



Center for Emergency Preparedness
and Disaster Response



**YALE NEW HAVEN
HEALTH**

Study to Determine the Current State of Disaster Medicine and Public Health Education and Training and Determine Long-term Expectations of Competencies

By

Yale New Haven Center for Emergency Preparedness and Disaster Response
Principal Investigator

For

North American Aerospace Defense Command
and United States Northern Command

November 30, 2011

Contract No. W911NF-07-D-0001

Delivery Order No. 0824/TCN 09-238

Scientific Services Program



November 30, 2011

Dr. Houston Polson, YA-3/GS-14, DAFC
Chief, Joint Education Branch
USNORTHCOM Program Manager and Contracting Officer's Technical Representative
U.S. Northern Command/N-NC J74
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Subject: Submission of the FY2009 Final Report - Study to Determine the Current State of
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Enclosure: (1) FY2009 Final Report - Study to Determine the Current State of Disaster
Medicine and Public Health Education and Training and Determine Long-
Term Expectations of Competencies

Dear Dr. Polson:

In accordance with reference (a), YNH-CEPDR is pleased to submit enclosure (1).

Should you have any questions or concerns regarding this report, please contact me directly at
(203) 688-3224.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chris Cannon', written over a horizontal line.

Christopher M. Cannon, FACHE
International Administrator
Yale New Haven Center for Emergency Preparedness and Disaster Response
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cc: James Paturas, YNH-CEPDR
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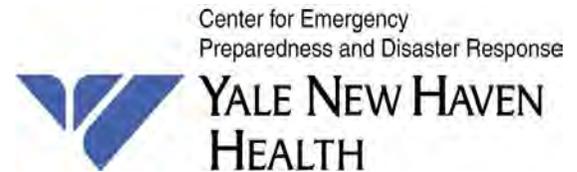
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By

Yale New Haven Center for Emergency Preparedness
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Principal Investigator

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The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.



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HANDLING INSTRUCTIONS

The title of this document is “*Study to Determine the Current State of Disaster Medicine and Public Health Education and Training and Long-term Expectations of Competencies*”. For additional information, please contact:

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INTRODUCTION

As described in the National Response Framework (NRF), the Department of Defense has significant resources that may be made available to support the federal response to terrorist attacks, major disasters or other emergencies, many of which are directly supportive of domestic disaster medical response. While the NRF and the National Incident Management System (NIMS) provide a structure for response among federal, state, local government and private response organizations (e.g., hospitals, EMS, etc.), real-world events such as Hurricane Katrina illustrate the need for additional coordination. Testimony provided to the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina by Command Staff from various branches of the military points to the need for federal, state and local responders to plan together, train together and practice together in order to ensure the coordinated, comprehensive response that will save lives, protect critical infrastructure and facilitate disaster recovery.

There are several civilian-military issues that have consistently impeded integration. These include:

1. Multiple, diverse and un-integrated networks among military and civilian healthcare responders.
2. Mandates, regulations or standards for civilian preparedness that differ from those of military responders.
3. Organizational barriers preventing effective communication and decision-making.
4. Lack of common vocabulary among civilian and military medical responders.
5. Civilian responder jurisdictional control.
6. Lack of a comprehensive listing of related medical response research topics.
7. Lack of coordination efforts for medical response curriculum requirements, training and tracking.

Release of the National Health Security Strategy (NHSS) in December 2009 provides a comprehensive approach that focuses specifically on the Nation's goals of protecting people's health in the case of an emergency. The NHSS states that this is a national - not just federal - strategy and therefore requires the commitment of a broad range of stakeholders encompassing all levels of government, as well as individuals, families and communities (including the private sector, non-governmental organizations and the



academic and research sectors).¹ It is the responsibility of local, state, territorial, tribal and federal governments (including the military) to provide guidance and facilitate collaboration and coordination among individuals, families and communities - including the private sector - and to implement strategies to prevent, protect against, respond to and recover from an incident.

THE NATIONAL CENTER FOR INTEGRATED CIVILIAN-MILITARY DOMESTIC DISASTER MEDICAL RESPONSE

The overarching mission of the ICMDDMR program is to enhance the ability to develop integrated civilian/military approaches to large-scale disasters and to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through activities such as:

1. Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM.
2. Developing models for education and training that can be modified, replicated and made scalable for the civilian/military health delivery workforce.
3. Determining evaluation modalities for education and training programs implemented.
4. Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs.
5. Integrating civilian/military emergency preparedness strategies for medical and public health delivery.

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations in better preparing to work together during a disaster, “Homeland Security Presidential Directive 21 (HSPD-21): Public Health and Medical Preparedness” called for the coordination of education and training programs related to disaster medicine and public health and the establishment of the National Center for Disaster Medicine and Public Health (NCDMPH) to lead those coordination efforts. The

¹ The Institute of Medicine (IOM) report, *The Future of the Public's Health in the 21st Century* (Washington, D.C.: The National Academies Press, 2002), presents a comprehensive framework for how the government public health agencies, working with multiple partners from the public and private sectors as an intersectoral public health system, can better assure the health of communities.



Federal Education and Training Interagency Group (FETIG) serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH. Recently, Congress asked the Government Accountability Office (GAO) to assess the extent to which USNORTHCOM is maintaining: 1) consistency with Department of Defense (DoD) training and exercise requirements; 2) involvement of interagency partners and states in its exercises; 3) lessons learned and corrective actions to improve preparedness; and 4) integration of its exercises with the National Exercise Program (NEP). To do this, GAO reviewed USNORTHCOM documentation, assessed USNORTHCOM compliance and compared DoD and NEP exercise requirements.² The continued partnership between USNORTHCOM and ICMDDMR provides a vehicle for USNORTHCOM to ensure that these critical activities are maintained.

Between the second and third workshops, an article titled “*A Review of Competencies Developed for Disaster Healthcare Providers: Limitations of Current Processes and Applicability*” was published in the journal *Prehospital and Disaster Medicine*. The article concluded that “further efforts must be directed to developing a framework for the articulation of competency sets for disaster health professionals that can be accepted and adapted universally” (Birnbaum, et al., 2010), supporting the importance of the discussions and outputs derived from this workshop series.

STATEMENT OF WORK

“Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” established the following Statement of Work (SOW) and charged YNH-CEPDR with the following task:

Conduct a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21

² GAO Report of 14 September 2009: *NORTHCOM Has a Strong Exercise Program, but Involvement of Interagency Partners and States Can be Improved.*



- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions

PROJECT MANAGEMENT AND ADMINISTRATION

YNH-CEPDR ensured that the project team met weekly to discuss project status and trouble shoot issues. The team applied scope, schedule and cost management techniques for better resource allocation and enhanced team communication. Monthly written progress reports were provided each month starting immediately after contract was awarded and continued until the final report was delivered. A formal presentation on study results will be provided to USNORTHCOM J7 and USNORTHCOM SG after Contract Office Representative (COR), as specified in the statement of work (SOW).

Project Tracking Tools

Activities undertaken to complete the assigned tasks were accomplished by a multidisciplinary project team with subject matter expertise appropriate to the specific task. This team is a part of the Working Group referenced elsewhere in this report.

Work Plan

A dedicated YNH-CEPDR DoD Program Manager (PM) in concert with the Deputy Project Manager (DPM) developed the project work plan and utilized MS Project to manage work plan related activities. The Task Lead and Deputy Task Lead provided leadership in operationalizing the work of the study and provided key project updates to the PM and DPM.

Regular Reporting

The YNH-CEPDR DoD Program Manager coordinated project updates as required by the Contracting Officer's Representative (COR) at USNORTHCOM. Monthly written progress reports were submitted according to the project deadline. In addition, an after action report was developed after each workshop.

FINAL DELIVERABLES

The final deliverables that will be provided to USNORTHCOM include:

- One electronic copy of the Final Study Report in Microsoft Word and one hard copy report. The report is due not later than 30 calendar days after research completion. Format to be used is at the discretion of the subcontractor after review by the COR.



- Formal presentation of study results to USNORTHCOM J7 will occur within 30 calendar days after COR acceptance of the report. Format to be used is at the discretion of the subcontractor after review by the COR.



EXECUTIVE SUMMARY

OVERVIEW

TCN 09238 Title: “Study to Determine the Current State of Disaster Medicine and Public Health Education and Training and Determine Long-term Expectations of Competencies”

Location and Dates: This TCN required the convening of a minimum of six workshops to accomplish the study. All workshops were held in the National Capital Regional, at intervals of every three to four months, beginning in May 2010 and ending in August 2011.

Workshop Format: A workshop planning committee with representation from the agencies and groups listed below in Table 1 was convened to design the workshops. The content and format of each workshop was based on a combination of the following factors: topic, desired outputs and feedback from participants and the planning committee. The initial workshop, which had 189 attendees, focused on information sharing, discussion of key issues, networking and establishing the foundation for the remaining workshops. Subsequent meetings utilized an interactive format and focused on encouraging stakeholder dialog around issues related to coordination of competency based education for the disaster medicine and public health workforce.

TABLE 1: AGENCIES AND GROUPS REPRESENTED ON THE WORKSHOP PLANNING COMMITTEE

U.S. Northern Command (USNORTHCOM)	The Federal Education and Training Inter-agency Group (FETIG)	Department of Veterans Affairs	Centers for Disease Control and Prevention (CDC)
Office of the Assistant Secretary of Defense for Health Affairs (DoD)	National Center for Disaster Medicine and Public Health (NCDMPH)	Department of Health and Human Services	Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR)

Several meeting strategies were employed to maximize discourse and interaction among participants and to encourage an in-depth exploration of topics. These strategies included limiting attendance to approximately 50 participants and using an audience response system to fully integrate audience members into discussions. Questions posed via the audience response system were integrated into panel discussions, which allowed subject matter experts and audience members to discuss areas of divergence in their responses. This format kept the audience engaged and spurred additional



innovative thinking from both sides. Workshop participants commented positively on the value of this approach.

Target Audience: Civilian, military and federal members of the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) professions were targeted for participation at each workshop. The Planning Committee also made special efforts to engage representatives of professional organizations, accrediting bodies and academic institutions that focus on providing continuing education to members of the ESAR-VHP professions, as well as the public health workforce.

TABLE 2: TARGET AUDIENCE

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professionals	Diagnostic Medical Sonographers	Medical and Clinical Laboratory Technologists	Physician Assistants
Cardiovascular Technologists & Technicians	Emergency Medical Technicians and Paramedics	Pharmacists	RNs
Veterinarians	Respiratory Therapists	Radiologic Technologists and Technicians	

Meeting Objectives and Desired Outputs: After the results from the first workshop were presented to the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), the FETIG requested the statement of work (SOW) be adjusted to include the development of a framework and process to identify and evaluate competencies for the disaster medicine and public health workforce. The workshop planning committee developed comprehensive evaluation plans that included specific objectives and desired outputs for each workshop that linked back to the original and adjusted SOW.

Workshop Evaluation: Integrated evaluation plans were designed to guide each workshop and evaluators were deployed to each session to record key findings. At the conclusion of each workshop, a meeting evaluation survey was administered to all participants and the Planning Committee debriefed via a conference call. The results of the evaluations along with key findings were recorded in workshop after action reports.



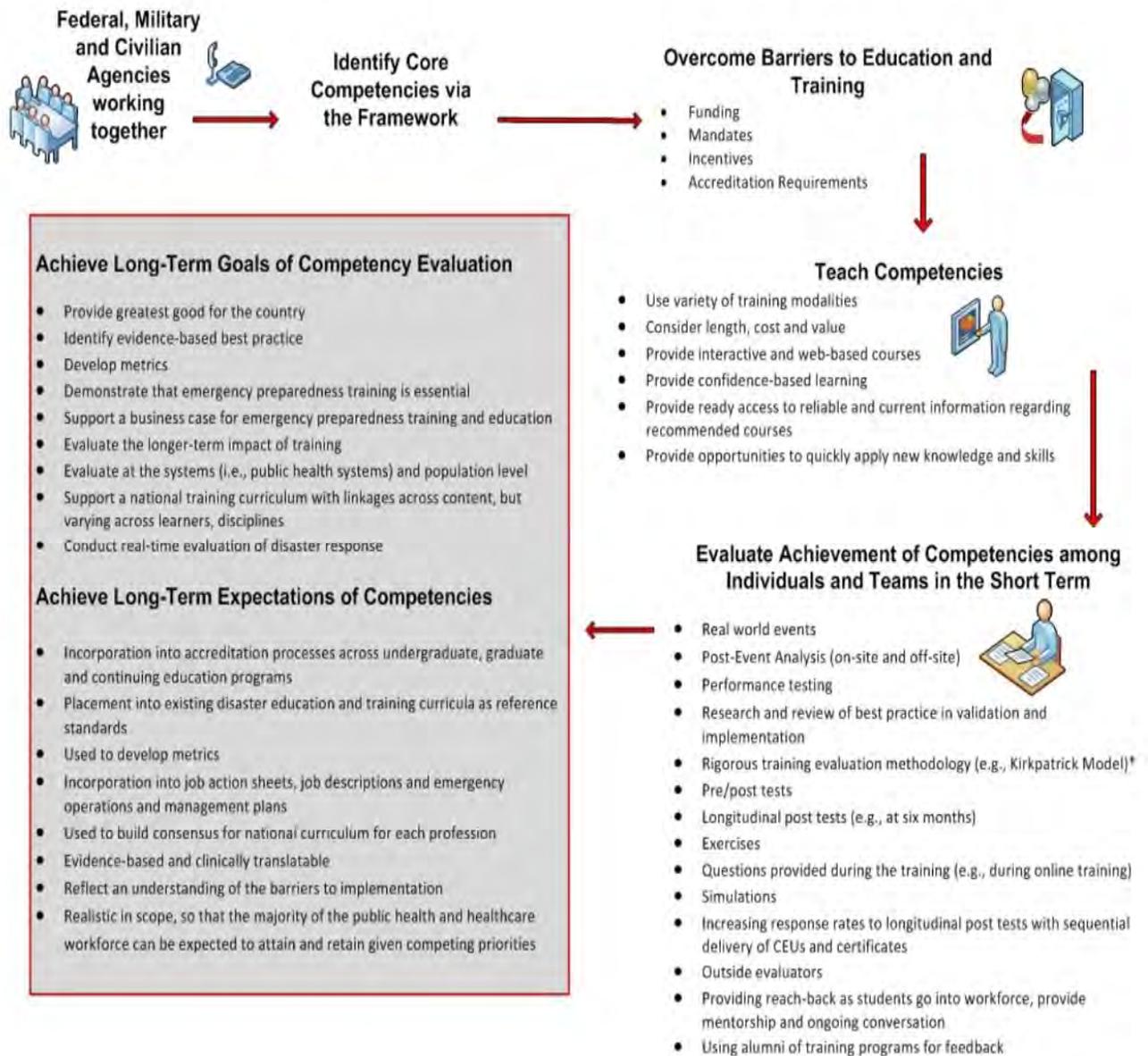
The list of the topics explored during the workshop series is provided in **Table 3** below:

TABLE 3: WORKSHOP SCHEDULE

Workshop	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities (Tab 1)
2	Sept. 22	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting (Tab 2)
3	Nov. 17	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A Continuing National Consultation Meeting (Tab 3)
2011 Workshops			
4	March 23	McLean, VA	From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response – A National Consultation Meeting (Tab 4)
5	June 8	McLean, VA	From Practice to Preparedness: Evaluating Competency-Based Education for Disaster Medicine and Public Health Preparedness and Response – A National Consultation Meeting (Tab 5)
6	August 3	Silver Springs, MD	From Preparedness to Performance: Assessing Team and Individual Performance in Disaster Medicine and Public Health Preparedness and Response – A National Consultation Meeting (Tab 6)

Participating Organizations: All of the workshops were co-sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

Attendance: Over the course of the study, a total of 282 individuals representing 96 organizations, 20 states and the District of Columbia attended the workshops. Beginning with the second workshop, a national consultation meeting format targeting 50 participants was used. This format worked well and helped to attract a consistent group of participants to the remaining meetings. During workshops 3 through 6 up to seventy-one percent of attendees indicated they had attended three or more of the previous workshops.





METHODOLOGY

ICMDDMR WORKING PANEL

A key aspect of our methodology was to ensure coordination across federal agencies and civilian organizations with a stake in improved civilian-military coordination, YNH-CEPDR continued to convene the ICMDDMR Working Panel quarterly. This group included high-ranking representatives from the Assistant Secretary of Defense, Health Affairs (ASD-HA); the Assistant Secretary of Defense, America's Security and Homeland Defense (ASD-HD&ASA); the Uniformed Services University of the Health Sciences (USUHS); the Department of Health and Human Services (DHHS), Assistant Secretary for Preparedness and Response (ASPR); the Department of Homeland Security (DHS), Office of Health Affairs (OHA); the Department of Veterans Affairs (DVA); the National Guard Bureau (NGB); The Joint Commission (TJC); the American Hospital Association (AHA); the American Red Cross (ARC); Texas A&M University; and the Pan American Health Organization (PAHO).

The role of the Working Panel is as follows:

1. Bring the viewpoints and experiences of their parent organizations to the table to help the ICMDDMR formulate programs, products or recommendations that will support integration between the civilian-military sectors.
2. Identify opportunities to describe the activities of ICMDDMR to its target audiences in order to broadly disseminate information about the integrated approach and programs.
3. Ensure coordination from the organizations the Working Panel liaisons represent related to products and services developed through ICMDDMR.
4. Ensure formal communication to and from the organizations the Working Panel liaisons represent based on the needs and expectations of ICMDDMR.

WORKSHOP PLANNING COMMITTEE

A Workshop Planning Committee made up of representatives from the FETIG, the NCDMPH and YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of TCN 09238. This integration of civilian, military and federal partners supported the execution of workshops that yielded outputs meaningful to all sectors. The Workshop Planning Committee held weekly conference calls to conduct workshop planning activities.



The plan for the first workshop in the series was built on the work begun by the NCDMPH in its inaugural workshop entitled, “*A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health*”. During its initial meeting, the NCDMPH performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition, the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

The first workshop conducted under TCN 09238 was designed to bring together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. The meeting targeted 200 attendees, 189 people actually attended. The meeting began with a series of plenary presentations and ended with a variety of breakout sessions focused on gathering data to compare to that previously collected by the NCDMPH.

The conclusion of the first workshop indicated that a significant amount of important work is being done in the area of education and training related to disaster medicine and public health preparedness, yet it is clear from participant feedback that improvements in sharing information on these programs, particularly those funded through federal grants and programs, are needed. The opportunities for networking and information sharing among federal and non-federal stakeholders at workshops such as these are valued by the participants, but likely don’t meet an ongoing need for sharing “current events” in the world of education and training for disaster medicine and public health preparedness. As such, the development of a centralized resource for education and training information and an active campaign to market this resource to federal and non-federal stakeholders would likely have great benefit for all with interest and a need for these programs. Finally, participants expressed great interest in developing a core set of competencies that would be acceptable and accepted by all stakeholders, a finding was explored further in the subsequent workshops executed as part of TCN 09238.

The results and conclusions of the first meeting were presented to the FETIG. The FETIG recommended the next workshop focus on creation of a framework for the development of core capabilities and competencies for medical and public health disaster preparedness and response. The planning committee decided that the format used for the first meeting would not be conducive to achieving this goal. As a result the format of the second workshop was changed to that of a scenario-based national consultation meeting.

Meeting strategies were employed to maximize dialogue and interaction among participants and to increase exploration of the topic. These strategies included limiting



attendance to 50 participants, setting up tables and chairs in the meeting room in a u-shape to support face-to-face interaction and breaking participants up into smaller groups for more focused discussions. The meeting began with a one hour introduction that included presentation of the disaster scenario and focused on setting the foundation for the work of the day. Participants spent the majority of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion among meeting participants.

In response to both positive participant feedback and the quality of data collected during the breakout sessions the decision was made to continue working on the same topic using a similar format during the third workshop. The disaster scenario was not repeated during the third workshop as it was already established as the foundation of the discussion. A brief introduction was provided at the beginning of the third meeting to bring participants who had not attended the second workshop up to date.

The third workshop completed the work of building a framework and process for the development of core capabilities and competencies for medical and public health disaster preparedness and response. Workshops four through six focused on completing the picture through a coordinated walk from the framework and process that was built in previous workshops to practice (workshop 4), preparedness (workshop 5) and performance (workshop 6). Practice focused on coordinating core competencies, while preparedness focused on evaluating competency based education and performance explored how to assess individual and team performance in disaster medicine and public health preparedness and respond.

The format of the fourth workshop modified that used in workshop 3 to include the addition of a 30-minute plenary presentation by a subject matter expert, a moderated roundtable and the integration of an audience response system prior to moving to breakout sessions and a final structured group report out. Each of two plenary sessions was followed by a moderated roundtable that engaged a diverse group of subject matter experts in further exploration of the topic. Questions posed via the audience response system were integrated into discussions allowing subject matter experts and audience members to discuss differences in their responses and maximize exploration of each topic. This helped to keep the audience engaged and spurred additional creative



thoughts from both panelists and audience members. Participants commented on the positive value of this approach.

The fifth workshop continued the format used during workshop 4 with the exception of the breakout sessions. It was noted that the discussion between the panelists and the audience utilizing the audience response system was much more fruitful than the breakout sessions, so the breakout sessions were replaced with a third plenary and moderated panel. Participants responded positively to this approach, which was effective in achieving the desired outputs.

The final workshop used the same format developed in workshop 5 and added a visit to the National Capital Area Medical Simulation Center for a first-hand look at ways to assess individual and team performance in disaster medicine and public health preparedness and response.

Overall this series of six workshops was planned and convened to guide the participants through a process designed to build consensus regarding what competencies and capabilities were required to foster a comprehensive, integrated medical response between military and civilian responders during a disaster event. To ensure the success of each workshop, the number of attendees was adjusted to consider the optimum number of stakeholder agency and organization representatives vital to the success of the each workshop. The formats utilized worked well and helped to attract a consistent group of highly engaged participants who were instrumental in helping to achieve the goals of the current study and expressed a willingness to continue work on the recommendations generated.

OUTPUTS AND FINDINGS

The quality of the outputs described below reflects the success of the methodology used in this study.

WORKSHOP ONE – DISCUSSING KEY ISSUES AND SHARING INFORMATION

Multiple areas of congruence exist between feedback from the federal partners in attendance at the inaugural meeting sponsored by the NCDMPH and the attendees at this meeting. The table below (Table 4) summarizes the findings in five key areas explored during each workshop.



TABLE 4: COMPARISON OF KEY FINDINGS

NCDMPH Inaugural Meeting	TCN 09238 WORKSHOP #1
<p>General</p> <ul style="list-style-type: none"> • Need for developing core competencies recognized • Need for standardizing training and education 	<p>General</p> <ul style="list-style-type: none"> • Need for developing core competencies recognized • 50% of respondents feel core competencies should be developed as a collaborative effort between: federal agencies, academia, professional organizations, accrediting bodies and state and local governments • 98% of respondents agree or strongly agree that there should be a greater standardization of competencies across federal and non-federal agencies
<p>Incentives and Mandates</p> <ul style="list-style-type: none"> • Incentives are the preferred way to encourage learning • Mandates are a better way to achieve a better trained, better educated disaster health workforce 	<p>Incentives and Mandates</p> <ul style="list-style-type: none"> • Incentives and mandates are used to encourage participation and learning • Federal grants are recognized as an effective incentive for education and training by 60% of respondents • Respondents believe incentives are more effective than mandates for education and encouraging participation in training • 75% of respondents identified job requirements as the strongest motivator for their peers to become educated and/or trained • 40% of respondents identified job requirements as their personal strongest motivator to become educated and/or trained
<p>Workforce Learning Requirements and Needs</p> <ul style="list-style-type: none"> • In-person training preferred, although distance learning is seen as a more cost-effective alternative 	<p>Workforce Learning Requirements and Needs</p> <ul style="list-style-type: none"> • Respondents felt drills and exercises are the most useful and effective education and training modalities with the current workforce
<p>Federal and Non-Federal Education and Training Disconnects</p> <ul style="list-style-type: none"> • Disparate funding streams were identified as barriers to successful education and training collaboration across federal department and with the non-federal sector 	<p>Disconnects and Barriers</p> <ul style="list-style-type: none"> • Funding was identified as a key barrier to training

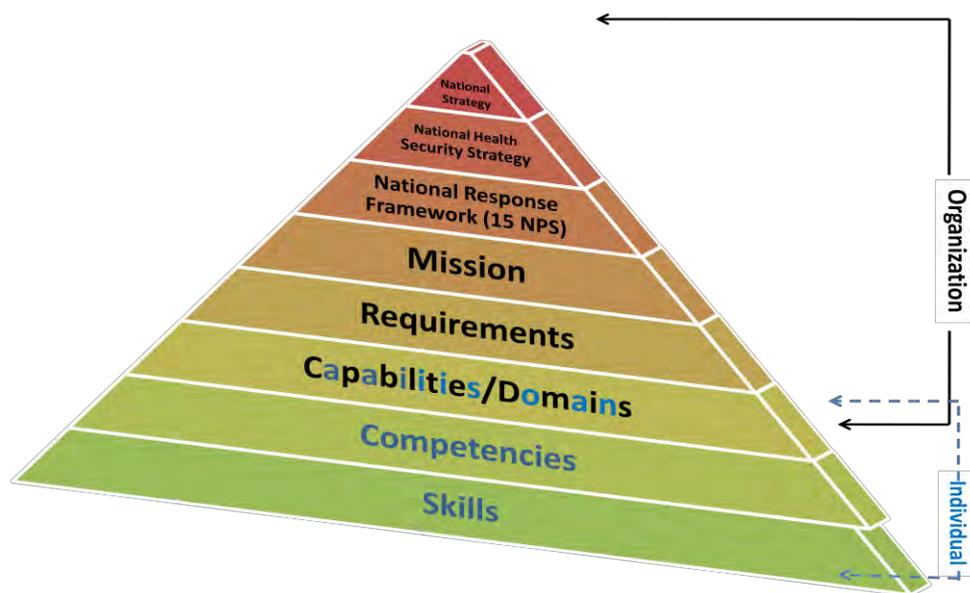


The conclusion of the first workshop indicated that a significant amount of important work is being done in the area of education and training related to disaster medicine and public health preparedness, yet it is clear from participant feedback that improvements in sharing information on these programs, particularly those funded through federal grants and programs, are needed. The opportunities for networking and information sharing among the federal and non-federal stakeholders at workshops such as these are valued by the participants, but likely don't meet an ongoing need for sharing "current events" in the world of education and training for disaster medicine and public health preparedness. As such, the development of a centralized resource for education and training information and an active campaign to market this resource to federal and non-federal stakeholders would likely have great benefit for all with interest and a need for these programs. Finally, participants expressed great interest in developing a core set of competencies that would be acceptable and accepted by all. Reference [Tab 1](#) – Workshop One After Action Report.

WORKSHOP TWO – BUILDING A FRAMEWORK

A key output of the second workshop was participant consensus that the framework illustrated below (**Figure 3**) is appropriate to identify and validate core capabilities and competencies for the workforce responsible for preparedness and response to public health and medical disasters. Reference [Tab 2](#) – Workshop Two After Action Report.

FIGURE 3: FRAMEWORK FOR DEVELOPING WORKFORCE COMPETENCIES FOR PUBLIC HEALTH AND MEDICAL DISASTERS



Forte, E., Smith, S., McGovern, J., 2010



The National Security Strategy sits at the pinnacle of the framework and outlines actions to keep the country safe and prosperous. The framework also recognizes that on a national level the National Health Security Strategy and the National Response Framework are key documents that define the organization’s mission(s). To achieve the mission, an organization must identify the requirements and those collective tasks that are needed for a specific period of time to accomplish the mission. Requirements in turn drive the identification of capabilities and competencies.

Capabilities are defined as “the ability to execute a specified course of action.”³ A capability provides a means to achieve a measurable outcome resulting from performance of one or more critical tasks, under specified conditions and performance standards. In order for an organization to reach and maintain a capability, the organization must be staffed by individuals who have the “abilities relating to excellence in a specific activity.”³ Competencies refer to a “standardized requirement for an individual to properly perform a specific job.”⁴ For an individual to be considered “competent”, they must be able to perform specific skills needed to respond during a disaster.

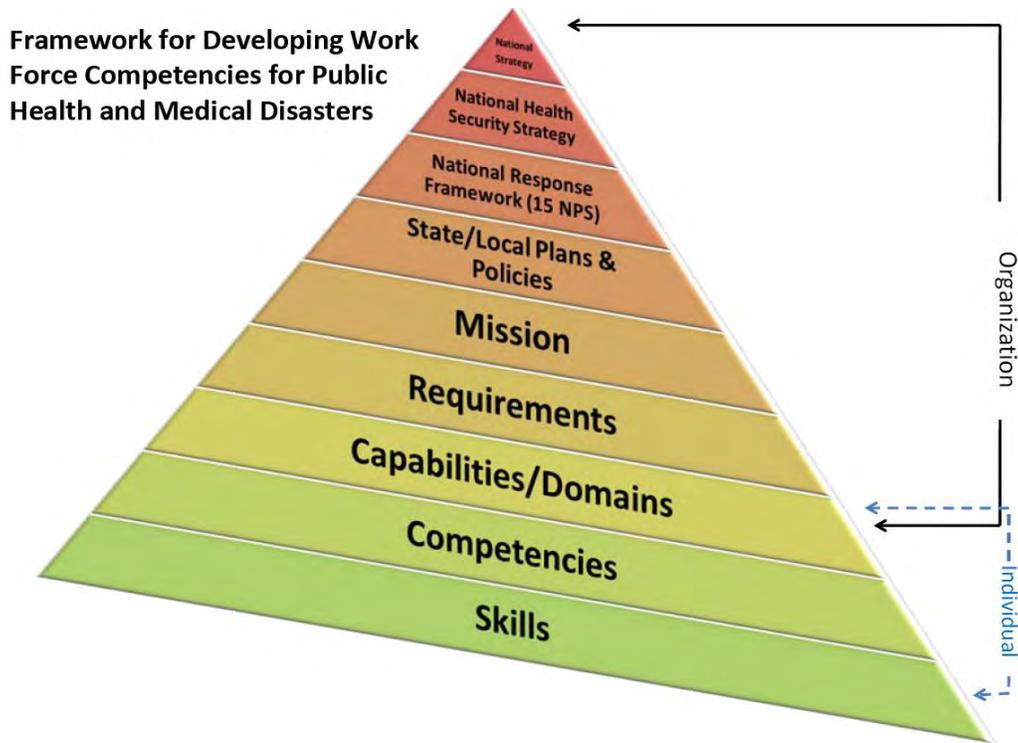
WORKSHOP THREE – DEVELOPING THE PROCESS

During the third workshop, additional discussion ensued regarding the need to revise the above framework to reflect the importance of core competencies and core capabilities/domains. For competencies or capabilities/domains to be considered “core”, they need to apply across phases of the disaster, across disciplines and across scenarios. In addition, the framework needs to consider the National Preparedness Guidelines and state and local plans, which reflect geographic and population uniqueness. There were also additional recommendations to emphasize that curriculum and courses are the preferred methods to teach the skills that are at the foundation of the Framework. As a result of these recommendations, the Framework was revised to the following:

³ *Capabilities Based Planning Overview 12-17* DHS/SLGCP/OPIA/Policy and Planning Branch
http://www.scd.hawaii.gov/grant_docs/Capabilities_Based_Planning_Overview_12_17.pdf

⁴ American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2009 by Houghton Mifflin Company

FIGURE 4: REVISED FRAMEWORK FOR DEVELOPING WORKFORCE COMPETENCIES



THE PROCESS

The next step for the group was to develop a process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event. The group reached consensus on the following description of the process.

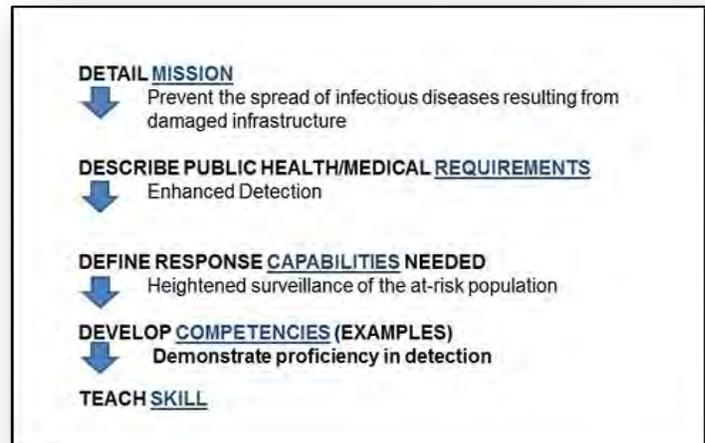
The process is initiated by recognition or assignment of a **Mission**. The mission could be generated in the context of a scenario or threat. For example, a mission might be “Prevent the spread of infectious diseases resulting from damaged infrastructure”.

Based on the mission, **Requirements** are identified. For example, using the mission above, some of the requirements could be:



- Implementation of Preventive Measures
- Enhanced Detection
- Disease Eradication

Capabilities are what is necessary to meet the requirements and can therefore be derived from the list of requirements. For example, to address a requirement for Enhanced Detection, the entity responsible for mission success must be capable of deploying methods for early recognition of the clinical syndrome, heightened surveillance of the at-risk population and reliable tracking and reporting mechanisms.



In addition to funding, hardware, software and other resources, these capabilities demand specific **Competencies** of the response personnel. These encompass epidemiologic methods, including skill sets typically used to describe minor outbreaks in community public health settings.

Individual **Skills** contributing to competency in this example might include establishment and distribution of case definitions, management of databases, coordination of electronic health information among medical care facilities and others.

Prior to embarking on tasks associated with the above referenced desired outputs, each of the groups reviewed the Capabilities Matrix (Table 5) and identified the core capabilities. The Capabilities Matrix compares capabilities from a cross-section of military and civilian medical and public health agencies. The participants recommended that the following capabilities be added:

- Evaluation criteria/quantitative benchmarks
- Cultural competency/cultural sensitivity
- Licensing and credentialing
- Legal issues/scope of practice
- Organizational command structure
- Public health
- Individual preparedness



Participants also identified the following agencies as source gaps in the Capabilities Matrix:

- ESF#5, 6 and 9 capabilities
- Association for Community Health Improvement
- American Red Cross
- National Guard teams
- Related professional organizations (e.g., American Nurses Associations, etc.)



The chart below identifies the capabilities that were determined to be core:

TABLE 5: CAPABILITIES MATRIX

CAPABILITIES CROSSWALK																
CAPABILITY	DMRTI	VHA	ESF-8	ESF-11	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	ACEP	MRC	NEPEC	WKSP#2	
Provide of Medical Care	Green		X			X		X	X			X		X		
Perform Triage	Green				X	X						X				
Conduct Extraction/Evacuation	Green		X		X				X			X			X	
Provide Behavioral Healthcare	Green		X			X						X	X	X		
Perform event Recognition/Detection	Green											X	X	X		
Provide Veterinary Medical Support	Green		X	X	X											
Provide Health/Medical/Veterinary Equipment and Supplies	Yellow		X	X	X											
Supply Blood, Organs and Blood Tissues	Green		X													
Provide Communications, Notifications/ Disseminate Information	Yellow	X	X		X	X	X		X	X		X	X	X	X	
Provide All-Hazard Public Health and Medical Consultation, Technical Assistance and Support	Red		X						X						X	
Ensure Safety and Security of Drugs, Biologics and Medical Devices	Yellow		X													
Provide Food Safety and Security	Red		X	X	X											
Ensure Responder Safety and Health	Green	X	X		X			X		X	X	X	X		X	
Provide Nutrition Assistance and Distribution of Food Supplies	Red			X												
Ensure Agriculture Safety and Security	Red		X	X	X				X							
Conduct Health Surveillance	Green		X							X						
Establish Environmental Health Activities	Green		X		X				X							
Conduct Threat/Risk Assessment	Red		X			X	X			X	X				X	
Provide Health Risk Management	Yellow				X	X					X			X		
Provide Situational Awareness	Red						X	X				X		X		
Ensure/Build Medical Surge Capacity	Green				X							X				
Conduct Mass Prophylaxis	Red				X	X								X		
Implement Isolation and Quarantine Protocols	Green				X			X						X		
Provide Emergency Response	Yellow	X			X		X		X			X	X			
Conduct Urban Search and Rescue	Red								X							
Carry Out Firefighting Operations	Yellow								X							
Conduct WMD/HazMat Response and Decontamination	Red				X	X						X				
Conduct Resource Management, Manage Volunteers	Red				X	X						X				
Perform Contingency, Continuity and Recovery Activities	Yellow	X			X			X	X	X	X					
Provide Patient Transportation	Green				X	X			X			X		X		
Conduct Planning	Green	X			X	X	X	X	X	X	X				X	
Perform Regional, State and Local Prevention Operations/National Prevention Operations	Yellow								X							
Provide Incident Management and Support Systems	Green	X			X	X	X		X		X	X	X			
Ensure Infrastructure Safety	Red			X				X	X							
Ensure National Strategic Intelligence	Red								X							
Manage Special Needs Populations	Yellow											X				
Demonstrate Procedures for Assigning Roles, Event Reporting and Activating and Deactivating Personnel	Yellow	X											X	X		
Identify Limits to Skills, Knowledge and Abilities as They Apply to MRC Role(s)	Yellow															
Apply Ethical Principles	Yellow															
Establish Patient Identification and Tracking	Red															
Perform All Deployment Mobilization - Specific Tasks	Red	X														
Perform All Tasks Necessary for Traveling to and from Deployment and Destination Sites	Green	X														

Item identified as a core capability (Green)

There is debate as to whether item is a core (Yellow)

Not a core capability /maybe a competency (Red)

X = Capability Recognized within the Specified Policy/Recommendations Document



A draft set of core competencies for the preparedness, response and recovery phases was developed for the following capabilities:

- Emergency Response
- Threat/Risk Assessment
- Incident Management and Support Systems

The competencies (**Table 6**) created used accepted terminology and reflect an understanding of the core tasks that cross disciplines and are required in a medical or public health disaster.

TABLE 6: COMPETENCIES FOR DESIGNATED PHASES

Capability	Competencies
Emergency Response	<ul style="list-style-type: none"> • Establish communication infrastructure • Utilize ESAR-VHP • Develop a Responder Family Preparedness Plan • Describe the responders' role in an emergency/disaster and whom to report to • Implement stratified ICS Training
Incident Management and Support Systems	<ul style="list-style-type: none"> • Demonstrate the principles of ICS and NIMS • Demonstrate your role within the NIMS environment • Facilitate collaboration with internal and external emergency response partners • Apply the principles of ICS and NIMS within your environment including interacting with internal and external emergency response partners • Participate in the evaluation of effectiveness in response • Utilize situational awareness to drive your decision cycle • Conduct threat and risk assessment • Demonstrate the ability to demobilize to return to steady state in accordance with the principles of ICS
Threat/Risk Assessment	<ul style="list-style-type: none"> • Using an all-hazards approach, explain general health, safety, and security risks associated with disasters and public health emergencies • Describe risk management principles in the disaster setting • Describe unique vulnerabilities across demographics within your community • Using an all-hazards approach, manage risks associated with the disaster and public health emergency • Apply risk management principles in the disaster setting • Explain appropriate responses in the emerging disaster environment that includes loss of infrastructure and population change or determine your response based on loss of infrastructures across demographics within your community • Report unresolved threats to physical and mental health through the chain of command • Using an all-hazards approach, minimize risks associated with the emerging environments • Evaluate risk management decisions in the disaster setting • Perform adaptation to your response based on loss of infrastructures across demographics within your community



The groups also identified barriers to achievement of core competencies and proposed solutions to the identified barriers. The barriers and solutions were categorized into three major categories: personal, organizational and system. The solutions followed the same pattern.

The competencies of particular interest and concern (regardless of the associated capability) to workshop participants included the following:

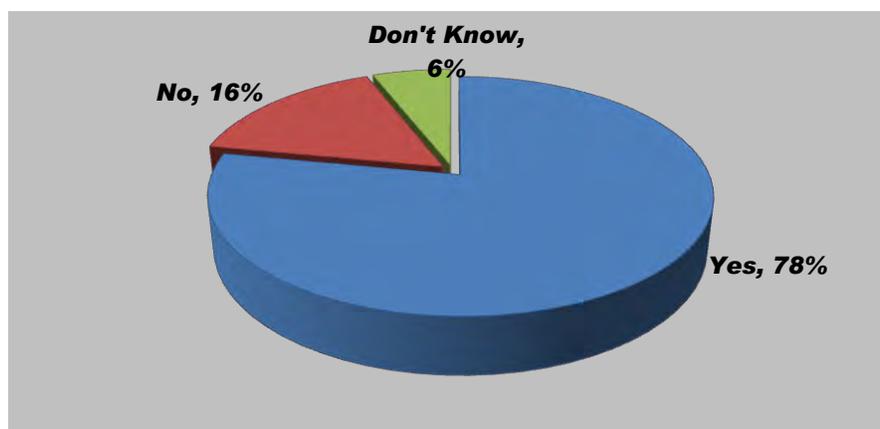
- Inter and intra-agency communication
- Situational awareness
- Evaluation/quantitative benchmarks

All breakout groups also identified worker motivation issues (e.g., anxiety, complacency, avoidance) as barriers to achievement of competencies. Reference [Tab 3](#) – Workshop Three After Action Report.

WORKSHOP FOUR – COORDINATING CORE COMPETENCIES

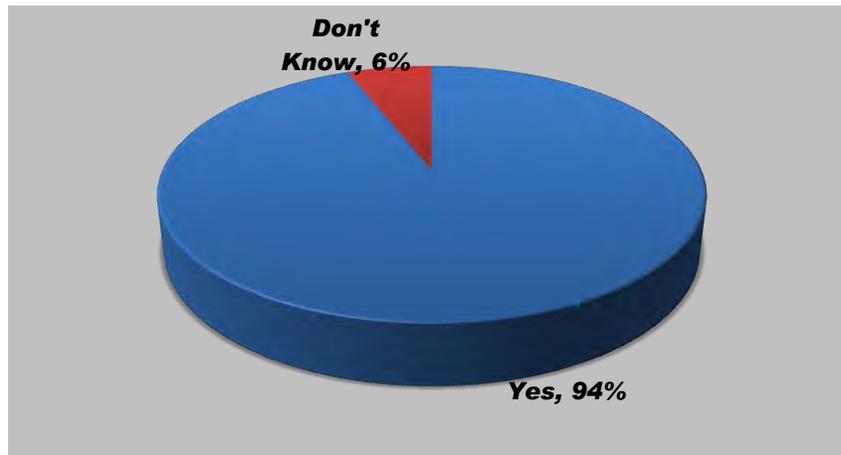
During the fourth workshop, additional feedback was solicited regarding the competency development framework and process. Participants were asked via the audience response system whether their organization is currently implementing competencies for emergency preparedness and disaster response. Their responses are summarized in the chart below.

CHART 1: IMPLEMENTING COMPETENCIES



Additionally, participants were asked if their organization has access to current information that supports the development of disaster response curriculum. Their responses are summarized in the chart below:

CHART 2: ACCESS TO INFORMATION



Although 94% of participants felt they had access to current information that supports the development of curriculum, many were not aware of the federally funded programs focused on emergency preparedness education and training, public health and healthcare delivery preparedness, nor the variety of resources described by Dr. Steven J. Phillips as being available from the National Library of Medicine.

Overall there was wide variation in the processes members of the first moderated roundtable and participants used to develop emergency preparedness and disaster response competencies. For example, some performed needs assessments and literature reviews while others began by focusing heavily on broad-based participation from members of their professional organization to determine the framework and drive the process for developing emergency preparedness and disaster response competencies. Others relied on guidance from federal agencies and advisory councils. In addition, graduate healthcare professions are starting to add “certificate programs” or specific “tracks” for disaster response and/or emergency management.

The panelists and workshop participants agreed that currently core competency development is primarily profession-specific and is frequently tied to entry-level training standards; however, participants also indicated that further discussion on competency levels may be warranted, for example, entry versus mid versus executive level competencies.

A second panel of subject matter experts described implementing core competencies by developing checklists for clinical staff, conducting drills and exercises, participating in real-world event responses and war games and through the use of virtual environments and laboratories. Core competencies are also being rigorously mapped to existing

curricula. For example, the National Disaster Life Support courses are currently undergoing refinement to remove extraneous material not tied to a specific competency.

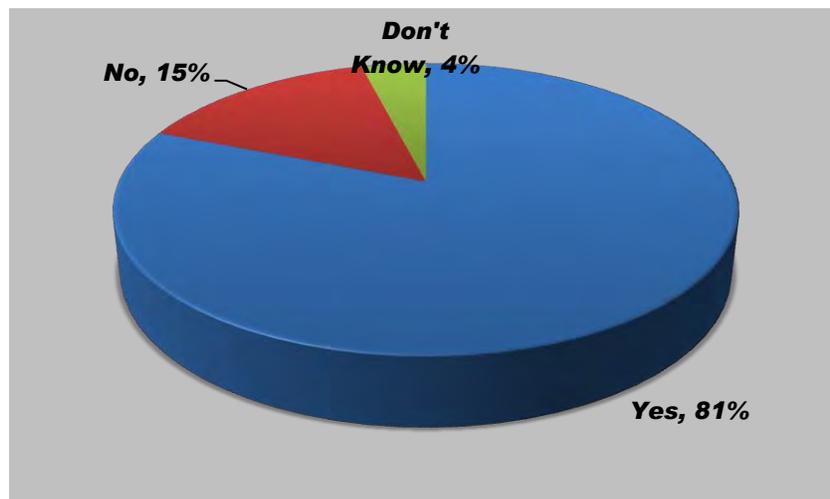
Representatives of the allied health professions indicated that many of the allied health professions that have core competencies go back to their licensing group and internal and external subject matter experts to gain input regarding which competencies should be core. This process typically takes 12-18 months from inception to completion.

Despite the variability reflected above, there is evidence that all of the components of the framework and process developed during workshops 2 and 3 are reflected in the frameworks and processes used by workshop participants. The framework and process developed during the previous workshops provide a standardized method to approach the development of core competencies for emergency preparedness and disaster response that may help to minimize the impact of organization-specific differences on the determination of what competencies can be considered core.

INTEGRATING COMPETENCIES INTO EXISTING CURRICULUM

Participants were asked via the audience response system whether the organization they represent integrates emergency preparedness and disaster response competencies into existing curricula. Their responses are summarized in Chart 3 below.

CHART 3: COMPETENCIES IN CURRICULUM



There is wide variation in approaches to integrating competencies into existing curriculum. All panelists and participants identified the challenge of balancing the necessary training with other duties and requirements. A significant difference was



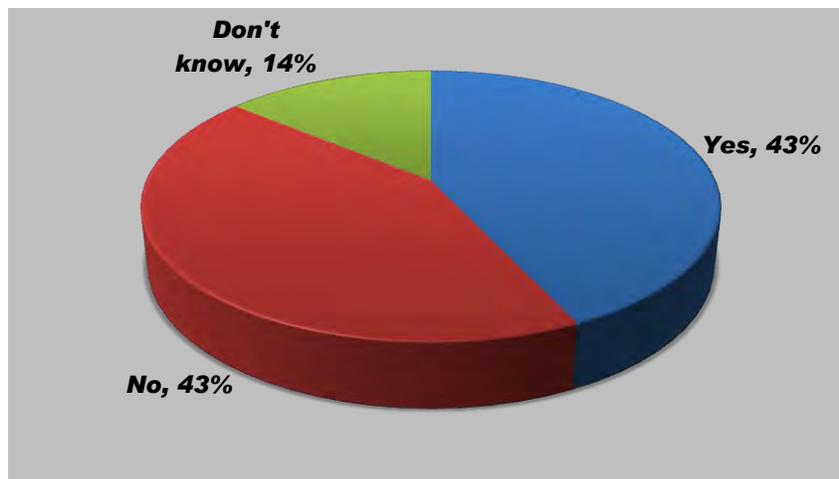
noted between the approaches of academia to this issue versus the approach used in continuing education directed at experienced practitioners.

For experienced practitioners, emergency preparedness and disaster response competencies are frequently integrated into entry level training and are not consistently addressed thereafter. In academic settings where competencies are integrated, curriculum mapping is employed, and toolkits are developed to align objectives to module competencies and follow-up with clinical practice. In academic settings where competencies are not integrated, the challenge is fitting core competencies into an already packed, time-constrained curriculum. There was general consensus that mandates from federal or state agencies and/or accrediting bodies would help to decrease the variability in this area.

ROLE OF ACCREDITATION

When participants were asked via the audience response system whether the organization they represent worked with an accrediting body to develop competencies, responses were relatively evenly split as illustrated below:

CHART 4: WORK WITH ACCREDITING BODIES



There is wide variability in the requirements of accrediting bodies related to emergency preparedness and disaster response competencies. This variability explains in part the differences in the state of development of emergency response and disaster preparedness competencies across the ESAR-VHP professions.



TABLE 7: ACCREDITING BODY REQUIREMENTS

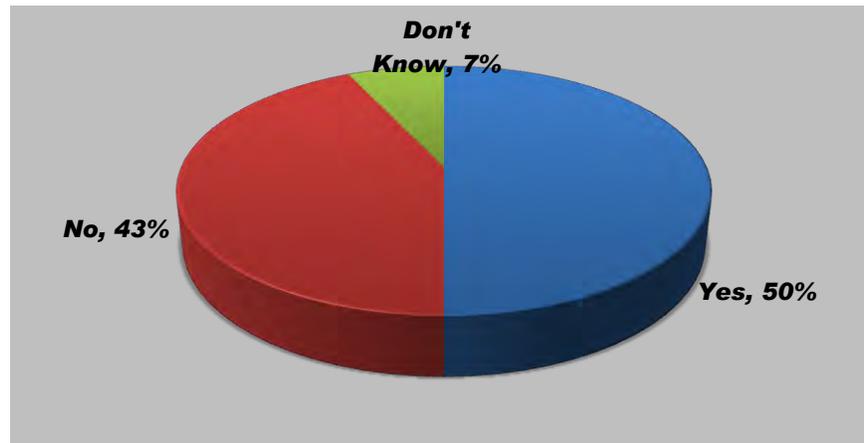
The Joint Commission	<ul style="list-style-type: none"> Standards for Emergency Management in hospitals and healthcare organizations
Physicians	<ul style="list-style-type: none"> No ACGME standards LCME (AMA/AAMC) – no competencies
AMA	<ul style="list-style-type: none"> Policy is that there should be competencies
RNs/ANA	<ul style="list-style-type: none"> No requirement
CAAHEP	<ul style="list-style-type: none"> Has requirement for all hazards core competencies that must be placed in profession-specific core competencies
ABMA/ Veterinarians	<ul style="list-style-type: none"> No requirement
EMS	<ul style="list-style-type: none"> No requirement
States	<ul style="list-style-type: none"> Most have no requirement Nevada and Pennsylvania have requirements for emergency preparedness and disaster response competencies

Accreditation requirements were widely recognized by session participants as an additional and highly effective approach to dissemination and uptake of core competencies, but, as noted above, requirements vary widely by profession and locale.

