depth interviews and focus groups were used to gather detailed, in-depth information and explore nuances among different participants. Data collection occurred between November, 2012, and January, 2013. Data were gathered from three distinct categories of responders: (I) incident managers; (II) senior, command, or lead responders; and (III) other experienced responders who have responded on behalf of the CDC in the past two years. A total of 69 responders participated. Although various, useful results and recommendations emerged from the needs assessment, one of the more prominent findings reported by the four incident managers was a lack of targeted trainings and learning opportunities available to current and future incident managers. In addition, participants were not aware of any efforts to recruit or prepare future CDC incident managers. Results suggested that mentoring and shadowing opportunities appear to be the most helpful in preparing senior leaders for the incident manager role. Besides National Incident Management System (NIMS) training, there were limited references to available preparedness and response training for senior public health leaders. To address this gap, over the next two years, CDC will develop, implement and evaluate succession planning strategies including collaborations with other federal response agencies to learn how their leaders fulfill the role of Incident Manager.

18. Building An Integrated Learning System for Public Health Emergency Response:

The CDC Experience

Gabrielle O'Meara, BA

Joan Cioffi, PhD

The foundation of any emergency management program is a cadre of well-trained and qualified personnel. The CDC's emergency management learning system is a compilation of core and specialized curriculum, competencies, training evaluation, policy, responder training tiers, and a system to monitor and report on Agency compliance with National Incident Management System (NIMS). CDC responder trainings are developed and maintained across multiple units within CDC.

The CDC University was established in 1999, and includes a School of Preparedness and Emergency Response (SoPER), which offers training and education to staff involved in preparedness and emergency response. Instructional offerings address safety, security and all hazards topics and align with the public health preparedness and response core

competencies.

The Office of Public Health Preparedness and Response (OPHPR) provides funding for and strategic consultation to SoPER on evidence-based approaches, assuring a sustainable, competent public health workforce to address health security threats. CDC adopted NIMS training requirements in 2007, and defined them in the CDC Surge Staffing During Emergency Responses Policy (2009). These training requirements have been interpreted for the CDC workforce through the use of Responder Training Tiers (Tiers 1-4), which represent response levels, responsibilities and training requirements. Agency-wide and Center-specific NIMS Compliance by Tier is monitored, analyzed, and reported to CDC Senior Leadership twice annually. NIMS compliance is a component of annual performance reviews.

Evaluation of training effectiveness is a priority and course audits are conducted annually in order to assess students' satisfaction and learning. CDC University staff, trainers and subject matter experts meet routinely to evaluate course content, relevance, validity and applicability. Course revisions are based on the latest scientific research and/or program policy. Evaluation staff are available to provide technical assistance on evidence-based approaches to training evaluation. CDC Responder Training System adheres to the Emergency Management Accreditation Program (EMAP) training standards.

19. Learning through Neighbors: Networks of Preparedness & Response Resources

Ilya Plotkin, MA

By providing a venue through which preparedness and response agencies and organizations can post resources, ranging from text-based products to web-based learning courses, a learning network can sprout and grow. That growth can then inform and build skills through lifelong learning in a variety of formats as well as through just in time trainings presented to large groups or taken individually on stationary and mobile platforms. The key to developing a robust, collaborative network is compartmentalization. The network must be able to simultaneously share some resources across jurisdictional lines and hide other resources that may not be pertinent across a wider audience. In some cases, the need is practical: learners from Alaska are unlikely to be able to attend an in-person course taking place in Virginia. In other cases, the need is relational: earthquake response is not as pertinent in Wisconsin as in California. In any case, there exists a need for a learner to obtain the resources they need without wading through clutter. In essence, key materials and trainings must be easily accessible and reviewable. In exploring the foundational need for learning coordination, this poster will use TRAIN (www.train.org) as a model. TRAIN is a learning management network led by 28 affiliates (25 state agencies and 3 federal partners). The network allows agencies and organizations to share resources across jurisdictional lines, while also allowing resources to be restricted to smaller populations. To date, nearly 4,000 providers have

posted over 29,000 courses to a population of over 700,000 learners. This poster will illustrate how providing the preparedness and response workforce with access to shared resources and the tools to track learning is essential to understanding the cost-aware model of disaster planning in the future. Furthermore, it will demonstrate how a network model facilitates the organic development of shared learning resources.