EVALUATION AND UPDATING COMPETENCIES

When participants were asked if the organization they represent currently builds and measures competence in emergency preparedness and disaster response in the workforce, they responded as illustrated in the chart below:

CHART 5: MEASURING COMPETENCE



The panelists from session one discussed evaluating competencies with field training exercises and analysis of objectives as a component of after action reports (AAR). In addition, panelists suggested geo-coding learners and implementing standardized survey instruments post disaster to assess:

1. Access to relevant learning.
2. Effectiveness of applicable learning interventions in enhancing their ability to respond.
3. Gaps in existing competency models.

The panelists in session two discussed using lessons learned from real-world events to inform core competencies. Both groups sought to improve the evaluation of competencies by measuring performance against real world events and ensuring reliability of the AARs. Participants identified the following approaches to evaluating competencies:

TABLE 8: APPROACHES TO EVALUATING COMPETENCIES

<ul style="list-style-type: none">• Drills/Exercises• Real-World Events• Lessons Learned• Post Event Analysis (on-site and off-site)• Performance Testing• Research and Review of Emerging Concepts and Current Practices for Validation and Implementation• Rigorous Training Evaluation Methodology (e.g., Kirkpatrick Model)

Participants recommended that competencies be updated at regular intervals (every 3-6



years) and in response to new knowledge gained from disaster events. Participants pointed out that academia typically updates competencies every five years, but professional schools may also be driven by institution specific requirements.

LONG-TERM EXPECTATIONS OF CORE COMPETENCIES

Panelists and participants were asked to describe their expectations for competencies once they are developed. Panelists expect that federal grantors will eventually be given a road map of core competencies that can be fully incorporated into all levels of curricula from undergraduate to graduate and continuing education, and that will provide the foundation for future federal expenditures on disaster medicine and public health preparedness curriculum. Core competencies should also become part of the accreditation processes for academic programs and should be integrated, where appropriate, within organizational accreditation programs. In addition, linking core competencies to state professional licensure requirements may also support the building of a healthcare workforce competent in core emergency response skills. The panelists also anticipate the creation of a national evaluation framework that will integrate all emergency response core competencies with evaluation methodologies, such as those developed through programs such as the Centers for Public Health Preparedness (CPHPs), the Bioterrorism Training and Curriculum Development Program (BTCDDP), the Preparedness and Emergency Response Learning Centers (PERLCs) and the Preparedness and Emergency Response Research Centers (PERRCs). Participants added the following expectations:

TABLE 9: LONG-TERM EXPECTATIONS OF CORE COMPETENCIES

- **Dissemination and implementation across the professional spectrum. Incorporation into accreditation processes across undergraduate, graduate and continuing education programs**
- **Placement into existing disaster education and training curriculum as reference standards**
- **Use to develop performance and outcome metrics**
- **Incorporation into job action sheets, job descriptions and emergency operations and management plans**
- **Use to build consensus for a national curriculum for each profession**
- ◆ **Must be evidence-based and translate clinically**
- ◆ **Must reflect an understanding of the barriers to implementation**
- **Must be realistic in scope so that the majority of the public health and healthcare workforce can be expected to attain and retain given competing priorities**



The following key recommendations resulted from the workshop:

- Need for the adoption of a standardized framework and process for development of core competencies
- Further discussion on competency levels may be warranted; for example, entry versus mid versus executive level competencies
- Panelists suggested geo-coding learners and implementing standardized survey instruments post disaster to assess:
 - Relevant learning
 - Effectiveness of applicable learning interventions in enhancing their ability to respond
 - Gaps in existing competency models
- Core competencies should become part of the accreditation process for academic programs and should be integrated, where appropriate, within organizational accreditation programs
- Consideration should be given to linking core competencies to state professional licensure requirements in an effort to support uptake

Reference [Tab4](#) – Workshop Four After Action Report.

WORKSHOP FIVE – EVALUATING COMPETENCY BASED EDUCATION

Reference [Tab 5](#) – Workshop Five After Action Report. An analysis of the workshop's presentations and discussions generated the following 5 major topics:

1. **Decreased funding to support evaluation activities.** Both speakers and participants discussed emergency preparedness program funding cuts and their deleterious impact on the evaluation portions of program budgets. Public health funding for emergency preparedness is particularly challenging. For all programs, using line/clinical staff to conduct evaluation activities in addition to, or instead of, their usual tasks is expensive. However, professionally trained evaluators (particularly external evaluators) are also costly. Despite the funding challenges, health systems (e.g., hospital systems, public health agencies) need to financially support both individual and system-wide evaluation activities.
2. **Knowledge retention.** The ability of students to retain new information gained from trainings is a concern. The limited frequency of disasters means that students are not quickly applying their new knowledge, skills and attitudes in the workplace.

Both speakers and participants pointed out that supporting students to quickly apply new skills (e.g., via exercises) takes both time and funding. Workshop speakers also articulated the need to investigate how technology can be applied to support



knowledge retention. Refresher courses and continuing education classes are also needed.

3. **Competencies and metrics.** Throughout the workshop, speakers consistently raised the need for nationally accepted metrics and competencies to support national training goals that are both intra and inter-disciplinary.
4. **Progress beyond individual and program evaluations to system-level and population-level evaluation.** The speakers pointed out that the current state of emergency preparedness training evaluations primarily remains at the individual student or program level. Further, these individual learner and program accomplishments cannot be aggregated to demonstrate achievement of national goals for preparedness.

Additionally, although the Federal Emergency Management Agency has developed and distributed the Target Capabilities List, which includes some preliminary measures of achievement, these have been principally used to guide the development of national training goals for preparedness in some areas. These issues reflect the early stage of the science, which can be viewed in contrast to the decades of data that has been collected and analyzed in furtherance of the national health improvement goals and activities associated, for example, with smoking cessation and injury prevention.

5. **Transition beyond knowledge acquisition to impact evaluation.** Also indicative of a relatively new field, evaluations of emergency preparedness training programs have focused on short-term outcomes, rather than the trainings' long-term impact on learner knowledge, attitudes and skills. Further, the desired (long-term) impacts of trainings remain imprecisely defined.

Key recommendations from the workshop link back to the themes identified above. The identification and development of long-term approaches to evaluation of emergency preparedness training programs have been significantly challenged by funding and staffing issues. However, when discussing this issue, the evaluation professionals participating in this workshop readily articulated nine long-term goals of this field. These were as follows:

1. Provide the greatest good for the country.
2. Identify evidence-based best practices.
3. Develop metrics.



4. Demonstrate that emergency preparedness training is essential.
5. Support a business case for emergency preparedness training and education.
6. Evaluate the longer-term impact of training.
7. Evaluate at the systems (e.g., public health systems) and population levels.
8. Support a national training curriculum with linkages across content, but varying across learners and disciplines.
9. Conduct real-time evaluation of disaster response.

In addition, the recommendations in the chart below were made regarding training and education:

TABLE 10: TRAINING AND EDUCATION RECOMMENDATIONS

- A variety of training modalities should be considered
- Length, cost and value of courses are key issues for consumers
- Interactive courses are consistently well-received
- Web-based courses should be interactive, case/problem-based and include learning checks throughout the course
- Confidence-based learning has shown promise
- Clients/consumers want ready access to reliable and current information regarding recommended courses
- Students need opportunities to quickly apply new knowledge and skills
- Trainings should be designed to keep the workforce interested and engaged
- Exercises and drills encourage retention of knowledge gained through trainings

WORKSHOP SIX – ASSESSING INDIVIDUAL AND TEAM PERFORMANCE

The results of the sixth workshop were congruent with those of workshop five. The findings and recommendations of both workshops point to a need for the development of integrated cross-disciplinary programs in disaster medicine and public health preparedness and response that reflect effects-based planning and training and build in rigorous methods for individual and team assessment from inception. Reference [Tab 6](#) – Workshop Five After Action Report.

The following outputs were achieved during this meeting:



- Broad sample of existing methods for conducting assessments of team and individual learner competency and performance in medical disaster preparedness and response
- Catalogue of challenges associated with assessment of the team and individual learner
- Inventory of long-term approaches to effective assessment of team and individual learner competency and performance in disaster medicine and public health preparedness and response education

The workshop identified the following key recommendations:

1. Build programs with assessment in mind (look at program from beginning to end).
2. Expand academic and practice partnerships.
3. Apply new and innovative techniques to the assessment of gains in individual knowledge, skills and attitudes during a real event.
4. Integrate the training and assessment of various disciplines (training and exercising away from silos).
5. Map measurement of knowledge, skills and attitudes directly to competencies.
6. Develop an application for self-assessment during an exercise or real event (instead of relying on observers).
7. Utilize video in assessments.
8. Conduct longitudinal post-event surveys.
9. Create safe environments in which to assess.
10. Conduct research to determine if training individuals has an impact on the system.

In addition, general recommendations and observations in the table below (Table 11) were made regarding education and training in disaster medicine and public health preparedness and response:



TABLE 11: GENERAL RECOMMENDATIONS/OBSERVATIONS RELATED TO EDUCATION AND TRAINING IN DISASTER MEDICINE AND PUBLIC HEALTH PREPAREDNESS AND RESPONSE

- Develop and propagate a single competency model with a common core set of competencies for all healthcare professionals.
- Work with national associations and credentialing bodies to develop a plan to implement a core curriculum with appropriate incentives and mandates
- Develop and rigorously validate measures for competence
- Mandate a baseline level of emergency preparedness education – not clinical skills – in all health professionals' academic education
- Widely disseminate information on a recommended approach that can be implemented to prepare all disciplines in working together in public health and disaster medicine preparedness
- Develop and disseminate assessment techniques and tools that produce meaningful data and lead to improved performance of individuals and teams such as disaster training using simulation in a multidisciplinary fashion in professional schools



STUDY LIMITATIONS

The study design used a mixed methods approach to garner feedback from a geographically diverse, multidisciplinary group of federal, civilian and military volunteers who do not account for the full spectrum of professionals potentially impacted by this topic. However, the results provide a strong foundation for future activities aimed at addressing issues related to education and training activities designed to further support the coordination, efficiency and effectiveness of a medical and public health response during an emergency or disaster.



OVERALL RECOMMENDATIONS

The following recommendations are based on the work described herein and are made to the FETIG and the NCDMPH for their review and consideration.

1. The FETIG and the NCDMPH should consider developing a communications plan to maintain awareness among stakeholders regarding federal activities related to disaster medicine and public health education and training.
2. The FETIG should consider formalizing the Academic Joint Program at the NCDMPH to include, as objectives, identifying and engaging stakeholders for education and training curricula integration and investigating the use of incentives and mandates as motivators for training participation.
3. The FETIG should consider sponsoring forums that promote ongoing sharing of information on disaster medicine and public health preparedness education and training, such as:
 - An annual conference on public health and medical education and training focused on best practices in designing, implementing and evaluating disaster education and training courses
 - NCDMPH website content providing information on education and training activities
 - Use of COMPASS and TRAILS as tools to identify and catalog available disaster courses
 - NCDMPH website content that enables federal and non-federal stakeholders to maintain optimal integration and information sharing regarding disaster education and training best practices, course offerings and gaps, particularly those identified/developed with federal funding
4. The NCDMPH should consider conduct a study on the national workforce and use the framework to develop core competencies and a standard curriculum for disaster education and training. Consider the level of competencies under consideration (i.e., introductory, intermediate or advanced). Additionally, examine and recommend how core competencies can be integrated into the accreditation, certification and licensure processes.
5. The FETIG should consider using the capabilities matrix to advance the core competencies required in a medical or public health disaster that cross over disciplines. The FETIG should also consider further study of barriers to achieve core competencies and potential solutions.



6. The NCDMPH should consider examining and evaluating the capabilities matrix, which compares capabilities from a cross-section of military and civilian medical and public health agencies. NCDMPH should consider revising as needed to add newly defined core capabilities and newly identified capability sets put forth by other stakeholder organizations.
7. Using the framework for identification of core capabilities and competencies for the clinical workforce, the NCDMPH should consider developing public health and medical competencies needed for each of the 15 National Planning Scenarios.
8. The FETIG and the NCDMPH should consider examining and evaluating barriers to achieve competencies and then develop a plan to address solutions to the barriers.
9. The FETIG and NCDMPH should consider further study of and publication of findings regarding barriers in three major categories:
 - Personal
 - Organizational
 - System
10. The NCDMPH should consider validating the capabilities matrix and adding these capabilities:
 - Evaluation criteria/quantitative benchmarks
 - Cultural competency
 - Licensing and credentialing
 - Legal issues/scope of practice
 - Organizational command structure
 - Public health
 - Individual preparedness
11. The NCDMPH should consider adding capabilities advocated by these documents or agencies to the matrix:
 - ESF#5, 6 and 9
 - Association for Community Health Improvement
 - National Guard teams
 - Related professional organizations (e.g., American Nurses Association, American Organization of Nurse Executives, etc)
 - American Red Cross



12. The NCDMPH should consider providing increased focus on building multi-disciplinary competencies in the following areas of special interest:
 - Inter- and intra-agency communication
 - Situational awareness
 - Evaluation criteria/quantitative benchmarks
13. The FETIG and the NCDMPH should consider examining and evaluate the framework to determine if it can be adopted for workforce competency development.
14. The FETIG and the NCDMPH should consider developing and implementing standardized post-disaster survey instruments to assess:
 - Access to relevant learning
 - Effectiveness of applicable learning interventions in enhancing the ability to respond
 - Gaps in existing competency models
15. The FETIG should consider commissioning a study on curriculum requirements for each profession to determine if disaster competencies are included.
16. The FETIG should also consider examining and evaluating accreditation requirements for each clinical profession to determine if disaster competencies are required as part of a curriculum. The NCDMPH should consider examining, evaluating and developing recommendations for updating competencies including the frequency with which review and revisions should occur.
17. The FETIG should consider addressing federal grant alignment for disaster education and training.
18. The FETIG should consider developing findings and recommendations for programs to incorporate core competencies into all levels of curricula, from undergraduate to graduate and continuing education.
19. The FETIG should consider commissioning a study to create a national evaluation framework that will integrate all emergency response core competencies with evaluation methodologies. Competencies must be evidence based, realistic in scope, translate clinically and, where possible, link to state and professional licensure requirements.
20. To address challenges associated with the evaluation of educational programs, the FETIG and the NCDMPH should consider the following:



- Research and development of a strategic approach to funding the development and delivery of disaster training and education programs
 - Develop an approach to prepare and retain professional program evaluators
 - Publish the best evidence-based practices in education programs
 - Develop a method to collect data during disasters to inform training content
 - Develop a program which provides dedicated evaluation teams to assess the workforce response to disasters (similar to the Federal Aviation Administration investigative teams after an airplane mishap)
21. The FETIG and the NCDMPH should consider examining, evaluating and publishing best practices regarding measurement of competencies or skills acquired through an educational program.
22. To address long-term approaches for effective evaluation of educational programs, the FETIG and the NCDMPH should consider the following:
- Develop metrics to measure success in educational programs
 - Publish papers on the importance of emergency preparedness education and training program evaluation
 - Examine and evaluate programs at the systems and population levels
 - Support a national training curriculum with linkages across content
23. The FETIG should consider developing applications for self-assessment and de-identified reporting of those assessments during exercises and real events.
24. The FETIG should consider developing a process and platform for conducting longitudinal and post-event surveys.
25. The FETIG should consider advocating for inclusion of appropriate objectives within the National Level Exercise to effectively assess team performance against target capabilities and competencies.
26. The FETIG should consider establishing parameters for inclusion of individual and team assessment as part of federal grant and contract awards for disaster medicine and public health preparedness education and training.



CONCLUSIONS

The series of workshops used to conduct the study required by TCN 09238 was successful in engaging, supporting and sustaining involvement of an integrated civilian, military and federal panel that successfully addressed project tasks and shared resources and helped to provide answers to critical questions posed. Collaborations and networks were formed that will far outlast the term of this project.

Overall, all of the objectives of the statement of work (original and revised) were achieved, providing a strong foundation for future activities aimed at addressing issues related to education and training activities to support the coordination, efficiency and effectiveness of a medical and public health response during an emergency or disaster.

Table 12 summarizes key project accomplishments:

TABLE 12: KEY ACCOMPLISHMENTS

1. Clarified the federal disaster medicine and public health education and training products currently in existence.
2. Identified needs and explored strategies to fill education and training gaps.
3. Developed a process and framework to identify and evaluate competencies.
4. Synthesized long-term expectations of competencies with input from the FETIG, the NCDMPH and national experts and stakeholders.
5. Validated the national consultation meeting format as a preferred means to efficiently and effectively accomplish current and future objectives in building competencies.



TAB 1

After Action Report Workshop #1:

Education and Training Needs for Disaster Medicine and Public Health Preparedness

Building Consensus, Understanding and Capabilities

AFTER ACTION REPORT

FY2009 TCN 09238

Workshop 1

Education and Training Needs for Disaster Medicine and Public Health Preparedness

Building Consensus, Understanding and Capabilities



May 5-6, 2010 • Hilton Washington DC North/Gaithersburg, Maryland

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation.

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

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INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response program of the Yale New Haven Center for Emergency Preparedness and Disaster Response under TCN 09238 funded by the United States Northern Command. This task requires conduct of a study to (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the first of the six workshops. It was sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

HANDLING INSTRUCTIONS

1. The title of this document is FY'09 TCN 09238 Workshop #1 Education and Training Needs for Disaster Medicine and Public Health Preparedness Building Consensus, Understanding and Capabilities After Action Report
2. For additional information, please consult the following points of contact:

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**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

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EXECUTIVE SUMMARY

OVERVIEW

The first of the six workshops required for completion of activities associated with TCN 09238 was designed to build on the work begun by the National Center for Disaster Medicine and Public Health (NCDMPH) at its inaugural workshop entitled, “A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health”, that was held September 24-25, 2009. The NCDMPH used their inaugural meeting to perform an initial needs assessment and bring together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful for the assessment. In addition, the inaugural meeting was structured to facilitate its replication and the collection of comparative data from other relevant stakeholders.

The target audience for our first workshop included federal and non-federal stakeholders. These participants were brought together for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to: receive the latest update regarding key federal activities and legislation, share federal and private sector education and training integration strategies and develop recommendations and a way ahead for future collaboration. The table below illustrates the alignment of the objectives of this first workshop with those from the workshop conducted by the NCDMPH.

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TCN 09238 Workshop #1	NCDMPH Inaugural Meeting
<p>Information and Communication</p> <ul style="list-style-type: none"> To discuss and gather input from participants regarding the accessibility of information during a disaster or public health emergency 	<p>Information Organization Needs</p> <ul style="list-style-type: none"> To assess the needs of those of those gathering disaster medicine and public health information for decision-makers <p>IM/IT Needs for Education and Training</p> <ul style="list-style-type: none"> To focus on the increase in distance learning and social media as tools for education and training delivery
<p>Capabilities and Competencies</p> <ul style="list-style-type: none"> To discuss and gather input from participants regarding the use of competencies to guide education and training (with a special focus on workforce development) 	<p>Competencies</p> <ul style="list-style-type: none"> To gauge the level of acceptance by federal staff with the general move in the field towards core competencies and the tenets of the Pandemic and All Hazards Preparedness Act
<p>Workforce Learning Requirements and Needs</p> <ul style="list-style-type: none"> To discuss and gather input from participants regarding education and training requirements and needs To discuss and gather input from participants regarding organizational education and training incentives and mandates 	<p>Incentives and Mandates</p> <ul style="list-style-type: none"> To elicit feedback on the best ways to encourage learning by the disaster medicine and public health workforce
<p>Disconnects and Barriers</p> <ul style="list-style-type: none"> To provide and gather input from participants regarding education and training disconnects and barriers 	<p>Federal and Non-Federal Education and Training Disconnects</p> <ul style="list-style-type: none"> To elicit federal sector perspectives on the separation between education and training they develop, fund and offer and what is available and accessible to the non-federal sector
	<p>Learning Research Needs in Disaster Medicine and Public Health</p> <ul style="list-style-type: none"> To assess the possible gaps in the education research base and which education and training delivery methods are most successful

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
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**COMPARISON OF KEY FINDINGS FROM WORKSHOP #1 TO THOSE FROM THE
NCDMPH INAUGURAL MEETING**

Multiple areas of congruence exist between feedback from the federal partners in attendance at the inaugural meeting sponsored by the NCDMPH and the attendees at this meeting. The table below summarizes some of the key perceptions of the respondents.

NCDMPH Inaugural Meeting	ICMDDMR WORKSHOP #1
<p>General</p> <ul style="list-style-type: none"> • Need for developing core competencies recognized • Need for standardizing training and education 	<p>General</p> <ul style="list-style-type: none"> • Need for developing core competencies recognized • 50% of respondents feel core competencies should be developed as a collaborative effort between: federal agencies, academia, professional organizations, accrediting bodies and state and local governments • 98% of respondents agree or strongly agree that there should be a greater standardization of competencies across federal and non-federal agencies
<p>Incentives and Mandates</p> <ul style="list-style-type: none"> • Incentives are the preferred way to encourage learning • Mandates are a better way to achieve a better trained, better educated disaster health workforce 	<p>Incentives and Mandates</p> <ul style="list-style-type: none"> • Incentives and mandates are used to encourage participation and learning • Federal grants are recognized as an effective incentive for education and training by 60% of respondents • Respondents believe incentives are more effective than mandates for education and encouraging participation in training • 75% of respondents identified job requirements as the strongest motivator for <i>their peers</i> to become educated and/or trained • 40% of respondents identified job requirements as their personal strongest motivator to become educated and/or trained

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
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<p>Workforce Learning Requirements and Needs</p> <ul style="list-style-type: none"> In-person training preferred, although distance learning is seen as a more cost-effective alternative 	<p>Workforce Learning Requirements and Needs</p> <ul style="list-style-type: none"> Respondents felt drills and exercises are the most useful and effective education and training modalities with the current workforce
<p>Federal and Non-Federal Education and Training Disconnects</p> <ul style="list-style-type: none"> Disparate funding streams were identified as barriers to successful education and training collaboration across federal department and with the non-federal sector 	<p>Disconnects and Barriers</p> <ul style="list-style-type: none"> Funding was identified as a key barrier to training

SUMMARY OF PARTICIPANT FEEDBACK

Based on feedback from participants, all objectives of the workshop were achieved. See [Appendix 5](#) for participant survey results.

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

WORKSHOP OVERVIEW

Workshop Title: Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities. The Agenda is provided in [Appendix 1](#).

Location and Date: Hilton Hotel Washington, DC North/Gaithersburg, Maryland, May 5-6, 2010

Workshop Format: The workshop took place over 1.5 days and consisted of plenary sessions, a working lunch and 4 concurrent breakout sessions that were followed by a structured group report out and a closing plenary session that presented the perspective of a special population and asked the group to consider the way ahead as we continue to explore issues related to the education and training needs for disaster medicine and public health preparedness. Participants were pre-assigned to one of the 4 concurrent breakout sessions. Special attention was given to distributing organizations and roles across the 4 groups in order to facilitate dialogue and sharing of ideas among all stakeholders.

Targeted Audience - Representatives from the following groups:

- State and local government
- Accredited academic organizations
- Professional organizations
- Private sector entities involved in competency development
- Practitioners in the field

Objectives: This workshop sought to bring together federal and nonfederal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. During the workshop attendees could expect to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration

Participating Organizations: This workshop was sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

There were a total of 189 attendees representing 88 different organizations (see Appendix B) and a diverse cross-section of the medical and public health community. Attendees included representatives from:

- Federal, state and local government agencies and institutions
- Accredited academic institutions
- Private sector entities involved in accreditation/competency activities
- Practice settings in the field

BACKGROUND

The overarching mission of the ICMDDMR Project is to enhance the ability to develop integrated civilian/military approaches to large-scale disaster preparedness and response to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM.
- Developing models for education and training which can be modified, replicated and made scalable for the civilian/military health delivery workforce.
- Determining evaluation modalities for education and training programs implemented.
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs.
- Integrating civilian/military emergency preparedness strategies for medical and public health delivery.

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations in better preparing to work together during a disaster, Homeland Security Presidential Directive 21: Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

public health and the establishing of the National Center for Disaster Medicine and Public Health (NCDMPH) to lead those coordination efforts. The Federal Education and Training Interagency Group (FETIG) serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

As such ICCMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps, and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions.

An external planning committee was convened made up of representatives from the FETIG, the NCDMPH and YNH-CEPDR to assist in designing a series of workshops to meet the stated objectives of the TCN. This integration of civilian, military and federal partners will create workshops that have objectives and outputs that are meaningful to all sectors. This committee, as well as the YNH-CEPDR workshop logistics team, will meet regularly throughout the period of performance of this task to guide the development, execution and evaluation of the workshops.

The workshop development plan for TCN 09238 began by reviewing the work done by the National Center for Disaster Medicine and Public Health (NCDMPH) in its inaugural workshop entitled, “A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health”, that was held September 24-25, 2009. The NCDMPH used this inaugural meeting to perform an initial needs assessment and bring together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful for the assessment. In addition, the

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
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inaugural meeting was structured to facilitate its replication and the collection of comparative data.

The first workshop for TCN 09238 was structured similarly to the NCDMPH inaugural meeting and brought together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration.

The outputs of the initial workshop will be used to design the structure and content of the remaining workshops to ensure that the objectives outlined in the SOW for this task are met. The structure and content of each successive workshop will also be re-evaluated in light of the results of the preceding workshops. Additional workshops will occur at intervals of approximately 3 months as outlined in the draft schedule below:

Workshop #	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness Building Consensus, Understanding and Capabilities
2	Sept. 22	TBD	Workforce Definition and Required Capabilities
3	Nov. 17	TBD	Competencies for Specific Disciplines
2011 Workshops			
4	Feb./Mar.	TBD	Organizational Competencies
5	May	TBD	TBD
6	July/Aug.	TBD	TBD

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

The workshops will be held in the National Capital Region, Colorado Springs, Colorado, or New Haven, Connecticut, depending on the topic and specific audience targeted. Attendees will include member organizations of the FETIG, members from accredited academic institutions and members trained in the areas listed above from state and local organizations. [Appendix 4](#) provides a list of participants pre-approved by the Contracting Officer's Representative.

WORKSHOP STRUCTURE

The workshop took place over 1.5 days and consisted of plenary sessions, a working lunch and 4 concurrent facilitated breakout sessions. (See [Appendix 2](#) for Facilitator biographies). The plenary sessions focused on providing key federal perspectives on the topic of education and training needs for disaster medicine and public health. Each breakout session began with brief presentations from 2-3 subject matter experts. (See [Appendix 3](#) for Presenter biographies). These presentations were intended to provide foundational information upon which a rich discussion could be built.

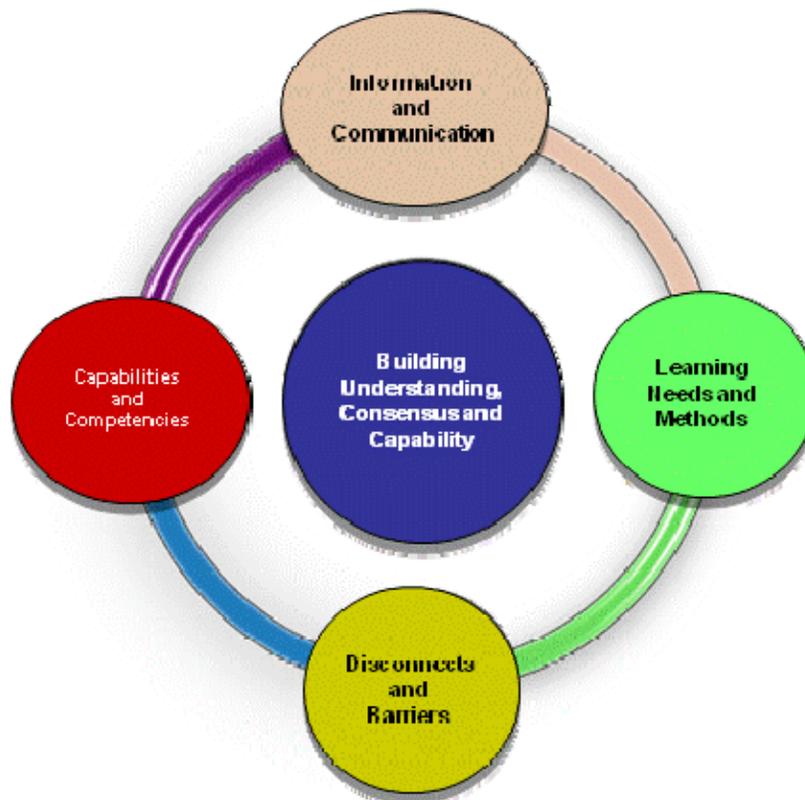


Figure 1: Breakout Session Design

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

The breakout sessions were followed by a structured group report-out and a closing plenary session that presented the perspective of a special population and asked the group to consider the way ahead as we continue to explore issues related to the education and training needs for disaster medicine and public health preparedness. The primary goal of this workshop format was to provide interactive informational sessions that would serve as the foundation for further dialogue and sharing of ideas between key stakeholders. **Figure 1** above depicts the major areas the breakout sessions were to address.

WORKSHOP EVALUATION

A variety of tools were employed to evaluate the workshop. These include:

- General participant satisfaction survey
- Session-specific questionnaire
- Group report-out
- Evaluator notes
- Competency activity sharing form

Evaluators were assigned to each breakout session to take notes and record key findings, and breakout session facilitators coordinated with the evaluators to deliver each group's report-out. At the end of day 1, session-specific questionnaires were collected from participants and data were entered into SurveyMonkey for analysis. The results of this analysis were shared with participants and discussed at the beginning of day 2.

WORKSHOP RESULTS

OBJECTIVE 1

Raise awareness among non-federal stakeholders regarding federal activities and legislation related to disaster medicine and public health education and training.

This objective was achieved as demonstrated by data collected via the Participant Satisfaction Survey. Chart #44 illustrates a 63% increase in participants who reported having a full or good understanding of federal activities related to disaster medicine and public health education and training after attending the workshop. Chart #45 illustrates a 72% increase in participants who reported having a full or good understanding of legislation related to disaster medicine and public health education and training. Chart #46 illustrates a 43% increase in participants who reported a full or good understanding of gaps in workforce response that could be addressed through enhanced education and training. Further, four participants identified federal updates in response to the open-ended question “*What did you find most useful about the workshop?*”

OBJECTIVE 2

Explore federal and private sector education and training integration strategies to coordinate core curricula through commonality of knowledge, procedures and terms of reference.

This objective was achieved through the structure of the workshop breakout sessions, which encouraged the sharing of information and ideas among federal and non-federal stakeholders. As seen in Appendix 5, the session-specific questionnaires provided data on current trends and perceptions across the sectors related to various aspects of education and training integration strategies. In addition to simple analysis of responses to the questionnaire, this data may also be stratified by the type of organization the individual respondent represents to allow comparison of responses by sector. For example, from breakout session 2, Disconnects and Barriers, Tables 1 and 2 are a cross tabulation of the data presented on Charts 10, 12 and 13. Table 1 indicates that 65% of non-federal partners are involving federal partners in the development of education and training while 62% of federal partners are involving non-federal partners in the development of the same. Table 2 indicates that 58% of non-federal partners are proactively sharing information on available training and education needs for disaster medicine; 55% of federal partners are proactively sharing the same information with non-federal partners.

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Table 1 – Education and Training Involvement

Does your agency involve the following in the development of education and training:			
	Identify the type of organization that you represent.		
Answer Options	Federal	Non-federal	Response Count
Federal partners			
Yes	18	17	
No	2	4	
Don't know	1	5	
	21	26	47
Non-federal partners			
Yes	13	25	
No	6	1	
Don't know	2	1	
	21	27	48

Table 2 – Sharing of Training and Education Information

Does your agency proactively share information on available training and education needs for disaster medicine with the following:			
	Identify the type of organization that you represent.		
Answer Options	Federal	Non-federal	Response Count
Federal partners			
Yes	16	15	
No	4	4	
Don't know	1	7	
	21	26	47
Non-federal partners			
Yes	11	18	
No	6	4	
Don't know	3	5	
	20	27	47

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

Incentives and mandates are additional elements of an integration strategy that should be explored further. In Session 1, Workforce Learning Requirements and Needs, participants were asked about motivators for learning. 54% of the respondents felt that providing incentives were more effective at encouraging training participation while 43% felt that mandates were essential. 71% of the participants felt that job requirements were the most important motivator for their peers to become educated and/or trained about disaster medicine and public health. A further discussion of how the federal and private sectors can work together to craft effective incentives and mandates that encourage/reward completion of education and training, as well as demonstration of competence and capability, is warranted.

OBJECTIVE 3

Provide a forum for non-federal stakeholders to share information regarding their current disaster medicine and public health education and training activities and needs.

As previously described for Objective 2, this objective was achieved through the overall structure of the workshop, which provided an opportunity for non-federal stakeholders to engage with their federal counterparts and share information on education and training needs. The open-ended questions from the participation satisfaction survey not only provided feedback on the workshop conduct, but also provided a lengthy “wish list” of topics that stakeholders would like to see more discussion on in future similar forums. For example, when asked what the most useful aspect of the workshop was, 18 participants indicated that networking opportunities had been the most useful element. When asked what topics they would have liked to have covered, 7 respondents indicated that further discussion and clarification of competencies was important to them.

The session-specific questionnaire for Session 2, Disconnects and Barriers, sought to identify areas where integration among the sectors could be improved. In response to the single choice question: “What area most needs improved federal/non-federal education and training collaboration?”, the non-federal participants replied as follows:

- Knowledge of existing education and training courses (31%)
- Requirements (23%)
- Communication of funding announcements (19%)
- Learning assessments (12%)

In Session 4, Information and Communication, participants were asked about

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accessibility of information on disaster medicine and public health. As displayed in Charts #34 and #39, 86% of respondents believe that there is a need for training on how to access reliable information in the field of emergency preparedness and 95% believe that there is a need for standardized taxonomy to help make information organized and accessible. Please refer to Appendix 5 to review all of the participant feedback from the session-specific questionnaires and the participant satisfaction survey.

OBJECTIVE 4

Develop a way ahead for future collaboration and coordination among federal and non-federal stakeholders.

This objective was achieved; virtually all of the data collected during the workshop and contained herein informs the way ahead for TCN 09238 and provides planning partners such as the NCDMPH, FETIG and USNORTHCOM with ideas for workshops and information sharing needs outside of the scope of this TCN's statement of work. Of particular note, the information regarding preferred communication methods (Charts #35-#41) may be useful for workshop planning, as well as communicating the outcomes of the workshops singly or in aggregate. For example, the fact that 98% of participants agree that there should be greater standardization of competencies across federal and non-federal agencies (Chart #25) should be considered as the remaining workshops are planned and executed.

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS FOR FUTURE WORKSHOPS

The following topics were identified as potential topics for future workshops; the full unedited list may be found in Appendix 5:

1. Identify the workforce and required capabilities
2. Examine and evaluate existing competencies and curricula
3. Provide input to the National Health Security Strategy on workforce education and training
4. Examine and evaluate disaster health accreditation and certification
5. Provide recommendations for disaster education and training for vulnerable populations
6. Share information on available disaster health education and training courses
7. Develop a formula for measuring success
8. Examine and evaluate the grants process for disaster education and training programs, including a process for proposing programs that address identified gaps
9. Discuss need for community education that prepares population to be self sufficient in first 72 hours before the assistance arrives
10. Provide information about Resilience Directorate
11. Identify State - Local - Tribal - Territorial needs from training to recovery
12. Discuss ways to effectively share information on available training, lessons learned, etc. across agencies/organizations including use of social media in disasters
13. Discuss crisis standards of care
14. Discuss cultural competencies as an essential composite of core competencies
15. Provide a brief on the role of the federal government in the overall disaster medicine plan for this country
16. Discuss cross-training efforts for employees not normally involved in response, including surge workforce development approaches
17. Develop a strategic plan to achieve the FETIG/NCDMPH's goals
18. Provide an update on education and training that non-government entities are doing at the community level

Given the high degree of interest, it has been determined that the second workshop will focus on workforce capabilities and a process for identifying competencies that will

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allow an organization to achieve the needed capabilities.

Session 3, Capabilities and Competencies, focused on the development, use and evaluation of competencies for disaster medicine and public health. 59% of the participants indicated that their organization uses competencies to guide education and training and 98% felt that core competencies are an appropriate way to reach education and training goals. When it comes to developing competencies, 49% of the participants advocated for a process that included federal agencies, academia, professional associations, accrediting bodies and state and local governments. This inclusive approach is a strategy that will be explored in future workshops.

CONCLUSION

A lot of important work is being done in the area of education and training related to disaster medicine and public health preparedness, yet it is clear from the participant feedback that improvements in sharing information on these programs, particularly those funded through federal grants and programs, are needed. The opportunities for networking and information sharing among the federal and non-federal stakeholders at workshops such as these are valued by the participants, but likely don't meet an ongoing need for sharing "current events" in the world of education and training for disaster medicine and public health preparedness. As such, the development of a centralized resource for education and training information and an active campaign to market this resource to federal and non-federal stakeholders would likely have great benefit for all with interest and a need for these programs. Finally, participants expressed great interest in developing a core set of competencies that would be acceptable and accepted by all stakeholders, a finding that will be explored further in the subsequent workshops executed as part of TCN 09238.

The stated objectives of the workshop were met, and the information obtained from data collected will serve to inform future workshops and move us towards the more integrated and coordinated medical response workforce that is needed to ensure that more lives are saved during a large-scale disaster.

APPENDIX 1

AGENDA

Education and Training Needs for Disaster Medicine and Public Health Preparedness Building Consensus, Understanding and Capabilities

May 5-6, 2010 • Hilton Washington DC North/Gaithersburg, Maryland

Agenda: DAY 1 - Wednesday, May 5, 2010	
7:30 am- 8:30 am	Registration and Networking Breakfast LOCATION: CONFERENCE FOYER
8:30 am- 8:45 am	Welcome and Opening Remarks <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command LOCATION: GRAND BALLROOM
8:45 am- 10:15 am	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Case Study Presentation <i>Scott Lillibridge, MD</i> – Assistant Dean and Director Global Health and Security Program, Center for Biosecurity and Public Health Preparedness, School of Rural Public Health, Texas A&M Health Science Center <i>Rosanne Pratts, MHA, ScD</i> – Emergency Preparedness Director, Medical Director and State Health Officer, Louisiana Department of Health and Hospitals <i>Italo Subbarao, DO, MBA</i> – Director, Public Health Readiness Office, American Medical Association, Dean Hunter-Bellevue School of Nursing FACILITATOR: James J. James, MD, DrPH, MHA – Director, Center for Public Health Preparedness and Disaster Response, American Medical Association LOCATION: GRAND BALLROOM
10:15 am- 10:30 am	Break and Morning Refreshments LOCATION: CONFERENCE FOYER
10:30 am- 12:00 pm	Federal Activities Brief <i>Andrea C. Young, PhD</i> – Associate Director, Learning Office, Office of Public Health Preparedness and Response, Centers for Disease Control and Prevention <i>CAPT D.W. Chen, MD, MPH</i> – Director of Civil-Military Medicine, Office of the Assistant Secretary of Defense for Health Affairs, Department of Defense, Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response <i>Kenneth Schor, DO, MPH</i> – Acting Director, National Center for Disaster Medicine and Public Health FACILITATOR: Stewart D. Smith, MPH, MA, FACCP – Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: GRAND BALLROOM

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Agenda: DAY 1 - Wednesday, May 5, 2010 CONTINUED				
12:00 pm- 12:15 pm	Break			
12:15 pm- 1:15 pm	Working Lunch Plenary Session <i>David Marcozzi, MD, MHS-CL, FACEP</i> – Director, All Hazards Medical Preparedness Policy White House National Security Staff LOCATION: GRAND BALLROOM			
1:15 pm- 1:30 pm	Break (PLEASE EXIT THE GRAND BALLROOM AT THIS TIME FOR ROOM SETUP)			
1:30 pm- 3:45 pm	Breakout Session 1: Workforce Learning Requirements and Needs PANELISTS: <i>Brad Austin, MPH, FACHE</i> <i>Daniel Kirkpatrick, MSN, RN</i> FACILITATOR: <i>Debbie L. Hettler, OD, MPH, FAAO</i> LOCATION: SALON A	Breakout Session 2: Disconnects and Barriers PANELISTS: <i>Rachel Abbey, MPH</i> <i>Kate Corvese, MPH'10</i> <i>Daniel Barnett, MD, MPH</i> FACILITATOR: <i>Nancy Mock, PhD</i> LOCATION: SALON B	Breakout Session 3: Capabilities and Competencies PANELISTS: <i>James J. James, MD, DrPH, MHA</i> <i>Kathleen Miner, PhD, MPH, Med, CHES</i> <i>JoEllen Warner</i> FACILITATOR: <i>Kenneth Schor, DO, MPH</i> LOCATION: SALON C	Breakout Session 4: Information and Communication PANELISTS: <i>David Berry</i> <i>Jon Ebinger</i> <i>Cynthia Love, MLS</i> FACILITATOR: <i>LTC (Ret) Joanne McGovern</i> LOCATION: SALON D
3:45 pm- 4:00 pm	Break and Afternoon Refreshments (PLEASE EXIT THE GRAND BALLROOM AT THIS TIME FOR ROOM SETUP) LOCATION: CONFERENCE FOYER			
4:00 pm- 4:30 pm	Overview of Workshop Day 2 <i>Elaine Forte, BS, MT (ASCP)</i> – Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: GRAND BALLROOM			
4:30 pm- 6:30 pm	Networking Reception LOCATION: MONTGOMERY BALLROOM			

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Agenda: DAY 2 – Thursday, May 6, 2010	
7:30 am- 8:00 am	Networking Breakfast LOCATION: CONFERENCE FOYER
8:00 am- 9:00 am	National Health Security Strategy: Objective #2 Workforce <i>Lisa G. Kaplowitz, MD, MSHA</i> – Office of the Assistant Secretary of Preparedness and Response, Deputy Assistant Secretary of Policy LOCATION: GRAND BALLROOM
9:00 am- 9:15 am	Break and Morning Refreshments LOCATION: CONFERENCE FOYER
9:15 am- 11:15 am	Participant Planning and Summary Session: What Did We Hear You Say? <i>Stewart D. Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: GRAND BALLROOM
11:15 am- 11:30 am	Break
11:30 pm- 12:30 pm	Working Lunch Plenary Session <i>Christopher J. Revere</i> – Executive Director, National Commission on Children and Disasters LOCATION: GRAND BALLROOM
12:30 pm- 1:00 pm	Closing Remarks: The Way Ahead <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command LOCATION: GRAND BALLROOM

APPENDIX 2

FACILITATOR BIOGRAPHIES

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

DEBBIE L. HETTLER, O.D., MPH, FAAO

Dr. Debbie Hettler's education includes a B.S. and O.D. from The Ohio State University College of Optometry and an MPH from University of Illinois. Her professional practice experience includes optometric education, clinical practice in HMO's, and the VA as well as quality assurance activities. She has over 100 scientific presentations including such topics as clinical techniques, ocular disease, public health issues, contact lenses, and managed care, and authored articles published concerning public health, primary care coordination and ocular disease topics.

She has served in many professional organization leadership roles including the American Academy of Optometry, American Optometric Association, and American Public Health Association. She has been with the Veterans' Administration since 1994 as a clinical optometrist and associated education affiliations with University of Missouri Department of Ophthalmology and Internal Medicine. As Optometry Residency Supervisor there, she was associated with four optometry schools for optometric externships and residencies. Currently, she is the Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office located in Washington, DC.

JAMES J. JAMES, MD, DRPH, MHA

James J. James, MD, DrPH, MHA, is Director of the American Medical Association (AMA) Center for Public Health Preparedness and Disaster Response, and Editor-in-Chief, *Disaster Medicine and Public Health Preparedness*, a peer reviewed, MEDLINE indexed publication of the American Medical Association. In less than five years, this Center has received over \$3 million in grant funding, has overseen the development and deployment of the National Disaster Life Support suite of courses and has expanded to 10 personnel. Dr. James brings over 30 years of experience in the public and private health care sectors—as a clinician, researcher, professional personnel manager and program director—to this challenging and critical undertaking. He is board certified in general preventive medicine, earned a doctorate in medicine at the Cincinnati College of Medicine, a doctorate in public health from UCLA's School of Public Health, and a masters in health care administration from Baylor University. Dr. James served 26 years with the U.S. Army Medical Department, serving in a multitude of capacities. From 1999 through December 2002, Dr. James served as Director of the Miami-Dade County Health Department. There he was responsible for the oversight and supervision of public health programs throughout the county. He was charged with the management of a \$60 million budget and the supervision of approximately 1000 employees. Over the past year, Dr. James has been appointed to numerous boards, commissions and committees addressing national policy and operational issues around preparedness and response. He serves as a constant and active participant on several Institute of Medicine forums and roundtables. He is the chair of the National Disaster Life Support Foundation Board of Directors and the co-chair of the National Disaster Life Support Education Consortium executive committee. In December 2007 he was appointed to the very prestigious National Biodefense Science Board (NBSB) and in 2008 the Defense Health Board (DHB).

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LTC (RET) JOANNE MCGOVERN

Lieutenant Colonel McGovern enlisted in the United States Army as a private and was accepted to the Military College of Vermont, Norwich University. She served in the Vermont National Guard where she became one of the first military members to participate in the Simultaneous Membership Program. She was commissioned as a Lieutenant, completed her Bachelor of Science (Earth Science) from Norwich University and returned to active service as a Medical Service Corps officer in January 1982.

As a platoon leader in the Medical Company, 498th Support Battalion, 2nd Armored Division, she established the Family Health Clinic and served as its Executive Officer. In 1985 Lieutenant Colonel McGovern became Chief of Plans, Operations and Training for the Supreme Headquarters Allied Powers Europe Medical Activity Center (SHAPE MEDDAC) and she was promoted to Commander of the Medical Company at SHAPE.

During the course of her distinguished career, Lt. Colonel McGovern deployed on contingency and humanitarian missions to Southwest Asia, the Balkans and Africa while serving as the Executive Officer for the contingency hospital. As the DMOC for 1st Armored Division, Lieutenant Colonel McGovern played a pivotal role in preparing the Division to deploy to Bosnia by spearheading training activities to prepare medical personnel for operations in a non-permissive environment and developing the Division's Health Service Support Plan which was a key portion of the Campaign Plan for Operation Joint Endeavor.

Upon returning to the U.S, LTC McGovern served as the Chief of Plans and Current Operations, US Southern Command. She deployed to Central and South America in support of Humanitarian Assistance Operations and Disaster Relief as a result of Hurricane Mitch, the volcano eruptions in Ecuador, the Venezuelan floods and chemical disaster, the earthquakes in El Salvador and US counter drug actions in Colombia.

LTC McGovern was assigned to the United States Army Medical Department Center and School, FT Sam Houston, where she has served as the Deputy Director for Healthcare Operations and subsequently as the Chief of the Homeland Security Branch for the Army Medical Department's Center and School. As Adjunct Professor for the U.S. Army Baylor University Program in Healthcare Administration, she taught courses in Readiness, Homeland Security and Counter terrorism.

LTC McGovern deployed during Operation Iraqi Freedom as Chief of Medical Plans and Operations for the Coalition Forces Land Component Command. When Multi National Force – Iraq was established in 2004, LTC McGovern established the Surgeon's Office and serve as its Deputy Surgeon/Chief of Operations. She redeployed in 2005 as the Deputy Surgeon/Chief of Operations as the Senior Medical Operations Officer for Hurricane Katrina where she coordinated the evacuation of over 26 hospitals and thousands of sick and injured. In 2008 she became the ARNORTH Surgeon and retired in later that year.

She is currently a staff associate at Yale University, Department of Emergency Medicine, Section of Emergency Medical Services and a consultant to the Yale-New Haven Center for Emergency Preparedness and Disaster Response.

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NANCY MOCK, PHD

Dr. Nancy Mock is Co-Director of the Disaster Resilience Leadership Academy at Tulane University and she is an Associate Professor of International Health and International Development at Tulane. Dr. Mock is Tulane's Principle Investigator of Tulane's contribution to the Department of Homeland Security's Center of Excellence Natural Disasters, Coastal Infrastructure and Emergency Management. She has delivered numerous papers and presentations related to international and domestic disaster preparedness. Dr. Mock received a Bachelor of Science degree from Yale University and a Doctorate in Public Health from Tulane University.

KENNETH SCHOR, D.O., MPH

Dr. Schor is a federal civilian faculty member of the Uniformed Services University of the Health Sciences (USU) having retired in May 2009 after 27 years active duty service in the US Navy Medical Corps. His appointments at the nation's federal health sciences university include: Acting Director of the National Center for Disaster Medicine and Public Health, Assistant Professor in the Department of Preventive Medicine and Biometrics, and Deputy Public Health Emergency Officer. He is the immediate past Associate Program Director, National Capital Consortium, USU General Preventive Medicine Residency.

Dr. Schor graduated cum laude from Allegheny College, Meadville, PA; received his Doctor of Osteopathic Medicine (DO) degree from the Philadelphia College of Osteopathic Medicine; is a Distinguished Graduate of the National Defense University Industrial College of the Armed Forces (MS, National Resources Policy); and received a Master of Public Health (MPH) degree from USU with a Health Services Administration concentration.

His graduate medical education includes a non-categorical medicine internship at Naval Medical Center, San Diego; completion of a Family Practice Residency at Naval Hospital, Jacksonville; and completion of a General Preventive Medicine Residency at the Uniformed Services University of the Health Sciences. He is a Diplomat of the American Board of Preventive Medicine.

STEWART SMITH, MPH, MA, FACCP

Stewart provides direct support to Yale New Haven's Center for Emergency Preparedness and Disaster Response as Program Manager for Department of Defense activities to include the National Center for Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR).

Stewart is the Founder, President and Chief Executive Officer of Emergency Preparedness and Response International, LLC (EP&R International). A retired Navy Commander, Medical Service Corps Officer, his previous military work history spans over 25 years of progressive assignments that includes Chief of the Joint Regional Medical Plans and Operations Division for the North American Aerospace Defense Command and the United States Northern Command (NORAD-USNORTHCOM), Surgeons Directorate; Director of International Health Operations Policy, Homeland Defense, and Contingency Planning Policy for the Assistant Secretary of Defense for Health Affairs; Branch Chief for the Joint Staff, Health Services Support Division; and Branch Head for the Deployable Medical Systems, Office of the Chief of Naval Operations, Medical Plans and Policy (OPNAV-N931).

Stewart holds graduate degrees in Public Health Management and Policy from the Yale School of Medicine, Department of Public Health and Epidemiology; and the Naval War College in National Security and Strategic Studies. He is a Doctoral Candidate in Complex Emergencies and Disaster Management at Tulane University, and holds an Adjunct faculty appointment at Tulane University.

He is the co-founder of and immediate past President to the American College of Contingency Planners (ACCP). His particular areas of interest and expertise include strategic medical planning; domestic consequence management operations, the National Disaster Medical System (NDMS), and the National Response Framework (NRF) with a focus on complex emergencies and calamitous events (including medical operations in the WMD/asymmetrical environment); and finally, international Weapons of Mass Destruction medical countermeasures policy. Stewart was selected as the first American to chair the North Atlantic Treaty Organization's (NATO's) Biomedical Defense Advisory Committee (BIOMEDAC); holding that appointment from 2003-2005 while assigned to the Secretary of Defense and USNORTHCOM staffs.

APPENDIX 3

PRESENTER BIOGRAPHIES

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

RACHEL L. ABBEY, MPH

Rachel Abbey is the Program Manager for Montgomery County, Maryland's Advanced Practice Center (APC) for Public Health Preparedness and Response Program under the Department of Health and Human Services. Ms Abbey received a Bachelor of Arts in Peace and Global Studies from Earlham College in Richmond, Indiana and a Master of Public Health (MPH) from the School of Public Health at the University of Maryland College Park.

Ms. Abbey has over 15 years of planning, coordinating and training experience with national, state and community health-based organizations. She has worked in the field of public health preparedness for the past six years. Ms. Abbey had presented at several national preparedness conferences including the 2010 Public Health Preparedness Summit. Ms. Abbey has authored several publications, including an article in the *Journal of Public Health Management and Practice* on the Computer Planning Model Generator.

CAPTAIN BRAD AUSTIN, MPH, FACHE

Captain Brad Austin serves as a Senior Program Officer in the Office of the Civilian Volunteer Medical Reserve Corps in the Office of the U.S. Surgeon General. He is responsible for providing oversight for programmatic and operational activities in support of MRC units nationwide.

For the past 7 years, he has devoted his career to public health emergency preparedness activities. CAPT Austin previously served in the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) as a Senior Program Management Officer. In this role, he trained and deployed to the HHS Secretary's Operation Center as a member of the HHS Emergency Management Group for Hurricanes Dean, Katrina, Rita, and Ernesto; St Louis Power Outage; and Lebanon Repatriation. Prior to this assignment, CDR Austin served as the first Project Officer to the National Bioterrorism Hospital Preparedness Program.

First commissioned in 1990, CAPT Austin started his Federal career in the Health Resources and Services Administration working with the Ryan White CARE Act. He then served in the Substance Abuse and Mental Health Services Administration, managing various substance abuse treatment grant programs. He had the privilege of serving in The White House, providing technical expertise and coordination among substance abuse treatment, mental health, and HIV prevention.

CAPT Austin was raised in Northern California and received his bachelor's from the University of California at Berkeley and his master's in public health in health services administration from San Diego State University. He is Board Certified in Healthcare Administration and a Fellow in the American College of Healthcare Executives.

Brad is an avid traveler, a bicyclist, a swimmer, and with three marathons under his belt, refuses to give up the notion that he is too old to run another! In the late 1980s, he was a U.S. Peace Corps volunteer working on healthcare programs in Central Africa.

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

DANIEL BARNETT, MD, MPH

Daniel J. Barnett, MD, MPH is currently an Assistant Professor at Johns Hopkins Bloomberg School of Public Health. He is a graduate of the Johns Hopkins General Preventive Medicine Residency Program (2002). He received his MPH degree from Johns Hopkins Bloomberg School of Public Health (2001), and his MD degree from Ohio State University College of Medicine and Public Health (1999). He graduated from Yale University with a BA in English (1993).

Research interests include best practice models to enhance all-hazards public health emergency readiness and response. Specific areas of focus include design and evaluation of preparedness curricula for public health workers; mental health aspects of public health emergency response; public health readiness exercises; and organizational culture change issues facing health departments in building a ready public health workforce.

CAPTAIN D.W. CHEN, MD, MPH

Captain D.W. Chen, MD, MPH is an active duty medical officer with the U.S. Public Health Service (PHS) currently detailed to the Department of Defense (DoD), Office of the Assistant Secretary of Defense for Health Affairs, where he serves as Director of Civil-Military Medicine. In this capacity, he oversees DoD medical policies and programs supporting homeland defense; defense support to civil authority; emergency preparedness & response; and coalition and non-DoD beneficiary health care.

Prior to his present assignment, Capt. Chen was detailed to the U.S. Department of Agriculture (USDA), where he served as Deputy Associate Administrator for Food Security & Emergency Preparedness, providing leadership to an office within USDA that helps coordinate national food and agricultural homeland security & emergency preparedness. Before his assignment at USDA, Capt. Chen served as the Director, Division of Transplantation at the Health Resources & Services Administration (HRSA), U.S. Department of Health & Human Services (HHS), an office which regulates the nation's organ & tissue transplantation system and as a former Deputy Division Director in HRSA's Bureau of Health Professions where he oversaw Federal programs supporting medical education & public health workforce development.

In addition to his primary duties at DoD, Capt. Chen is an Adjunct Assistant Professor at the Uniformed Services University of the Health Sciences and currently serves as a member of the PHS Surgeon General's Policy Advisory Council. He served part-time on the senior medical staff of the Naval Medical Clinic, U.S. Naval Academy, from 1994 to 2000.

Capt. Chen received early promotions to the rank of Commander in 1996 and to the rank of Captain in 2002. In 2003, Capt. Chen received the Harvard School of Public Health Alumni Award of Merit for his achievements in public health.

Capt. Chen completed his undergraduate studies (with honors) at Harvard University, his graduate work in public health at the Harvard School of Public Health and his medical degree at the Tufts University School of Medicine. Dr. Chen is Board-Certified in Preventive Medicine and is a Fellow of the American College of Preventive Medicine.

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REBECCA COHEN, MPH

Ms. Cohen has more than seven years of public health project management experience, including three years of experience managing the after hours emergency response system for the Commonwealth of Massachusetts Department of Social Services. Her healthcare background focuses on work in the primary healthcare sector and includes three years of experience conducting a comprehensive emergency preparedness training and implementation program for New York City primary care centers. Her work with both freestanding and hospital affiliated primary care centers includes the utilization of innovative models for organizational change as well as the use of traditional consultation models. Ms. Cohen also has experience in the field of healthcare quality improvement, including participation in research addressing the sustainability and spread of healthcare innovations. At YNH-CEPDR, Ms. Cohen assists in the network development and coordination of programs for federal, state, private and other entities to better prepare healthcare and other emergency management providers in their response to emergency management, terrorism preparedness and public health emergencies throughout the nation. She works collaboratively with health systems, hospitals and other healthcare entities to develop solutions to their preparedness needs in the areas of assessment, planning, education and training and drills and exercise. Ms. Cohen holds a Masters Degree in Public Health from Boston University with studies concentrating in Social and Behavioral Sciences.

KATE CORVESE, MPH'10

Kate Corvese is a first year Master of Public Health candidate at the Yale School of Public Health in the Epidemiology of Microbial Diseases concentration. She has worked as a contractor and intern for the Rhode Island Department of Health's Center for Emergency Preparedness and Response for the past four years on projects involving municipal and state level bioterrorism response capabilities, hospital preparedness, pandemic flu planning and the response to the H1N1 pandemic. She is currently involved with the Yale Center for Public Health Preparedness and the Yale-Tulane ESF-8 Planning Team, where she is editor of the weekly briefs that enhance situational awareness about the Haiti earthquake from a public health perspective.

JON EBINGER

Jon Ebinger is a Washington, DC based media consultant and educator. For 9 years he was a producer for the ABC News program, "Nightline". He worked for ESPN as the coordinating producer who launched the weekly edition of "Outside the Lines." Ebinger has also been part of production teams for the BBC, CNBC, PBS, and the National Geographic Channel. He has also been part of teams for shows at National Public Radio, also known as NPR, and for several years in the 'oughts' worked regularly as a control room producer for the special events unit at ABC News.

Ebinger currently teaches broadcast writing, reporting, and interviewing at the George Washington University. He also administers media projects for the Radio Television Digital News Foundation, including a journalist exchange program with Germany sponsored by the RIAS Berlin Kommission. He regularly lectures overseas before audiences large and small, academic and professional. He primarily talks about the confluence of media and politics, along with the American style of journalism.

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Ebinger is the recipient of 8 Emmy Awards, including 6 national news Emmys for work at "Nightline" (ABC News), one national news Emmy for "Inside Base Camp" (National Geographic Channel), and one local Emmy for "World Talk" (WETA-PBS). Along with his Nightline colleagues he received a DuPont-Columbia Award in 1996 for Special Programs, along with a handful of other accolades.

He has done special projects for the publishing industry, and has been known to drag his video camera across the country, sizing up urban settings, architectural specialties, and iconic images of the American west. As of late he has begun to feel comfortable posting movie reviews on this site.

ELAINE FORTE, BS, MT (ASCP)

Ms. Forte has more than 29 years of experience managing program development and delivery in laboratory settings, healthcare delivery and education and training and has co-authored numerous articles and abstracts. She has extensive project management experience including design, development, implementation and evaluation of (1) information technology systems, (2) education and training programs, (3) risk communication materials and (4) emergency preparedness and surge capacity initiatives. She was one of the primary participants in the national Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) committee and guided the development and implementation of the statewide emergency credentialing program in Connecticut. She guides the activities of YNHHS' National Center for Integrated Civilian-Military Domestic Disaster Medical Response and the Center for Public Health Preparedness, a CDC designated center at YNHHS. Under Ms. Forte's leadership, YNHHS has delivered education and training through multiple modalities to more than 120,000 healthcare workers at all levels of skill in a variety of disciplines and healthcare settings in more than 42 states and US territories.

LISA G. KAPLOWITZ, MD, MSHA

Lisa Kaplowitz, MD, MSHA is the Deputy Assistant Secretary for Policy in the Office of the Assistant Secretary for Preparedness and Response (ASPR), U.S. Department of Health and Human Services, a position she has held since March, 2010. In this position, she is responsible for directing and coordinating policy and strategic planning for all components of the Office of the ASPR.

Prior to joining the U.S. Department of Health and Human Services, Dr. Kaplowitz was Director of the Health Department for the City of Alexandria in Northern Virginia from July, 2008 until February, 2010. As Health Director in Alexandria, she was responsible for all public health activities and was also very involved in emergency preparedness in the National Capital Region, serving as Chair of the Health and Medical Regional Planning Working Group of the Metropolitan Washington Council of Governments (MWCOG). From 2002 until July, 2008, she was Deputy Commissioner for Emergency Preparedness and Response (EP&R) in the Virginia Department of Health (VDH). She was responsible for the development and implementation of Virginia's public health response to all natural and man made emergencies, in coordination with hospitals, health care system and emergency response organizations in Virginia and the National Capital Region.

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

Prior to joining VDH, Dr. Kaplowitz was a faculty member in the Department of Medicine at Virginia Commonwealth University and Director of the VCU HIV/AIDS Center. She also was Medical Director of Telemedicine and Ambulatory Care for the VCU Health System. She obtained her MD degree from the University of Chicago Pritzker School of Medicine, and completed her residency in Internal Medicine and Fellowship in Infectious Diseases at the University of North Carolina in Chapel Hill. She was a health policy fellow with the Institute of Medicine in Washington D.C. in 1996-1997, working in Senator Jay Rockefeller's Office on health financing and end of life care. She completed a Masters of Science in Health Administration (MSHA) at Virginia Commonwealth University in 2002. In addition to public health and emergency preparedness, she has a strong interest in health policy, health care financing and improving access to health care.

DANIEL KIRKPATRICK, MSN, RN, CNA-BC

Dan Kirkpatrick is presently the Assistant Director for Workforce Development at The National Center for Medical Readiness, Department of Emergency Medicine, Boonshoft School of Medicine at Wright State University, Dayton, Ohio. In this position he coordinates a wide variety of education and training programs at The National Center for Medical Readiness (NCRM). In the past two years he has coordinated and taught Core, Basic and Advanced Disaster Life Support Courses throughout Ohio and the United States for over 3000 participants. Dan is also the Ohio representative for the National Disaster Life Support Foundation. At the NCRM he is intricately involved in the development of The National Center from Medical Readiness Tactical Laboratory at Calamityville, a fifty acre site in Fairborn, Ohio that will be an international training facility for emergency preparedness personnel when it opens in the Fall of 2010.

A retired Air Force Colonel, Dan spent thirty-four years in the United States Air Force as an aeromedical evacuation technician, mental health nurse, and for the last eleven years in squadron command, chief nurse and deployed commander positions. He has a wealth of experience in medical readiness and emergency preparedness from both an educational and teaching perspective and a leadership position as a deployed hospital commander in Kuwait at the start of Operation Iraqi Freedom in 2003.

Dan is very active in community activities where he serves as a Fairborn, Ohio City Councilman. He is also very involved in professional and civic organizations as the First Vice President of the Ohio Nurse's Association, as a Board of Directors member for District 10 (Dayton area) of the Ohio Nurse's Association, Vice President of the Board of Trustees for the Fairborn Senior Citizen's Center, First Aid representative for the Camp Birch BSA Camping Committee, and as a member of the Downtown Fairborn Betterment Association Economic Revitalization Committee.

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

SCOTT LILLIBRIDGE, MD

Dr. Scott R. Lillibridge is a professor of epidemiology and assistant dean with the Texas A&M Health Science Center School of Rural Public Health located in Houston. During his federal career with the Department of Health and Human Services (HHS), he served as special assistant to the HHS Secretary for National Security and Emergency Management and assisted in the development of a national preparedness program when the nation was experiencing anthrax attacks in 2001. Dr. Lillibridge was also the founding director of the Bioterrorism Preparedness and Response Program at the Centers for Disease Control and Prevention

(CDC). In addition to infectious disease concerns, this office provided program support for the development of a national pharmaceutical stockpile, enhanced disease tracking, training and national laboratory enhancement. This program provided funding for preparedness to every state and territorial health department throughout the United States.

Dr. Lillibridge's career at CDC focused on emergency public health response issues. He has worked in emergency response and preparedness roles throughout the world in support of the U.S. government and non-governmental organizations. He was the lead physician during the initial U.S. Public Health Service (PHS) response to the Oklahoma City bombing and also led the U.S. Medical Delegation to Tokyo following the sarin release in 1995. In 2003, Dr. Lillibridge was summoned to China to consult with the Ministry of Health during the SARS epidemic. He also served on the UN Interagency Rapid Health Assessment Team led by the World Health Organization (WHO) that responded to the Indian Ocean tsunami in Indonesia.

Dr. Lillibridge received his B.S. in Environmental Health at East Tennessee State University in 1977. He received his medical doctorate from the Uniformed Services University of the Health Sciences in Bethesda, MD in 1981 and has prior military service with the U.S. Army Special Forces. In 1984, he completed specialty training at Baylor College of Medicine in Family Medicine and completed a fellowship with the Epidemic Intelligence Service of CDC in 1992.

CINDY LOVE, MLS

Cindy Love received her Bachelor's in Biology and Psychology from Mt. Holyoke College and her Master's in Library Science from Catholic University. She has been a medical librarian at the National Library of Medicine for more than 20 years in both the Reference Section and the Specialized Information Services Division. She's worked primarily in public health information, especially toxicology and environmental health, HIV/AIDS, and consumer health resources until 3 years ago when she began working on the development of the new Disaster Information Management Research Center at NLM. Her current activities include starting a national program for librarians to raise their awareness of disaster health information resources and outreach to their communities, and also developing online resources to enhance access to disaster health information.

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

DAVID MARCOZZI, MD, MHS-CL, FACEP

Dr. David Marcozzi serves as Director of Public Health Policy for the White House National Security Staff. Previous to this position, Dr. David Marcozzi served as the Director of the newly established Emergency Care Coordination Center (ECCC) within the Office of the Assistant Secretary of Preparedness and Response at the Department of Health and Human Services (HHS).

A graduate of Boston College and St. George's University School of Medicine, Dr. Marcozzi completed his Emergency Medicine Residency at Brown University, where he served as Chief Resident. He also completed a Masters of Health Sciences in Clinical Leadership from Duke University School of Medicine.

In 2006, Dr. Marcozzi completed a congressional fellowship where he worked on the Senate Subcommittee on Bioterrorism and Public Health Preparedness in Washington D.C. While there, he assisted in drafting the Pandemic and All-Hazards Preparedness Act, a reauthorization of the Bioterrorism Act" of 2002.

Until recently, Dr. Marcozzi held the position of Assistant Professor of Emergency Medicine and Director of Disaster Preparedness at Duke University Medical Center. He is now transitioning into a faculty member at Georgetown University, practicing emergency medicine at Washington Hospital Center, and is also an instructor at the Uniformed Services University of the Health Sciences.

Formerly a North Carolina volunteer firefighter and member of the National Disaster Medical System, responding to multiple disasters including NY on 9/11, Dr. Marcozzi currently serves as a Major in the U.S. Army Reserves. He has been mobilized twice since 2001, once as part of Operation Iraqi Freedom and the other during Hurricane Katrina. He is the recipient of numerous military and civilian awards including: the Army Commendation Medal, the Military Outstanding Volunteer Service Medal, the Duke University Health System Strength, Hope and Caring Award and Duke Emergency Medicine Distinguished Faculty Award.

KATHLEEN R. MINER, PHD, MPH, CHES

Kathleen R. Miner, PhD, MPH, CHES is Associate Dean for Applied Public Health at the Rollins School of Public Health, Emory University. She is the Principal Investigator on the Tobacco Technical Assistance Consortium (TTAC), Emory's Center for Public Health Preparedness (ECPHP), Southeast Institute for Training and Evaluation (SITE), and other large public health practice initiatives. She is a national leader in training and professional education, and past President of the Council on Education for Public Health (CEPH), the accrediting body for Schools of Public Health. Dr. Miner is a past president of the Georgia Public Health Association, has strong ties to public health officials throughout the state, and is a much sought-after trainer and educator for the CDC, state government, and other organization.

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

HOUSTON H. POLSON, JD

Dr. Houston H. Polson is the Chief, Joint Education Branch for North American Aerospace Defense Command (NORAD) and US Northern Command (USNORTHCOM). He is responsible for the establishment of programs, policies and curriculum for national defense, homeland security and defense support to civil authorities' educational initiatives to support the NORAD and USNORTHCOM missions. As Chair, Homeland Security/Defense Education Consortium, Dr. Polson directs an international network of colleges, universities and government institutions focused on promoting education, research, and cooperation related to and supporting the homeland security / defense mission.

Born in Charlotte, North Carolina, Dr. Polson graduated from East Lincoln High School and entered North Carolina State University at Raleigh, receiving Bachelor of Science degrees in textile chemistry and technical education in 1975. He was named a distinguished graduate of the Reserve Officer Training Corps and commissioned a second lieutenant in the Air Force Reserve. Upon entering active duty, he attended missile combat crew initial training at Vandenberg Air Force Base, California where he was recognized as a Distinguished Graduate. He served on active duty from 1976 until 1987.

In 1987, Dr. Polson separated from active service and was commissioned a captain in the Air Force Reserve. He served in the US Air Force Reserve until his retirement in June 2005 completing 30 years of service and attaining the rank of colonel.

Dr. Polson served in academia from 1987 until 2005. Most recently, he was Dean and Professor of Business Administration, Harold Walter Siebens School of Business, Buena Vista University, Storm Lake, Iowa. He served on the faculty and as Department Chair of Business at Bellevue University, Bellevue, Nebraska, Mesa State College, Grand Junction, Colorado and Shawnee State University, Portsmouth, Ohio. Dr. Polson led the effort to develop Mesa State College's initial graduate degree. His graduate degrees include a Juris Doctor from Creighton University and Master of Business Administration from the University of Montana.

Selected past military assignments include: Deputy Missile Combat Crew Commander Instructor, Missile Combat Crew Flight Commander, IBM Weapon System Analyst, Disaster Preparedness Staff Officer; Senior Individual Mobilization Augmentee to the Base Civil Engineer, Senior Military Advisor to Commander – Stabilization Force and Director, Commander's Special Studies Group, and Emergency Preparedness Liaison Officer (EPLO) to The Adjutant General – Iowa.

Dr. Polson is a distinguished graduate of Squadron Officer School, and a graduate of the Air Force Command and Staff College and the Air War College. His decorations and awards include the Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal with two oak leaf clusters, Air Force Commendation Medal, Combat Readiness Medal, Air Force Expeditionary Service Ribbon with gold border, Armed Forces Reserve Medal with "M" device and Bronze Hourglass device, and NATO Service Medal. He was recognized as an Outstanding Young Man of America in 1982 and has been recognized for teaching excellence on multiple occasions.

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

He is the author of several publications and book reviews. Dr. Polson is married to the former Jeanie Dryer. They have three sons – Adam, David and Tim and two granddaughters.

ROSANNE PRATS, MHA, ScD

Currently, Rosanne Prats, MHA, ScD works for the Louisiana Department of Health & Hospitals (DHH) as the Director of Emergency Preparedness. Ms. Prats received her doctorate at Tulane University. She came to DHH with healthcare work experience in the federal, state and private sectors.

Ms. Prats' work experience includes several years of working for the federal government in Information Technology Services (ITI) as a program manager and computer specialist. While pursuing her MHA at Tulane University, she held a residency position at the Department of Health & Hospital's Office of Public Health (OPH). She was a key player in developing the Louisiana Public Health Institute, a non-profit entrepreneurial vehicle through which the promotion of public health activities could be furthered.

In June of 1997, she was recruited to work in the private sector for the largest private hospital system - Columbia/ HCA. As one of 4 consultants, she developed, interpreted, and evaluated market demographics and competitor analyses to determine strategic placement of clinics primarily in the Louisiana, Arkansas, and Florida markets.

In October of 1997, Ms. Prats was recruited to work with Columbia/HCA's Legal Department to develop the Compliance Department for the company. In August 1999, Rosanne returned to Louisiana to assist the State Health Officer develop and implement the DHHS' Emergency Preparedness Disaster Plan. This current position involves coordinating between local, state and federal agencies.

CHRISTOPHER J. REVERE

Christopher Revere became Executive Director of the National Commission on Children and Disasters in January 2009. In this capacity, he is the principal liaison of the Commission to federal, state, Tribal and local officials and non-governmental organizations. He manages the resources and guides the work of the Commission to ensure that it fulfills requirements under federal law. Prior to joining the Commission, Mr. Revere spent over 10 years as a public policy advocate, primarily representing non-profit organizations before federal and state government. Mr. Revere earned his Master of Public Administration degree from the Nelson A. Rockefeller School of Public Policy (Albany, NY) and his Bachelor of Arts degree in Psychology from Hobart College (Geneva, NY).

ITALO SUBBARAO, DO, MBA

Dr. Subbarao is the Director of Public Health Readiness Office at the American Medical Association Center for Public Health Preparedness and Disaster Response, and the Deputy Editor of the new *Journal of Disaster Medicine and Public Health Preparedness*. Dr. Subbarao has expertise in health system recovery and promoting comprehensive disaster planning through private-public partnerships. Dr. Subbarao's office has provided technical support and assistance to the disaster recovery of the health system in the areas impacted by Hurricane Katrina, and the recent Virginia Tech mass casualty incident, as well as the tornado that impacted Greenborough Kansas. Dr. Subbarao's

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

office is also the coordinator for the AMA/CDC 2nd and 3rd Public Health Congress in July 2007 and 2009 focusing on community planning and response to Pandemic Influenza.

Dr. Subbarao has previously field responded to Hurricane Katrina and the Pakistan Earthquake as an American Red Cross Public Health Field Manager for the shelters in the Gulf, and as a Public Health Field Manager for the International Rescue Committee, respectively. He completed his fellowship training at Johns Hopkins University in Disaster Medicine and is a board eligible emergency medicine physician. Dr. Subbarao completed his residency training at Lehigh Valley Hospital, Muhlenberg, in Bethlehem, Pennsylvania, where he won three national resident research awards. He is a graduate of the Philadelphia College of Osteopathic Medical School joint DO/MBA program in Health Care Administration.

ANDREA C. YOUNG, PHD

Dr. Young serves as the Senior Learning Officer for Preparedness and Response in the Coordinating Office for Terrorism Preparedness and Emergency Response (CPTPER), Centers for Disease Control and Prevention (CDC). In this role, Dr. Young is responsible for developing and executing CDC's preparedness and response learning strategy. Her office has oversight and coordination responsibilities related to analysis, design, development, implementation, policy and evaluation of workforce development programs that target CDC emergency responders and external audiences, at the state and local levels, with public health preparedness and response responsibilities.

In 2001, she began her career at CDC designing and evaluating web-based training solutions for the public health workforce. More recently, Dr. Young served as the Program Official for the Centers for Public Health Preparedness in COTPER, Learning Strategies Team Lead (Acting) in the National Center for Health Marketing (NCHM) and the Senior Training Evaluator in the Public Health Practice Program Office (PHPPO).

Prior to joining the CDC, Dr. Young served as the Program Manager for Florida State University's (FSU) Learning Systems Institute; overseeing the design, development and implementation of FSU's first web-based Masters Degree program. For over ten years, Dr. Young served as an independent consultant in competency-model development, performance systems analysis, instructional design, curriculum planning and training evaluation. Her clients represented a variety of sectors; including higher education, business and federal and state government.

Dr. Young has a Bachelors degree in sociology from Eckerd College and a Masters of Science and Doctorate in instructional systems design from Florida State University. In addition, Dr. Young has authored and coauthored many presentation, chapters and journal publications.

APPENDIX 4

ORGANIZATIONS REPRESENTED



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

ORGANIZATIONS REPRESENTED

- Agency for Health Quality Research
- Alameda County Medical Center
- AAPA – American Academy of Physician Assistants
- American Medical Association
- ATS – American Thoracic Society
- AVMA – American Veterinary Medical Association
- Association of the Schools of Public Health
- Booz Allen Hamilton
- Bureau of Medicine & Surgery (Navy)
- Center for Disaster and Humanitarian Assistance Medicine
- Centers for Disease Control and Prevention
- Children's National Medical Center
- Columbia University
- Defense Centers of Excellence
- Defense Medical Readiness Institute
- Defying Disaster
- Department of Health and Human Services
- Department of Homeland Security
- ECCO/ASPR/HHS – Emergency Care Coordination Center/Assistant Secretary for Preparedness and Response/Department of Health and Human Services
- Emergency Medical Services for Children
- Erie County Department of Health
- FEMA
- George Mason University
- George Washington University GWU-MFA-DEM
- Institute of Medicine
- IUP Research Institute –Indiana University of Pennsylvania Research Institute
- Logistics Management Institute
- Maryland Department of Health and Mental Hygiene
- Medical College of Georgia
- MediSys Health Network
- Montgomery County CERT
- Montgomery County DHHS
- Montgomery County Public Health Services
- NACCHO – National Association of County and City Health Officials
- Nassau County EMS Academy
- National Association of Children's Hospitals
- National Association of School Nurses
- National Conference of State Legislatures
- NDLSF- National Disaster Life Support Foundation

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
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- NHTSA – National Highway Traffic Safety Administration
- National Institute of Environmental Health Science
- National Naval Medical Center
- NCDMPH – National Center for Disaster Medicine and Public Health
- NIH – National Institutes of Health
- NORC at the University of Chicago -National Opinion Research Center at the University of Chicago
- NYCDHMH – New York City Department of Health and Mental Health
- Philadelphia University
- QHC – Division of Quality Health Care Virginia Commonwealth University
- Rollins School of Public Health, Emory U.
- SAMHSA- Substance Abuse and Mental Health Services Administration
- Sanford School of Medicine
- Texas A&M Health Science Center
- The Lewin Group
- USDVA – Unites States Department of Veterans Affairs
- USUHS- Uniformed Services University of the Health Sciences
- University of Hawaii
- University of Maryland
- University of Texas SW Medical Center
- US Army Public Health Command
- USPHS – United States Public Health Service
- USAF – United States Air Force
- USAMRICD – United States Army Medical Research Institute of Chemical Defense
- VA Central Office
- VA MD Health Care System
- VAHMCS – VA Maryland Health Care System
- YNH-CEPDR – Yale New Haven Health Center for Emergency Preparedness and Disaster Response
- YSOM – Yale University School of Medicine
- YSPH – Yale University School of Public Health

APPENDIX 5

PARTICIPANT SURVEY RESULTS

INDIVIDUAL SESSION EVALUATION

A. Session #1 Workforce Learning Requirements and Needs

Chart #1

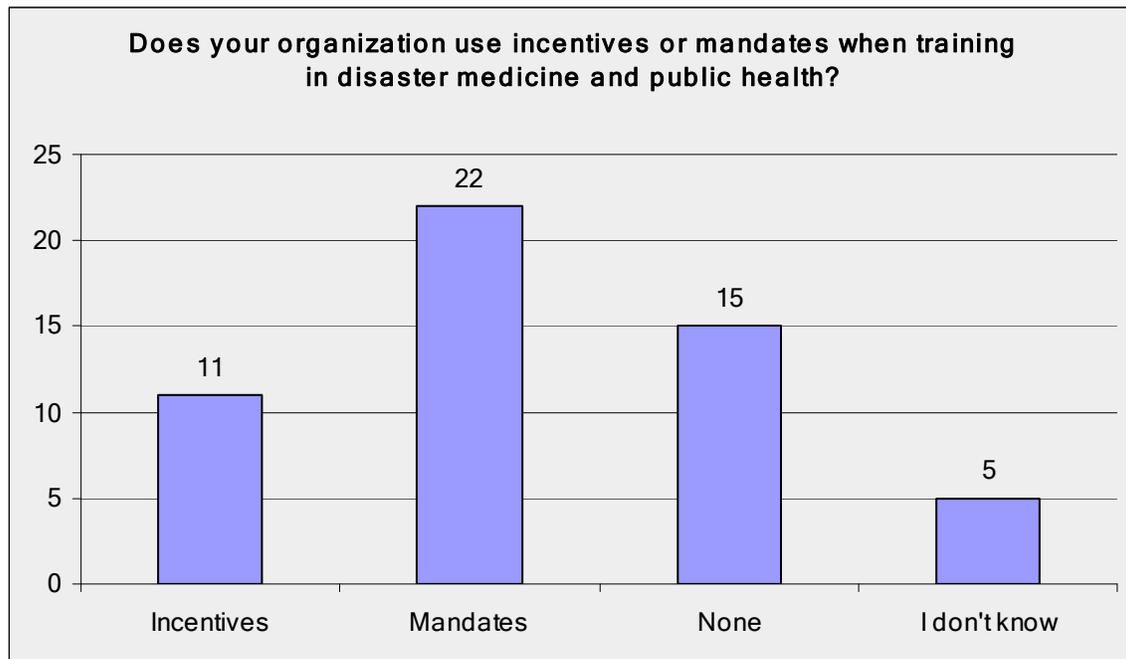
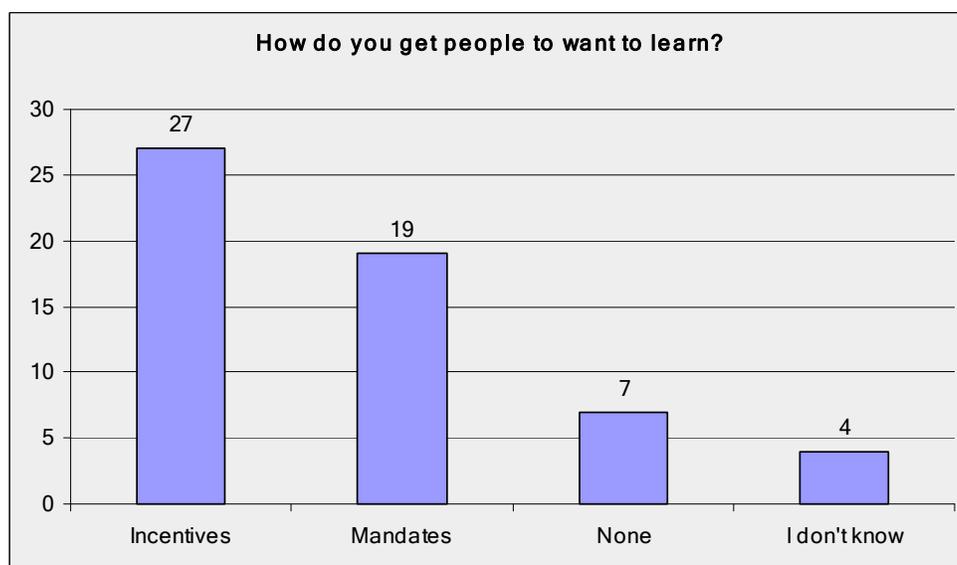


Chart #2



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #3

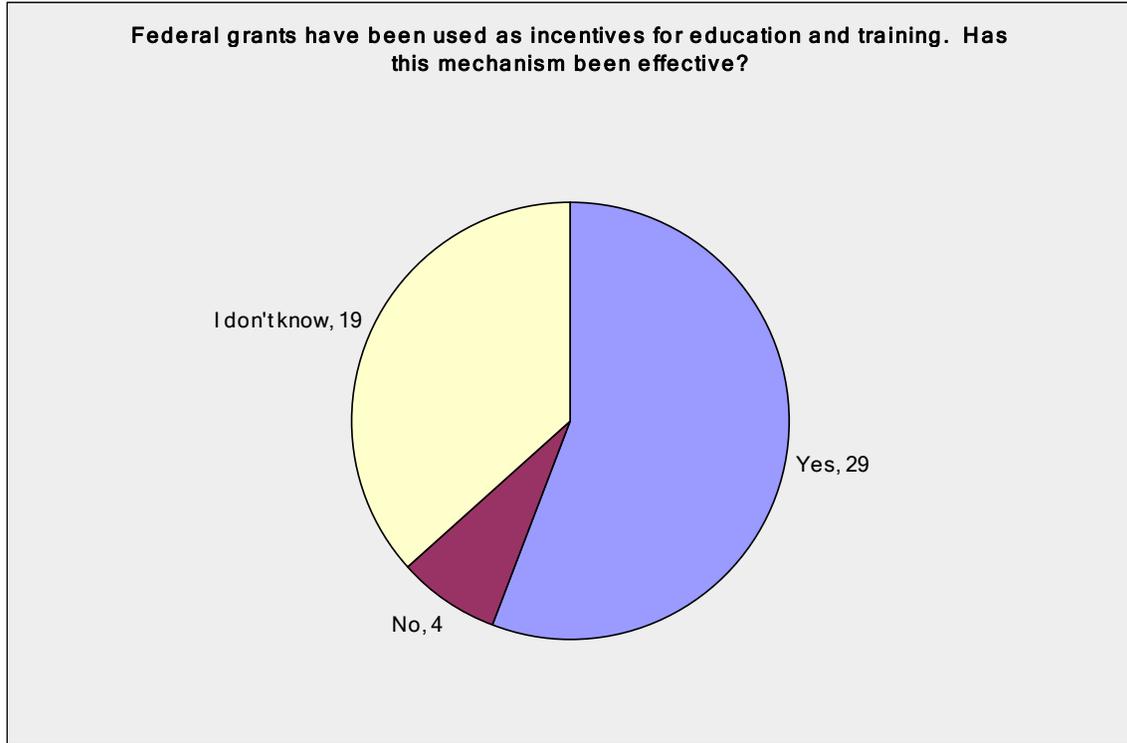
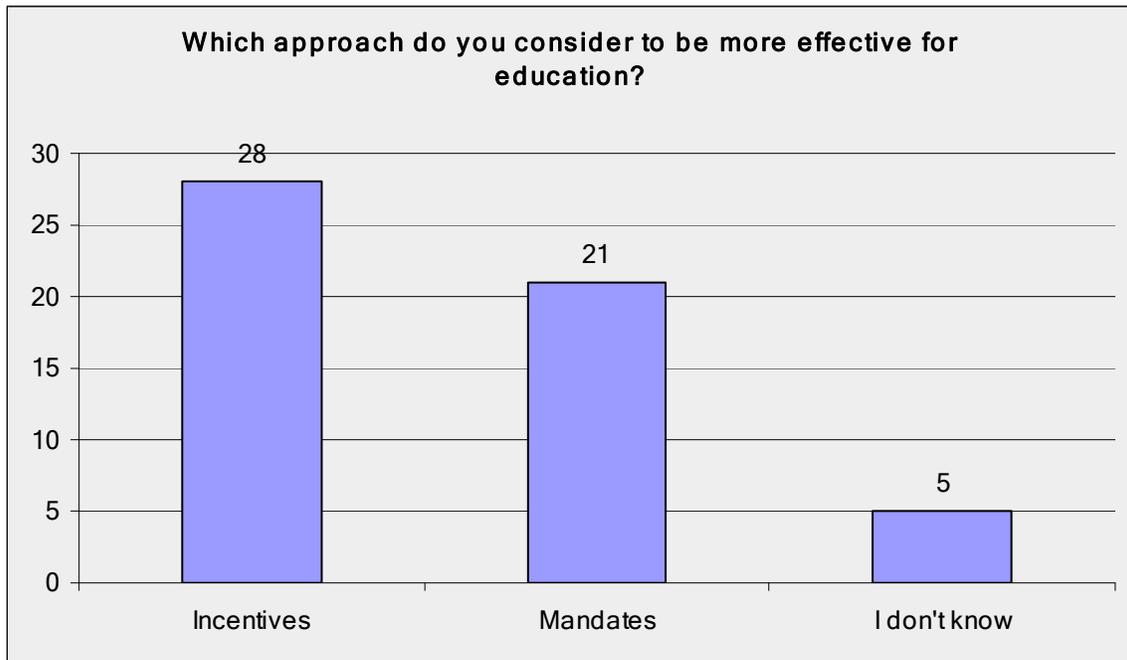


Chart #4



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #5

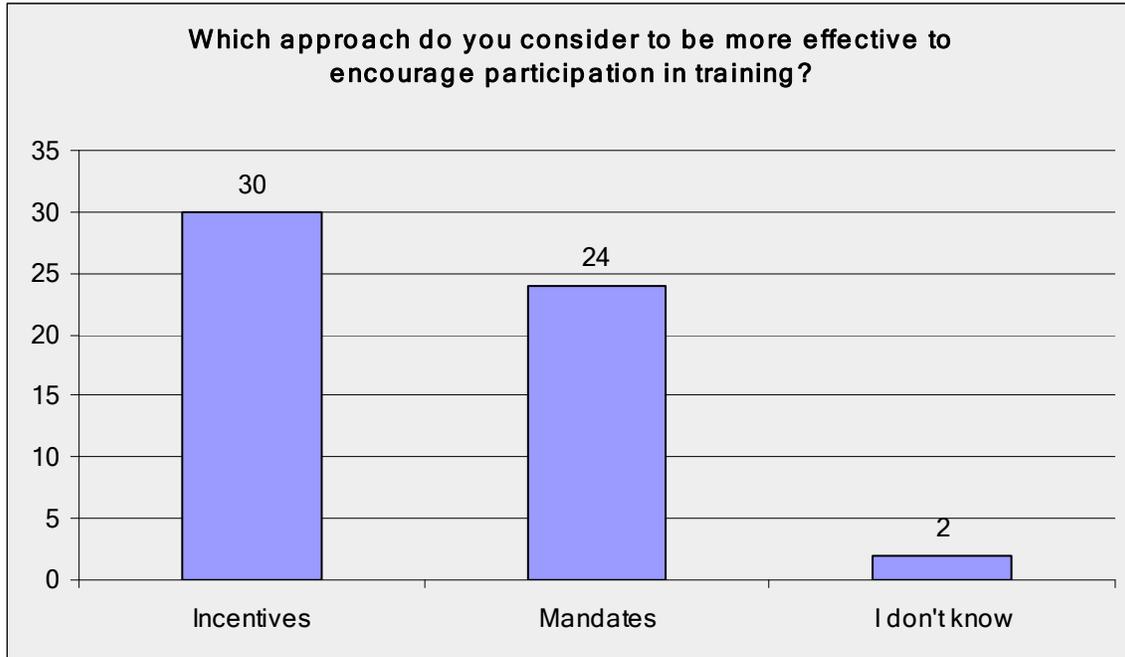
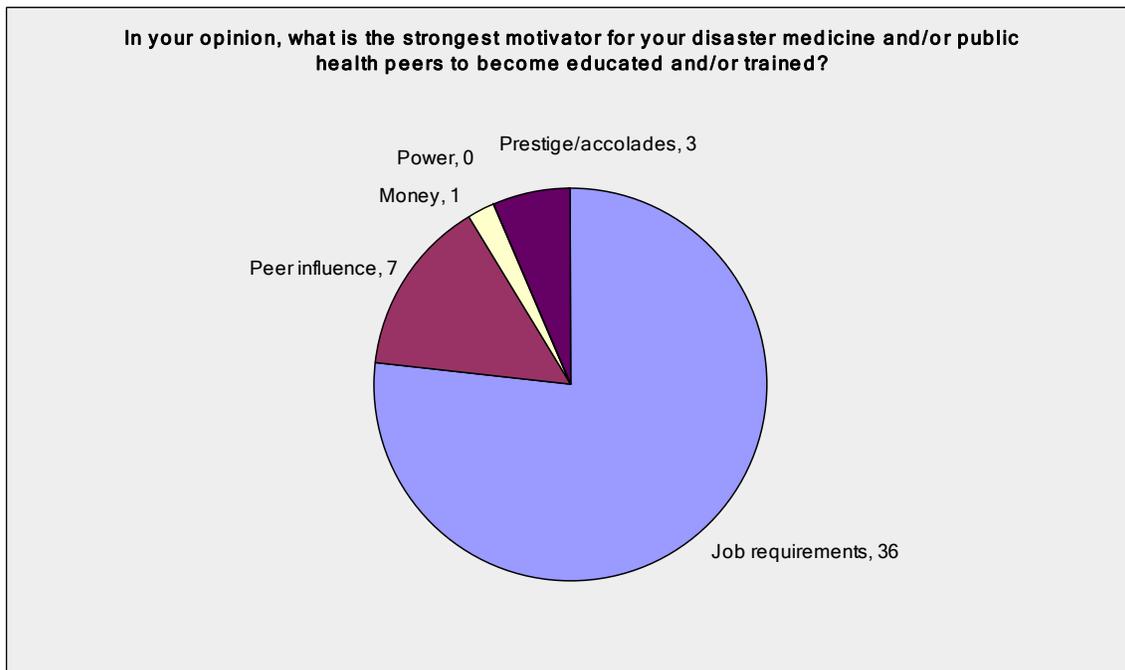
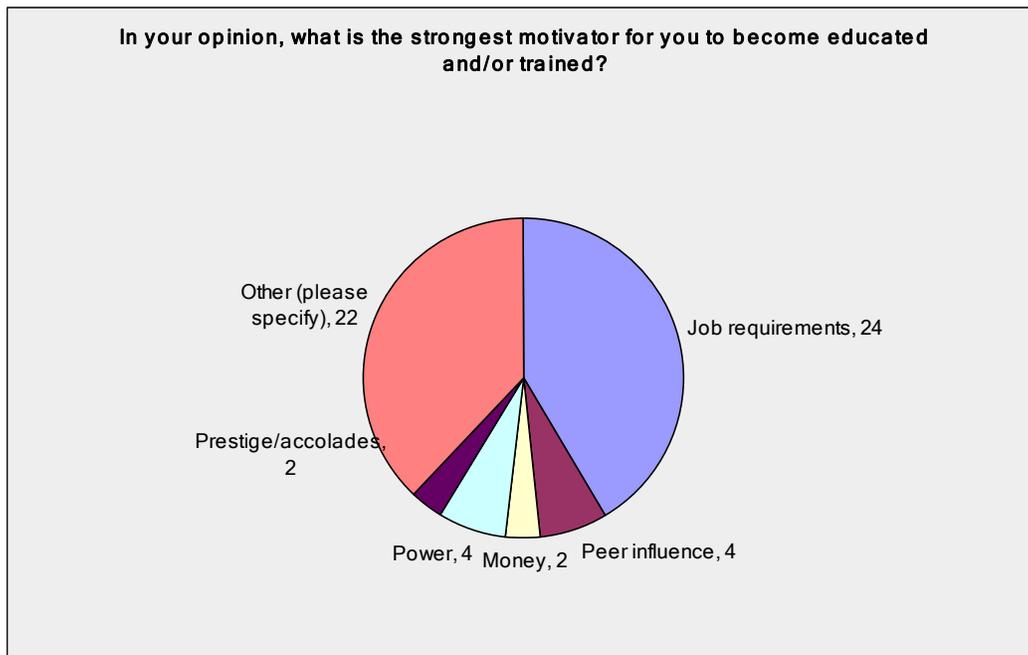


Chart #6



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #7



Answers to Other above Question #7

- Interest of my own
- See if motivated and see if learning to remain current
- Self interest
- Competency
- So that i can better serve my community, patients
- I want to learn. I am motivated. I am here.
- Ethical behavior
- Perceived personal risk and professional readiness
- Interest/right thing to do for continued growth
- Safety, personal & family safety.
- Personal interest
- Personal growth
- Personal growth / education
- Personal growth/development
- Personal growth
- Seeking personal growth
- Interest. Trying to learn more to determine where to go.
- Competency
- To make sure i am capable to do my job not because it's required by the job but because i require myself to be as educated as possible.