21. Strengthening Healthcare Coalitions through Exercise Simulation

John Pietrzark, MS, MBA

Simulation systems provide the tools for enhanced healthcare and medical coalition building with Emergency Management, EMT, and Public Health for efficient mitigation and preparedness planning to achieve effective response and recovery evaluation through exercises.

This paper focuses on three key coalition building objectives: 1) Align emergency response plans; 2) Coordinate emergency response plans; and 3) Validate emergency response plans.

Operational examples and published reports will support how simulation systems strengthen healthcare emergency coalitions through exercise simulation. The scope of work focuses on the improvement of emergency medical response by coalition strengthening and use of simulation to validate emergency response plans and improve response coordination.

The evidence provided will conclusively show that utilization of a simulation system for regional healthcare coalition building can provide a long-term value by validating healthcare preparedness planning and improve response coordination to reduce emergency consequences.

22. Disaster Health Learning through ICE

Jesse O. Giddens Jr., COL (Ret), MS, AUS

The concept of whole community is critical to disaster health and medical training and learning. FEMA has created and implemented an experiential learning opportunity through the application of the Integrated Capstone Event (ICE). FEMA's Center for Domestic Preparedness (CDP) is active in training healthcare, medical, and hospital responders and receivers in mass casualty incidents (MCI) involving all hazards. The culminating event for their training is a practical exercise where many elements of a "whole community" come together in teams to respond to a "real world" event applying the learning from the classroom training. The ICE brings together teams of responders

and receivers in a simulated scenario with life role players and human patient simulators. Classes representing other components of a community such as law enforcement, fire service, emergency management (EOC and ICS), hazard materials teams, etc. come together with the healthcare community (EMS and hospital) to respond to a variety of MCIs and hazards. The ICE demonstrates the need for many teams and organizations to come together in preparedness, response, and recovery activities for any type of hazard. Through the experiential learning process, the participants have an opportunity to practice the knowledge and skills in a safe training environment and transfer this experience to their home organizations (much evidence indicates the level of transfer to real events e.g., tornadoes in MO, AL, etc.). Primary target audience for this training are State, Tribal, local responders, and private and public sector healthcare and medical staff/receivers.



Attendees visit the posters on display during the Learning in Disaster Health Workshop.

Appendix A - Workshop Agenda

Learning in Disaster Health: A Continuing Education Workshop

Georgetown University Conference Center
3800 Reservoir Road, NW
Washington, DC 20057
September 17-18, 2013

#LDH13 and #DisasterLearning

Day One: Tuesday, September 17, 2013

7:30 a.m. Registration

8:30 a.m. Welcome and Opening Remarks

Kenneth W. Schor DO, MPH, Acting Director, NCDMPH

National Center Advisory Group – Federal Education and Training
Interagency Group for Public Health and Medical Disaster
Preparedness & Response (FETIG)

CAPT D.W. Chen, MD, MPH, FETIG Co-Chair, Director, Civil-Military Medicine, Office of the Assistant Secretary of Defense for Health Affairs, Department of Defense

Graydon “Gregg” Lord, MS, FETIG Co-Chair, Director, Emergency Care Coordination Center, Office of the Assistant Secretary for Preparedness and Response, Department of Health and Human Services

9:00 a.m. General Session: *Bridging Disaster Health & Learning, Education and Training*
Charles L. Rice, MD, President, Uniformed Services University of the Health Sciences (USU)

10:00 a.m. Poster Session and Networking

10:30 a.m. General Session: *Adult Learning: Creating the Bridge for Disaster Health*

Moderator-David M. Abramson, PhD, MPH, Deputy Director, National Center for Disaster Preparedness, Earth Institute Columbia University

Chad Priest, RN, MSN, JD, Chief Executive Officer, MESH Coalition

Ronald M. Cervero, PhD, Associate Vice-President for Instruction, The University of Georgia