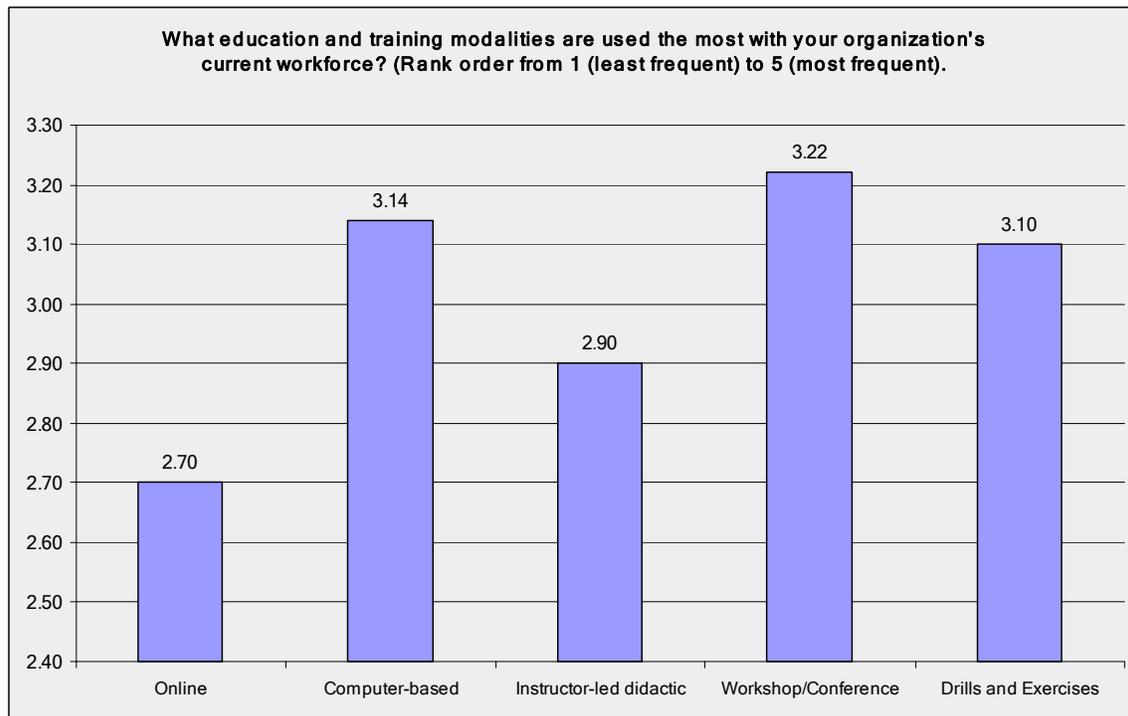
**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

- Because it is the right thing to do
- Effectiveness
- Expanding leadership skill set / knowledge

Chart #8



Chart #9



B. Session #2: Disconnects and Barriers

Chart #10

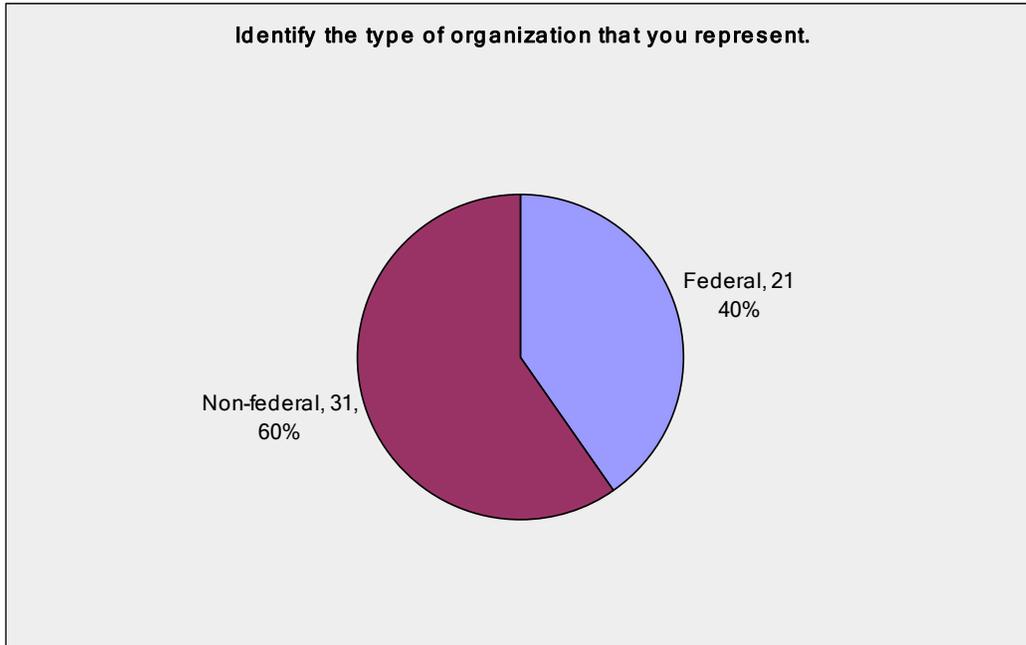
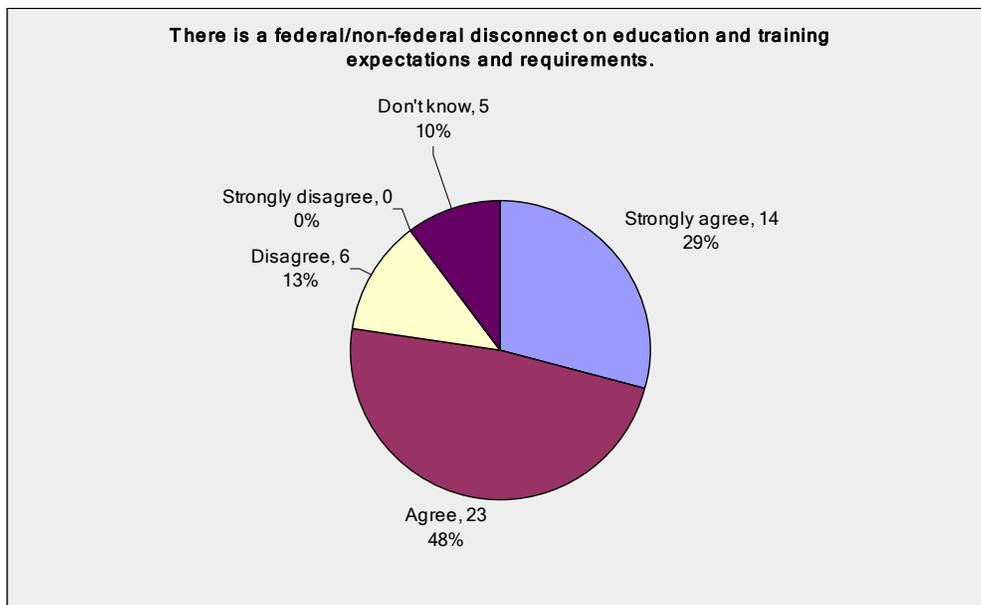


Chart #11



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #12

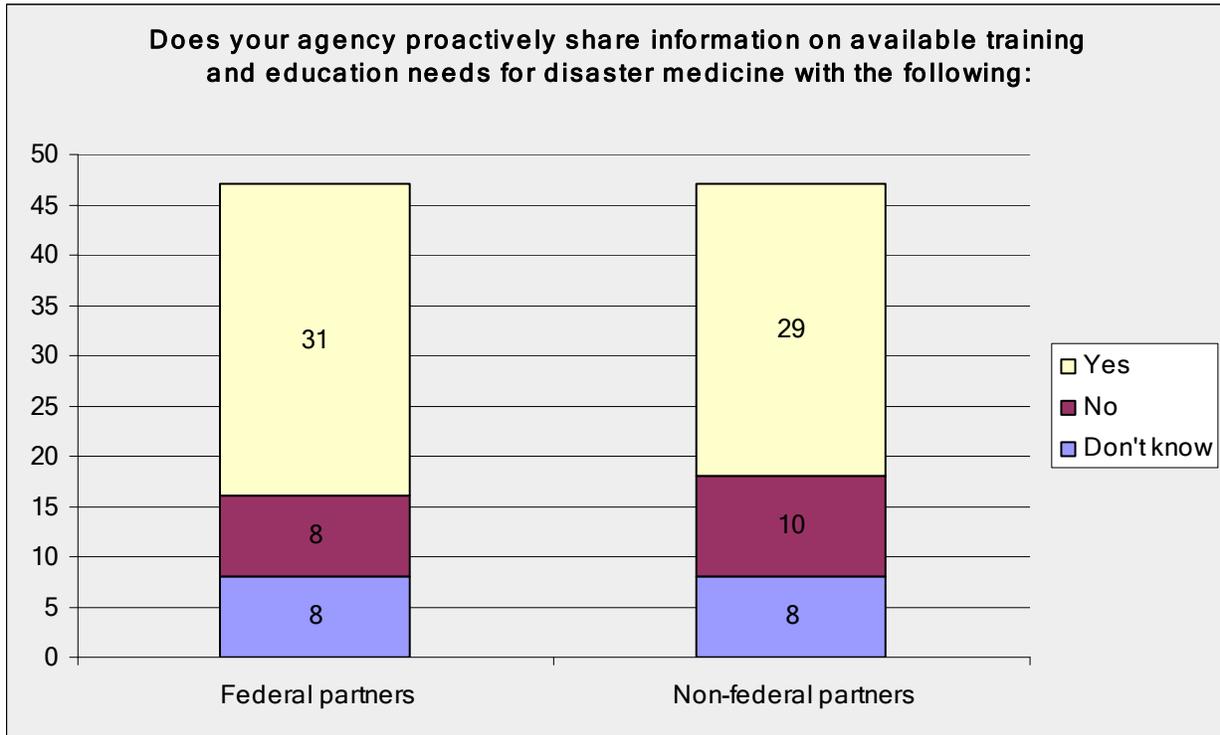


Chart #13

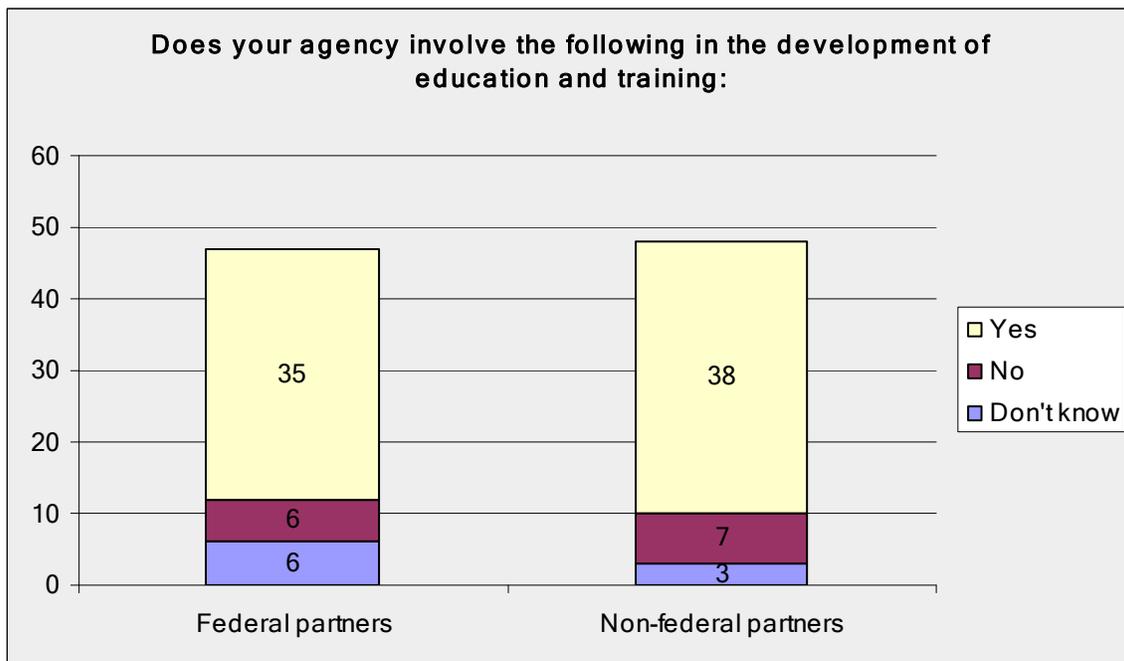


Chart #14

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

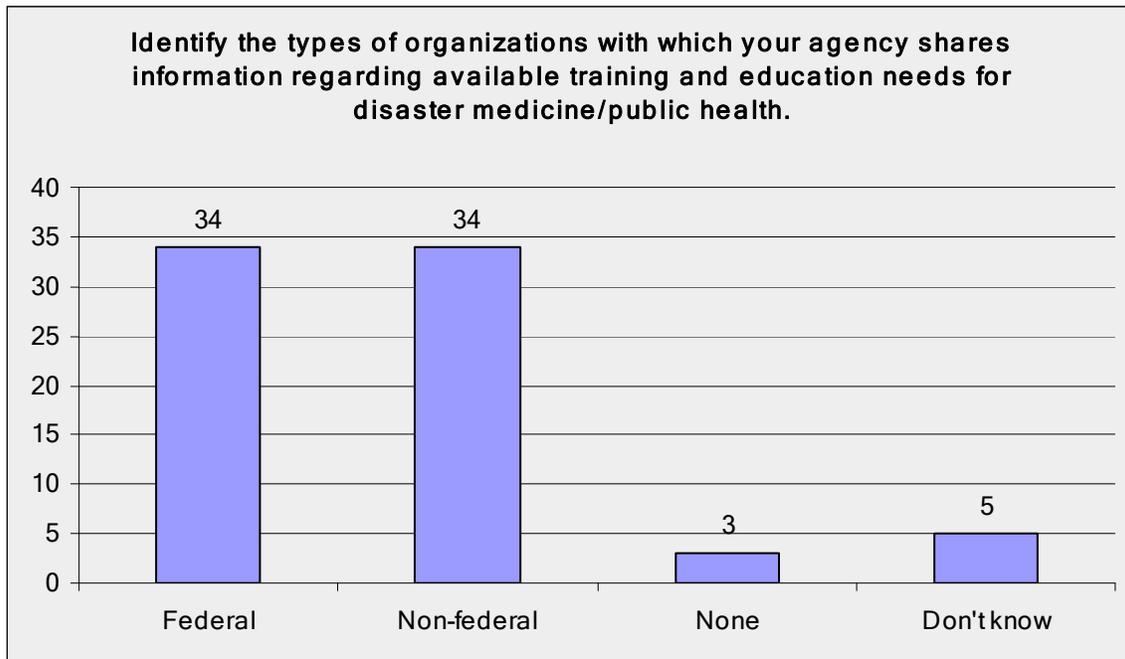
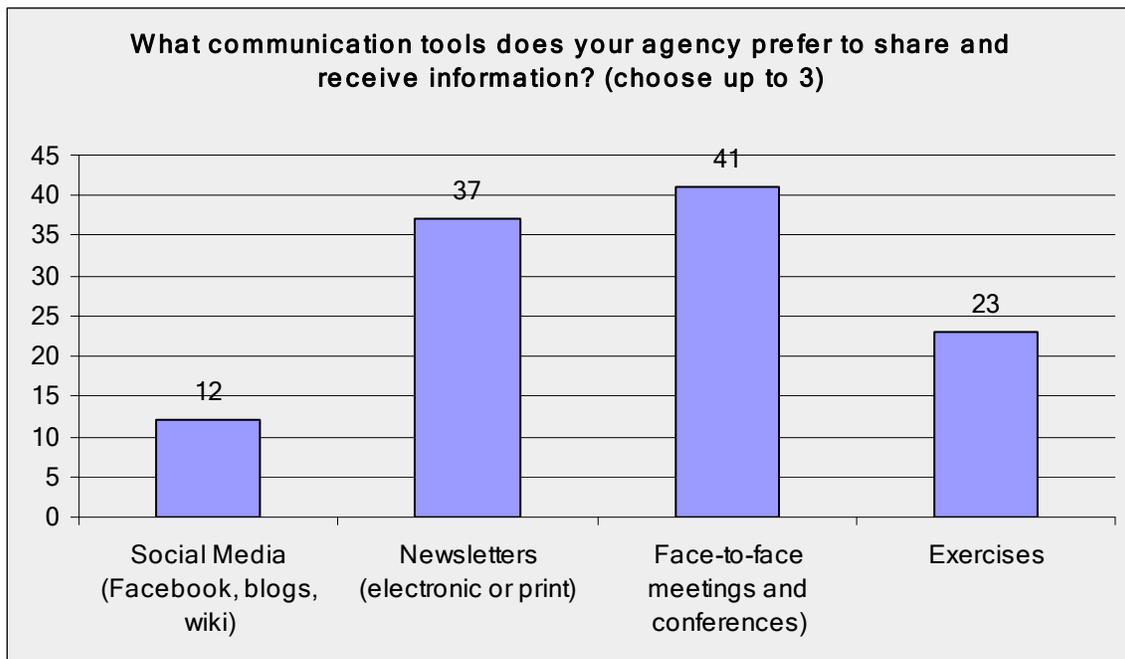


Chart #15



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #16

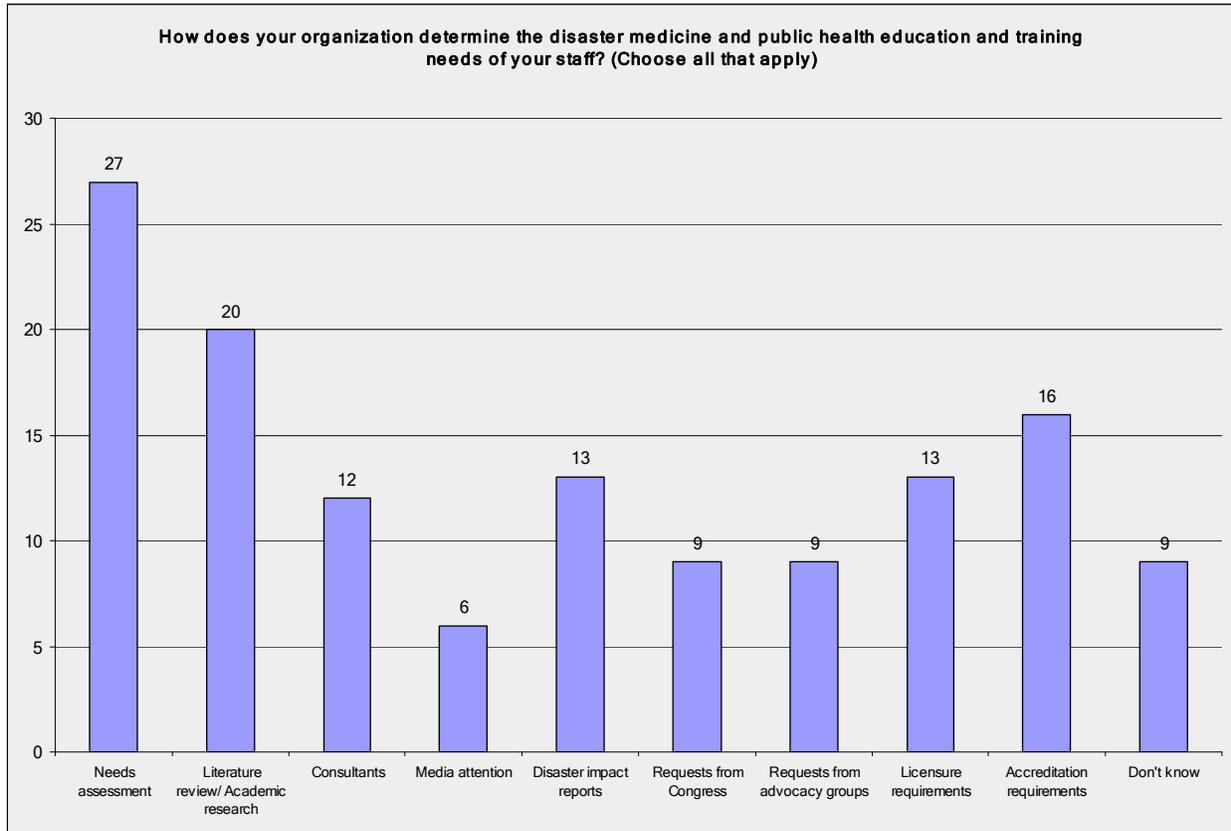
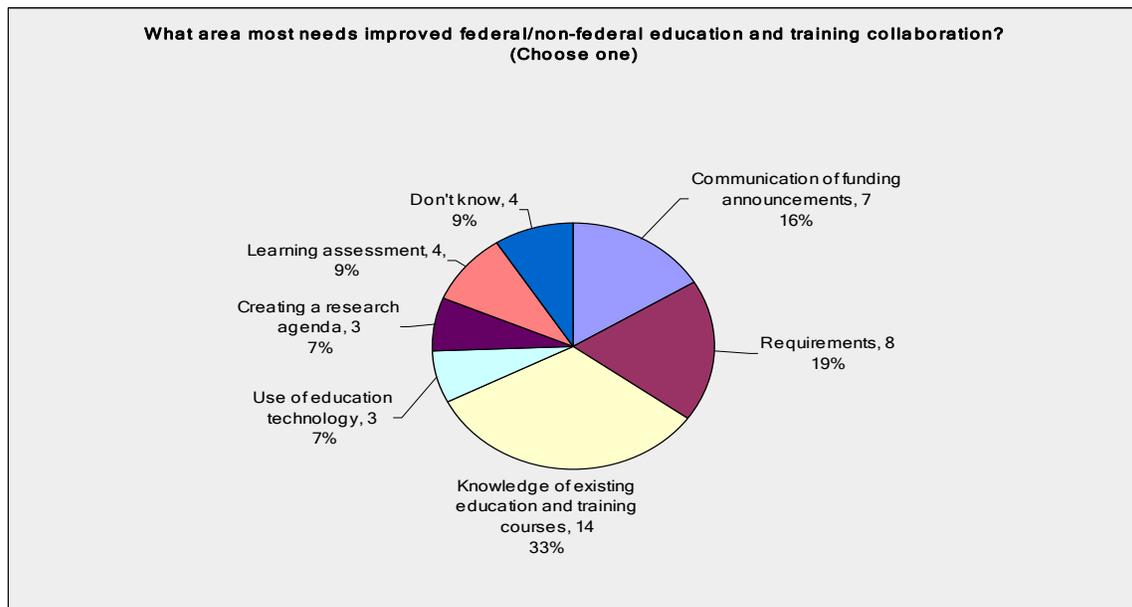


Chart #17



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #18

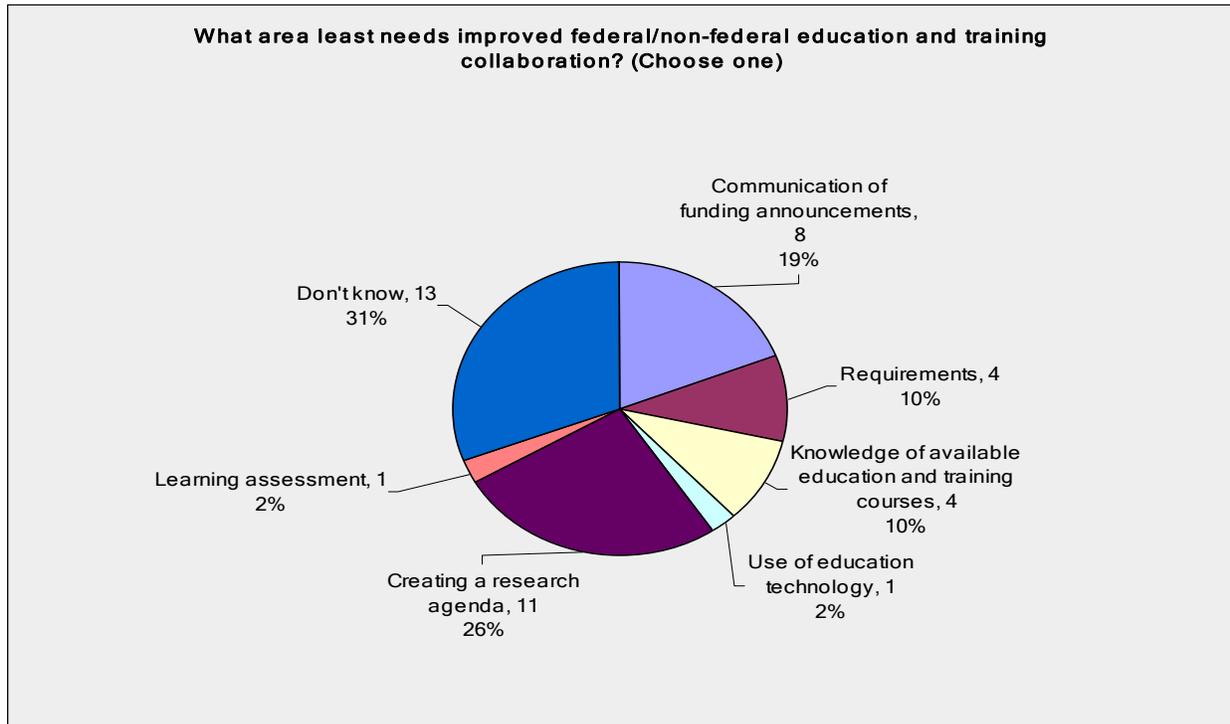
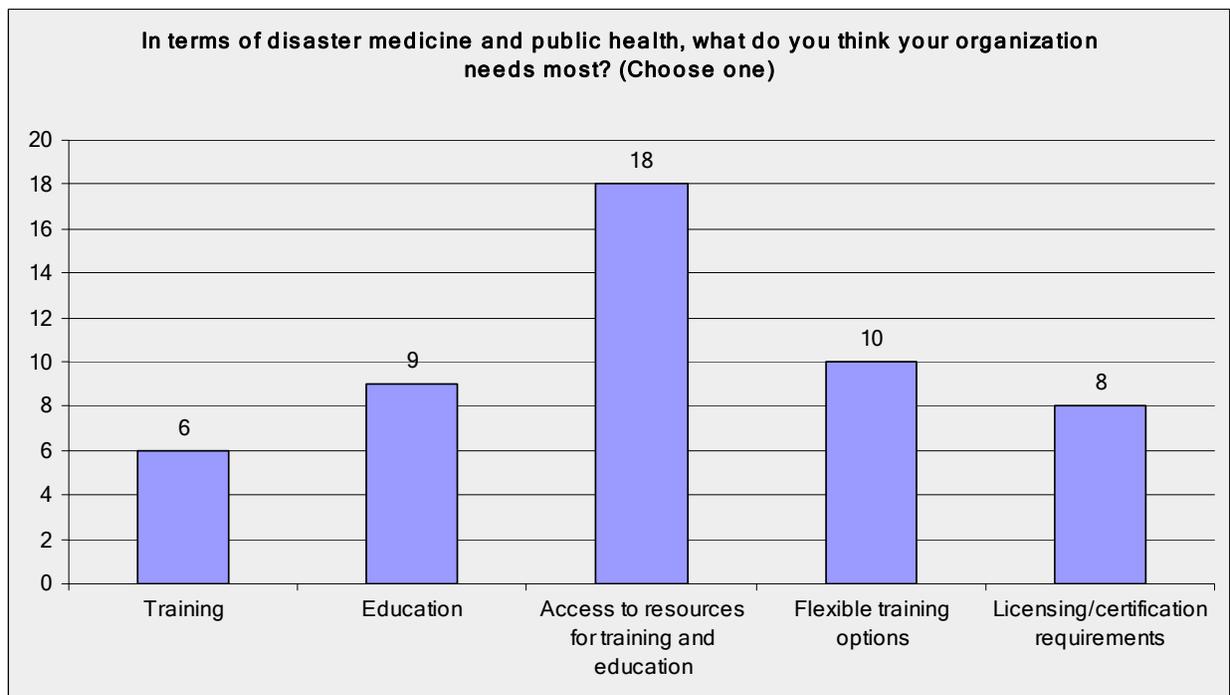
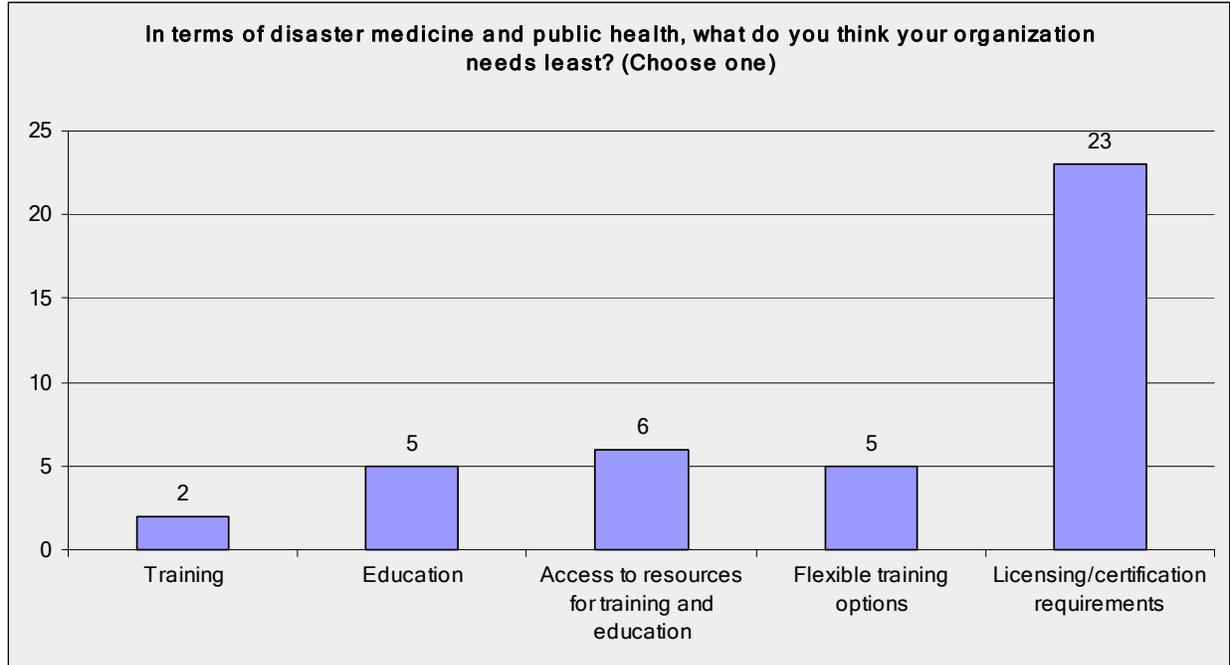


Chart #19



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #20



C. Session #3 Capabilities and Competencies

Chart #21

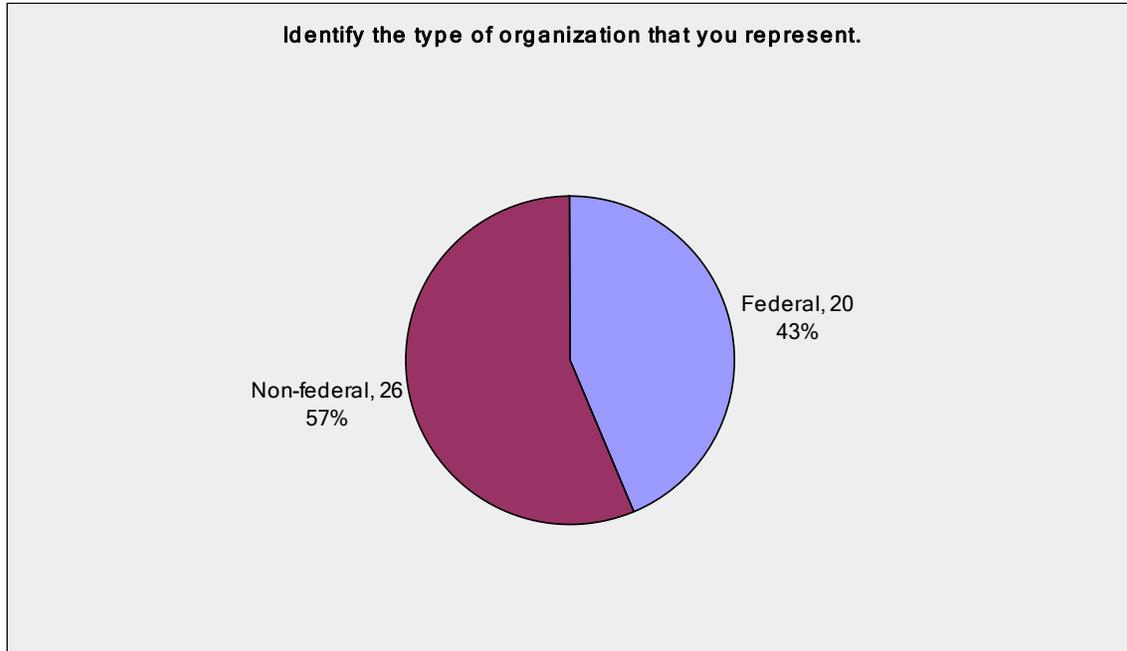
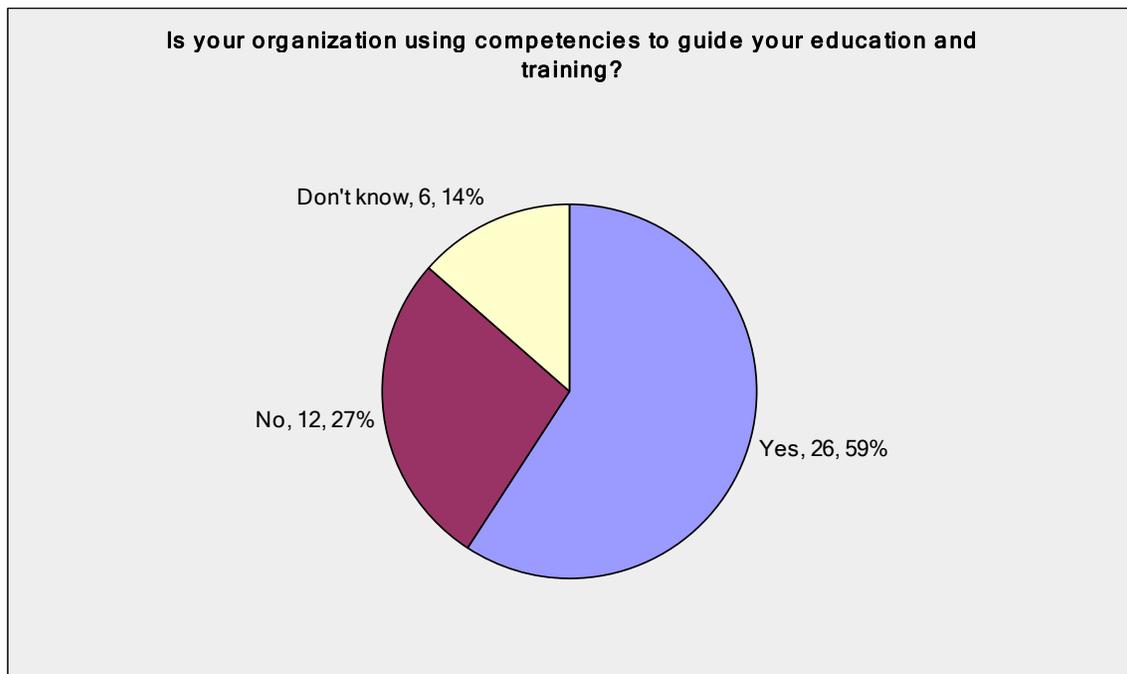


Chart #22



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #23

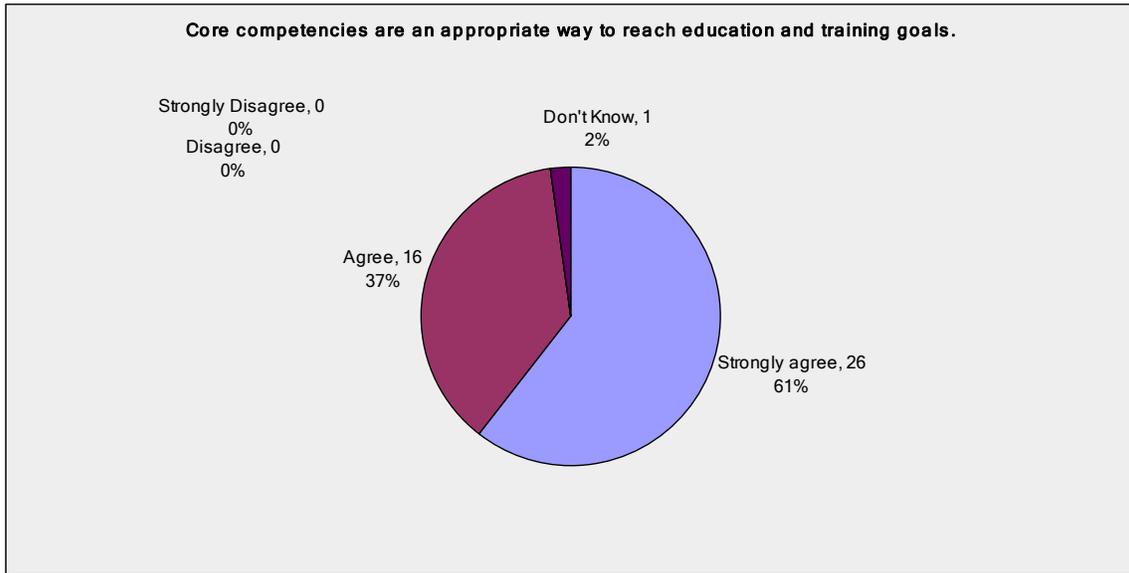
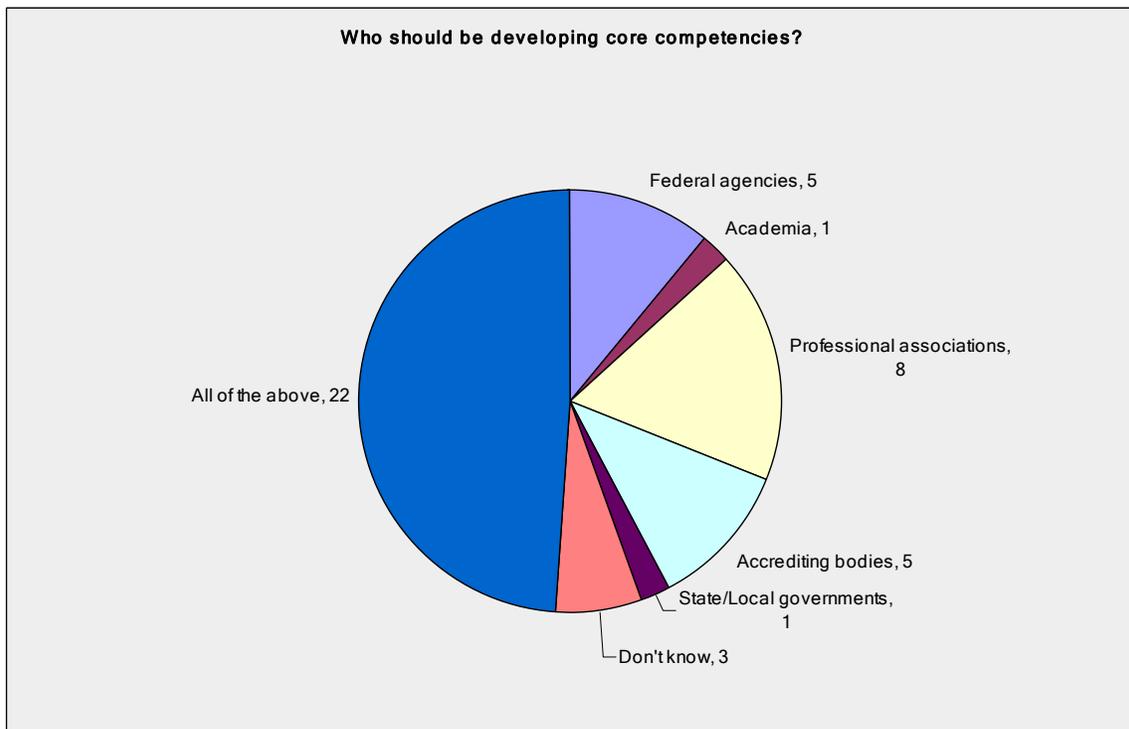


Chart #24



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #25

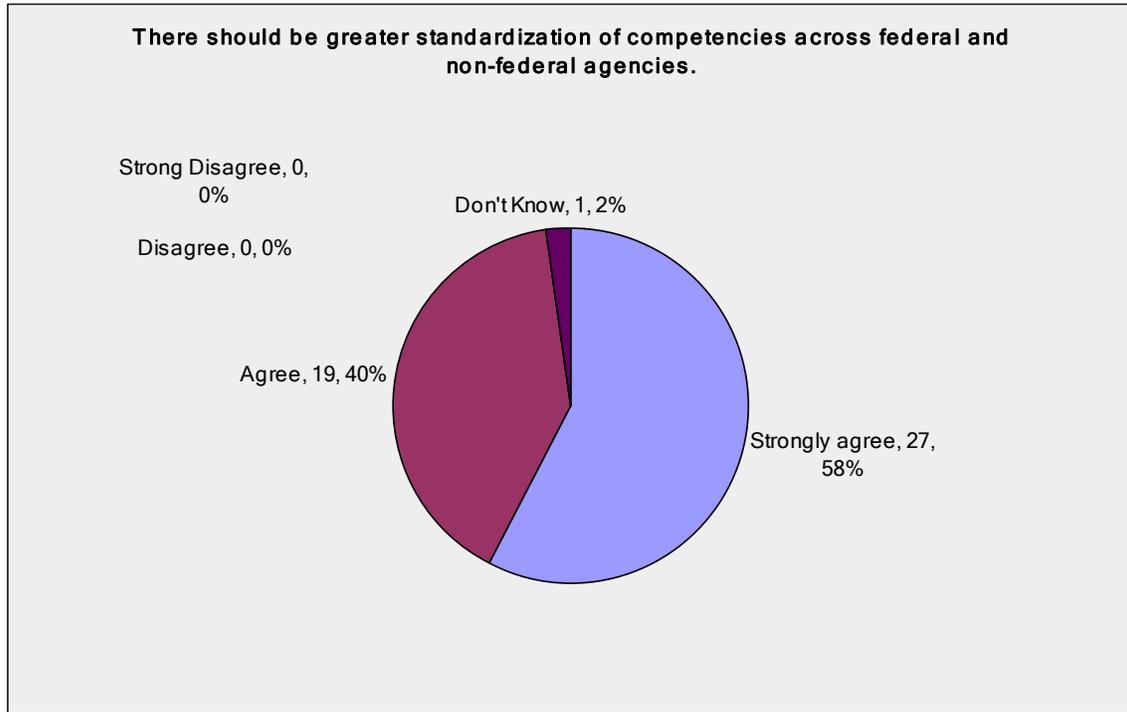
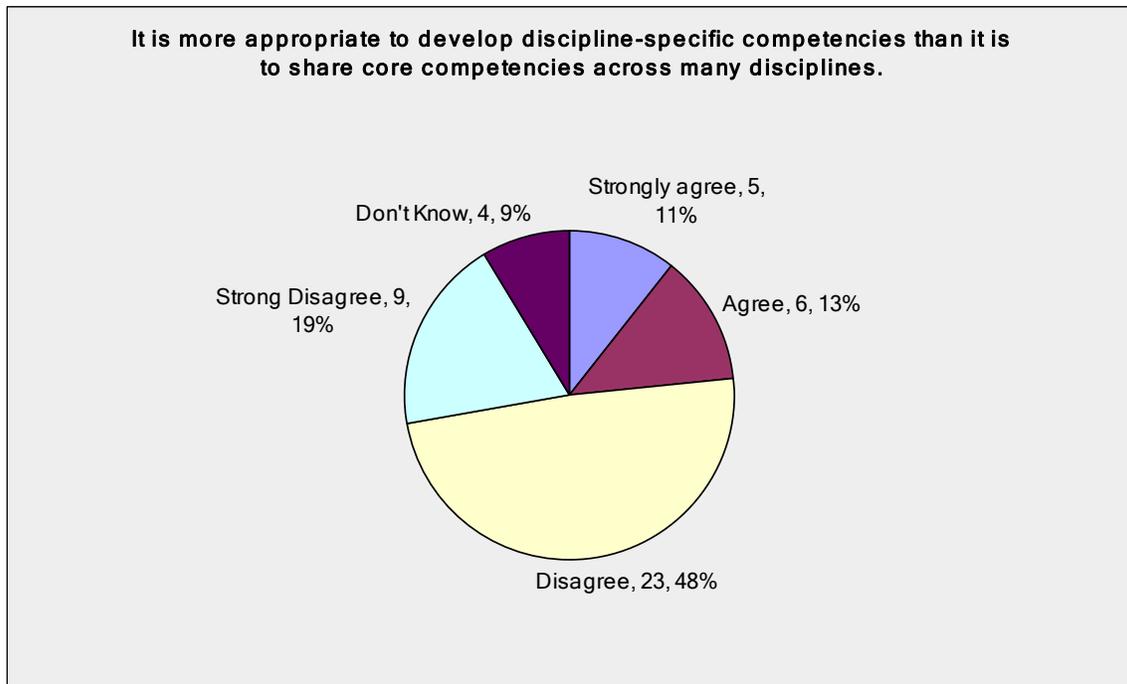


Chart #26



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #27

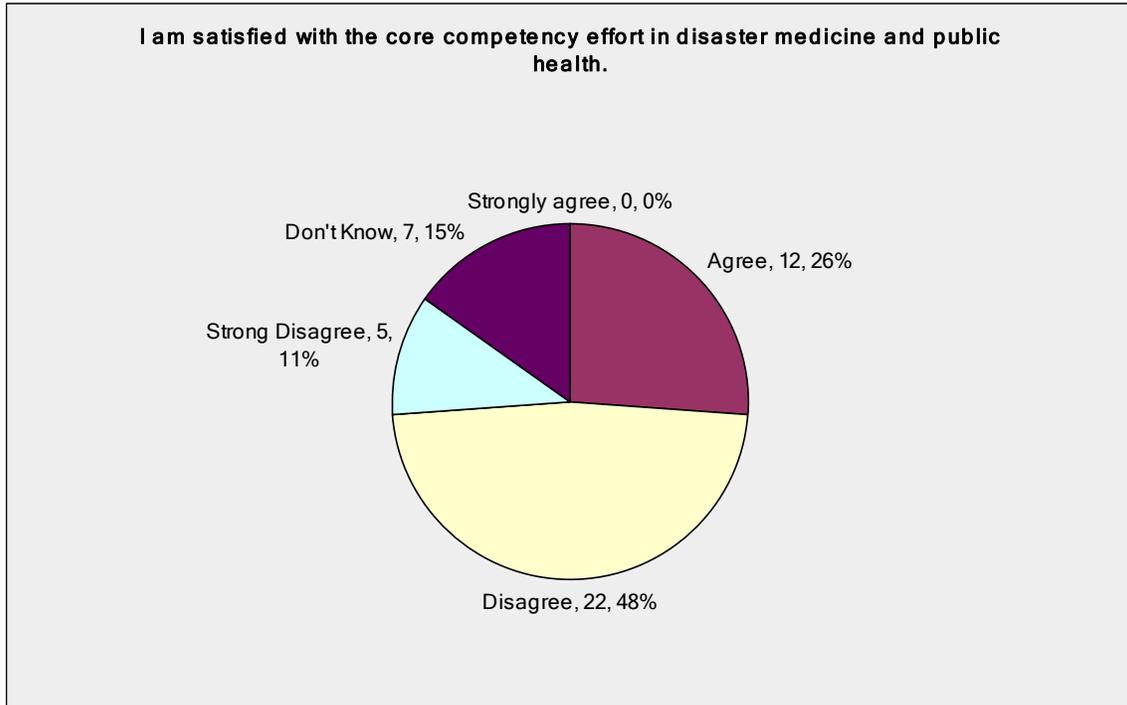
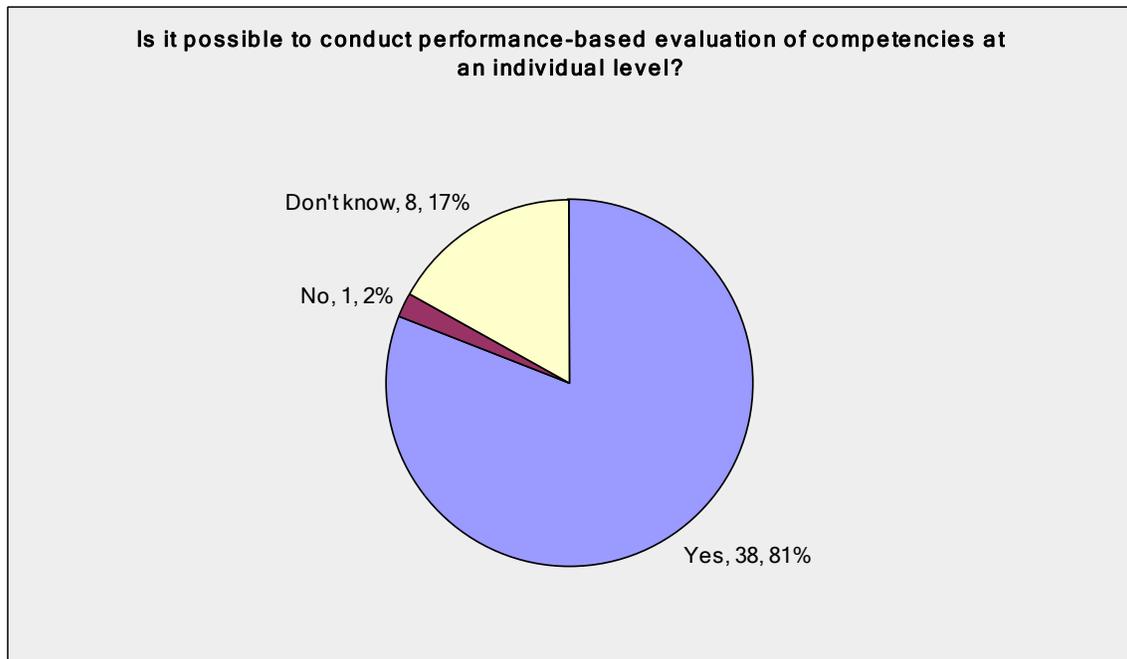


Chart #28



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #29

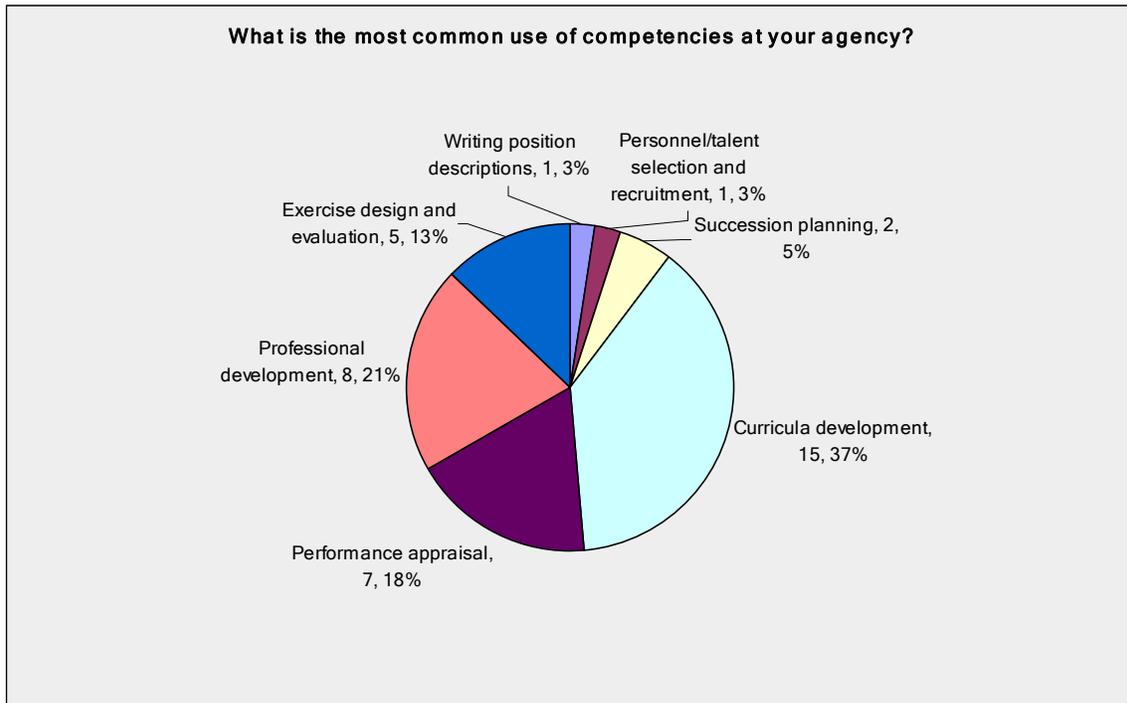
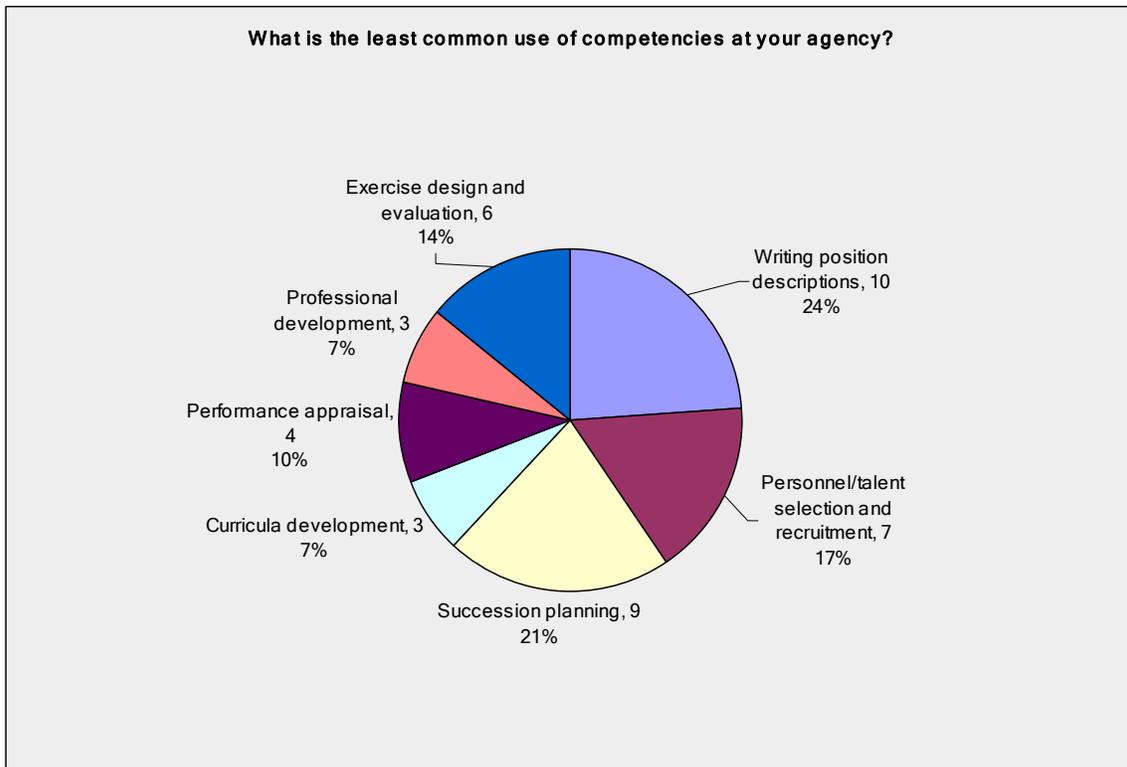


Chart #30



D. Session #4: Information and Communication

Chart #31

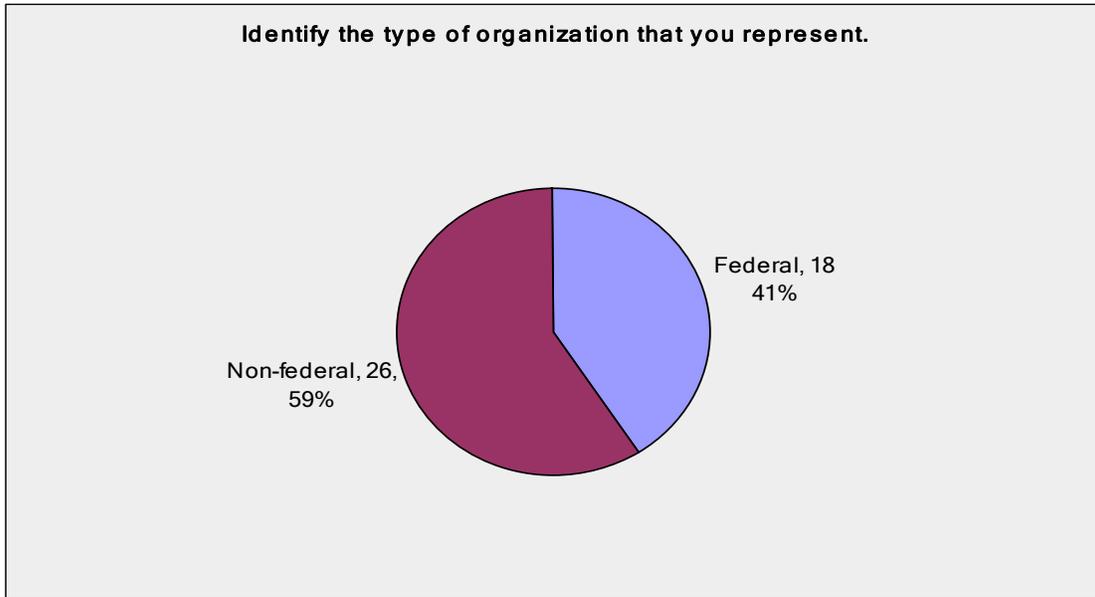
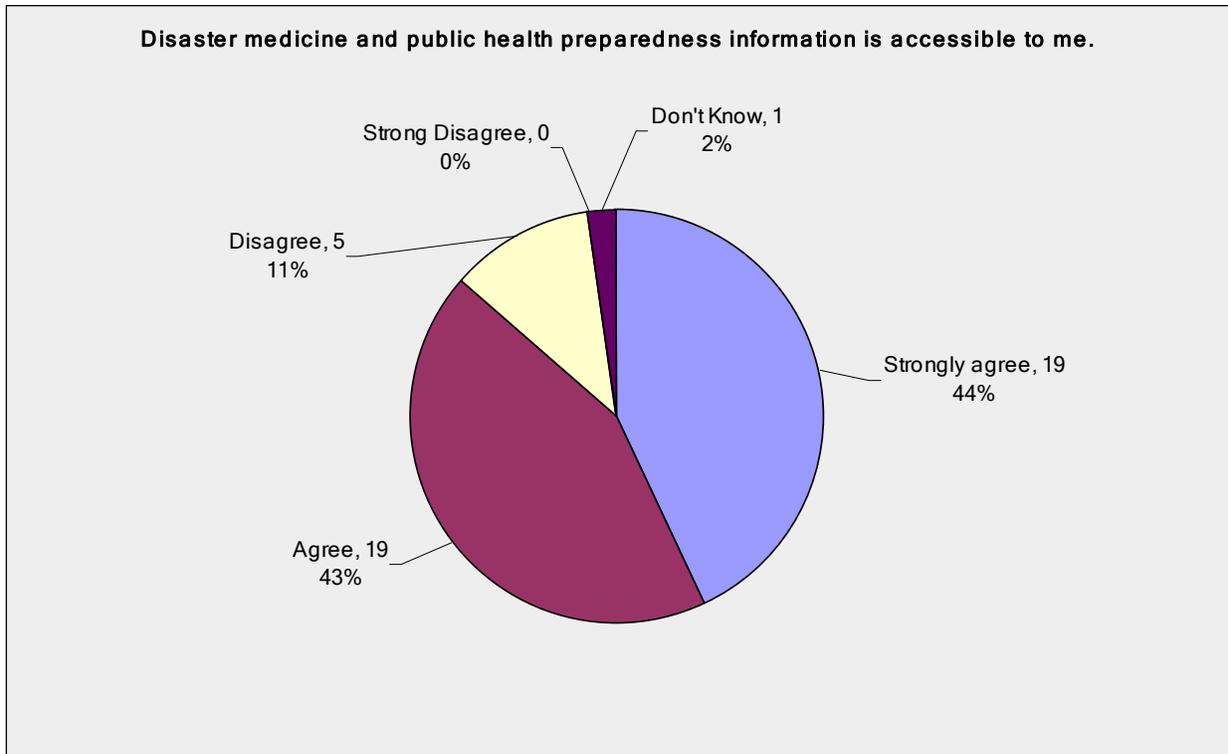


Chart #32



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #33

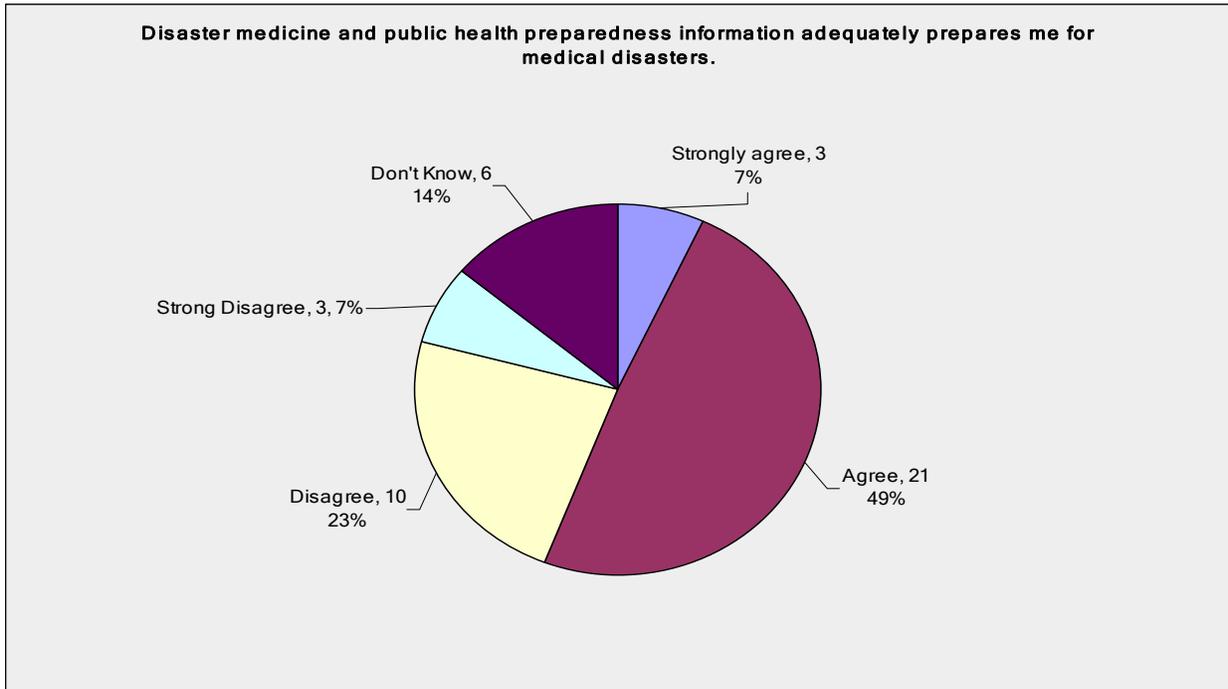
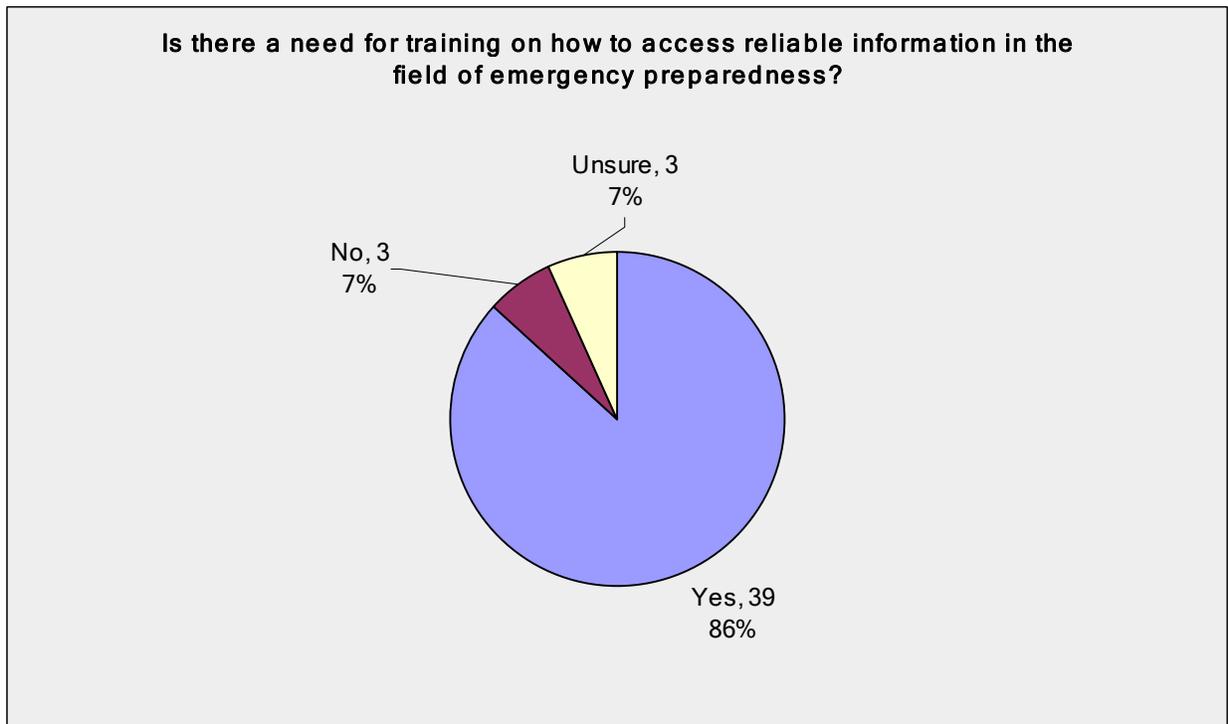


Chart #34



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #35

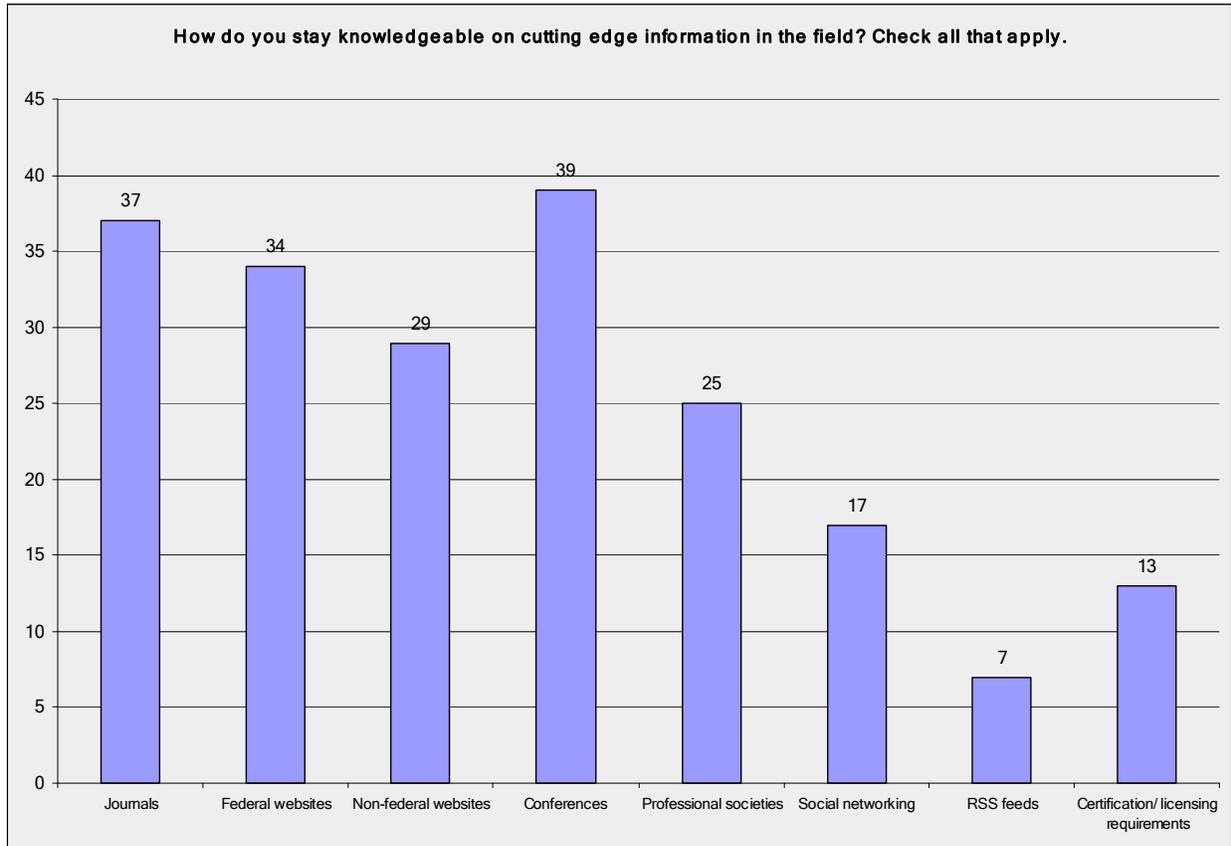
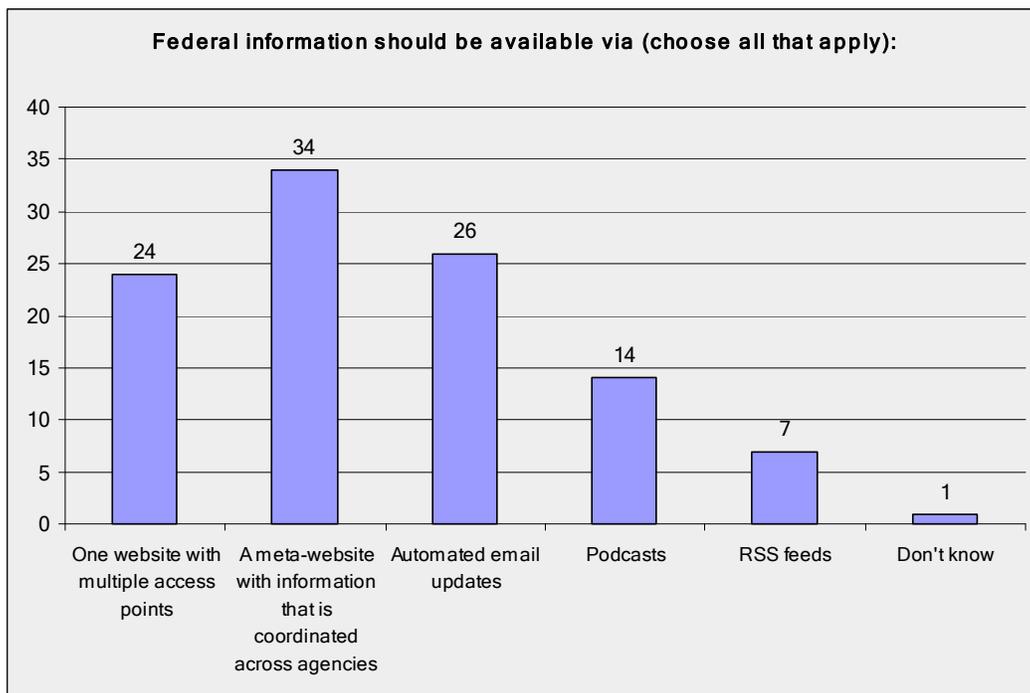


Chart #36



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #37

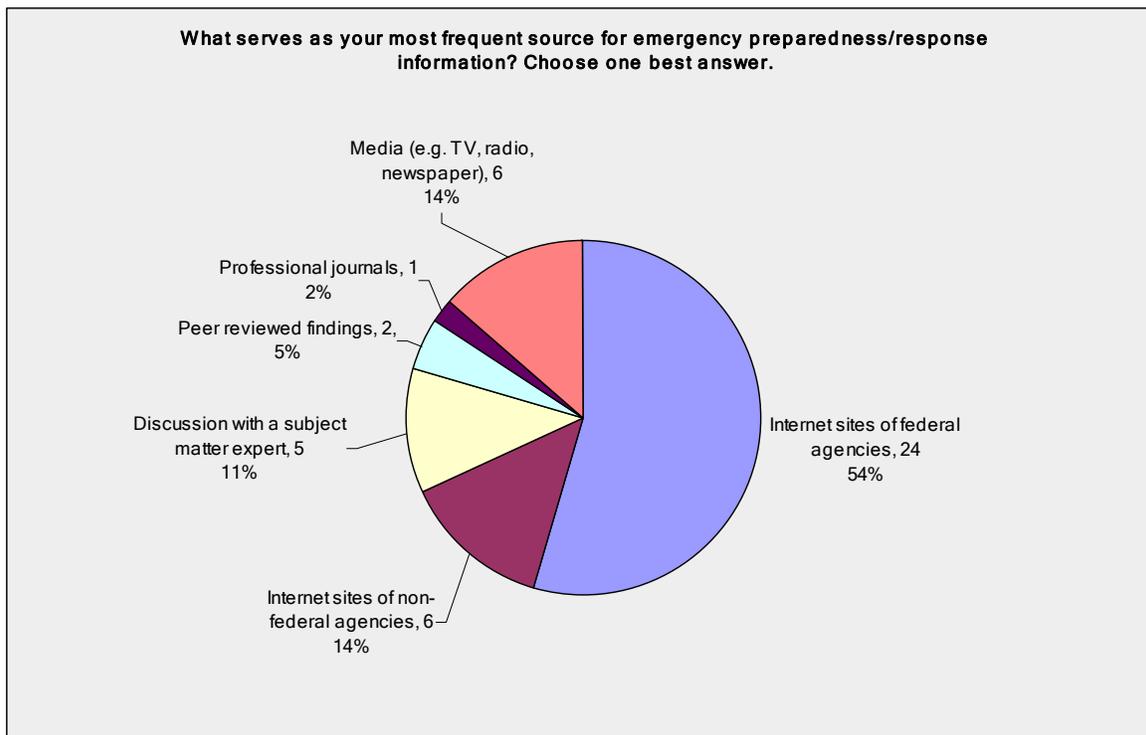
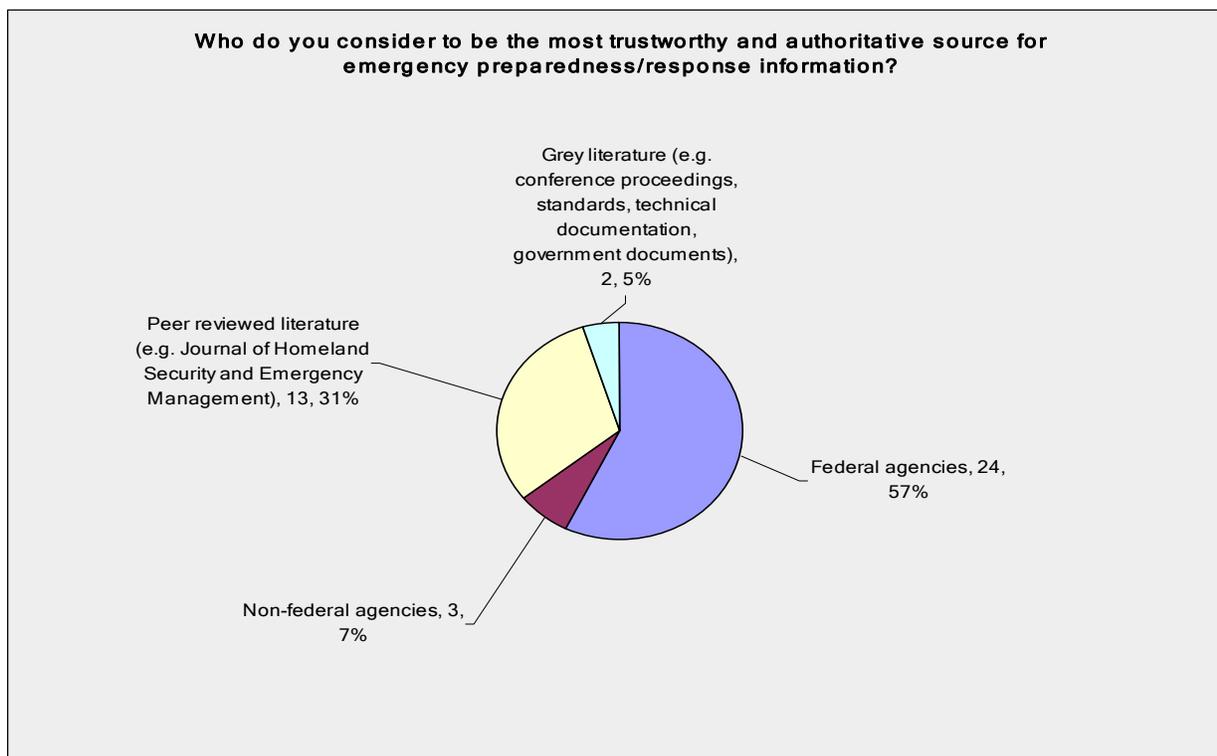


Chart #38



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #39

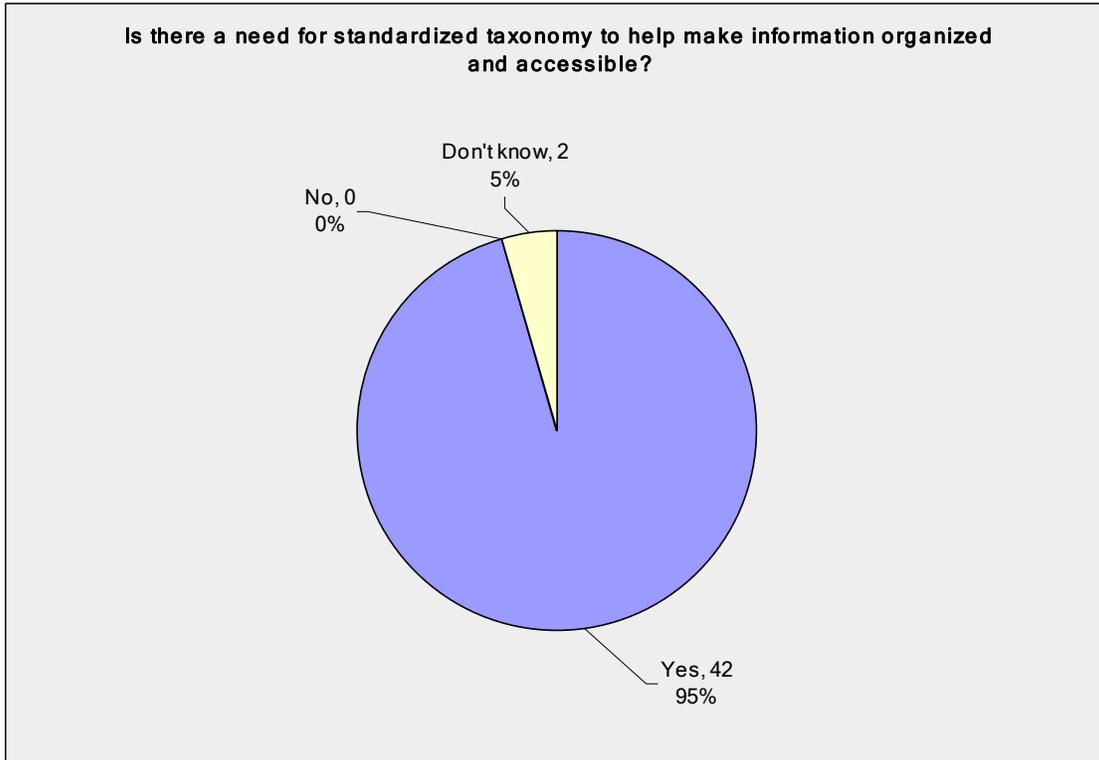
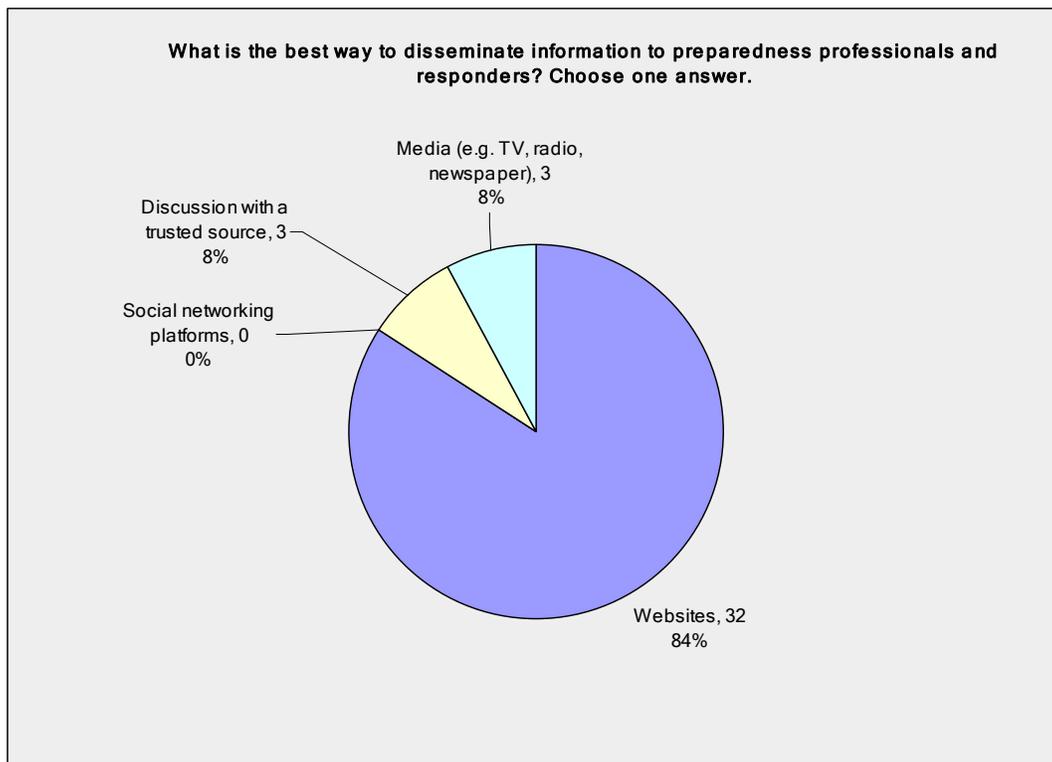
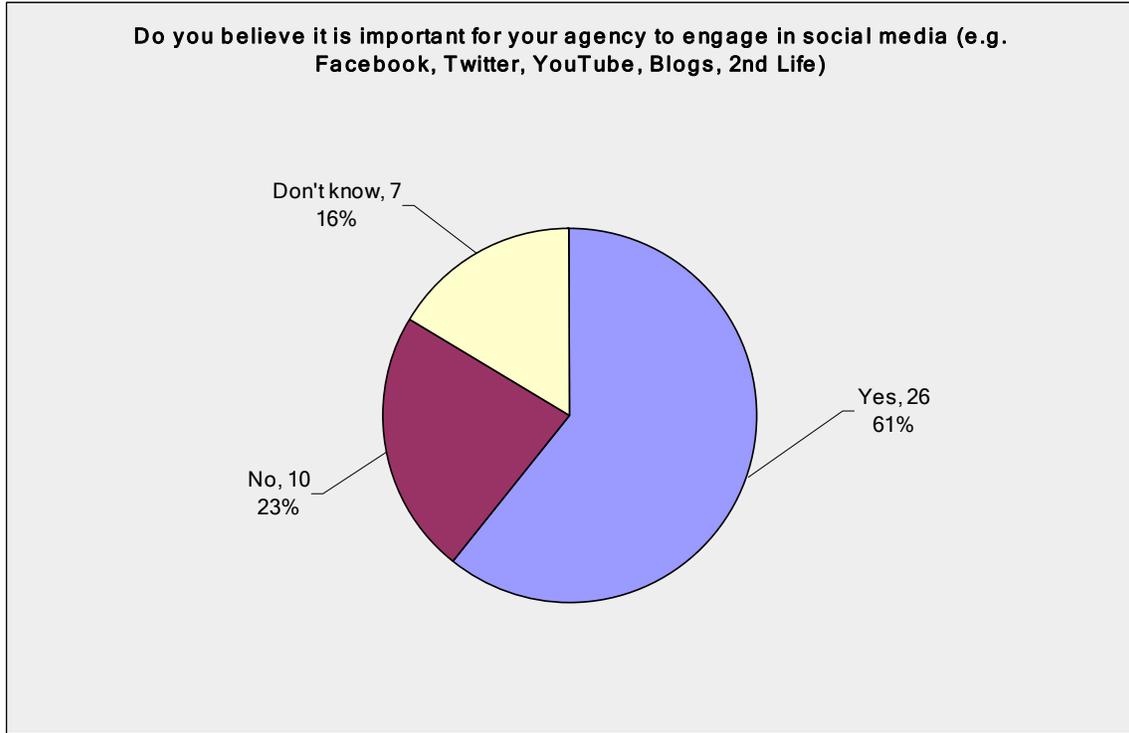


Chart #40



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #41



**PARTICIPANT/ORGANIZATION COMPETENCY ACTIVITY INFORMATION
SHARING FORM**

Chart #42

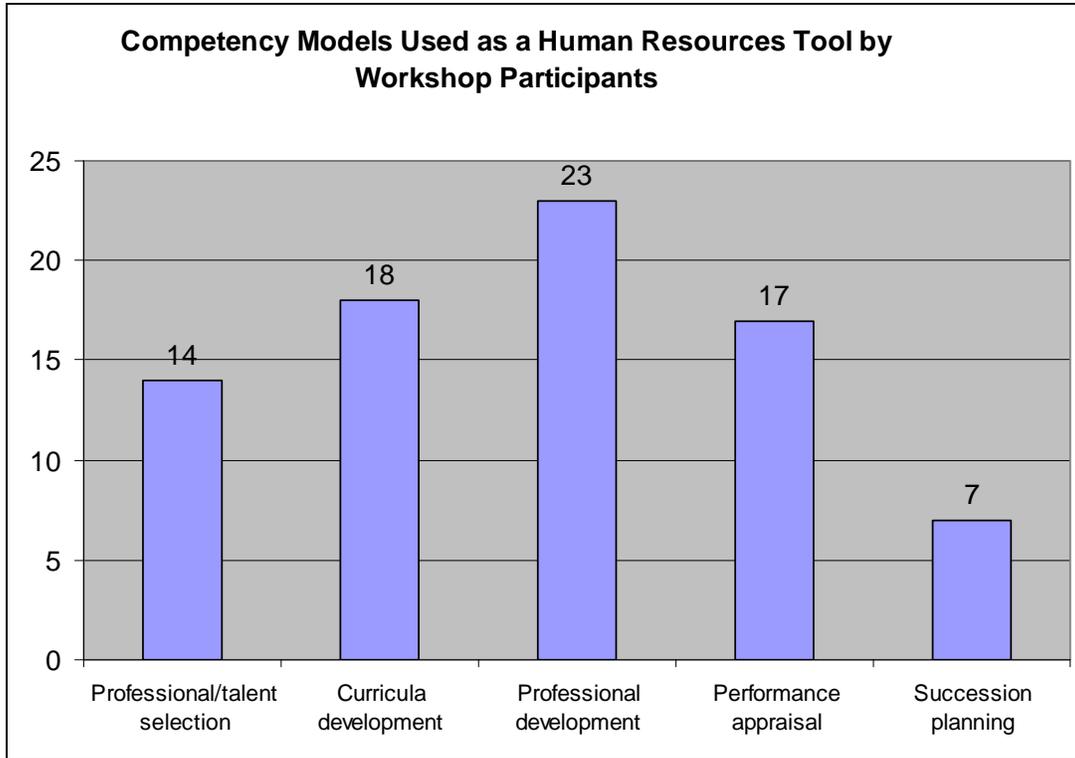


Chart #43



Open-ended Question #1: Please list the top three regulatory bodies that develop the competencies most affecting your organization:

- NAACHO, FEMA, CDC
- JCAHO, State Health Dept, DHHS
- Joint Commission, Foundation of Higher Education for Disaster/Emergency Management
- Joint Commission, Boards, Local Regulators
- DOT, OSHA, DHS
- American PH Association, University Schools of PA, HHS (CDC & ASPR)
- Joint Commission, NFPA, OSHA
- ANA, Clinical Specialist, ENA
- OSHA
- DHS, HHS, Agency Policy
- Federal, State, RRC
- ANA, IAFN, AACN
- ASPH, AMA, ANA
- DoD, US Navy, JCAHO
- NHTSA, DHS, HHS
- Air Force Surgeon General, OSD (Health Affairs), DoD Policy
- FEMA, Dept of Homeland Security, Maryland Emergency Management Agency
- White House, Homeland Security, HHS
- MIEMS, NREMTs, Montgomery County
- CDC, AMA, Nursing Association
- CHS/JC, OSHA, FEMA
- Congress, Executive Branch
- HHS, NRC, OSHA
- FEMA, State Public Health, Mutual Aid
- ASPR/DHHS, DHS
- ACCME, CME
- Joint Chiefs, Sec Def, President/WH

Open-ended Question #2 - What modifications to overall competency development and expectation would most benefit your organization's ability to be compliant with regulations?

- Must be practical and apply to civilians
- Competencies don't equal regulations or requirements as long as these remain in the realm of education only; they will not be carried out in the workforce. It needs to be.
- Identification of one competency and measures to evaluate/validate would be helpful
- Engage private sector and general population
- Nothing will change until employers recognize the value of hiring those with certified competence
- Afford staff time away from their job to attend to the task at hand - Do the competencies required to be compliant and NOT fudge the report of compliance, that I see done on a daily basis on my job
- Funding and reprioritization of missions
- My office is very proactive with developing and assessing competency
- National consensus on competency set(s)
- Funding for EMS / EMS Physicians and Clear competencies resulting in demonstrable capability
- Clear, measurable competency with link to training programs
- Ensure we are NIMS/ICS compliant and certified
- Competencies that inform 1st responder about public health, preparing and becoming comfortable with change to disaster operations
- The standards and competencies seem to be effective in the determination of specific requirements (i.e. NFPA instructing a firefighter to perform search and rescue in a particular manner); some of the more non-specific or random competencies appear to no serve a real purpose except to classify classes
- (sometimes square peg in a round hole)
- Require FEMA to be NIMS compliant
- Standardization of competencies across related disciplines (job and team related)
- Standardization of Taxonomy
- To know and understand needs in educating for compliance, what curricula needs built to support compliance?
- Competencies in workforce safety and info technology (GIS/PUCT)

Open-ended question #3 - What long-term expectations does your organization have for overall competency development for your sector?

- All public health staff is ready and willing to respond to all hazards events
- I'm not sure my organization is even aware of the competencies; They probably won't be until there is some sort of requirement
- Curriculum revision based on competency validation for program value, student recruiting, integration into possible grant streams
- Developing effective education/training plans/exercises/courses
- few
- Competency development and assessment is a core function for my office
- All employees have increased awareness, knowledge and operational skills
- Funding for EMS - 2. Deliverables for defined/specific capabilities - 3. Creating a culture of preparedness for responders
- Develop effective / precise training programs to meet core competencies
- Continued growth
- Our organization is undergoing major re-organization so I am presently not sure
- I can answer this question
- We will be expected to be there on the front lines will we understand and be able to integrate with outside sources
- Our center is not necessarily a competency-setting organization but rather analyzing and consolidating the current ones, as well as using them in curriculum development
- Adaptation of competencies for Disaster Reserve Workforce
- Shared and published - collaboratively based - developed competencies that are regularly reviewed and validated by peer groups and organizations
- Be ready for deployment and be the 'Best' among the first responders
- Standardized core with tailored specialties

Open Ended Question #4: What modifications to overall competency development and expectation would be most beneficial to developing your workforce and providing the best service to the community?

- Tied to training and/or job or organizational requirements and then failure to comply must come with penalties or other methods of enforcement
- Greater awareness of risk/benefit
- Need to focus on both urban and rural needs
- Include USPHS Officers in the design, conduct and delivery of this
- Need to move beyond competency models - (e.g. we are working on developing career mapping tools)
- Hand-on workshop as a team with local community
- Clear, attainable competencies resulting in measurable capabilities able to be practiced for true stakeholders (responders)
- Interagency focus; Better understanding each other's capabilities and how we can integrate our effort
- More incentives to pursue education and training opportunities
- Be more State and Local focused vs. top-down
- Having front line competencies for 1st responders
- Work with education developers/specialists on crafting them, not just the subject matter experts. Have these less cryptic and academic, so that it is not just the institution who understands them, but also the learners and outside agencies who may use them
- Adoption of competency based professional development
- Getting those competencies communicated to the employees and supervisors - making these individuals accountable for building capacity and capabilities
- Funding and Incentives 2. Standard Guidelines with Mandates 3. Clear
- 26 directives from executive branch

SATISFACTION SURVEYS

Chart #44 – Knowledge Gained by Workshop Participation

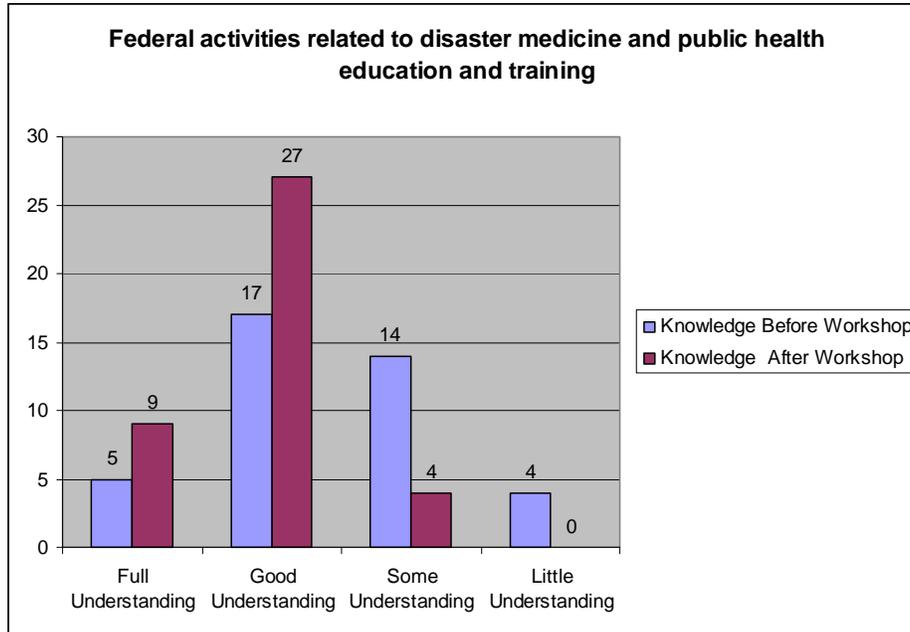


Chart #45 – Knowledge Gained by Workshop Participation

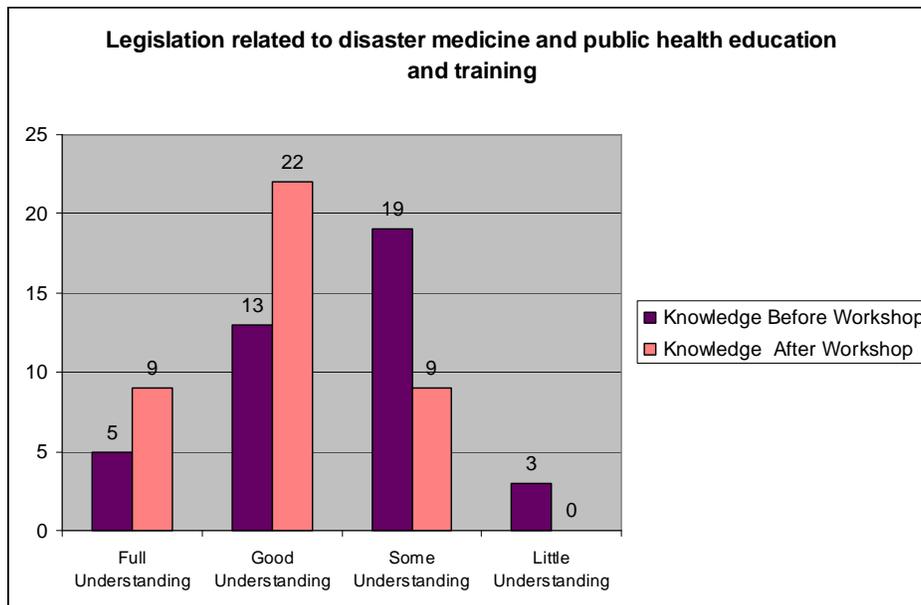
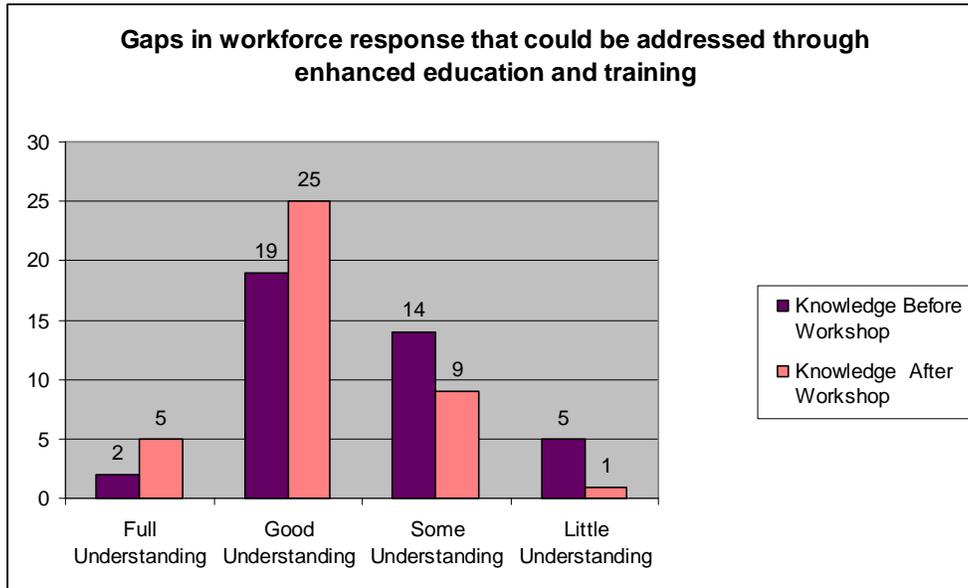
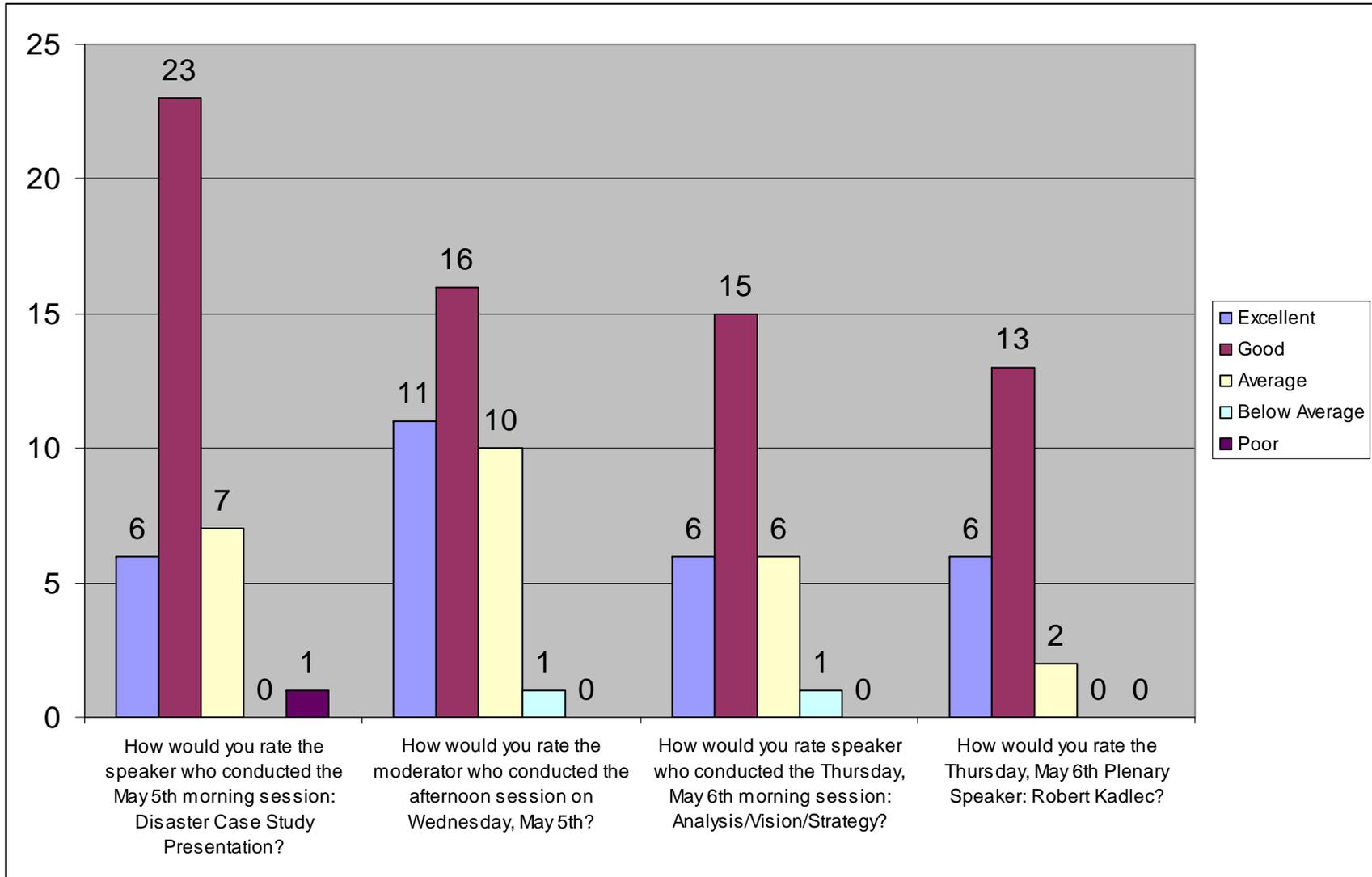


Chart #46 – Knowledge Gained by Workshop Participation



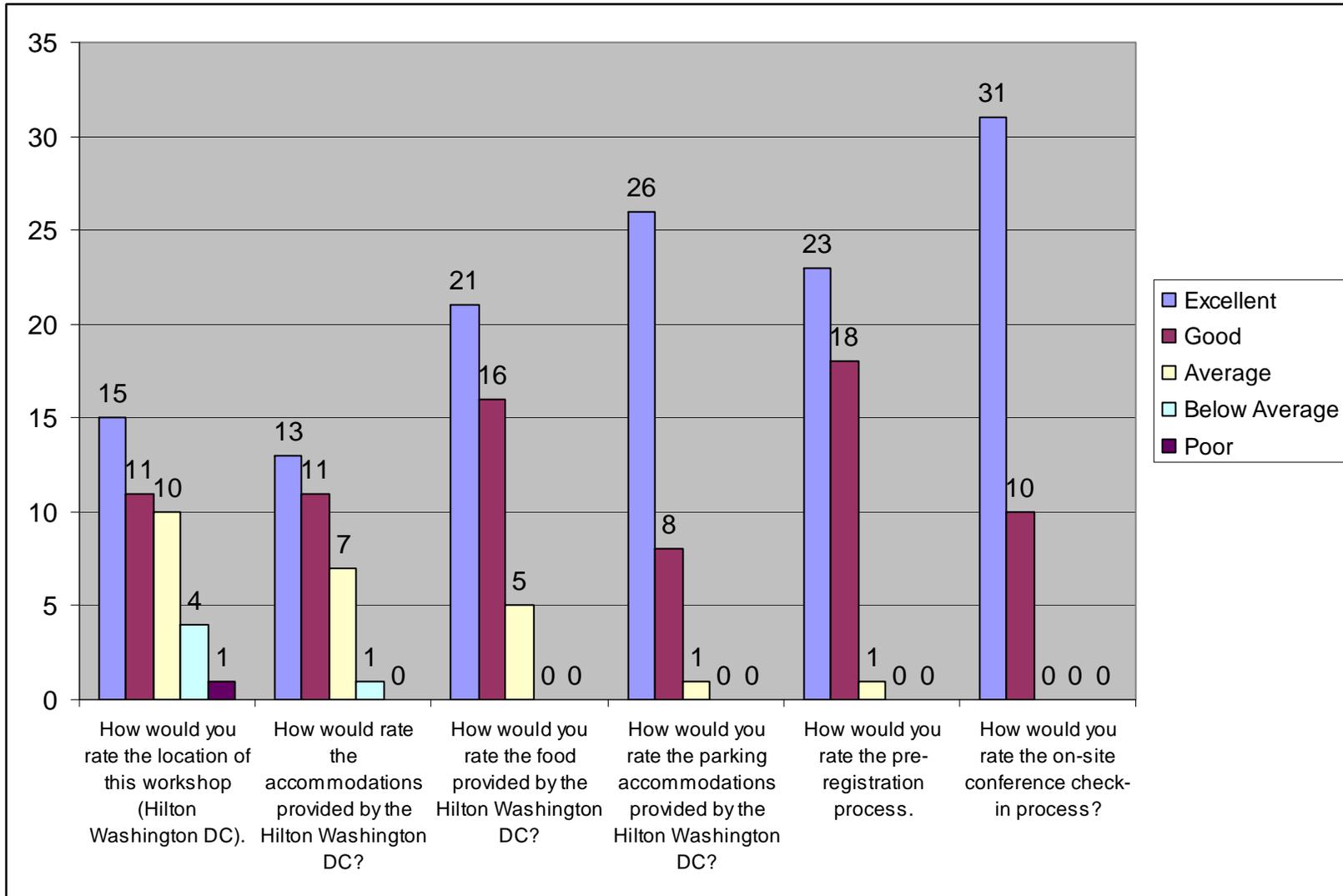
**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #47 – Speaker Evaluation



**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

Chart #48 – Speaker Evaluation



Open-ended question #1 - What did you find most useful about the workshop?