Agenda Day One Continued: Tuesday, September 17, 2013

12:00 p.m. Break and Lunch on Your Own

1:30 p.m. Breakout Session A: *Maximizing Learning Transfer for Disaster Health Training & Response*

Lidia Stana Ilcus, Colonel, USAF, MC, FS, Barksdale AFB

Holly Hutchins, PhD, Associate Professor and Undergraduate Human Resource Development (HRD) Program Coordinator, HRD Program
University of Houston

or

Breakout Session B: *Populations with Access and Functional Needs: What are the Learning Gaps?*

Moderator-Andrew Garrett, MD, MPH, Division Director, National Disaster Medical System, Office of Emergency Management, Health and Human Services, Office of the Assistant Secretary for Preparedness and Response

Marcie Roth, Director, Office of Disability Integration and Coordination, Department of Homeland Security / FEMA

Allison Blake, PhD, LSW, Commissioner, New Jersey Department of Children and Families

Kenneth W. Schor DO, MPH, Acting Director, NCDMPH

3:00 p.m. Poster Session and Networking

3:30 p.m. General Session: *How to Maximize Learning in a Resource Constrained Environment*

Alberto J. Cañas, MS, PhD, Associate Director and Senior Research Scientist, Institute for Human and Machine Cognition

Maria Cseh, PhD, Associate Professor of Human and Organizational Learning, George Washington University

LCDR Skip A. Payne, M.S.P.H., REHS/RS, LCDR, Program Officer, Training and Support Services, Division of the Civilian Volunteer Medical Reserve Corps, Office of the Surgeon General

5:00 p.m. Adjourn

Day Two: Wednesday, September 18, 2013

7:30 a.m. Registration

8:30 a.m. General Session: *Understanding the Broad Context of Disaster Health Learning*
Richard King, PhD, Associate Professor, Health Care Sciences/Emergency Medical Education, UT Southwestern Medical Center

10:00 a.m. Outstanding Poster Award Presentation

10:15 a.m. Poster Session and Networking

10:30 a.m. Breakout Session A: *Harnessing Social Media for Disaster Health Learning*
Alisha B. Griswold, BS, Emergency Management and Training and Exercise Specialist, Port of Seattle
Sharon Stoerger, PhD, Director - ITI Program, Lecturer - Assistant Professor, School of Communication and Information, Rutgers University

or

Breakout Session B: *Hybrid Exercises: A New Disaster Learning Tool*
John J. Burke, MS, Fire Prevention Officer, Sandwich Fire-Rescue Department, Adjunct Professor, Boston University School of Medicine

12:00 p.m. Break and Lunch on Your Own

1:30 p.m. Closing Keynote
Senator Tom Daschle, Former Senate Majority Leader (D-SD), Senior Policy Advisor DLA Piper US LLP

Final Remarks

Kenneth W. Schor DO, MPH, Acting Director, NCDMPH

3:00 p.m. Adjourn

Appendix B – Enhancing Learning through Social Media

The National Center engaged with social media both before and during the Learning in Disaster Health Workshop (LDH13) to enhance learning among attendees. Before the event, the NCDMPH Twitter ([@NCDMPH](#)) account spread the official event hashtag [#LDH13](#) to encourage registration for the event as well as to promote future attendees to use the hashtag before LDH13 started. At LDH13, the NCDMPH twitter account encouraged attendees to answer questions and tweet with each other to discuss content. By sharing their thoughts and questions, attendees strengthened their understanding of content. Additionally, important content was able to reach outside the confines of the event by being broadcasted on the web. The tweets below are only a sampling of the many tweets received during LDH13. More tweets can be read on at the NCDMPH Storify account: <http://storify.com/NCDMPH/learning-in-disaster-health-2013-a-continuing-educ>.

Chad Priest @ChadPriestMESH

Excited to be here at #LDH13 with so many dedicated service men and women. An important day to reflect on the importance of preparedness.

Stacey Arnesen @arneses

Dr. Rice, President at USU speaking at #LDH13. Global impact of disasters. Doubling in number of disasters from 80,s to 2003-12.

Alisha Griswold @Alisha_Beth

"Maybe we undervalue informal learning... how do we let technology help us, how do we make [learning] more community-driven?" #SMEM #LDH13