- Federal Activities Brief; Dr. Kaplowitz presentation was comprehensive; Kathleen Miner's presentation in Affective Domain of Professional Education
- There was a nice discussion on both sides of the topics, presented. Gave a good non-biased analysis of the topic
- Q-A sessions
- Networking - More Sharing! Need to get workshops creating products - issues have been identified for years in other forums - get workshop participants into action workshops
- Networking
- Networking, Q&A
- Open dialog genuine commitment to engage and open lines of communication
- Networking, awareness, otherwise needed to be better focused, too diffuse and all over the place
- Usually networking. Info provided.
- Debrief from afternoon breakout sessions
- Review of federal resources and programs
- Networking with participants, idea generator
- networking
- Networking, info on PowerPoint presentations
- Networking and hearing perspectives from various private and public entities
- Discussion during break out sessions, actually everything was well presented
- The summary session
- Networking
- Networking and attendee list with email, would we also, would we also specialty areas of work for attendees all in one - did not have to leave facility for food, etc.
- I did not find it very useful. No new information was provided and not much input from non-federal stakeholders was solicited. Bringing non-federal partners together is great; they need to be utilized more.
- Fed updates
- Federal Agency briefing/updates
- Networking
- Gaining knowledge of various federal agencies role in disaster preparedness/response
- Networking, hearing from federal agencies and understanding better where gaps exist in training and education
- Networking

**Education and Training Needs for Disaster Medicine and Public Health Preparedness:
Building Consensus, Understanding and Capabilities**

- Conversations at the table and during breaks
- Opportunity to meet other colleagues involved in education and training disaster response
- Discussion in afternoon session
- Different groups in the same room
- Gaining knowledge and ideas
- Networking opportunities

Open-ended question #2 - Are there any topics that you would have liked to have been covered, but were not? Please list.

- Community education and part of preparedness and readiness to be self sufficient in first 72 hours before the assistance arrives. Information about Resilience Directorate
- State - Local - Tribal - Territorial needs from training to recovery
- Sharing info across agencies/organizations, etc. Creating a one stop shop for medical/public health entities to get info on available training, lessons learned, etc.
- Core competencies for disaster response - Not a debate over the definition of competencies, but rather - What are the basic knowledge points that all responders need to know
- More directly P/T to educators - may be invitation only? And more directly pts linking TCL to competency in PH preparedness and response as well as recovery
- Cost of doing business; 2. Regionalization; 3. Private sector impacts; 4. Broader inclusion of "workforce" (e.g. EMS, public safety)
- Focus
- Need to include how EMS fits in
- NHSS; How are these efforts linked with what HRSA can fund, etc.?
- I wish Dr. Marcozzi's plenary session went into more detail about the White House / Executive Branch's functioning & role in disaster recovery. There was a lot of overlap with the other speakers
- Competency or capability? When looking at workforce how to measure with some degree of comfort, ability to use knowledge apply skills to do the job
- Prevention/Mitigation
- Does your disaster medicine include animals?
- CoMPASS presentation
- Less discussion on terminology - readiness vs. preparedness, etc. Move ON! Just Semantics
- Crisis standards of care; Vulnerable populations; Use of Social Media in disasters; Cultural competencies as an essential composite of core-competencies

Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities

- How the federal gov't is being inserted into the overall DM plan for this country
- Cross training efforts for employers not normally involved in response; surge workforce development approaches; more "how to use" competencies. Would suggest Microsoft that uses competencies from recruitment to post retirement
- Academia gaps with recommendations for change and integration with gov't and non-gov't; Change perspective of "importance of role" to all jobs are important and leave the title at home and go to best job to mitigate event.; Continue the dialogue on sharing fed and private ___ and training integration.
- How to take all of the competencies and capabilities out there and figure out which ones are really core and which ones actually yield improved disaster response
- Capabilities Workshop
- The federal agencies seem to be a bee-hive of different, but redundant, yet complicated missions. I overheard a fellow participant expressing confusion and suggesting a presentation where one person charts the spaghetti out to complement the federal briefings, what is the connection?
- In the future, how to get funding for conducting 4-8 hour training session for health care providers and key non health care personnel through local hospitals or professional organizations
- Development of strategic plan to achieve the FETIG/NCDMPH's goals
- Panel on what non-government entities are doing at the community level; Recognition on day 1 about how the issues of children and disaster are different for adult populations

Open-ended question #3 - General comments regarding the workshop

- Some of the breakout sessions were griping sessions. If there were more structure to the breakout sessions than the discussions will be more cogent and productive
- It appears to be a number of the old dogs promoting agendas - not a lot of advancement made - I understand that its a 1st meeting but it did not appear to be focused on common goal
- More audience participation a lot of talent in the room that did not speak up
- Get people to sign up for mini sessions or future workshops to get issues off the table and into action - i.e. competencies - credentialing plans/documents
- If there were clear goals for the break out sessions, they were never passed on; It was not clear what the goals of this were; Dr. Kaplowitz's presentation should have been done on Day 1 to me, it set out what should have been the goals of this conference; The breakout sessions should be run by Experienced Emergency Managers with clear mission objectives
- Overall average, fell below expectations; Speakers were good in presentation (without lunch day 1): presentation overworked and information mostly interesting, but much of the time NOT useful for educators/planners engaged in curriculum planning.; Were the speakers the best fit for the conference title?; Good format mix: panel speaker breakouts, pace was ideal; Confusing: Medical model wave throughout the conference yet foundation reference was to PAHPAs public health workforce; Breakout session (among conversations with attendees) - not clear (useful) how the sessions related to conference title - and surveys didn't allow variety in opinions; Discussion of CoMPASS, TRAILS, etc. Open-source - Misplaced. If important should have been raised in different venue other than Q&A; Fed models, workshops and planning may not be well known/understood by state-locals.
- While it is great to catalog training (need the good housekeeping stamp of approval, anyone can self-proclaim expertise) - its not particularly helpful if it isn't good or if it doesn't support improving competencies.; There should be core competencies across categories - (everyone needs to know ICS) and category specific competencies - Nurses need to know
- Excellent Job; Great Start; Sincere and Open Dialogue
- Focus more too much unrelated material and discussion - not relevant to training and education
- Workshop good, Great Location (5 minutes from home)
- Lots of focus on statements (Fed Gov't should do XYZ". I'm interested in what others can lead/do/organize. Is it really a federal gov't role in each of these suggestions? Is Fed Gov't the only option? Does it make sense? Particularly if some groups want to provide input...its okay for them to take on roles. What about private sector, NGOs, credentialing, accreditation, academia, etc. or a partnership of above to lead? Then the USG can be a
- Participant. Not clear what "T&E" we are talking about or who audience is.



TAB 2

After Action Report Workshop #2:

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: *A National Consultation Meeting*

AFTER ACTION REPORT

FY2009 TCN 09238

Workshop 2

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response:

A National Consultation Meeting



September 22, 2010 • Logistic Management Institute, McLean, VA

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation.

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FIGURES

**Figure 1: FRAMEWORK FOR DEVELOPING WORKFORCE COMPETENCIES FOR PUBLIC HEALTH AND
MEDICAL DISASTERS**

APPENDICES

- Appendix 1: WORKSHOP AGENDA**
- Appendix 2: FACILITATOR BIOGRAPHIES**
- Appendix 3: PARTICIPANT SURVEY TOOLS**
- Appendix 4: PARTICIPANT SURVEY RESULTS**
- Appendix 5: BREAK-OUT SESSIONS REPORT-OUT TEMPLATE**
- Appendix 6: CAPABILITIES CROSS-WALK**

INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) program of the Yale New Haven Center for Emergency Preparedness and Disaster Response under TCN 09238 funded by the United States Northern Command (USNORTHCOM). This task requires conduct of a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence; (2) identify needs and explore strategies to fill education and training gaps; and (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the second of the six workshops. It was sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

HANDLING INSTRUCTIONS

1. The title of this document is FY'09 TCN 09238 Workshop #2 Education and Training Needs for Disaster Medicine and Public Health Preparedness Building Consensus, Understanding and Capabilities After Action Report
2. For additional information, please consult the following points of contact:

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EXECUTIVE SUMMARY

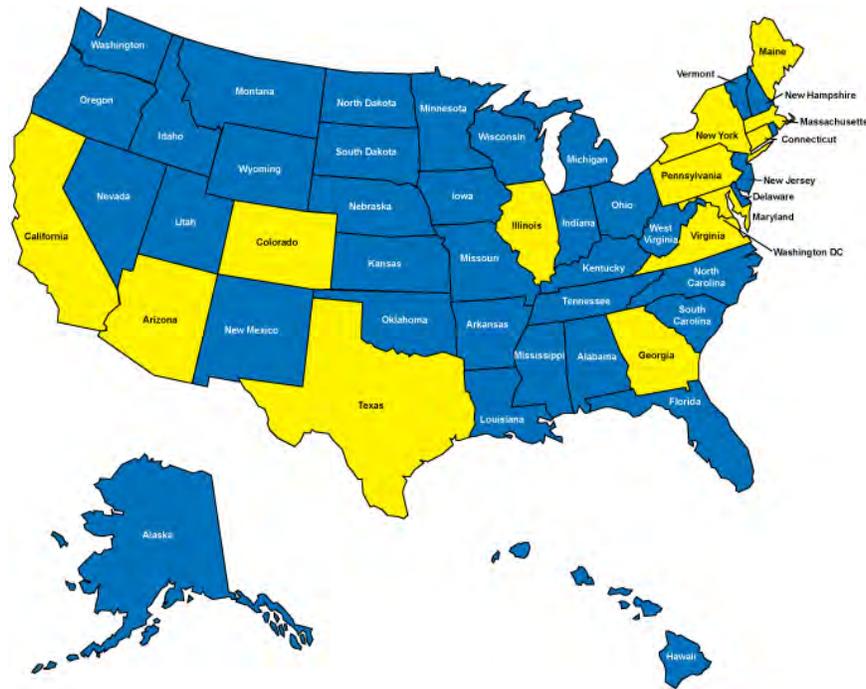
OVERVIEW

Participants in workshop #1 shared their concerns about the financial, organizational and time constraints associated with attending a conference longer than one day in length. Workshop #2 was designed as a one-day intensive scenario-based consultation meeting bringing together representatives of each of the 20 healthcare professions defined as part of the federal Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) to: (1) identify work underway by federal agencies and professional organizations to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies; (2) review the capabilities matrix to identify potential gaps and recommend additions; (3) recommend specific competencies to achieve selected capabilities; and (4) identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies.

Meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to 50 participants, setting up the physical space to support face-to-face interaction and breaking participants out into smaller groups for more focused discussions. The meeting began with a 1-hour introduction that included presentation of a disaster scenario and focused on setting the foundation for the work of the day. Participants spent the majority of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion among the meeting participants. The complete agenda can be found in [Appendix 1](#).

ATTENDANCE

The meeting was attended by 47 federal and non-federal representatives of the ESAR-VHP professions and representatives of the public health discipline. Approximately 40% of those present had attended the first workshop while several others were referred or heard about the workshop from someone who attended the first workshop. Attendees represented 13 states and the District of Columbia.



SUMMARY OF PARTICIPANT FEEDBACK

The majority of participants (65%) felt the scenario-based discussion was an effective approach to identifying specific core competencies to achieve the targeted capabilities and to identifying their associated barriers (85%). Participants identified potential gaps in capabilities associated with a lack of alignment across the multiple organizations, agencies and groups involved in the creation of competencies. Some of these include occupational safety and health, operational risk management, situational awareness and application of legal principles.

All respondents felt the current workshop attendance was diverse, representative of multiple disciplines and inclusive, validating that the right people were in the room. Participants felt the interactive format of the workshop facilitated the sharing of multiple ideas while simultaneously focusing the group to produce a single set of outputs reflective of the collaboration and networking that took place throughout the day. Additionally, participants felt the facilities at LMI were excellent and generally conducive to the work of the meeting. They also felt the facilitators worked hard to encourage and support dialogue and overall did an excellent job. A full description of participant survey results as well as a summary of the salient discussions conducted within each breakout session may be found in [Appendix 4](#).

WORKSHOP OVERVIEW

Workshop Title:

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

The topic and format for workshop #2 was developed in collaboration with the FETIG after a review of the findings from workshop #1.

Location and Date:

LMI Corporate Headquarters, McLean, Virginia. LMI generously offered the use of their modern, conveniently located facilities in support of the meeting on September 22, 2010.

Workshop Format:

Participants in workshop #1 shared their concerns about the financial, organizational and time constraints associated with attending a conference longer than one day in length. Workshop #2 was designed as a one-day intensive scenario-based consultation meeting bringing together representatives of each of the 20 healthcare professions defined as part of the federal Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) to (1) identify work underway by federal agencies and professional organizations to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies, (2) review the capabilities matrix to identify potential gaps and recommend additions, (3) recommend specific competencies to achieve selected capabilities and (4) identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies.

Meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to 50 participants, setting up the physical space to support face-to-face interaction and breaking participants out into smaller groups for more focused discussions. The meeting began with a 1-hour introduction that included presentation of a disaster scenario and focused on setting the foundation for the work of the day. Participants spent the majority of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion among the meeting participants.

The original intent was to follow the 1-day intensive consultation meeting with a wiki to expand the dialogue begun in Workshop #2 to a broader audience that would allow us to more thoroughly explore the topics discussed. Based in part on the success of the workshop and the short time period between this workshop and the workshop planned for November, the decision was made to cancel the wiki and continue the discussion during the November workshop.

Targeted Audience: Members of the following ESAR-VHP professions were targeted.

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professionals	Diagnostic Medical Sonographers	Medical and Clinical Laboratory Technologists	Physician Assistants
Cardiovascular Technologists and Technicians	Emergency Medical Technicians and Paramedics	Pharmacists	RNs
Veterinarians	Respiratory Therapists	Radiologic Technologists and Technicians	

Meeting Objectives:

- Through a scenario-based workshop, elicit perspectives and recommendations from ESAR-VHP professionals to identify work underway by federal agencies and professional organizations to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies
- Review the capabilities matrix to identify potential gaps and recommend additions
- Through a facilitated discussion, recommend specific competencies to achieve selected capabilities
- Identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies

Desired Outputs:

- Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Participating Organizations:

This workshop was sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

A total of 47 attendees came from a diverse cross-section of the medical and public health community that included representatives from:

- Federal, state and local government agencies and institutions
- Accredited academic institutions
- Private sector entities involved in accreditation/competency activities
- Practitioners in the field

BACKGROUND

The overarching mission of the ICMDDMR Project is to enhance the ability to develop integrated civilian/military approaches to large-scale disaster preparedness and response to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM
- Developing models for education and training which can be modified, replicated and made scalable for the civilian/military health delivery workforce
- Determining evaluation modalities for education and training programs implemented.
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs.

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- Integrating civilian/military emergency preparedness strategies for medical and public health delivery

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations in better preparing to work together during a disaster, Homeland Security Presidential Directive 21: Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and public health and the establishing of the National Center for Disaster Medicine and Public Health (NCDMPH) to lead those coordination efforts. The Federal Education and Training Interagency Group (FETIG) serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

ICMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps, and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions

The proposed workshop development plan builds on the work done by the NCDMPH in its inaugural workshop entitled, “A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health”. During this initial meeting, the NCDMPH

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performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition, the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

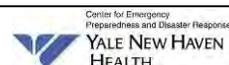
For TCN 09238, an external planning committee made up of representatives from the FETIG, the NCDMPH and representatives from YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of the TCN. This integration of civilian, military and federal partners allows us to create workshops and other outputs that are meaningful to all sectors.

Our first workshop was designed to bring together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration

The outputs of the initial workshop and feedback from the FETIG were used to design the structure and content of the remaining workshops to ensure that the objectives outlined in the SOW for this task are met. The structure and content of each successive workshop will also be re-evaluated in light of the results of the preceding workshop. Additional workshops will occur at intervals of approximately 3 months as outlined in the schedule below:

Workshop #	Date	Location	Topic	Workshop #
2010 Workshops				
1	May 5-6, 2010	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness Building Consensus, Understanding and Capabilities	
2	Sept. 22, 2010	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting	
3	Nov. 17, 2010	McLean, VA	Competencies for Specific Disciplines: A National Dialogue Between Academia and Practicing Professionals	



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2011 Workshops			
4	Feb./Mar. 2011	TBD	Organizational Competencies
5	May 2011	TBD	TBD
6	July/Aug. 2011	TBD	TBD

The workshops will be held in the National Capital Region, Colorado Springs, Colorado, or New Haven, Connecticut, depending on the topic and specific audience targeted. At the conclusion of all six workshops, a comprehensive final report will be developed that addresses key findings relative to the stated objectives of the TCN.

WORKSHOP STRUCTURE

The workshop took place over 1 day and consisted of plenary sessions, a working lunch and 3 concurrent breakout sessions. The plenary sessions focused on providing context and background information to support the breakout sessions. Each breakout session consisted of a facilitated scenario-based discussion (see [Appendix 2](#) for Facilitator Biographies) that addressed 1-2 core capabilities selected from a cross-walk of capabilities ([Appendix 6](#)) available from several organizations, followed by identifying potential core competencies to fulfill those capabilities. The reporting template shown in [Appendix 5](#) was utilized to capture the outcomes of each breakout group’s discussion.

The breakout sessions were followed by a structured group report-out and closing remarks encouraging the group to consider the way ahead as we continue to explore issues related to the education and training needs for disaster medicine and public health preparedness. The primary goal of this format was to provide interactive informational sessions that would serve as the foundation for supporting dialogue and sharing of ideas among key stakeholders.

WORKSHOP EVALUATION

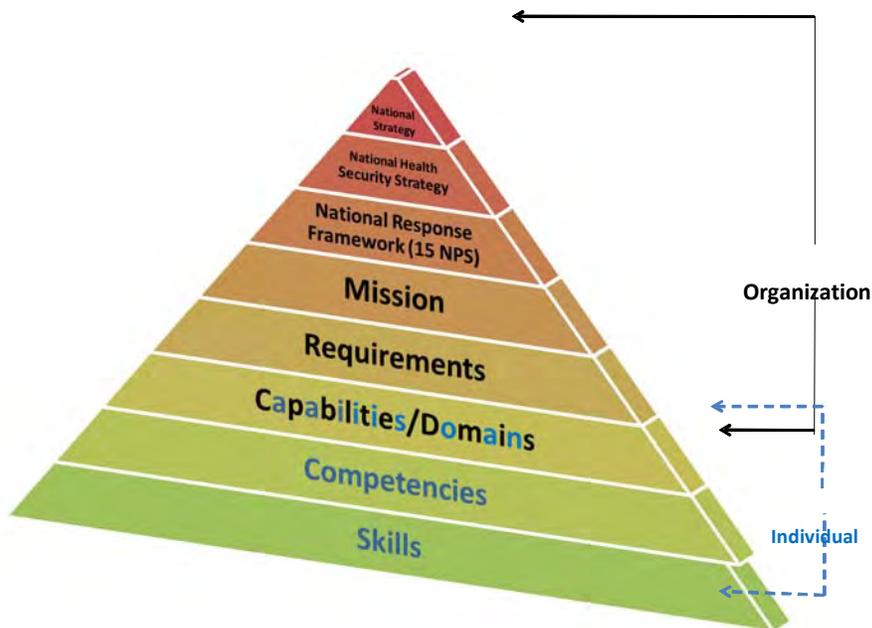
Evaluators were assigned to each breakout session to take notes and record key findings. At the end of the day, a specific evaluation questionnaire was administered ([Appendix 3](#)) to all participants. The questionnaire results are provided in [Appendix 4](#).

WORKSHOP KEY OBJECTIVES AND SUMMARY OF RESULTS

OBJECTIVE 1: FRAMEWORK FOR DEVELOPING WORKFORCE COMPETENCIES

A key output of the meeting was achievement of consensus that the framework illustrated below is the appropriate framework for identification and validation of core capabilities and competencies for the workforce responsible for preparedness and response to public health and medical disasters.

**Figure 1:
Framework for Developing Work Force Competencies for Public Health and Medical Disasters**



McGovern, J. and Smith, S. 2010

The National Security Strategy sits at the pinnacle of the framework and outlines actions to keep the country safe and prosperous. The framework also recognizes that on a national level the National Health Security Strategy and the National Response Framework are key documents that define the organizational level approach to a medical or public health disaster. From the framework, missions are established which require response capabilities (or domains) at the organization and individual level. For individuals to establish these specified proficiencies, competencies are developed. Each competency leads to a specific skill to enable task completion.

A recommendation was made to reflect the Homeland Security Presidential Directives and requirements from private and local government organizations as well within the upper tiers of the framework. This recommendation will be integrated into future versions of the framework illustrated above.

OBJECTIVE 2: DRAFT A SET OF CORE COMPETENCIES AND A LIST OF PERCEIVED BARRIERS TO ATTAINING CORE COMPETENCIES

A draft set of core competencies for the preparedness, response and recovery scenario phases was developed for the following capabilities:

- Planning
- Communications
- Responder safety and health
- Patient evacuation
- Disease surveillance

Although the format of the competencies produced by the breakout groups does not consistently use accepted terminology and language, they reflect an understanding of the core tasks that cross over disciplines and are required in a medical or public health disaster. The groups also began but did not complete the identification of barriers to achievement of competencies and their associated solutions.

OBJECTIVE 3: REVIEW THE CAPABILITIES MATRIX TO IDENTIFY POTENTIAL GAPS AND RECOMMENDED ACTIONS

A capabilities matrix which compares capabilities from a cross-section of military and civilian medical and public health agencies ([Appendix 6](#)) was reviewed by participants. Participants decided that the following items are missing and should be added:

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Sources of Additional Capabilities:	Capabilities:
<ul style="list-style-type: none">• ESF#11 capabilities• Veterans Administration capabilities• Force Health Protection/Deployment Health• American Hospital Association• The Joint Commission• Public Health Accreditation Board	<ul style="list-style-type: none">• Structure capabilities• Establishment of core/family resource centers• Occupational safety and health• Operational risk management• Situational awareness• Establishment of scene safety/security• Development of evaluation criteria• Application and validation of legal and external principles• Knowledge of principles to build effective functional response teams

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

In response to both positive participant feedback and the quality of competency data collected via the breakout sessions, meeting planners are advised to conduct subsequent meetings according to the framework and processes implemented for this meeting.

In addition and in response to the participant survey question, “*Are there any topics that should have been covered, but were not? Please list.*”, three suggestions were provided and should be considered for future meetings:

- Include a discussion of how core competencies can be integrated into the accreditation process
- Some of the group discussions were too hospital-centric. Next time, ensure representation across multiple care settings
- Provide clarity concerning the level of competencies under consideration: core/intro, intermediate or advanced

CONCLUSION

This workshop was successful at achieving the majority of its objectives and desired outputs and has positively contributed to the achievement of the overall statement of work for this TCN. We will use the recommendations and participant feedback to design the 3rd workshop with a focus on creating a process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event.

APPENDIX 1

AGENDA

**Building a Framework for the Development of Core Capabilities and Competencies for
Medical Disaster Preparedness and Response: A National Consultation Meeting**

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

September 22, 2010 • LMI Corporate Headquarters, McLean, Virginia

Agenda: Wednesday, September 22, 2010			
7:00 am- 8:00 am	Registration and Networking Breakfast LOCATION: CONFERENCE FOYER 2 ND FLOOR		
8:00 am- 8:30 am	Introduction and Meeting Overview <i>Rebecca Cohen, MPH</i> – Yale New Haven Health Center for Emergency Preparedness and Disaster Response Welcome and Opening Remarks <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command LOCATION: MAIN CONFERENCE ROOM (MCC1)		
8:30 am- 9:30 am	Review and Discussion of Capabilities Matrix <i>Stewart D. Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: MAIN CONFERENCE ROOM (MCC1)		
9:30 am- 9:45 am	Break and Morning Refreshments LOCATION: CONFERENCE FOYER 2 ND FLOOR		
9:45 am- 10:15 am	Introduction of Scenario-Based Discussion <i>Stewart D. Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: MAIN CONFERENCE ROOM (MCC1)		
10:15 am- 1:45 pm <i>Includes working lunch and break as needed</i>	Scenario Based Discussion		
	Breakout Session A FACILITATOR: <i>Jim Kupel</i> MAIN CONFERENCE ROOM (MCC1)	Breakout Session B FACILITATOR: <i>Julie Kipers</i> BREAKOUT ROOM B (MCC2)	Breakout Session C FACILITATOR: <i>Stewart D. Smith</i> BREAKOUT ROOM C (MCC3)
1:45 pm- 2:15 pm	Breakout Session Group Report Out Preparation		

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September 22, 2010 • LMI Corporate Headquarters, McLean, Virginia

Agenda: Wednesday, September 22, 2010 CONTINUED	
2:15 pm- 2:30 pm	Break
2:30 pm- 4:15 pm	<p>Breakout Session Report <i>Elaine Forte, BS, MT (ASCP)</i> – Senior Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>
4:15 pm – 4:30 pm	Break
4:30 pm- 5:00 pm	<p>Closing Remarks/The Way Ahead LOCATION: MAIN CONFERENCE ROOM (MCC1)</p> <p><i>Kenneth Schor, DO, MPH</i> – Acting Director,, National Center for Disaster Medicine and Public Health</p>

APPENDIX 2

FACILITATOR BIOGRAPHIES

Julie Kipers, PMP

Ms. Kipers is a Senior Consultant for LMI. She has 20 years of experience working with Department of Defense (DoD) resource analysis, requirements analysis, and technology initiatives. While at LMI, she has participated in a variety of studies and analysis tasks for clients, such as the Occupational Safety and Health Administration (OSHA), the Defense Safety Oversight Council (DSOC), the Defense Logistics Agency (DLA), the Department of Education, the U.S. Coast Guard (USCG), , and the U.S. Army Corps of Engineers (USACE). Ms. Kipers, a project management professional, has supported the Assistant Secretary of Defense (Health Affairs) on several projects including the Defense Critical Infrastructure Program. She is a trained facilitator that is experienced in eliciting decision criteria and reaching consensus within groups. She has led groups through strategic planning, resource decisions, framework developments, and vendor selections

Jim Kupel

Jim Kupel is the managing principal and co-founder of Crescendo Consulting Group. Currently, he also serves as the Program Manager for the Yale New Haven Health System - Center for Healthcare Solutions' Background Check Division. With more than 25 years of consulting experience, Jim has successfully managed a full range of assignments in program management, enterprise and business-line development, strategic planning, research, consumer engagement leadership and development, social media, facilitation, and public affairs. He is skilled at presenting technical and abstract concepts in a clear, concise, and detailed manner. He has conducted hundreds of measurably successful engagements for clients in the public, non-profit and private sectors. Clients with multi-disciplinary programs that would otherwise require a diverse group of experts often select Jim for his encompassing subject-matter and industry knowledge.

As a nationally requested speaker, Jim's presentations have focused on planning, marketing, customer relationship management, strategy, market research, and collaboration to groups both large and small. The National Business Coalition on Health, American Society for Health Care Marketing, Institute of Management Accountants, and the annual meeting of the American Marketing Association's Health Care Marketing Division are among the groups to whom he has spoken.

Jim was co-founder and president of Commonwealth Marketing and Development. He also was director of the Growth Management Consulting Division at Baker Newman & Noyes, one of the largest professional services firms in New England (with historical roots in KPMG Peat Marwick and Ernst & Young).

He has written numerous articles and two books and has been a columnist for Maine's largest daily paper, the **Portland Press Herald**. He has a BA in philosophy and English from the Honors College of the University of Oregon. Currently, he is on the board of directors from Camp Ketcha.

Stewart Smith, MPH, MA, FACCP

Stewart Smith provides direct support to Yale New Haven's Center for Emergency Preparedness and Disaster Response as Program Manager for Department of Defense

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activities to include the National Center for Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR).

Stewart is the Founder, President and Chief Executive Officer of Emergency Preparedness and Response International, LLC (EP&R International). A retired Navy Commander, Medical Service Corps Officer, his previous military work history spans over 25 years of progressive assignments that includes Chief of the Joint Regional Medical Plans and Operations Division for the North American Aerospace Defense Command and the United States Northern Command (NORAD-USNORTHCOM), Surgeons Directorate; Director of International Health Operations Policy, Homeland Defense, and Contingency Planning Policy for the Assistant Secretary of Defense for Health Affairs; Branch Chief for the Joint Staff, Health Services Support Division; and Branch Head for the Deployable Medical Systems, Office of the Chief of Naval Operations, Medical Plans and Policy (OPNAV-N931).

Stewart holds graduate degrees in Public Health Management and Policy from the Yale School of Medicine, Department of Public Health and Epidemiology; and the Naval War College in National Security and Strategic Studies.

He is the co-founder of and immediate past President to the American College of Contingency Planners (ACCP). His particular areas of interest and expertise include strategic medical planning; domestic consequence management operations, the National Disaster Medical System (NDMS), and the National Response Framework (NRF) with a focus on complex emergencies and calamitous events (including medical operations in the WMD/asymmetrical environment); and finally, international Weapons of Mass Destruction medical countermeasures policy. Stewart was selected as the first American to chair the North Atlantic Treaty Organization's (NATO's) Biomedical Defense Advisory Committee (BIOMEDAC); holding that appointment from 2003-2005 while assigned to the Secretary of Defense and USNORTHCOM staffs.

APPENDIX 3

PARTICIPANT SURVEY TOOLS

**Building a Framework for the Development of Core Capabilities and Competencies for
Medical Disaster Preparedness and Response: A National Consultation Meeting**

Thank you for taking the time to participate in this evaluation. Your comments will enable us to better plan and execute future meetings and tailor them to meet your needs.

1. How do you rate (in terms of delivery of material, knowledge of material and discussion facilitation) the speaker who conducted the morning session: **Review and Discussion of Capabilities Matrix?**

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

Comments

2. How do you rate (in terms of delivery of material, knowledge of material and discussion facilitation) the facilitator who conducted the afternoon breakout session: **Scenario Based Discussion?** *Please circle appropriate name.*

Jim Kupel Julie Kipers Stew Smith

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

Comments

3. How do you rate the effectiveness of the Scenario Based Discussion as an approach to identifying specific core competencies to achieve the target capabilities?

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

Comments

**Building a Framework for the Development of Core Capabilities and Competencies for
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4. How do you rate the effectiveness of the Scenario Based Discussion as an approach to identifying barriers to achievement of competencies and capabilities?

- Excellent
- Good
- Average
- Below Average
- Poor

Comments

5. HOW DO YOU RATE THE REPRESENTATIVENESS OF THE MEETING PARTICIPANTS (THE RIGHT PEOPLE IN TERMS OF LEVEL AND MIX OF DISCIPLINES)?

- Excellent
- Good
- Average
- Below Average
- Poor

Comments

6. Is your organization using competencies to guide your education and training?

- Yes
- No
- Don't Know

Comments

7. Who should be developing core competencies (mark all that apply) :

- Federal agencies
 - Academia
 - Professional associations
 - Accrediting bodies
 - State/Local governments
 - All of the above
-

**Building a Framework for the Development of Core Capabilities and Competencies for
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Don't Know

Comments

8. **Please respond to the following statement:** *It is more appropriate to develop discipline-specific competencies than it is to share core competencies across many disciplines.*

Strongly Agree

Agree

Disagree

Strongly Disagree

Don't Know

Comments

9. **Please respond to the following statement:** *I am satisfied with the core competency effort in disaster medicine and public health.*

Strongly Agree

Agree

Disagree

Strongly Disagree

Don't Know

Comments

10. What did you find most useful about the national consultation meeting?

11. Are there any topics that should have been covered, but were not? Please list.

The following questions address the location and facilities of the workshop.

12. **Please rate the location of this meeting (LMI, McLean, VA).**

Excellent

Good

Average

Below Average

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Poor

13. Please rate the food.

Excellent

Good

Average

Below Average

Poor

14. Please rate the parking accommodations.

Excellent

Good

Average

Below Average

Poor

15. Please rate the pre-registration process.

Excellent

Good

Average

Below Average

Poor

16. Please rate the on-site meeting check-in process.

Excellent

Good

Average

Below Average

Poor

APPENDIX 4

PARTICIPANT SURVEY RESULTS

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

OVERVIEW

This evaluation was designed and conducted to measure the meeting’s achievement of the following objectives and desired outputs:

- Objective 1: Through a scenario-based workshop, elicit perspectives and recommendations from ESAR-VHP professionals to identify work underway by federal agencies and professional organizations to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies.
- Objective 2: Review the capabilities matrix to identify potential gaps and recommend additions.
- Objective 3: Through a facilitated discussion, recommend specific competencies to achieve selected capabilities.
- Objective 4: Identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies.

- Output 1:* Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event
- Output 2:* Process for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event
- Output 3:* Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- Output 4:* List of perceived barriers to attaining core capabilities and competencies
- Output 5:* List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Demonstration of these outputs is provided in the narrative of this document. The outputs provide a measurement of the meeting’s attainment of the four objectives as follows:

Output	Objectives Demonstrating Output
1	1, 2, 3
2	1, 2, 3
3	3
4	4
5	3

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SECTION 1

Output 1 - Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event

Output 2 - Process for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event

Output 5 - List of common core capabilities and potential gaps identified for ESAR-VHP professionals

These outputs were developed during the meeting as demonstrated by data collected via the Participant Evaluation Survey. Charts #1 and #2 illustrate that 65% and 85% of participants, respectively, had a positive view of the efficacy of the scenario-based discussion.

Chart 1

How do you rate the effectiveness of the Scenario-Based Discussion as an approach to identifying specific core competencies to achieve the target capabilities?

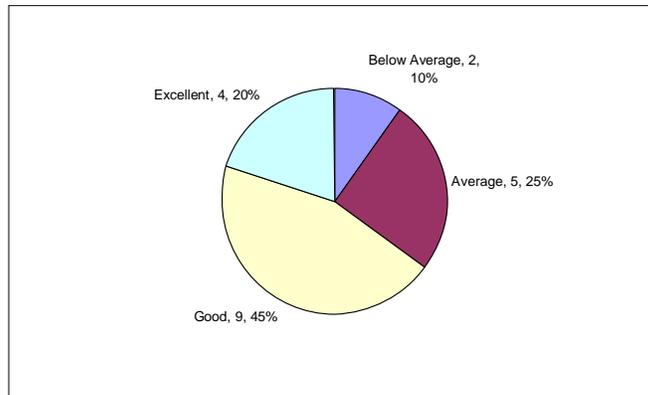
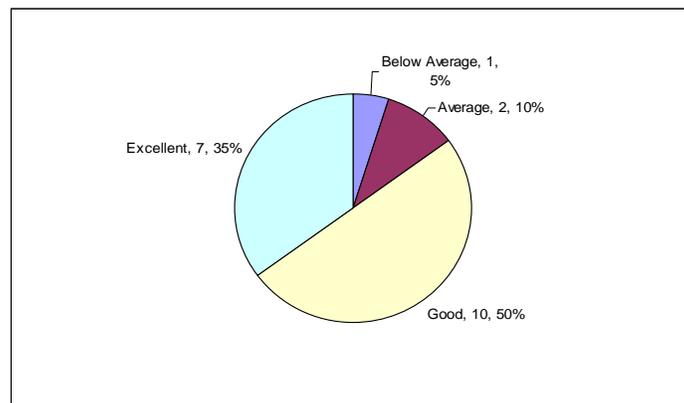


Chart 2

How do you rate the effectiveness of the Scenario-Based Discussion as an approach to identifying barriers to achievement of competencies and capabilities?



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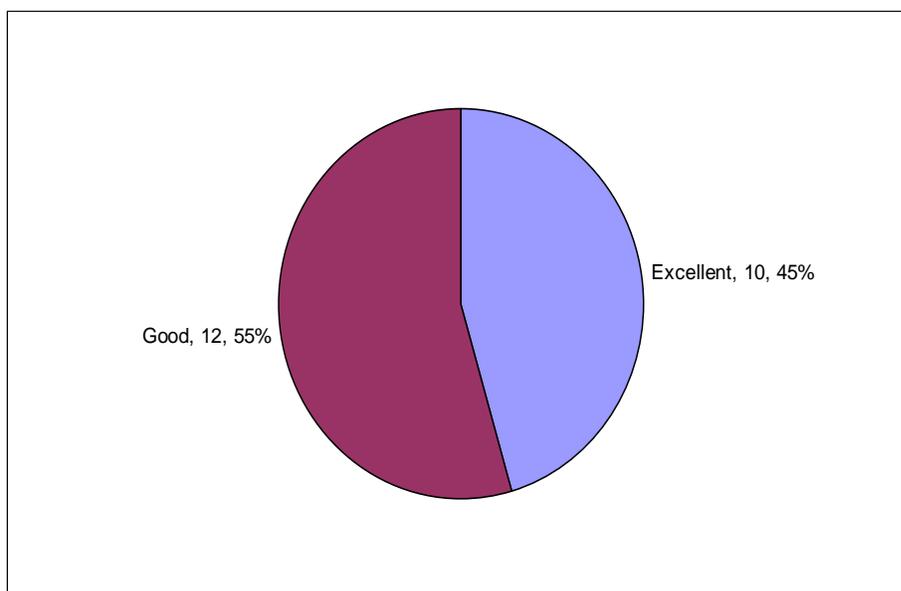
In demonstration of potential gaps in capabilities (Output #5), participants conveyed that meeting planners should consider adding the following capabilities to the matrix:

- ESF#11 capabilities
- VA capabilities
- Structure capabilities
- Establishment of core/family resource centers
- FHP/Deployment health
- Occupational safety and health
- Operational risk management
- Situational awareness
- Establishment of scene safety/security
- Development of evaluation criteria
- Application and validation of legal and external principles
- Knowledge of principles to build effective functional response teams
- Add American Hospital Association and Association for Community Health Improvement as well as TJC and PHAB

In further demonstration that the meeting's approach was well-received by participants, 100% of participants gave a positive rating to the inclusiveness of the invitees (Chart 3).

Chart 3

How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?



Participants also provided the following qualitative feedback in response to this question (responses are *unedited*):

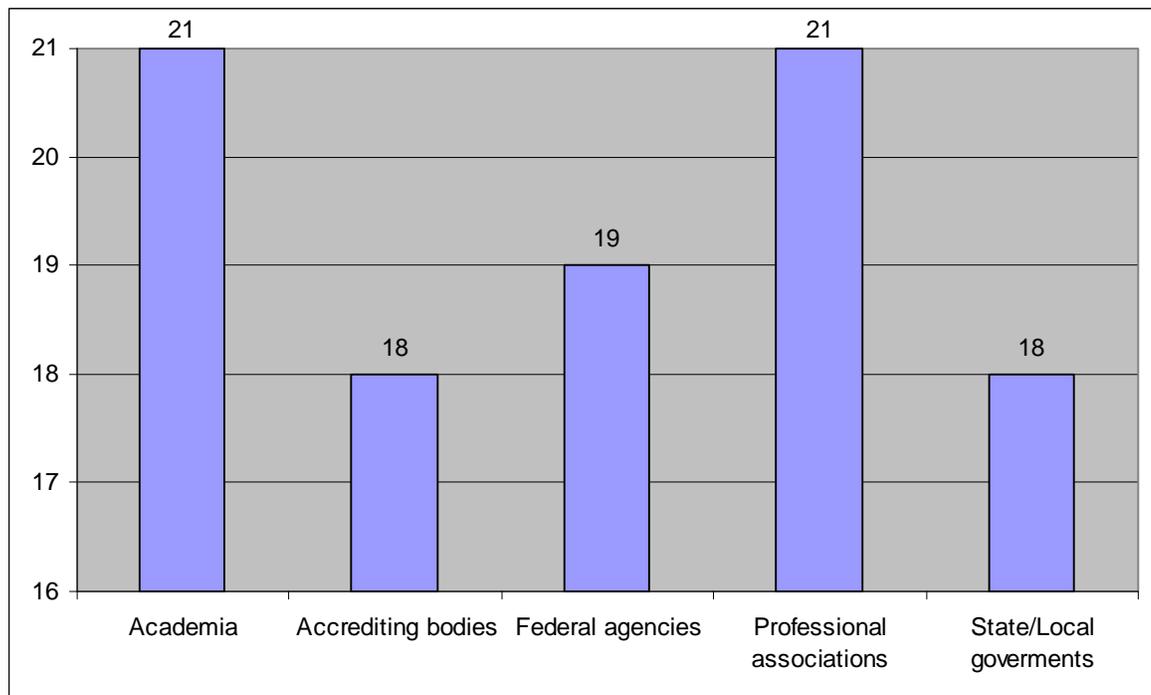
- very good mix. one out of control participant who dominated with self promotion all day.
- I think it was very diverse.
- need IT individuals in this - technology

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- very inclusive
- Suggestions for future attendees: Radiology Techs (contact American Society of Rad Techs); Occupational Therapists
- If same attendees in future, recommend mix the group breakouts Some strong personalities, but OK. Need more attendees and a few more professions.
- Need multi-disciplinary/multi-organizational approach across all response disciplines, e.g. emergency management, law enforcement as well as healthcare/public health practitioners
- Would like to see more participation from key stakeholders to develop buy-in for work. This is a national discussion.

Chart 4 further illustrates that participants are highly supportive of an inclusive and collaborative approach to core competency development; nearly 100% of respondents believe that competencies should be developed by a wide spectrum of agencies.

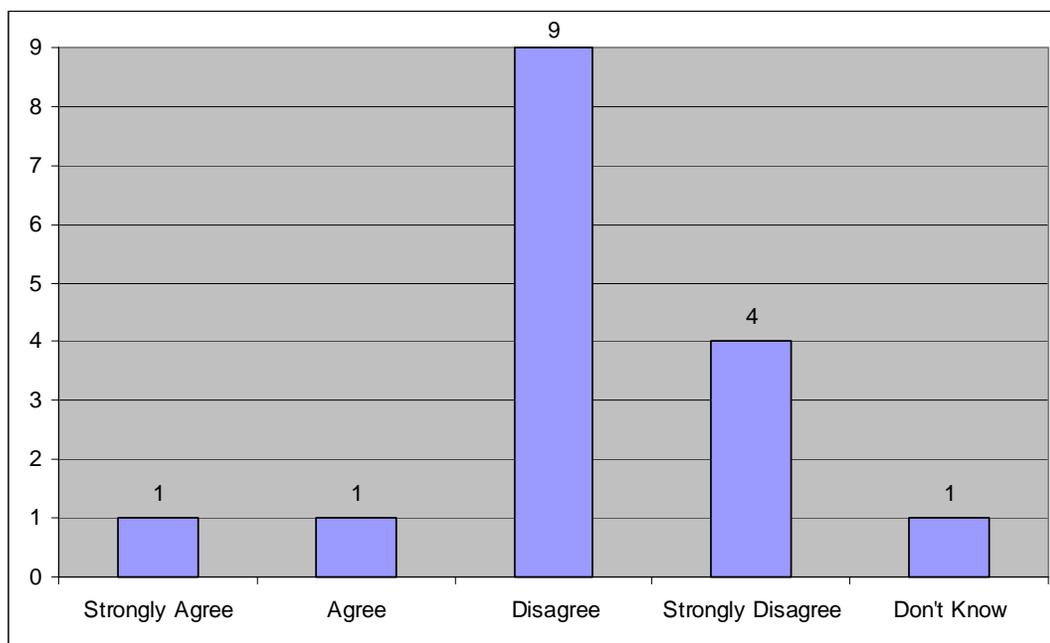
Chart 4
Who should be developing core competencies (respondents asked to mark all that applied)?



In further demonstration of this collaborative attitude, 8% (n=16) of participants disagreed with statement provided below in Chart 5.

Chart 5

Please respond to the following statement: It is more appropriate to develop discipline-specific competencies than it is to share core competencies across many disciplines.



Participants also provided the following qualitative feedback in response to this question (responses are unedited):

- Discipline specific competencies should come from the individual academic program - we don't need to do this - could assist with adding a preparedness track to their already developed specialty.
- we need to focus on shared core competencies
- We need to unify. This task is difficult.
- must think cross disciplines
- Need both
- need to do both
- need to understand teams
- core competencies - followed by profession/role specific
- Need both
- Cross-cutting competencies are vital, but may also flow from discipline-specific competencies

Participants submitted the following comments in response to the question: "What did you find most useful about the national consultation meeting?" (responses are unedited). As this data indicates, the value in diversity and inclusiveness to the topic addressed by the meeting was raised by 12 (75%) of the 16 participants who responded to this question.

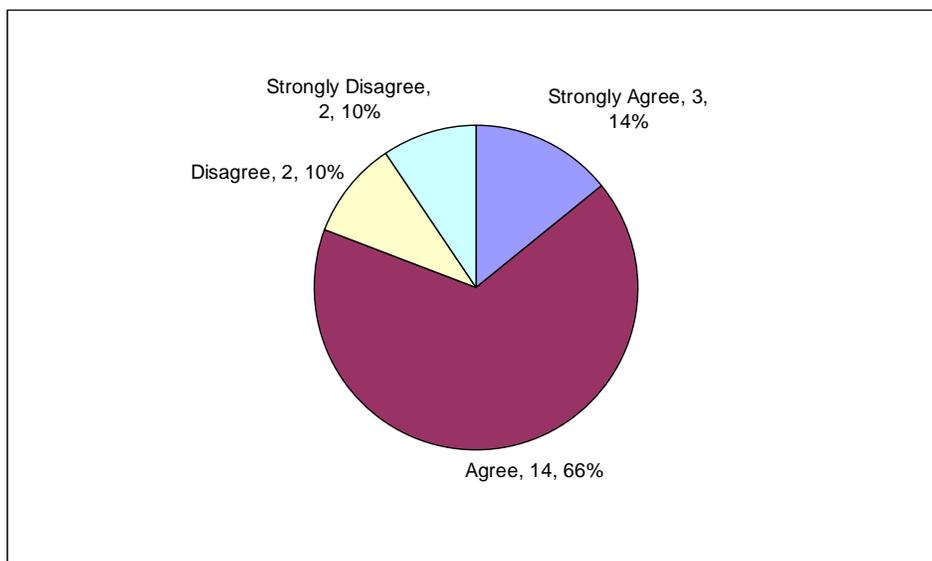
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- interesting discussions in the open – realization that this is a “huge” undertaking. Group dialog was very interactive and helpful since there are such a diverse number of folks in the room
- good forum to share ideas
- it was a great blend of people
- Broadening the understanding of myself and others by bringing all the disciplines together.
- Great diversity represented.
- Diversity of workforce represented.
- brainstorming with interdisciplinary professionals
- Reaffirms and informs individual methods.
- shared discussions
- the discussion and recommendations will be very useful as I continue to develop the strategic direction of the National ESAR-VHP program and develop training recommendations for the state volunteers.
- Very focused and had specific goals to achieve. Networking. Overall, just learning that much more about all-hazards preparation and what other professions are doing to integrate curriculum
- networking, stakeholders in meeting
- Participation of multiple disciplines. Very good facilitation by hosts. Good guidance, adherence to timelines and discussions off-line. Having examples of competencies from NDLS and ASPH.
- Diversity of knowledge, experience and insight in building a framework
- Different points of view – different disciplines. The opportunity to participate in the conversation.
- The multiple conversation bringing forced multiple ideas but only with the single outcome.
-

As illustrated in Chart 6, participants were generally (80%) satisfied with the core competency efforts in the fields under discussion.

Chart 6

Please respond to the following statement: I am satisfied with the core competency effort in disaster medicine and public health.



Participants also provided the following qualitative feedback in response to this question (responses are unedited):

- still has a long way to go ... but good start
- can't read
- it only deals with medicine and military - where is public health and military as part of community
- Not done yet!
- Good honest work
- But needs to involve more professions
- Improving over time and with each iteration
- A work in progress
- Keep the momentum?

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

SECTION 2

Output 3 - Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting

Output 5 - List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Outputs 3 and 5 were achieved during the meeting as demonstrated by data collected via a template developed for the capability-specific breakout sessions (see [Appendix E](#)). Following each breakout group discussion, participants completed the blank template and identified the following competencies for each of the five capabilities provided in Table 1.

Table 1

Capability	Competencies
Communications	<ul style="list-style-type: none"> - Develop and/or disseminate standard education and communication systems - Understand common terminology - Use emergency communication systems and networks - Understand recall procedures - Utilize emergency communications systems to report critical health information. - Access standard, timely and credible health and safety information for all ages and populations affected (e.g., Medical management, community information, personnel protective countermeasures and specific hurricane related info) - Display knowledge of disaster scope - Able to assess and coordinate available services and recovery needs
Disease Surveillance	<ul style="list-style-type: none"> - Assess risk of disease in response scenario - Use the Health Assessment Network from public health departments - Stockpile and share assets - Reference SOP (Standard of Procedures) – mutual aid – know response (environment, food, water, infection) procedures - Know and apply response procedures - Implement infection control procedures - Conduct toxicology/disease modeling in anticipation of disease outbreak - Conduct EPI monitoring (e.g., assess and report) - Maintain communication of non-hospital sentinel-surveillance - Obtain and track resources needed to manage outbreak and control progression/spread - Update communication and models - Conduct field assessments - Monitor exacerbation of co-morbidity/resource use
Patient Evacuation	<ul style="list-style-type: none"> - Identify chain of command/ICS, communications capabilities and assets - Assess deployment of staff, supplies, space (SSS) - Monitor longevity workload/hrs worked by staff - Monitor accounts payable

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Capability	Competencies
	<ul style="list-style-type: none"> - Conduct patient tracking on arrival to locations - Conduct family reunification - Address mental health/behavioral health issues - Conduct fatality management - Prepare after action reports
Planning	<ul style="list-style-type: none"> - Conduct hazard vulnerability assessments using CEM approach - Develop emergency/disaster plans - Knowledge and exercise of emergency/disaster response mechanisms and your role in the emergency /disaster operations plan. - Prepare to perform expected roles in a disaster - Able to effectively implement plans - Summarize regional, community, office, institutional and family disaster plans - Possess knowledge and awareness of post event public health risks and their management - Describe and implement solutions for ensuring the recovery of clinical records, supplies and services to meet physical and mental health needs - Contribute to and ensure after action report
Responder Safety and Health	<ul style="list-style-type: none"> - Describe how to function in an austere environment - Demonstrate the ability to forecast the impact - Have awareness of crisis standards of care - Employ protective behaviors according to changing conditions, personal limitations and threats - Conduct risk reassessments to mitigate hazards as appropriate - Understand team teams dynamics and individual roles and responsibilities in team-based competencies - Demonstrate what is required to restore and reset to post disaster protocols and new adaptation - Monitor heath and mental health over time - Identify emerging health threats

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

SECTION 3

Output 4: List of perceived barriers to attaining core capabilities and competencies

Output 4 was achieved during the meeting as demonstrated by data collected via the template described above. As a component of the charge to complete the blank template for each of the five identified capabilities, participants identified the following barriers to achievement and associated solutions as provided in Table 2 (responses are unedited).

Table 2

Capability	Barriers to Achievement of Competencies	Solutions to Barriers
Communications	<ul style="list-style-type: none"> - Different systems/equipment - Literacy levels - Cultural differences - Availability of resources - Differences in terminology - Physical infrastructure - Groups working together - Interagency coordination and cooperation. - Misinformation - Overtaxed or disrupted networks - Equipment or technology failure - Poor training - Physical isolation - Lack of accurate and ongoing communication - Lack of infrastructure to accomplish tasks - Overtaxed of disrupted networks - Standing down incident command structure too soon 	
Disease Surveillance	<ul style="list-style-type: none"> - Awareness and use of HAN reports/information - Competing and shifting of priorities and funding - Lack of standard of practice for some disciplines and/or education/certification/licensing - Dissemination of information - Lack of organizational Leadership 	<ul style="list-style-type: none"> - HAN leadership national to local level - Disseminate information through multiple media/ associations/groups - Formal and informal networking - Passion and persistence - Reference ICS - daily operations use - Involve all professional organizations and stakeholders

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

Capability	Barriers to Achievement of Competencies	Solutions to Barriers
Patient Evacuation	<ul style="list-style-type: none"> - Education prior to event - Jammed curriculum at schools of healthcare - Lack of accreditation and licensure - Lack of training and exercise - EP again becoming a grey priority 	<ul style="list-style-type: none"> - Define and broaden SOP - Funding - Curriculum mandates from Fed and State levels - Consensus on Core Competencies immersed into curriculums - Consistent priority from educators - JIT, CEU, JC and State Regulation
Planning	<ul style="list-style-type: none"> - Resource limitations - Competing priorities, including patient care - Time and regulatory limitations - Lack of administrative support - State limitations to utilization of ESAR-VHP professionals - Disrupted infrastructure - Disparities in training and equipment - Lack of agreements between organizations and jurisdictions. - Delay of implementation in Stafford Act - Unanticipated consequences - Difficulty in gathering post-event information - Difficulty in following up with affected population - Lack of interoperability - Lack of improvement planning - Lack of financial resources 	
Responder Safety and Health	<ul style="list-style-type: none"> - Opportunity to experience/replicate an austere environment - Inadequate information about the risk/threat - Time - Cost - Liability - Available resources - Lack of evidence base/translational research - Lack of team structure and organizational support - No measurement of team outcome 	<ul style="list-style-type: none"> - Interdisciplinary professional drills - Exercises - Simulation - Licensure requirement - Privileges - Time leave - Efficient training venues - Graduation requirement - Fund and conduct evidence-based/translational research

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

Capability	Barriers to Achievement of Competencies	Solutions to Barriers
	<ul style="list-style-type: none"> - Lack of performance standards - Lack of a core curriculum - Do not assemble the teams until the last minute - Decision process linked to actionable information - Mechanism for conducting longitudinal health surveillance - No national expectation to reset the response force - A “new” normal - Lack of workman’s comp 	<ul style="list-style-type: none"> - Institutionalize ICS/ESF#8 structure across professions thru licensing and accreditation - Instill team-based competencies into daily operations - Develop interdisciplinary team-based curricula - Measure team-based outcomes - Couple information and decision making - Develop a national longitudinal health surveillance system - Enhance the understanding of behavioral health and environmental hazards - Develop a process to monitor health over time

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

SECTION 4

In response to both positive participant feedback and the quality of competency data collected via the breakout sessions, meeting planners are advised to conduct subsequent meetings according to the framework and processes implemented for this Building a Framework for the Development of Core Capabilities and Competencies for Medication Disaster Preparedness and Response: A National Consultation Meeting.

In addition and in response to the participant survey question, “*Are there any topics that should have been covered, but were not? Please list.*”, two suggestions were provided and should be considered for future meetings:

- Accreditation
- Some of the discussions in red group were too hospital-centric. Next time, responders in all settings would be more helpful focus. Need to be clear concerning the level of competencies under consideration core/intro, intermediate or advanced.

APPENDIX 5

BREAKOUT SESSION REPORT-OUT TEMPLATE

Capability - Patient Evacuation (sample)

Scenario Phase	Top 3 Competencies	Barriers to Achievement of Competencies	Solutions to Barriers
Preparedness			
Response			
Recovery			



1



APPENDIX 6
CAPABILITIES CROSS-WALK

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

CAPABILITY	DMRTI	ESF-8	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	ACEP	MRC	NEPEC
Provision of Medical Care	x	x		x		x	x			x		x
Perform Triage			x	x						x		
Conduct Extraction/Evacuation	x	x	x				x			x		
Provide Behavioral Health Care		x		x						x	x	x
Perform Fatality Management		x	x									
Event Recognition/Detection										x	x	x
Provide Veterinary Medical Support		x	x									
Provide Health/Medical/Veterinary Equipment and Supplies		x	x									
Supply Blood, Organs, and Blood Tissues		x										
Provide Communications/Disseminate Information		x	x	x	x		x	x		x	x	x
Provide All-Hazard Public Health and Medical Consultation, Technical Assistance, and Support		x					x					
Ensure Safety and Security of Drugs, Biologics, and Medical Devices		x										
Provide Food Safety and Security		x	x									
Ensure Responder Safety and Health		x	x			x		x	x	x	x	
Ensure Agriculture Safety and Security		x	x				x					

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CAPABILITY	DMRTI	ESF-8	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	ACEP	MRC	NEPEC
Conduct Health Surveillance		x						x				
Establish Environmental Health Activities		x	x				x					
Threat/Risk Assessment	x	x		x	x			x	x			
Provide Health Risk Management			x	x					x			x
Situational Awareness					x	x				x		x
Ensure/Build Medical Surge Capacity			x							x		
Conduct Mass Prophylaxis			x	x								x
Implement Isolation and Quarantine Protocols			x			x						x
Provide Emergency Response	x		x		x		x			x	x	
Conduct Urban Search and Rescue							x					
Carry-out Firefighting Operations							x					
Conduct WMD/HazMat Response and Decontamination	x		x	x						x		
Conduct Resource Management/ Manage Volunteers			x	x						x		
Contingency, Continuity and Recovery			x			x	x	x	x			

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CAPABILITY	DMRTI	ESF-8	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	ACEP	MRC	NEPEC
Provide Patient Transportation				x			x			x		x
Conduct Medical Planning			x	x	x	x	x	x	x			
Regional, State and Local Prevention Operations/ National Prevention Operations							x					
Incident Management and Support Systems	x		x	x	x		x		x	x	x	
Infrastructure						x	x					
National Strategic Intelligence							x					
Manage Special Needs Populations										x		
Demonstrate Procedures for Assigning Roles, Event Reporting and Activating and Deactivating Personnel											x	x
Identify Limits to skills, knowledge and abilities as they apply to MRC Role(s)											x	
Apply Ethical Principles								x	x	x		x
Establish Patient Identification and Tracking										x		

X = Capability Recognized within the Specified Policy/Recommendations Document



TAB 3

After Action Report Workshop #3:

Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: *A Continuing National Consultation Meeting*

**AFTER ACTION REPORT
FY2009 TCN 09238
Workshop 3**

**Building a Framework for the Development of Core
Capabilities and Competencies for
Medical Disaster Preparedness and Response:
A Continuing National Consultation Meeting**



November 17, 2010 • Logistics Management Institute, McLean, VA

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation.

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FIGURES

Figure 1: FRAMEWORK FOR DEVELOPING WORKFORCE COMPETENCIES FOR PUBLIC HEALTH AND MEDICAL DISASTERS

APPENDICES

- Appendix 1: WORKSHOP AGENDA**
- Appendix 2: FACILITATOR BIOGRAPHIES**
- Appendix 3: CAPABILITIES CROSS-WALK**
- Appendix 4: BREAKOUT SESSIONS REPORT-OUT TEMPLATE**
- Appendix 5: PARTICIPANT SURVEY RESULTS**

INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) program of the Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR) under TCN 09238 funded by the United States Northern Command. This task requires conduct of a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence; (2) identify needs and explore strategies to fill education and training gaps and; (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the third in a series of six workshops. It was co-sponsored by the National Center for Disaster Medicine and Public Health (NCDMPH), the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), the United States Northern Command (USNORTHCOM), and the YNH-CEPDR.

HANDLING INSTRUCTIONS

1. The title of this document is “FY’09 TCN 09238 Workshop #3: Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A Continuing National Consultation Meeting After Action Report”
2. For additional information, please consult the following points of contact:

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EXECUTIVE SUMMARY

OVERVIEW

Based on its demonstrated success, the workshop format used in Workshop #2 was replicated for Workshop #3. Workshop #3 was designed as a one day consultation meeting bringing together representatives of each of the 20 healthcare professions defined as part of the federal Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) to: (1) identify work underway by federal agencies and professional organizations and academia to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies; (2) review the updated capabilities matrix to identify potential gaps and recommend additions; (3) through a facilitated discussion, recommend specific competencies to achieve selected capabilities; and (4) identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies.

As with Workshop #2, meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to 50 participants, setting up the physical space to support face-to-face interaction and breaking participants out into smaller groups for more focused discussions. The meeting began with an introduction that included an overview of previous workshops and focused on setting the foundation for the work of the day. Participants spent the majority of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion among the meeting participants. The complete agenda can be found in [Appendix 1](#).

ATTENDANCE

Due to overwhelming interest in the conference, available registration was expanded from 50 to 60 participants, the maximum capacity of the main conference room. Despite this increase in the number of available registrations, interest in attending still exceeded the spaces available. In addition, in spite of a major storm in the DC area on the day of the conference, there were three spontaneous registration requests which were able to

be accommodated due to absences caused by the storm. The meeting was attended by 60 federal and non-federal representatives of the ESAR-VHP professions and representatives of the public health discipline. Approximately 70% of those present had attended one or both of the previous workshops while the remaining participants were referred by a previous attendee or heard about the results of the workshop and took an active role in seeking out information about attending subsequent workshop events.

Attendees represented the 12 states listed in the table below and the District of Columbia. The level of interest and meeting attendance clearly reflected the success of Workshop #2 as well as the timeliness and relevance of the workshop topic.

California	Arizona	Colorado	Texas
Illinois	New York	Massachusetts	Pennsylvania
Virginia	Maryland	Delaware	Virginia

SUMMARY OF PARTICIPANT FEEDBACK

The respondents reported that the current workshop attendance was diverse, representative and inclusive of multiple disciplines that, for the most part, validated that the conference had the right mix of people in the attendance. However, the diversity of this set of military, federal and civilian healthcare providers also highlighted the ongoing requirement to address challenges of inter-agency communication (e.g., mitigating variations in lexicons).

Participants conveyed, via the participant evaluation form, that the interactive format of the workshop continues to facilitate the sharing of multiple ideas while simultaneously focusing the group to produce a single set of outputs reflective of the collaborative work that took place throughout the day. The majority of participants (92%) felt that the facilitated discussions were effective in identifying specific core competencies to achieve the targeted capabilities and in identifying their associated barriers (88%). They also indicated that the facilitators worked diligently to encourage and support dialogue and overall performed very well. In addition, meeting attendees reported that

the facilities at LMI were excellent and generally conducive to the work of the meeting. A full description of participant survey results, as well as a summary of the salient discussions conducted within each breakout session may be found in [Appendix 5](#). It is also important to note that one participant, from Hawaii, was unable to attend due to the travel costs involved. Given the fiscal crises that many states find themselves in, this will likely be a continuing concern for interested participants. The planning team will consider virtual participation tools for future workshops to encourage both remote and in-person dialog.

WORKSHOP OVERVIEW

Workshop Title: “Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A Continuing National Consultation Meeting”

The topic and format for workshop #3 was developed by the Workshop Planning Committee based on qualitative feedback from facilitators and participants in addition to a review of the findings from workshop #2.

Location and Date: Logistics Management Institute (LMI) Corporate Headquarters, McLean, Virginia. LMI generously offered the use of their modern, conveniently located facilities in support of the meeting held on November 17, 2010.

Workshop Format: Workshop #3 was designed as a one day intensive facilitated consultation meeting bringing together representatives of each of the 20 healthcare professions defined as part of the federal Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) to: (1) identify work underway by federal agencies and professional organizations and academia to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies; (2) review the updated capabilities matrix to identify potential gaps and recommend additions; (3) through a facilitated discussion, recommend specific competencies to achieve selected capabilities; and (4) identify different clinical professions’ perceptions of barriers to attaining core capabilities and competencies.

Meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to 50 participants, setting up the physical space to support face-to-face interaction and breaking participants out into smaller groups for more focused discussions. The meeting began with an introduction that included an overview of previous workshops and focused on setting the foundation for the work of the day. Participants spent the majority of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion

among the meeting participants. The complete workshop agenda can be found in [Appendix 1](#).

Targeted Audience: Members of the following ESAR-VHP professions were targeted

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professionals	Diagnostic Medical Sonographers	Medical and Clinical Laboratory Technologists	Physician Assistants
Cardiovascular Technologists and Technicians	Emergency Medical Technicians and Paramedics	Pharmacists	RNs
Veterinarians	Respiratory Therapists	Radiologic Technologists	Radiologic Technicians

Meeting Objectives:

- Identify work underway by federal agencies, professional organizations and academia to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies
- Review the updated capabilities matrix to identify potential gaps and recommend additions
- Through a facilitated discussion, recommend specific competencies to achieve selected capabilities
- Identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies

Desired Outputs:

- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Participating Organizations:

This workshop was co-sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

A total of 60 attendees from a diverse cross-section of the medical and public health community participated and included representatives from:

- Federal, state and local government agencies and institutions
- Accredited academic institutions
- Private sector entities involved in accreditation/competency activities
- Practitioners in the field

BACKGROUND

The overarching mission of the ICMDMMR Project is to enhance the ability to develop integrated civilian/military approaches to large-scale disaster preparedness and response to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM.
- Developing models for education and training which can be modified, replicated and made scalable for the civilian/military health delivery workforce.
- Determining evaluation modalities for education and training programs implemented.
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs.
- Integrating civilian/military emergency preparedness strategies for medical and public health delivery.

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended

consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations in better preparing to work together during a disaster, Homeland Security Presidential Directive 21 (HSPD-21): Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and public health and the establishing of the NCDMPH to lead those coordination efforts. The FETIG serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

As such ICMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence; (2) identify needs and explore strategies to fill education and training gaps; and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions.

The workshop development plan built on the work done by the NCDMPH in its inaugural workshop entitled, “A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health”. During this initial meeting, the NCDMPH performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

For TCN 09238, a Workshop Planning Committee made up of representatives from the FETIG, the NCDMPH and representatives from YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of the TCN. This integration of civilian, military and federal partners allows the development of workshops and other outputs that are meaningful to all sectors. The Workshop Planning Committee has regularly scheduled weekly meetings to conduct workshop planning activities.

The first workshop conducted under TCN 09238 was designed to bring together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration.

The outputs of workshop #1 and feedback from the FETIG were used to design the structure and content of workshop #2. Workshop #2 used a scenario-based workshop format to elicit the following desired outputs:

- Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at the meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #3 continued the discussions begun in Workshop #2 and followed much the same format to achieve the outputs described previously.

Outputs from the preceding workshops and feedback from key stakeholders will continue to be used to design the structure and content of the remaining workshops to ensure that the objectives outlined in the SOW for this task are met. A draft sequence of future topics was designed based on the current trajectory of outputs and is listed

below. Each potential topic will be re-evaluated in light of the results of the preceding workshop. Additional workshops will occur at intervals of approximately 3 months as outlined in the draft schedule below:

Workshop #	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities
2	Sept. 22	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting
3	Nov. 17	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A Continuing National Consultation Meeting
Workshop #	Date	Location	Topic
2011 Workshops			
4	March 23	McLean, VA	From Process to Practice
5	May 18	TBD	From Practice to Preparedness
6	August 3	Washington, DC	TBD

The first 3 workshops were held in the National Capital Region. This area has proven to be a central location that works well for the targeted audience and has drawn participants from the 48 contiguous states and Hawaii. We will continue to evaluate the appropriateness of this location before and after each workshop and, if appropriate, will consider moving future workshops to one of the following areas: Colorado Springs, Colorado or New Haven, Connecticut. In addition, the Workshop Planning Committee will consider strategies and virtual conference tools that would support remote participation and increase awareness and dissemination of this project's outputs. Workshop attendees have included, but were not limited to, member organizations of the FETIG, members from accredited academic institutions and members of the ESAR-VHP professions previously described from state and local organizations. Should the planning committee determine a need for additional attendees to participate, that are currently not included in the listed groups, we will seek approval of their inclusion from

the Contract Officer's Representative (COR). At the conclusion of all six workshops, a comprehensive final report will be developed that addresses our key findings relative to the stated objectives of the TCN.

WORKSHOP STRUCTURE

The workshop took place over 1 day and opened with an overview of previous activities and presentation of a draft process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event. The overview was followed by 3 concurrent breakout sessions which consisted of a facilitated dialogue (see [Appendix 2](#) for Facilitator Biographies) that addressed 1-2 core capabilities selected from an updated cross-walk of capabilities ([Appendix 3](#)) available from several organizations. Potential core competencies were then identified to fulfill those capabilities. The reporting template shown in [Appendix 4](#) was utilized to capture the outcomes of each breakout group's discussion.

The breakout sessions were followed by a structured group report-out and closing remarks encouraging the group to consider the way ahead as we continue to explore issues related to the education and training needs for disaster medicine and public health preparedness. The primary goal of this format was to maximize participant input and sharing of ideas between key stakeholders.

WORKSHOP EVALUATION

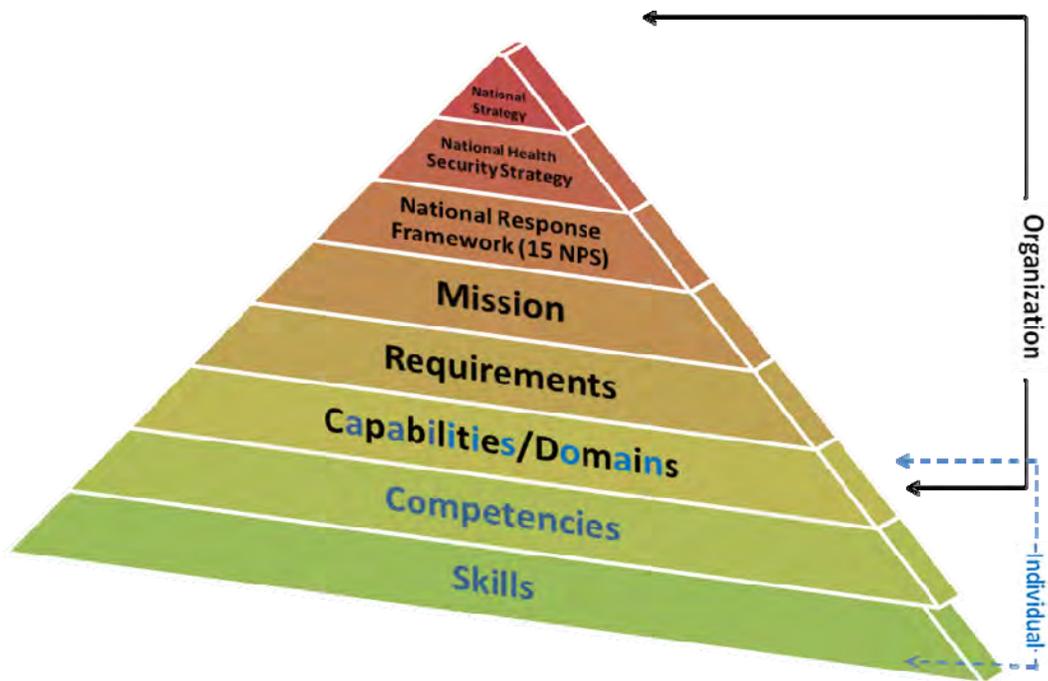
Evaluators were assigned to each breakout session to take notes and record key findings. At the end of the day, a specific evaluation questionnaire was administered to all participants. The evaluation questionnaire results are provided in [Appendix 5](#).

WORKSHOP SUMMARY OF RESULTS

RESULT 1: PROCESS FOR IDENTIFICATION AND VALIDATION OF CORE COMPETENCIES

A key output of workshop #2 was achievement of consensus that the framework illustrated below is the appropriate framework for identification and validation of core capabilities and competencies for the workforce responsible for preparedness and response to public health and medical disasters.

Figure 1:
Framework for Developing Work Force Competencies for Public Health and Medical Disasters



Smith, S., McGovern, J., 2010

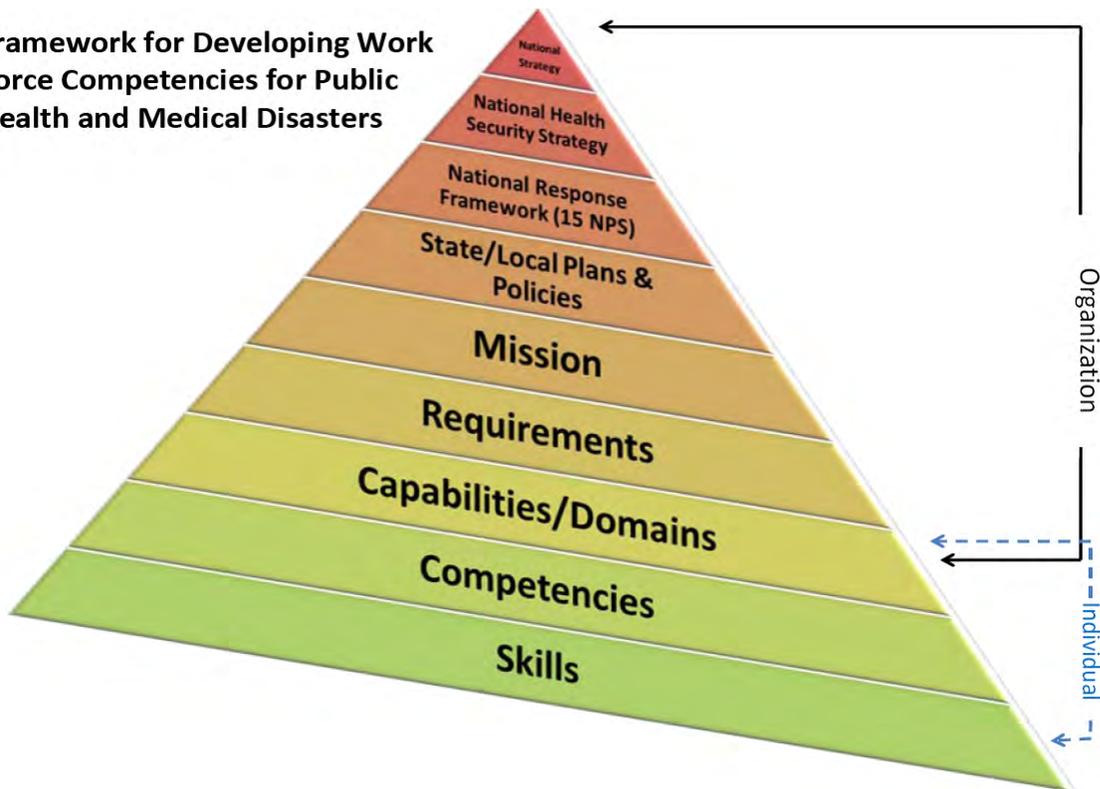
The National Security Strategy sits at the pinnacle of the framework and outlines actions to keep the country safe and prosperous. The framework also recognizes that on a national level the National Health Security Strategy and the National Response Framework are key documents that define the organization's mission(s). To achieve the mission, an organization must identify the requirements, those collective tasks that are required for a specific period of time, to accomplish the mission. Requirements in turn drive the identification of capabilities and competencies. Capabilities are defined as "the ability to execute a specified course of action."¹ A capability provides a means to

¹ Joint Publication 1-02, "DoD Dictionary of Military and Associated Terms" http://www.dtic.mil/doctrine/dod_dictionary/

achieve a measurable outcome resulting from performance of one or more critical task(s), under specified conditions and performance standards. In order for an organization to reach and maintain a capability it requires individuals who have the “abilities relating to excellence in a specific activity”.² In this sense competencies refer to a “standardized requirement for an individual to properly perform a specific job”.³ For an individual to be considered “competent” they must be able to perform specific skills needed to respond during a disaster.

During workshop #3, additional discussion ensued regarding the need for revisions to the above framework to reflect the importance of core competencies, core capabilities/domains, the National Preparedness Guidelines and state and local plans that account for geographic and population uniqueness. There were also additional recommendations to emphasize that curriculum and courses are the methods of teaching the skills at the foundation of the framework and to enhance the graphic with narrative. As a result of these recommendations the explanation of the Framework was revised to the following.

Framework for Developing Work Force Competencies for Public Health and Medical Disasters



² Capabilities Based Planning Overview 12-17 DHS/SLGCP/OPIA/Policy and Planning Branch http://www.scd.hawaii.gov/grant_docs/Capabilities_Based_Planning_Overview_12_17.pdf

³ American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2009 by Houghton Mifflin Company

For competencies or capabilities/domains to be considered “core” they need to apply across phases of the disaster, across disciplines and across scenarios.

Further, between Workshops #2 and #3 an article entitled “A Review of Competencies Developed for Disaster Healthcare Providers: Limitations of Current Processes and Applicability” was published in the journal of Prehospital and Disaster Medicine. The article came to the conclusion that “[further efforts must be directed to developing a framework for the articulation of competency sets for disaster health professionals that can be accepted and adapted universally]” (Birnbaum, et al., 2010) further demonstrating the importance of the discussions and outputs derived from this workshop series.

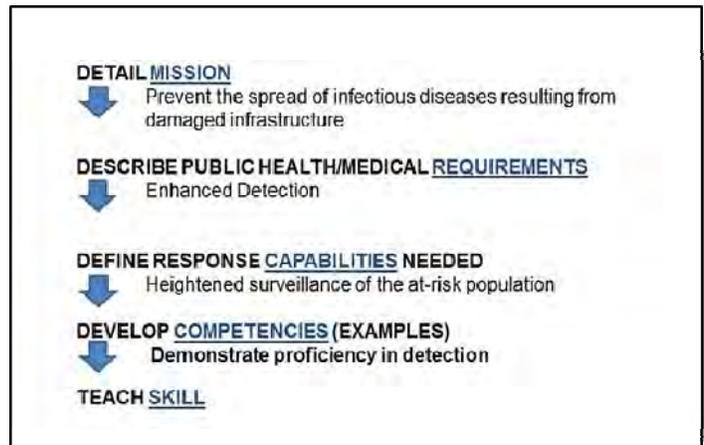
The Process

The next step for the group was to identify a process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event. The group reached consensus on the following description of the process.

The process is initiated by recognition or assignment of a **Mission**. The mission could be generated in the context of a scenario or threat. For example a mission might be “Prevent the spread of infectious diseases resulting from damaged infrastructure”.

Based on the mission, **Requirements** are identified. For example, using the mission above, some of the requirements could be:

- Implementation of Preventive Measures
- Enhanced Detection
- Disease Eradication



Capabilities are what is necessary to meet the requirements, and can therefore be derived from the list of requirements. For example, to address a requirement for Enhanced Detection, the entity responsible for mission success must be capable of deploying methods for early recognition of the clinical syndrome, heightened surveillance of the at-risk population and reliable tracking and reporting mechanisms.

In addition to funding, hardware, software, and other resources, these capabilities demand specific **Competencies** of the response personnel. These encompass epidemiologic methods, including skill sets typically used to describe minor outbreaks in community public health settings.

Individual **Skills** contributing to competency in this example might include establishment and distribution of case definitions, management of databases, coordination of electronic health information among medical care facilities, and others.

RESULTS 2-4: DRAFT A SET OF CORE CAPABILITIES AND RECOMMENDED ASSOCIATED COMPETENCIES FOR SELECTED CAPABILITIES FOR THE CLINICAL WORKFORCE IN ATTENDANCE AT THIS MEETING

Prior to embarking on tasks associated with the above referenced desired outputs each of the groups reviewed the capabilities matrix that was updated based on feedback from Workshop #2 and identified which capabilities were core. The capabilities matrix compares capabilities from a cross-section of military and civilian medical and public health agencies (see Appendix 3). The following capabilities should be added:

- Evaluation criteria/ quantitative benchmarks
- Cultural competency/cultural sensitivity
- Licensing and credentialing
- Legal issues/scope of practice
- Organizational command structure
- Public health
- Individual preparedness

Participants also identified the following agencies as source gaps in the Capabilities Matrix:

- ESF#5, 6 and 9 capabilities
- Association for Community Health Improvement
- Red Cross
- National Guard Teams
- Related professional organizations (e.g., Nurses' Associations)

The chart on the next page demonstrates which capabilities were identified as core.

From Framework to Process: Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response - A Continuing National Consultation Meeting

CAPABILITIES CROSSWALK															
CAPABILITY	DMRTI	VHA	ESF-8	ESF-11	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	A CEP	MRC	NEPEC	WKSP#2
Provide of Medical Care	Green		X			X		X	X			X		X	
Perform Triage	Green				X	X						X			
Conduct Extraction/Evacuation	Green		X		X				X			X			X
Provide Behavioral Healthcare	Green		X			X						X	X	X	
Perform Fatality Management	Green		X		X										
Perform event Recognition/Detection	Green											X	X	X	
Provide Veterinary Medical Support	Green		X	X	X										
Provide Health/Medical/Veterinary Equipment and Supplies	Yellow		X	X	X										
Supply Blood, Organs and Blood Tissues	Green		X												
Provide Communications, Notifications/ Disseminate Information	Yellow	X	X		X	X	X		X	X		X	X	X	X
Provide All-Hazard Public Health and Medical Consultation, Technical Assistance and Support	Yellow		X						X						X
Ensure Safety and Security of Drugs, Biologics and Medical Devices	Yellow		X												
Provide Food Safety and Security	Red		X	X	X										
Ensure Responder Safety and Health	Green	X	X		X			X		X	X	X	X		X
Provide Nutrition Assistance and Distribution of Food Supplies	Red			X											
Ensure Agriculture Safety and Security	Red		X	X	X				X						
Conduct Health Surveillance	Red									X					
Establish Environmental Health Activities	Green	Manage/Mitigate Volunteers Conduct resource management			X				X						
Conduct Threat/Risk Assessment	Red		X			X	X			X	X				X
Provide Health Risk Management	Red				X	X					X			X	
Provide Situational Awareness	Red						X	X				X		X	
Ensure/Build Medical Surge Capacity	Red				X							X			
Conduct Mass Prophylaxis	Green				X	X								X	
Implement Isolation and Quarantine Protocols	Red				X			X						X	
Provide Emergency Response	Yellow	X			X		X		X			X	X		
Conduct Urban Search and Rescue	Yellow								X						
Carry Out Firefighting Operations	Yellow								X						
Conduct WMD/HazMat Response and Decontamination	Red				X	X						X			
Conduct Resource Management, Manage Volunteers	Red				X	X						X			
Perform Contingency, Continuity and Recovery Activities	Yellow	X			X			X	X	X	X				
Provide Patient Transportation	Yellow					X			X			X		X	
Conduct Planning	Green	X			X	X	X	X	X	X	X				X
Perform Regional, State and Local Prevention Operations/National Prevention Operations	Yellow								X						
Provide Incident Management and Support Systems	Green	X			X	X	X		X		X	X	X		
Ensure Infrastructure Safety	Red			X				X	X						
Ensure National Strategic Intelligence	Red								X						
Manage Special Needs Populations	Red											X			
Demonstrate Procedures for Assigning Roles, Event Reporting and Activating and Deactivating Personnel	Yellow	X											X	X	
Identify Limits to Skills, Knowledge and Abilities as They Apply to MRC Role(s)	Red												X		
Apply Ethical Principles	Green									X	X	X		X	
Establish Patient Identification and Tracking	Yellow											X			
Perform All Deployment Mobilization - Specific Tasks	Yellow	X													
Perform All Tasks Necessary for Traveling to and from Deployment and Destination Sites	Yellow	X													

X = Capability Recognized within the Specified Policy/Recommendations Document

There is debate as to whether item is a core capability
There is debate as to whether item is a core capability
Not a core capability /maybe a competency

A draft set of core competencies for the preparedness, response and recovery phases was developed for the following capabilities:

- Emergency Response
- Threat/Risk Assessment
- Incident Management and Support Systems

The competencies produced used accepted terminology and language and reflect an understanding of the core tasks that cross over disciplines and are required in a medical or public health disaster. This was an improvement over the outputs of workshop #2 and reflects the success of the focus on the correct format for writing competencies that was included in the overview of previous workshops in the beginning of workshop #3.

The groups also identified barriers to achievement of identified competencies and solutions to the identified barriers. The barriers fell into one of three major categories: personal, organizational or system. The solutions identified followed the same pattern.

The competencies of particular interest and concern (regardless of the associated capability) to workshop participants included the following:

- Inter and intra-agency communication
- Situational awareness
- Evaluation/quantitative benchmarks

All three breakout groups also identified worker motivation issues (e.g., anxiety, complacency, avoidance) as barriers to achievement of competencies.

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

In response to both positive participant feedback and the quality of competency data collected via the breakout sessions, meeting planners are advised to conduct subsequent meetings according to the framework and processes implemented for this *Building a Framework for the Development of Core Capabilities and Competencies for Medication Disaster Preparedness and Response: A Continuing National Consultation Meeting*. Meeting planners may also wish to further explore the competencies of particular interest to these participants (inter and intra-agency communication, situational awareness, evaluation/quantitative benchmarks). In addition and in response to the participant survey question, “*Are there any topics that should have been covered, but were not?*”, the following suggestions were provided and should be considered for future meetings:

- Distribute an acronym list and glossary of terms
- Provide relevant materials to participants in advance of the meeting
- Reserve a portion of the agenda for a focused discussion on funding/sustainability issues related to training

CONCLUSION

This workshop was successful at achieving its objectives and desired outputs and has positively contributed to the achievement of the overall statement of work for this TCN. We will use the recommendations and participant feedback herein to design the 4th workshop with a focus on addressing the identified barriers to achievement of competencies and moving from process to practice.

APPENDIX I

Workshop Agenda

Agenda: Wednesday, November 17, 2010			
7:30 am- 8:00 am	Registration and Networking Breakfast LOCATION: CONFERENCE FOYER 2 ND FLOOR		
8:00 am- 8:45 am	<p>Introduction and Meeting Overview Rebecca Cohen, MPH – Yale New Haven Health Center for Emergency Preparedness and Disaster Response</p> <p>Welcome Christopher M. Cannon, MSN, MPH, MBA, FACHE – National Director, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Opening Remarks Michael T. Handrigan, MD, FACEP – Director, Emergency Care Coordination Center Office of the Assistant Secretary for Preparedness and Response and Co-Chairman Federal Education & Training Interagency Group (FETIG) for Public Health and Medical Disaster Preparedness and Response LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>		
8:45 am- 10:00 am	<p>Overview of Previous Workshops Elaine Forte, BS, MT (ASCP) – Senior Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Review of Framework and Proposed Process for Identification and Validation of Core Capabilities and Competencies Rick Cocrane – MA, MPH, in support of the Office of the Assistant Secretary of Defense (Health Affairs)</p> <p>Review and Discussion of Capabilities Matrix Stewart D. Smith, MPH, MA, FACCP – Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Our Task Today Rebecca Cohen, MPH – Yale New Haven Health Center for Emergency Preparedness and Disaster Response LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>		
10:00 am- 10:15 am	Break/Morning Refreshments and Movement to Breakout Sessions LOCATION: CONFERENCE FOYER 2 ND FLOOR		
10:15 am- 2:15 pm	<p>Breakout Session A</p> <p>FACILITATOR: Mark Schneider, PhD</p> <p>BREAKOUT ROOM A 8th Floor ROOM DCC3</p>	<p>Breakout Session B</p> <p>FACILITATOR: Rick Cocrane, MA, MPH</p> <p>BREAKOUT ROOM B 8th Floor ROOM DCC1</p>	<p>Breakout Session C</p> <p>FACILITATOR: Stewart D. Smith, MPH, MA</p> <p>BREAKOUT ROOM C MAIN CONFERENCE ROOM</p>

Agenda: Wednesday, November 17, 2010 CONTINUED	
2:15 pm – 2:45 pm	Breakout Session Group Report Out Preparation
2:45 pm – 4:00 pm	<p>Breakout Session Report-Out & Discussion <i>Elaine Forte, BS, MT (ASCP)</i> – Senior Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>
4:00 pm- 4:15 pm	<p>Announcement of the National Center for Disaster Medicine and Public Health March 2011 Conference: Toward Core Competencies for Children in Disasters <i>David Siegel, MD</i> – Senior Medical Officer National Institute of Child Health & Human Development LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>
4:15 pm- 4:30 pm	<p>Closing Remarks/The Way Ahead <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command LOCATION: MAIN CONFERENCE ROOM (MCC1)</p>

APPENDIX 2

Facilitator Biographies

Richard M. Cocrane

Mr. Cocrane has 29 years of experience in healthcare policy and strategic medical plans and operations in the military health system. His last five years on active duty were spent with the Joint Staff as the Director of the Joint Medical Planners Course and as Chief, Health Service Support Division. Since retiring from the Navy and joining LMI, Mr. Cocrane has supported the Assistant Secretary of Defense (Health Affairs) on several projects related to medical support to disasters, including the Defense Critical Infrastructure Program, the Installation Protection Program, and Homeland Security Presidential Directive 21 on Medical and Public Health Preparedness.

Mark Schneider, PhD

Mr. Schneider has extensive experience with developing user training strategies, planning, development, implementation, and post implementation activities to meet compliance requirements. He has provided leadership in emergency preparedness and related training projects, and has led several initiatives such as enterprise-wide implementations for departments of public health, emergency management associations, hospital systems, skilled nursing facilities, community health centers, etc. During these projects he managed training plans, logistics, environment and resources, training materials, learning modalities, trainers, and compiled the final training reports. He has worked on state and national contracts that employed complex education solutions. At YNHHS-CHS, he has provided custom programs through various modalities to train thousands of healthcare and public health workers, through custom learning management systems, CD-ROMs, instructor-led formats, pod-casts and a variety of other media and blended learning used to engage the learner. Mr. Schneider holds a CDIA certification which qualifies him to test expertise in the technologies and best practices used to plan, design, and specify systems. Through his work on projects with the CDC, FEMA, DPH, DoD, DHS, ASPR, HHS, VHA, he has applied creative solutions to business problems. He has been a speaker at many national training venues (such as Society of Advanced Learning Technologies), and was presented the *2008 Top Young Trainer award by Training Magazine*. He has also served on the FEMA national training advisory board in representing healthcare. Mr. Schneider has presented on knowledge management systems with the Director of Enterprise Web development from the Yale School of Medicine.

Stewart Smith, MPH, MA, FACCP

Stewart Smith provides direct support to Yale New Haven's Center for Emergency Preparedness and Disaster Response as Program Manager for Department of Defense activities to include the National Center for Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR).

Stewart is the Founder, President and Chief Executive Officer of Emergency Preparedness and Response International, LLC (EP&R International). A retired Navy Commander, Medical Service Corps Officer, his previous military work history spans over 25 years of progressive assignments that includes Chief of the Joint Regional Medical Plans and Operations Division for

the North American Aerospace Defense Command and the United States Northern Command (NORAD-USNORTHCOM), Surgeons Directorate; Director of International Health Operations Policy, Homeland Defense, and Contingency Planning Policy for the Assistant Secretary of Defense for Health Affairs; Branch Chief for the Joint Staff, Health Services Support Division; and Branch Head for the Deployable Medical Systems, Office of the Chief of Naval Operations, Medical Plans and Policy (OPNAV-N931).

Stewart holds graduate degrees in Public Health Management and Policy from the Yale School of Medicine, Department of Public Health and Epidemiology; and the Naval War College in National Security and Strategic Studies.

He is the co-founder of and immediate past President to the American College of Contingency Planners (ACCP). His particular areas of interest and expertise include strategic medical planning; domestic consequence management operations, the National Disaster Medical System (NDMS), and the National Response Framework (NRF) with a focus on complex emergencies and calamitous events (including medical operations in the WMD/asymmetrical environment); and finally, international Weapons of Mass Destruction medical countermeasures policy. Stewart was selected as the first American to chair the North Atlantic Treaty Organization's (NATO's) Biomedical Defense Advisory Committee (BIOMEDAC); holding that appointment from 2003-2005 while assigned to the Secretary of Defense and USNORTHCOM staffs.

APPENDIX 3

Capabilities Cross-Walk

From Framework to Process: Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response - A Continuing National Consultation Meeting

CAPABILITIES CROSSWALK															
CAPABILITY	DMRTI	VHA	ESF-8	ESF-11	TCL	MHS	Columbia	NHSS	UTL	CDC - PH	NDLSEC	ACEP	MRC	NEPEC	WKSP#2
Provide of Medical Care	X		X			X		X	X			X		X	
Perform Triage					X	X						X			
Conduct Extraction/Evacuation	X		X		X				X			X			X
Provide Behavioral Healthcare			X			X						X	X	X	
Perform Fatality Management			X		X										
Perform event Recognition/Detection												X	X	X	
Provide Veterinary Medical Support			X	X	X										
Provide Health/Medical/Veterinary Equipment and Supplies			X	X	X										
Supply Blood, Organs and Blood Tissues			X												
Provide Communications, Notifications/ Disseminate Information		X	X		X	X	X		X	X		X	X	X	X
Provide All-Hazard Public Health and Medical Consultation, Technical Assistance and Support			X						X						X
Ensure Safety and Security of Drugs, Biologics and Medical Devices			X												
Provide Food Safety and Security			X	X	X										
Ensure Responder Safety and Health		X	X		X			X		X	X	X	X		X
Provide Nutrition Assistance and Distribution of Food Supplies				X											
Ensure Agriculture Safety and Security			X	X	X				X						
Conduct Health Surveillance			X							X					
Establish Environmental Health Activities			X		X				X						
Conduct Threat/Risk Assessment	X		X			X	X			X	X				X
Provide Health Risk Management					X	X					X			X	
Provide Situational Awareness							X	X				X		X	
Ensure/Build Medical Surge Capacity					X							X			
Conduct Mass Prophylaxis					X	X								X	
Implement Isolation and Quarantine Protocols					X			X						X	
Provide Emergency Response	X	X			X		X		X			X	X		
Conduct Urban Search and Rescue									X						
Carry Out Firefighting Operations									X						
Conduct WMD/HazMat Response and Decontamination	X				X	X						X			
Conduct Resource Management, Manage Volunteers					X	X						X			
Perform Contingency, Continuity and Recovery Activities		X			X			X	X	X	X				
Provide Patient Transportation						X			X			X		X	
Conduct Planning		X			X	X	X	X	X	X	X				X
Perform Regional, State and Local Prevention Operations/National Prevention Operations									X						
Provide Incident Management and Support Systems	X	X			X	X	X		X		X	X	X		
Ensure Infrastructure Safety					X			X	X						
Ensure National Strategic Intelligence									X						
Manage Special Needs Populations												X			
Demonstrate Procedures for Assigning Roles, Event Reporting and Activating and Deactivating Personnel		X											X	X	
Identify Limits to Skills, Knowledge and Abilities as They Apply to MRC Role(s)													X		
Apply Ethical Principles										X	X	X		X	
Establish Patient Identification and Tracking												X			
Perform All Deployment Mobilization - Specific Tasks		X													
Perform All Tasks Necessary for Traveling to and from Deployment and Destination Sites		X													

X = Capability Recognized within the Specified Policy/Recommendations Document



APPENDIX 4

Breakout Session Report-Out Template

Capability – Threat/Risk Assessment

Scenario Phase	Top 3 Competencies	Barriers to Achievement of Competencies	Solutions to Barriers
Protection	<ul style="list-style-type: none"> - Using an all-hazards approach, explain general health, safety, and security risks associated with disasters and public health emergencies. - Describe risk management principles in the disaster setting. - Describe unique vulnerabilities across demographics within your community. 	<ul style="list-style-type: none"> - No consensus on common lexicon, terms of reference - Defining and implementing operational risk management in the non-military setting - Avoidance of personal risk - Lack of proper service - Opportunity to cost 	<ul style="list-style-type: none"> - Develop lexicon through consensus process - Operational Risk Management: explore and adopt within civilian settings - Education and Training - Private regulation (when possible) - Create intrinsic motivations
Response	<ul style="list-style-type: none"> - Using an all-hazards approach, manage risks associated with the disaster and public health emergency. - Apply risk management principles in the disaster setting. - Explain appropriate responses in the emerging disaster environment that includes loss of infrastructure and population change - OR, determine your response based on loss of infrastructures across demographics within your community. - Report unresolved threats to physical and mental health through the chain of command. 	<ul style="list-style-type: none"> - Defining and implementing operational risk management in the non-military setting - Absence of Intrinsic/extrinsic motivations - Lack of process improvement 	<ul style="list-style-type: none"> - Identify teachable moments in a lifelong career - Identify ways to incentivize - Promote inclusion of disaster medicine education and training along pathways for licensure, certification, and organizational accreditation
Recovery	<ul style="list-style-type: none"> - Using an all-hazards approach, minimize risks associated with the emerging environments - Evaluate risk management decisions in the disaster setting. - Perform adaptation to your response based on loss of infrastructures across demographics within your community. 	<ul style="list-style-type: none"> - Defining and implementing operational risk management in the non-military setting 	<ul style="list-style-type: none"> - Identify teachable moments in a lifelong career - Identify ways to incentivize - Promote inclusion of disaster medicine education and training along pathways for licensure, certification, and organizational accreditation

APPENDIX 5

PARTICIPANT SURVEY RESULTS

OVERVIEW

This evaluation was designed and conducted to measure the meeting's achievement of the following objectives and desired outputs:

Objectives

- Objective 1:** Identify work underway by federal agencies, professional organizations and academia to develop and disseminate profession-specific medical disaster preparedness and response capabilities and competencies
- Objective 2:** Review the capabilities matrix to identify potential gaps and recommend additions
- Objective 3:** Through a facilitated discussion, recommend specific competencies to achieve selected capabilities
- Objective 4:** Identify different clinical professions' perceptions of barriers to attaining core capabilities and competencies

Desired Outputs

- Output 1:** Process for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event
- Output 2:** Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- Output 3:** List of perceived barriers to attaining core capabilities and competencies
- Output 4:** List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Demonstration of these outputs is provided in the succeeding narrative of this document. The outputs provide a measurement of the meeting's attainment of the four objectives as follows:

Output	Objectives Demonstrating Output
1	1, 2, 3
2	1, 2, 3
3	4
4	3

SECTION 1

- Output 1:** Process for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparation and response to a disaster event and
- Output 4:** List of common core capabilities and potential gaps identified for ESAR-VHP professionals

These outputs were developed during the meeting as demonstrated by data collected via the Participant Evaluation Survey. Chart #1 and #2 illustrate that 92% and 88% of participants, respectively, had a positive view of the efficacy of Facilitated Discussion.

Chart 1

How do you rate the effectiveness of the Facilitated Discussion as an approach to identifying specific core competencies to achieve the target capabilities?

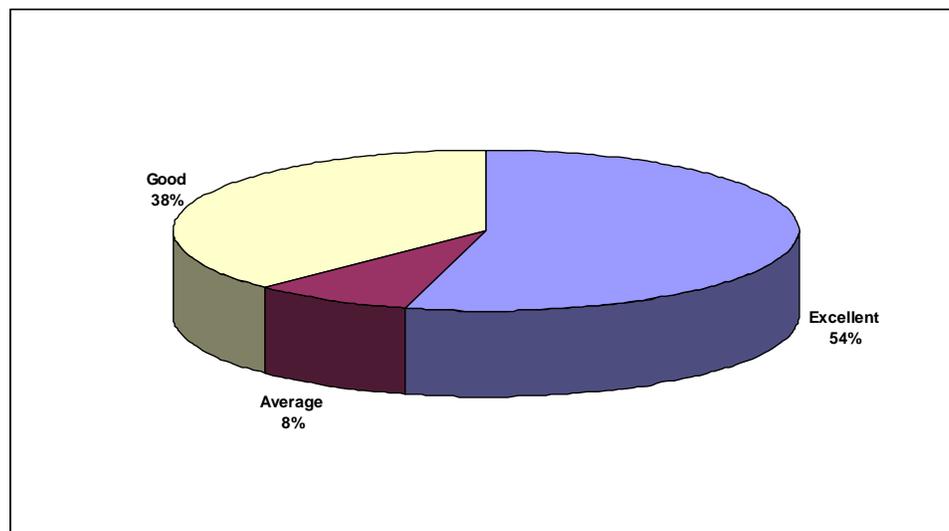
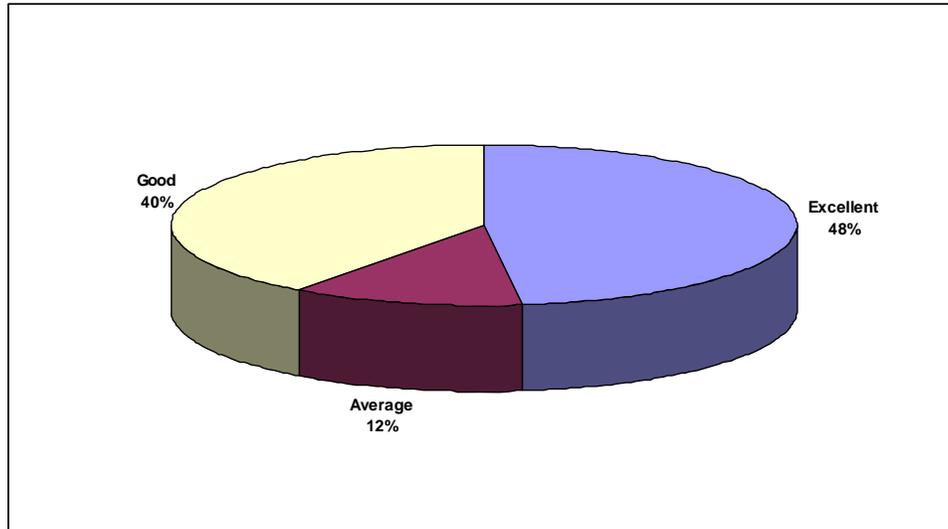


Chart 2

How do you rate the effectiveness of the facilitated discussion as an approach to identifying barriers to achievement of competencies and capabilities?

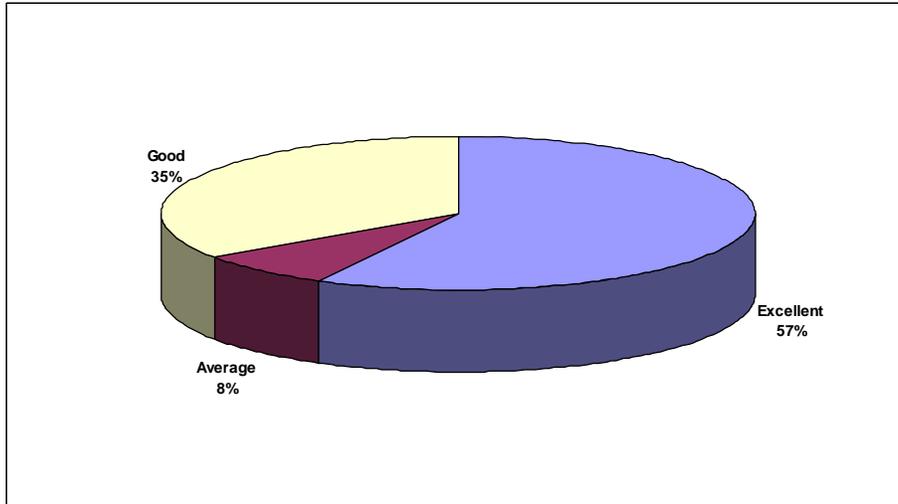


In demonstration of (Output #4) potential gaps in capabilities, participants conveyed that meeting planners should consider adding the following capabilities to the matrix (responses are unedited):

- Add Red Cross, National Guard Teams, and other ESFs (6, 5 & 9)
- Missing capabilities might include:
 - Organizational command structure
 - Public health
 - Individual preparedness
- Identification of capabilities should not only be determined by the number of “x’s” on the crosswalk (ex. Public Health)
- Capabilities may be missing due to methodology or documentation used (i.e. VHA, NDLSEC, NEPEC)
- Grouping capabilities defined as “core” may simplify the process
- Categorization of capabilities by phase, organizational level, or proficiency may also simplify communication of core capabilities
- Need for a salient example (i.e. “A resilient community”)
- Identify target audience of the matrix
- Related Professional Organizations (i.e., Nurses Associations)

In further demonstration that the meeting's approach was well-received by participants, 92% of participants gave a positive rating to the inclusiveness of the invitees (Chart 3).

Chart 3
How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?



Participants also provided the following qualitative feedback in response to this question (responses are unedited):

- Very well designed
- A superb group in Breakout B. Higher level than last session.
- Small disciplines not present but all key players are at the table.
- Great conversations!
- Maybe more allied health profession representation - rad tech, occupational therapy, etc.
- AHA? a little military and federal agency heavy

Participants submitted the following comments in response to the question: “*What did you find most useful about the national consultation meeting?*” (responses are unedited). As this data indicates, the value in diversity and inclusiveness to the topic addressed by the meeting was raised by 11 (73%) of the 15 participants who responded to this question.

- Sharing Ideas. Networking. Working as a team on the process.
- Continuing to expand panel of experts.
- Networking and identifying the need for core competencies.
- Diversity of participants with unique perspectives.
- Networking
- Discussions - good talks; different points of view.
- Broad spectrum of skills, experience and expertise. A very good mix of personnel. Excellent staff. Better breakout group reports - more reflective of the groups' discussions than individual views (as noted at last meeting in September).
- Many viewpoints were brought out around a non-controversial, common goal.
- Hearing from diverse views and listening to experiences.
- Being able to contribute. Expanding my own thinking.
- That there is a lot to do and define.
- Learning more about the competencies and capabilities and how they are cross-cutting.
- Networking. Overall, I keep learning more and more about disaster preparedness and involved issues.
- Range of experience and insights from that.
- The multi-level participation and discussion.

SECTION 2

Output 2: Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting

Output 4: List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Outputs 2 and 4 were achieved during the meeting as demonstrated by data collected via a template developed for the capability-specific breakout sessions. Following each breakout group discussion, participants completed the blank template and identified the following competencies for each of the five capabilities provided in Table 1 (responses are unedited).

Table 1

Capability	Competencies
Emergency Response	<ul style="list-style-type: none"> • Establish communication infrastructure • Utilize ESAR-VHP • Develop a Responder Family Preparedness Plan • Describe the Responders' role in an emergency/disaster and whom to report to • Implement stratified ICS Training
Incident Management and Support Systems	<ul style="list-style-type: none"> • Demonstrate the principles of ICS and NIMS • Demonstrate your role within the NIMS environment • Facilitate collaboration with internal and external emergency response partners • Apply the principles of ICS and NIMS within your environment including interacting with internal and external emergency response partners • Participate in the evaluation of effectiveness in response • Utilize situational awareness to drive your decision cycle • Conduct threat and risk assessment • Demonstrate the ability to demobilize to return to steady state IAW the principles of ICS
Threat/Risk Assessment	<ul style="list-style-type: none"> • Using an all-hazards approach, explain general health, safety, and security risks associated with disasters and public health emergencies. • Describe risk management principles in the disaster setting. • Describe unique vulnerabilities across demographics within your community. • Using an all-hazards approach, manage risks associated with the disaster and public health emergency. • Apply risk management principles in the disaster setting. • Explain appropriate responses in the emerging disaster environment that includes loss of infrastructure and population change or determine your response based on loss of infrastructures across demographics within your community. • Report unresolved threats to physical and mental health through the chain of command. • Using an all-hazards approach, minimize risks associated with the emerging environments • Evaluate risk management decisions in the disaster setting. • Perform adaptation to your response based on loss of infrastructures across demographics within your community.

SECTION 3

Output 4: List of perceived barriers to attaining core capabilities and competencies

Output 4 was achieved during the meeting as demonstrated by data collected via the template described above. As a component of the charge to complete the blank template for each of the five identified capabilities, participants identified the following barriers to achievement and associated solutions as provided in Table 2 (responses are unedited).

Table 2

Capability	Barriers to Achievement of Competencies	Solutions to Barriers
Emergency Response	<ul style="list-style-type: none"> • Complacency • Time • Lack of Guidance • Anxiety, Time, Interest, Enthusiasm • Who is asking the responders to take the training? • Familiarity with NIMS • Lack of technology, processes, protocols and funding • Unfamiliarity with organizational policies 	<ul style="list-style-type: none"> • Motivation/Engagement • Guiding Tools • Regulations • IAP Templates • Adopt a communication system that meets your needs • Secure funding • Provide training • Drills involving ESAR-VHP • Human Resources – ensure that the request to complete training is made through the most effective channels • Training
Incident Management and Support Systems	<ul style="list-style-type: none"> • Time • Turnover of workforce and partners • Sustain knowledge management • Lack of Funding • Opportunity cost • Credentialing • Legal (jurisdictional) • Lack of MOUs • Standardization in training • Lack of compliance • Lack of practice • Licensing • Anxiety • Lack of resources • Knowledge retention • Worker recidivism • Employers unwillingness to release personnel • Family Safety/Security • Compression syndrome • Lack of infrastructure • Lack of resiliency • Lack of planning • Physical/Environmental/TIC/TIM 	<ul style="list-style-type: none"> • User friendly educational modalities • Prioritization of time/resources/ incentives • CEUs • Funding Availability • Condition/Means for credentialing • Condition for Licensing • Condition for employment • Legal (jurisdictional) • MOUs/Partnerships • Emphasis on Preparedness • Mandates • Legislation • Organizational Support • Training and education • Exercises and drills • Legislative (Federal statute) • Recognition of stress • Prioritization of resources • Family preparedness/plans • Decompression Activities • Integrate into the deliberate planning cycle • Resiliency training • Situational awareness and mitigation

**From Framework to Process: Building a Framework for the Development of Core Capabilities and Competencies
for Medical Disaster Preparedness and Response - A Continuing National Consultation Meeting**

<p>Threat/Risk Assessment</p>	<ul style="list-style-type: none"> • No consensus on common lexicon, terms of reference • Defining and implementing operational risk management in the non-military setting • Avoidance of personal risk • Lack of proper service • Opportunity to cost • Defining and implementing operational risk management in the non-military setting • Absence of Intrinsic/extrinsic motivations • Lack of process improvement • Defining and implementing operational risk management in the non-military setting 	<ul style="list-style-type: none"> • Develop lexicon through consensus process • Operational Risk Management: explore and adopt within civilian settings • Education and Training • Private regulation (when possible) • Create intrinsic motivations • Identify teachable moments in a lifelong career • Identify ways to incentivize • Promote inclusion of disaster medicine education and training along pathways for licensure, certification and organizational accreditation
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SECTION 4

In response to both positive participant feedback and the quality of competency data collected via the breakout sessions, meeting planners are advised to conduct subsequent meetings according to the framework and processes implemented for this Building a Framework for the Development of Core Capabilities and Competencies for Medication Disaster Preparedness and Response: A Continuing National Consultation Meeting.

In addition and in response to the participant survey question, “*Are there any topics that should have been covered, but were not? Please list*”, the following suggestions were provided and should be considered for future meetings:

- Need for lexicon.
- More definitions of concepts. Recommendations: to those who confirm their participation in the meeting - send homework, materials, objectives, etc. so that participants can provide educated insight. I found a lot of confusion in the identification of competencies.
- Are the competencies of the system the same as the competencies of all the individuals within it? Should there be system competencies and basic competencies for all individuals? What is our mission? Should this be defined and shared before competencies are discussed?
- Specific objectives.
- Related to core competencies, maybe a "how to do" list of developing a disaster-preparedness hands-on training scenario, e.g. budget, sources of funding for training, etc.
- Just keep the whole potential medical community in mind. The solution will involve the concepts of one health.
- It is important to my organization that sustainability be a core part of all efforts. I see it currently being discussed but might consider more discussion needed.



TAB 4

After Action Report Workshop #4:

From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response *A Continuing National Consultation Meeting*

**AFTER ACTION REPORT
FY2009 TCN 09238
Workshop 4**

From Process to Practice: Coordinating Core
Competencies for Medical Disaster Preparedness and Response
A Continuing National Consultation Meeting



March 23, 2011 • Logistics Management Institute, McLean, VA

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation

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INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) program of the Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR) under TCN 09238 funded by the United States Northern Command. This task requires conduct of a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence; (2) identify needs and explore strategies to fill education and training gaps and; (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the fourth in a series of six workshops. It was co-sponsored by the National Center for Disaster Medicine and Public Health (NCDMPH), the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), the United States Northern Command (USNORTHCOM) and the YNH-CEPDR.

HANDLING INSTRUCTIONS

1. The title of this document is “FY’09 TCN 09238 Workshop #4: *“From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting”*”. For additional information, please consult the following points of contact:

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EXECUTIVE SUMMARY

OVERVIEW

Workshop #4 was designed as a one day intensive participatory consultation meeting with a plenary speaker and 2 moderated roundtables followed by focused breakout sessions that were guided by skilled facilitators. One panelist participated virtually via the use of a conference line. The moderated roundtables allowed two groups of 5 subject matter experts to share key information on the topic in a time-sensitive fashion thereby maximizing their effectiveness. See ([Appendix 1](#)) for the comprehensive agenda.

The meeting began with an introduction that included an overview of the objectives as well as the desired and actual outputs of the 3 previous workshops. Dr. Steven Phillips then gave a presentation entitled “The National Library of Medicine (NLM): Resources and Practical Tools that Support Competencies for Disaster Preparedness and Response” ([Appendix 5](#)).

The first moderated roundtable “Building Core Competencies: Viewpoint of Those Who Have Created Them” engaged a variety of federal and non-federal subject matter experts to discuss the topic. The second moderated panel “Implementing Core Competencies: The Yale New Haven/Yale University and Tulane University Experience” explored the focus of the end-user and those who during a medical disaster event represent the “boots on the ground”.

Participants spent the next part of the day in one of three identically structured breakout sessions designed to meet the objectives and achieve the desired outputs of the meeting. The disciplines represented were assigned and equally distributed across the breakout groups. Each breakout session was guided by a skilled facilitator with knowledge of the topic, who was supported by a strategically placed subject matter expert and a session evaluator. The breakout sessions were followed by a structured group report-out to provide an opportunity for further information sharing and discussion among meeting participants.

Meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to no more than 55 participants, the use of an audience response system and breaking participants out into smaller groups for more focused discussions. Questions posed via the audience response system were integrated into the panel

discussion allowing subject matter experts and audience members to dialogue regarding the differences in their responses. This helped to keep the audience engaged and spurred additional creative thoughts from both sides. Participants commented on the positive value of this approach.

An extensive well integrated evaluation plan was designed to guide workshop activities (see the complete plan in [Appendix 4](#)) and support achievement of objectives and desired outputs. Evaluators were assigned to each breakout session to take notes and record key findings.

ATTENDANCE

A total of 54 attendees from 18 states and the District of Columbia participated in the workshop. Attendees included representatives of the member organizations of the FETIG, academic institutions, state and local governments, professional organizations and ESAR-VHP professionals. The majority of attendees (60%) indicated they had attended 1 or more of the previous workshops.

SUMMARY OF PARTICIPANT FEEDBACK

The respondents reported that the current workshop attendance was diverse, representative of multiple disciplines and inclusive, validating that the right people were in the room. However, the diversity of this set of military, federal and civilian health providers also highlighted the ongoing need to address challenges to inter-agency communication (e.g., by mitigating variations in lexicons).

Participants conveyed, via the participant evaluation form, that the interactive format of the workshop facilitated the sharing of multiple ideas while simultaneously focusing the group to produce a single set of outputs reflective of the collaborative work that took place throughout the day (see [Appendix 3](#) for detailed report).

The majority of participants (88%) felt that the facilitated discussion was an effective approach to identifying long-term expectations of core competencies.

The majority of participants (80%) felt that the facilitated discussion was an effective approach to identifying recommendations on how to disseminate, coordinate, update and evaluate core competencies. They also indicated that the facilitators worked diligently to encourage and support dialog and overall performed very well.

In addition and also via the participant evaluation form, meeting attendees reported that the facilities at LMI were excellent and generally conducive to the work of the meeting.

Recommended Topics for Future Workshops:

- ◆ Exploring how local governments can incorporate competencies
- ◆ Special populations – it is important to also consider the impact of ethnicity and culture
- ◆ Crisis standard of care
- ◆ Competency measurement
- ◆ Existing competencies and how they link with each other and ongoing projects

WORKSHOP OVERVIEW

Workshop Title: “From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting”. The topic and format for workshop #4 was developed by the Workshop Planning Committee based on qualitative feedback from facilitators and participants in addition to a review of the findings from workshop #3.

Location and Date: Logistics Management Institute (LMI) Corporate Headquarters, McLean, Virginia. LMI generously offered the use of their modern, conveniently located facilities in support of the meeting held on March 23, 2011.

Targeted Audience: Members of the following ESAR-VHP professions were targeted. We also made a special effort to engage representatives of accrediting bodies that focus on accrediting programs and facilities where members of the ESAR-VHP professions receive their educational preparation and degrees.

Table 1: TARGETED AUDIENCE

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professionals	Diagnostic Medical Sonographers	RNs	Physician Assistants
Cardiovascular Technologists & Technicians	Emergency Medical Technicians & Paramedics	Radiologic Technologists & Technicians	Medical & Clinical Laboratory Technologists
Veterinarians	Respiratory Therapists	Pharmacists	Accrediting Organizations

Meeting strategies were employed to maximize dialog and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to no more than 55 participants, the use of an audience response system and breaking participants out into smaller groups for more focused discussions. Questions posed via the audience response system were integrated into the panel discussion allowing subject matter experts and audience members to dialog regarding

the differences in their responses. This helped to keep the audience engaged and spurred additional creative thoughts from both sides. Participants commented on the positive value of this approach.

Meeting Objectives

- Solicit additional feedback regarding the competency development framework and process developed during workshops 2 and 3
- Solicit existing examples of putting competencies into practice, including coordination and evaluation of existing competencies
- Identify additional methods of implementing core competencies for medical disaster preparedness and response
- Solicit long-term expectations of competencies for medical disaster preparedness and response from both developers and practitioners

Desired Outputs

- Revised recommended framework and process for competency development
- List of long-term expectations of competencies for medical disaster preparedness and response from practitioners in the field
- List of recommendations on how to disseminate, coordinate, update and evaluate core competencies (acknowledging the dynamic nature of disaster response)
- List of practices used to implement core competencies for medical disaster preparedness and response

Participating Organizations

This workshop was co-sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

A total of 54 attendees from 18 states and the District of Columbia participated in the workshop. The majority of attendees (60%) indicated they had attended 1 or more of the previous workshops.

Figure 1: ATTENDEE STATES

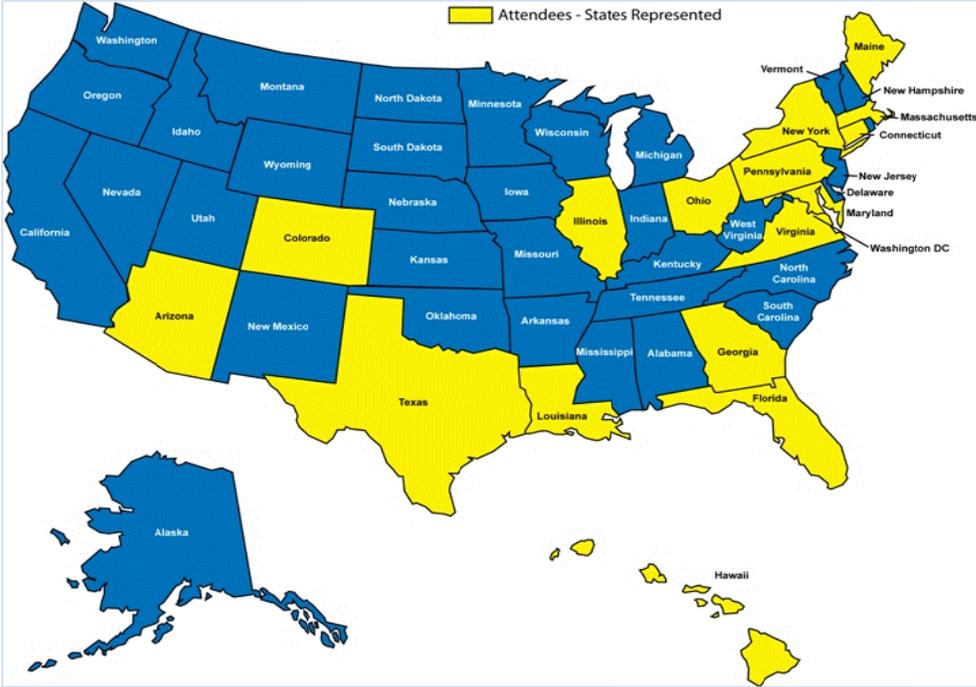
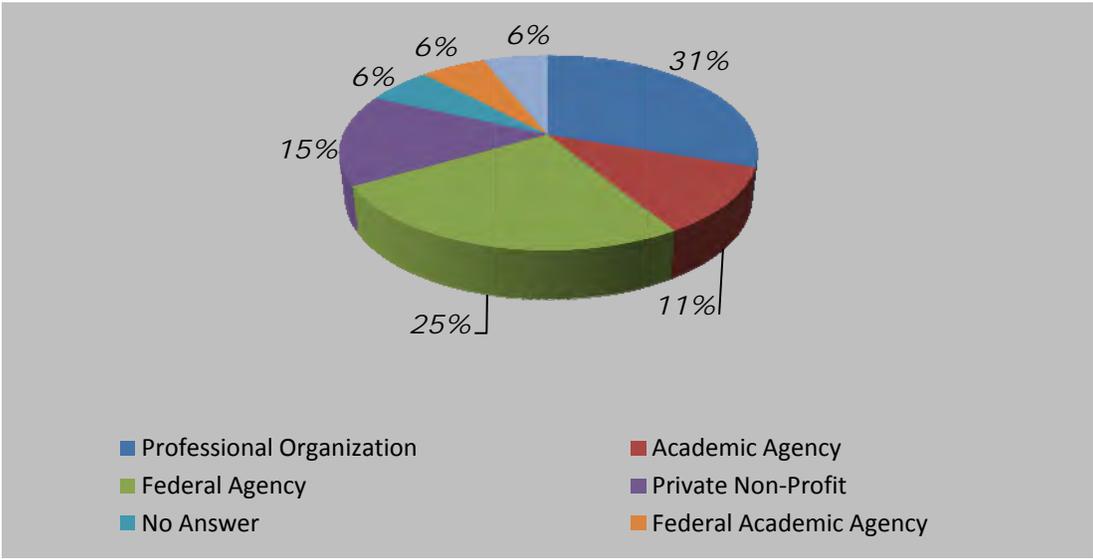


Chart 1: ATTENDEE ORGANIZATIONS

Workshop attendees represented the following types of organizations



BACKGROUND

The overarching mission of the ICMDDMR program is to enhance the ability to develop integrated civilian/military approaches to large-scale disasters and to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM
- Developing models for education and training which can be modified, replicated and made scalable for the civilian/military health delivery workforce
- Determining evaluation modalities for education and training programs implemented
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs
- Integrating civilian/military emergency preparedness strategies for medical and public health delivery.

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations in better preparing to work together during a disaster, Homeland Security Presidential Directive 21 (HSPD-21): Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and public health and the establishing of the NCDMPH to lead those coordination efforts. The FETIG serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

As such ICMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence; (2) identify needs and explore strategies to fill education and training gaps; and (3) synthesize long-term

expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions.

The workshop development plan for TCN 09238 builds on the work done by the NCDMPH in its inaugural workshop entitled, “A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health”. During its initial meeting, the NCDMPH performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

For TCN 09238, a Workshop Planning Committee made up of representatives from the FETIG, the NCDMPH and representatives from YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of the TCN. This integration of civilian, military and federal partners allows the development of workshops and other outputs that are meaningful to all sectors. The Workshop Planning Committee has regularly scheduled weekly meetings to conduct workshop planning activities.

The first workshop conducted under TCN 09238, entitled “Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities” brought together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration

The outputs of workshop #1 and feedback from the FETIG were used to design the structure and content of workshop #2, “Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response:

A National Consultation Meeting”. Workshop #2 used a scenario-based workshop format to elicit the following desired outputs:

- Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at the meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #3, “Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A Continuing National Consultation Meeting” continued the discussions begun in workshop #2 and followed the same format to achieve the outputs described below:

- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Outputs from the preceding workshops and feedback from key stakeholders were used to design the structure and content of workshop #4 and will continue to inform the remaining workshops to ensure that the objectives outlined in the SOW for this task are met. A draft sequence of future topics was drafted and is updated based on the current trajectory of outputs.

Each potential topic will be re-evaluated in light of the results of the preceding workshop. Additional workshops will occur at intervals of approximately 3 months as outlined in the draft schedule below:

Table 2: WORKSHOP SCHEDULE

Workshop #	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities
2	Sept. 22	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting
3	Nov. 17	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A Continuing National Consultation Meeting
2011 Workshops			
4	March 23	McLean, VA	From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response – A National Consultation Meeting
5	June 8	McLean, VA	From Practice to Preparedness
6	August 3	TBD	TBD

The first 4 workshops were held in the National Capital Region. This area has proven to be a central location that works well for the targeted audience and has drawn participants from the 48 contiguous states and Hawaii. We will continue to evaluate the appropriateness of this location before and after each workshop and if appropriate, will consider moving future workshops to one of the following areas: Colorado Springs, Colorado or New Haven, Connecticut. In addition, the Workshop Planning Committee will consider strategies and virtual conference tools that would support remote participation and increase awareness and dissemination of this project's outputs.

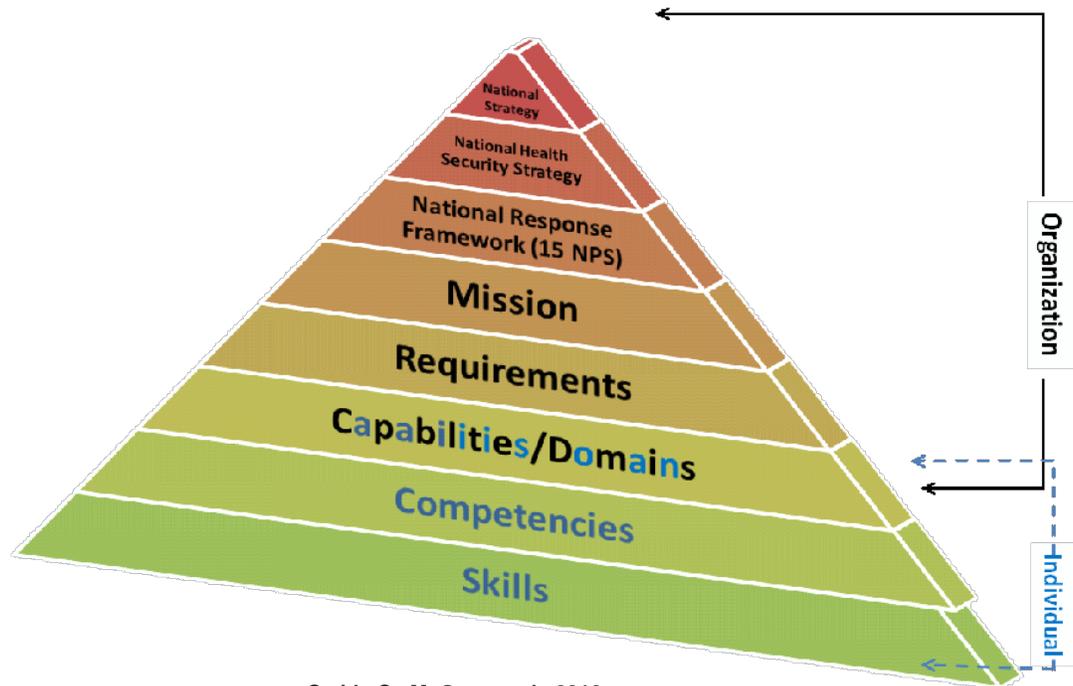
SUMMARY OF WORKSHOP RESULTS

Additional Comments on the Framework and Process for Developing Competencies for the Workforce Responsible for Preparedness and Response to Public Health and Medical Disasters

A key output of workshop #2 was achievement of consensus that the framework illustrated below is the appropriate framework for identification and validation of core capabilities and competencies for the workforce responsible for preparedness and response to public health and medical disasters.

Figure 2: COMPETENCY FRAMEWORK

Framework for Developing Work Force Competencies for Public Health and Medical Disasters



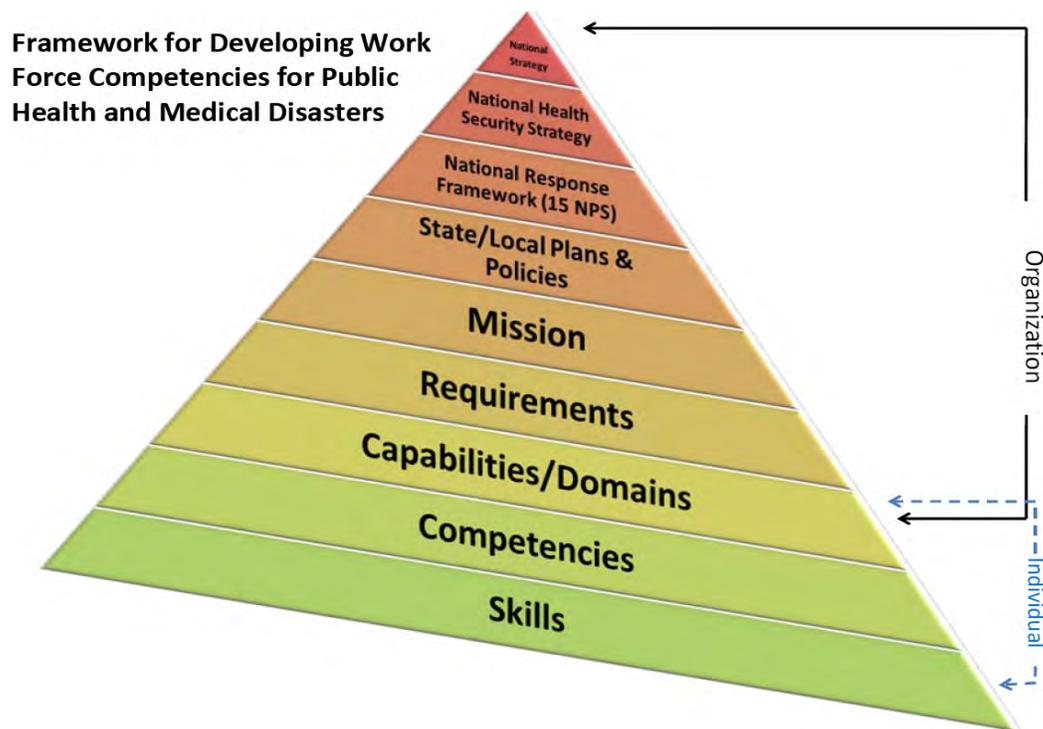
Smith, S., McGovern, J., 2010

The National Security Strategy sits at the pinnacle of the framework and outlines actions to keep the country safe and prosperous. The framework also recognizes that on a national level the National Health Security Strategy and the National Response Framework are key documents that define the organization's mission(s). To achieve the mission, an organization must identify the requirements, those collective tasks that are required for a specific period of time, to accomplish the mission. Requirements in turn drive the identification of capabilities and competencies.

Capabilities are defined as “the ability to execute a specified course of action.”¹ A capability provides a means to achieve a measurable outcome resulting from performance of one or more critical task(s), under specified conditions and performance standards. In order for an organization to reach and maintain a capability it requires individuals who have the “abilities relating to excellence in a specific activity.”² In this sense competencies refer to a “standardized requirement for an individual to properly perform a specific job.”³ For an individual to be considered “competent” they must be able to perform specific skills needed to respond during a disaster.

During workshop #3, additional discussion ensued regarding the need for revisions to the above framework to reflect the importance of core competencies, core capabilities/domains, the National Preparedness Guidelines and state and local plans that account for geographic and population uniqueness. As a result of these recommendations the explanation of the Framework was revised to the following.

Figure 3: COMPETENCY FRAMEWORK - REVISED



Forte, E., Smith, S., McGovern, J., 2010

¹ Joint Publication 1-02, “DoD Dictionary of Military and Associated Terms” http://www.dtic.mil/doctrine/dod_dictionary/

² Capabilities Based Planning Overview 12-17 DHS/SLGCP/OPIA/Policy and Planning Branch

³ American Heritage Dictionary of the English Language, Fourth Edition Copyright 2009 by Houghton Mifflin Company

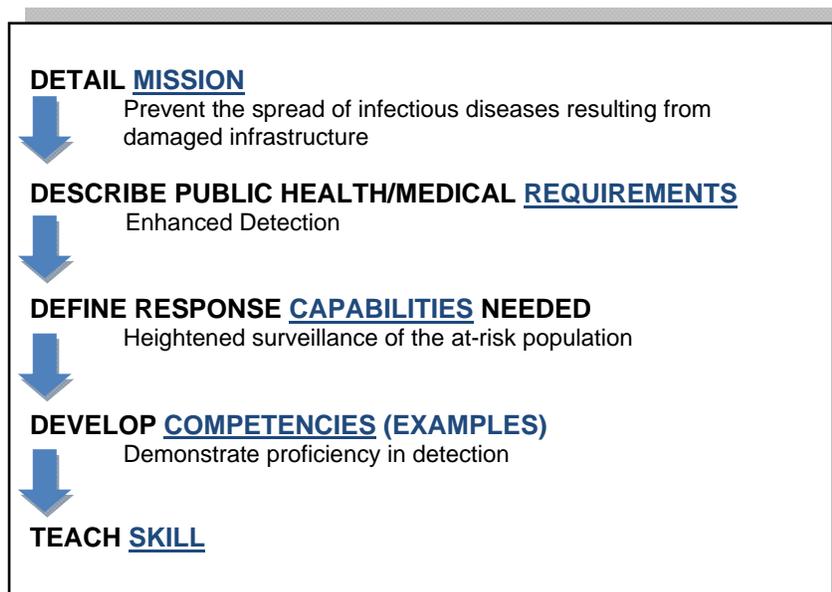
For competencies or capabilities/domains to be considered “core” they need to apply across phases of the disaster, across disciplines and across scenarios.

The Process

The next step for the group was to identify a process for identification and validation of core competencies for the clinical workforce responsible for medical preparation and response to a disaster event. The group reached consensus on the following description of the process.

The process is initiated by recognition or assignment of a **mission**. The mission could be generated in the context of a scenario or threat. For example a mission might be “Prevent the spread of infectious diseases resulting from damaged infrastructure”.

Chart 2: THE PROCESS



Based on the mission, **requirements** are identified. For example, using the mission above, some of the requirements could be:

- Implementation of Preventive Measures
- Enhanced Detection
- Disease Eradication

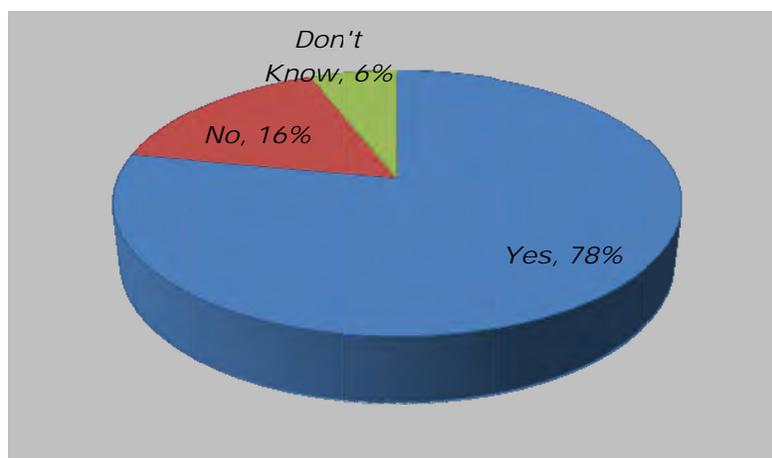
Capabilities are necessary to meet the requirements, and can therefore be derived from the list of requirements. For example, to address a requirement for Enhanced Detection, the entity responsible for mission success must be capable of deploying methods for early recognition of the clinical syndrome, heightened surveillance of the at-risk population and reliable tracking and reporting mechanisms.

In addition to funding, hardware, software, and other resources, these capabilities demand specific **competencies** of the response personnel. These encompass epidemiologic methods, including skill sets typically used to describe minor outbreaks in community public health settings. Individual **skills** contributing to competency in this example might include establishment of electronic health information among medical care facilities, and others.

During workshop #4, additional feedback was solicited regarding this competency development framework and process. Questions were addressed to panelists during the first moderated panel and supplemental questions were posed to the audience using the available audience response technology. Responses from the audience were hidden until the designated panelists had completed their responses to the question. The audience polling results were then released and discussed briefly by both the panelists and audience members. A more extensive discussion of each question occurred during the breakout sessions.

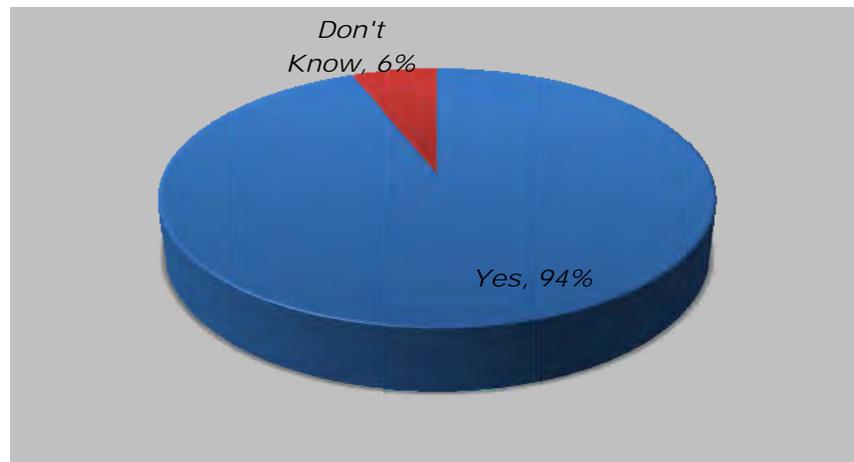
Participants were asked via the audience response system whether their organization is currently implementing competencies for emergency preparedness and disaster response. Their responses are summarized in the chart below:

Chart 3: IMPLEMENTING COMPETENCIES



Additionally, participants were asked if their organization has access to current information that supports the development of disaster response curriculum. Their responses are summarized in the chart below:

Chart 4: ACCESS TO INFORMATION



Although 94% of participants felt they had access to current information that supports the development of curriculum, many were not aware of the federally funded programs focused on emergency preparedness education and training, public health and healthcare delivery preparedness, nor the variety of resources described by Dr. Phillips as being available from the National Library of Medicine.

Overall there was wide variation in the processes members of the first moderated roundtable and participants used to develop emergency preparedness and disaster response competencies. For example, some performed needs assessments and literature reviews while others began by focusing heavily on broad-based participation from members of their professional organization to determine the framework and drive the process for developing emergency preparedness and disaster response competencies. Others relied heavily on guidance from federal agencies and advisory councils. In addition, graduate healthcare professions are starting to add “certificate programs” or specific “tracks” for disaster response and/or emergency management.

The panelists and workshop participants agreed that currently core competency development is primarily profession-specific and is frequently tied to entry-level training standards, however, participants also indicated that further discussion on competency levels may be warranted, for example, entry versus mid versus executive level competencies.

Panel 2 subject matter experts described implementing core competencies by developing checklists for clinical staff, conducting drills and exercises, participating in real world event responses, war games and through the use of virtual environments and laboratories. Core competencies are also being rigorously mapped to existing curricula. For example, the National Disaster Life Support courses are currently undergoing refinement to remove extraneous material not tied to a specific competency.

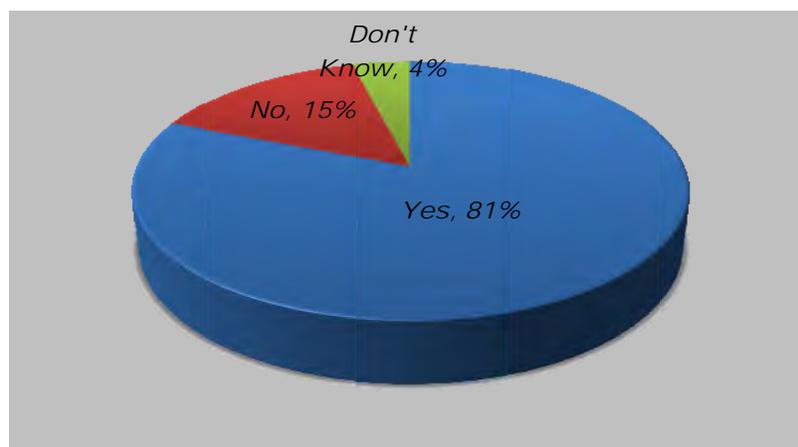
Representatives of the allied health professions indicated that many of the allied health professions that have core competencies go back to their licensing group and internal and external subject matter experts to gain input regarding which competencies should be core. This process takes 12-18 months from inception to completion.

Despite the variability reflected above there is evidence that all of the components of the framework and process developed during workshops 2 and 3 are reflected in the frameworks and processes used by workshop participants. The framework and process developed during the previous workshops provides a standardized method to approach the development of core competencies for emergency preparedness and disaster response that may help to minimize the impact of organization-specific differences on the determination of what is core.

Integration of Competencies into Existing Curriculum

Participants were asked via the audience response system whether the organization they represent integrates emergency preparedness and disaster response competencies into existing curriculum. Their responses are summarized in the chart below:

Chart 5: COMPETENCIES IN CURRICULUM



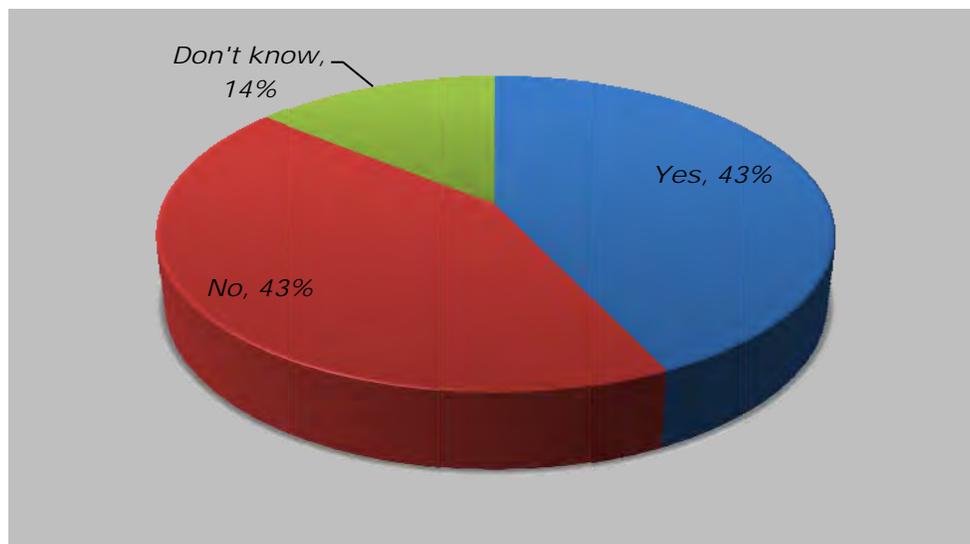
There is wide variation in the approach to integrating competencies into existing curriculum. All panelists and participants identified the challenge of balancing the necessary training with other duties and requirements. A significant difference was noted between the approaches of academia to this issue versus the approach used in continuing education directed at experienced practitioners.

For experienced practitioners, emergency preparedness and disaster response competencies are frequently integrated into entry level training and are not consistently addressed thereafter. In academic settings where competencies are integrated, curriculum mapping is employed and toolkits are developed to align objectives to module competencies and follow-up with clinical practice. In academic settings where competencies are not integrated, the challenge is fitting core competencies into an already packed, time constrained curriculum. There was general consensus that mandates from federal or state agencies and/or accrediting bodies would help to decrease the variability in this area.

Role of Accreditation

When participants were asked via the audience response system whether the organization they represent worked with an accrediting body to develop competencies, the majority of the responses were evenly split as noted below:

Chart 6: WORK WITH ACCREDITING BODIES



There is wide variability in the requirements of accrediting bodies related to emergency preparedness and disaster response competencies. This variability explains in part the differences in the state of development of emergency response and disaster preparedness competencies across the ESAR-VHP professions represented.

Table 3: ACCREDITING BODY REQUIREMENTS

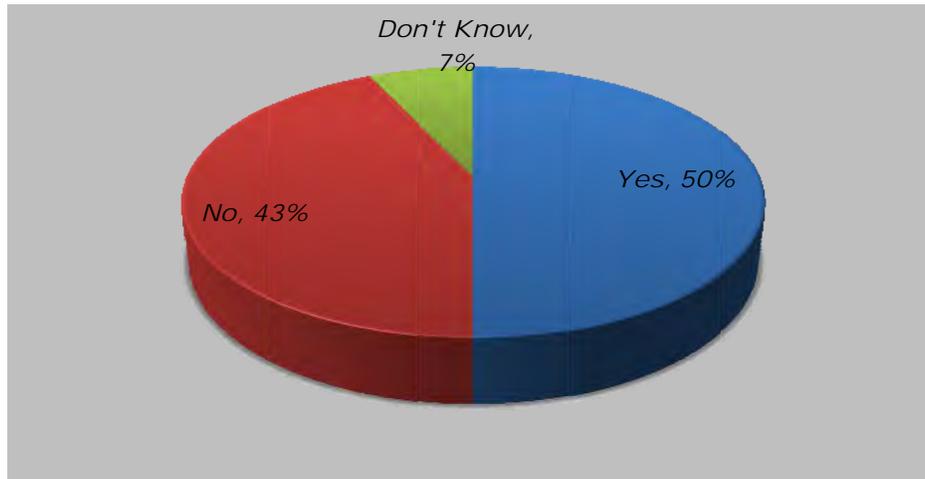
Joint Commission	<ul style="list-style-type: none"> Standards for Emergency Management in hospitals and healthcare organizations
Physicians	<ul style="list-style-type: none"> No ACGME standards LCME (AMA/AAMC) – no competencies
AMA	<ul style="list-style-type: none"> Policy is there should be competencies
RNs/ANA	<ul style="list-style-type: none"> No requirement
CAAHEP	<ul style="list-style-type: none"> Has requirement for all hazards core competencies that must be placed in profession specific core competencies
ABMA/ Veterinarians	<ul style="list-style-type: none"> No requirement
EMS	<ul style="list-style-type: none"> No requirement
States	<ul style="list-style-type: none"> Most no requirement Nevada and Pennsylvania have requirements

Accreditation requirements were widely recognized by breakout participants as an additional and highly effective approach to dissemination and uptake of core competencies but, as noted above, requirements vary widely by profession and locale.

Evaluation and Updating Competencies

When participants were asked if the organization they represent currently builds and measures competence in emergency preparedness and disaster response in the workforce, they responded as noted in the chart below:

Chart 7: MEASURING COMPETENCE



The panelists from session 1 spoke of evaluating competencies with field training exercises and analysis of objectives as a component of after action reports (AAR). In addition, panelists suggested geocoding learners and implementing standardized survey instruments post disaster to assess:

- (1) access to relevant learning
- (2) effectiveness of applicable learning interventions in enhancing their ability to respond
- (3) gaps in existing competency models

The panelists in session 2 discussed using lessons learned from real life events to update core competencies. Both groups seek to improve the evaluation of competencies by measuring performance against real world events and ensuring reliability of the AARs.

The breakout sessions identified the following approaches to evaluating competencies:

Table 4: EVALUATING COMPETENCIES

Drills/Exercises

- ◆ Real World Events
- ◆ Lessons Learned
- ◆ Post Event Analysis (on-site and off-site)
- ◆ Performance Testing
- ◆ Research and Review of Emerging Concepts and Current Practices for Validation and Implementation
- ◆ Rigorous Training Evaluation Methodology (e.g., Kirkpatrick Model)*

Reference: Kirkpatrick, D.L. Evaluating Training Programs: The Four Levels (2nd edition), Englewood, CO: Berrett-Koehler Publishers, 1998.

* *Kirkpatrick's model is a four-level model of training evaluation that allows the measurement of different training outcomes including participant reactions, learning, on-the-job behavior, and organizational results.*

Breakout session participants recommended that competencies be updated at regular intervals (every 3-6 years) and in response to new knowledge gained from disaster events. Participants pointed out that academia typically updates competencies every 5 years, but professional schools may also be driven by institution specific requirements.

Long-term Expectations of Core Competencies

Panelists and participants were asked to describe their expectations of what is supposed to be done with core competencies once they are developed. Panelists expect that federal grantors will eventually be given a road map of core competencies that can be fully incorporated into all levels of curricula, from undergraduate to graduate and continuing education. Core competencies should also become part of the accreditation processes for academic programs and should be integrated, where appropriate, within organizational accreditation programs. In addition, linking core competencies to state professional licensure requirements may also support the building of a healthcare workforce competent in core emergency response skills. The panelists also anticipate the creation of a national evaluation framework that will integrate all emergency response core competencies with evaluation methodologies,

such as those developed through programs such as the Centers for Public Health Preparedness (CPHPs), the Bioterrorism Training and Curriculum Development Program (BTCDDP), the Preparedness and Emergency Response Learning Centers (PERLCs) and the Preparedness and Emergency Response Research Centers (PERRCs). Participants added the following expectations:

Table 5: LONG TERM EXPECTATIONS OF CORE COMPETENCIES

Dissemination and implementation across the professional spectrum

- ◆ Incorporation into accreditation processes across undergraduate, graduate and continuing education programs
- ◆ Placement into existing disaster education and training curriculum as reference standards
- ◆ Use to develop metrics
- ◆ Incorporation into job action sheets, job descriptions and emergency operations and management plans
- ◆ Use to build consensus for national curriculum for each profession
- ◆ Must be evidenced-based and translate clinically
- ◆ Must reflect an understanding of the barriers to implementation
- ◆ Must be realistic in scope so that the majority of the public health and healthcare workforce can be expected to attain and retain given competing priorities

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

A detailed discussion of specific recommendations is integrated throughout the preceding section; the following key recommendations resulted from the workshop:

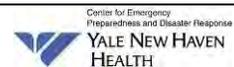
- Need for adoption of a standardized framework and process for development of core competencies
- Further discussion on competency levels may be warranted, for example, entry versus mid versus executive level competencies
- Panelists suggested geocoding learners and implementing standardized survey instruments post disaster to assess (1) access to relevant learning, (2) effectiveness of applicable learning interventions in enhancing their ability to respond and (3) gaps in existing competency models
- Core competencies should become part of the accreditation process for academic programs and should be integrated , where appropriate, within organizational accreditation programs
- Consideration should be given to linking core competencies to state professional licensure requirements in an effort to support uptake

CONCLUSION

Overall this workshop achieved its objectives and desired outputs and has positively contributed to the achievement of the overall statement of work for this TCN. We will use the recommendations and participant feedback herein to design the 5th workshop.

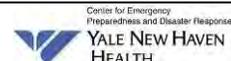
APPENDIX 1

WORKSHOP AGENDA



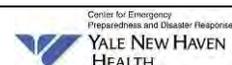
From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

Agenda: Wednesday, March 23, 2011	
7:30 am-8:00 am	Registration and Networking Breakfast LOCATION: LMI Room 4050
8:00 am-8:30 am	<p>Introduction and Meeting Overview <i>Beverly M. Belton, RN, MSN, NE-BC</i> – Program Manager, AHRQ ACTION Projects, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Welcome and Opening Remarks <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command</p> <p><i>CAPT D.W. Chen, MD, MPH</i> – Director of Civil-Military Medicine, Office of the Assistant Secretary of Defense for Health Affairs, Department of Defense, Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response</p> <p>Overall Workshop Roadmap <i>Stewart D. Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Review of Framework and Process <i>Rick Cocrane, MA, MPH</i> – support of the Office of the Assistant Secretary of Defense (Health Affairs)</p> <p>LOCATION: LMI Room 4050</p>
8:30 am-9:00 am	<p><i>The National Library of Medicine: Resources and Practical Tools that Support Competencies for Disaster Preparedness and Response</i> <i>Steven Phillips, MD</i> – Associate Director, National Library of Medicine, NIH, DHHS</p> <p>LOCATION: LMI Room 4050</p>
9:00 am-10:45 am	<p>Moderated Roundtable I : Building Core Competencies: Viewpoint of Those Who Have Created Them</p> <p>Moderator: Elaine Forte, BS, MT (ASCP) – Senior Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>John Armstrong, MD, FACS - Associate Professor of Surgery, University of South Florida College of Medicine and Medical Director, USF Health Center for Advanced Medical Learning and Simulation</p> <p>Laura Biesiadecki, MSPH – Senior Program Manager, Association of Schools of Public Health</p> <p>Peter Brewster – Director, Education and Training for the Emergency Management Strategic Healthcare Group, Veterans Health Administration</p> <p>M. LaChetta McPherson, PhD, MLS – President, Commission on Accreditation of Allied Health Education Programs (CAHHEP) and Executive Dean, Health and Legal Studies, El Centro College for Allied Health and Nursing</p> <p>Karen L. Levin, RN, MPH, CHES – Director, Columbia Regional Learning Center for Preparedness and Emergency Response; Associate Director, Division of Planning and Response, National Center for Disaster Preparedness, Columbia University Mailman School of Public Health</p> <p>LOCATION: LMI Room 4050</p>
10:45 am-11:00 am	Break/Morning Refreshments LOCATION: LMI Room 4050



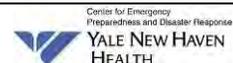
From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

Agenda: Wednesday, March 23, 2011 continued			
11:00 am-12:30 pm	<p>Moderated Roundtable II:</p> <p>Implementing Core Competencies: The Yale New Haven Health/Yale University and Tulane University Experience</p> <p>Moderator: <i>Stewart D. Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p><i>Lynn Piacentini, RN</i> – Clinical Education Coordinator, Yale New Haven Health Center for Emergency Preparedness and Disaster Response</p> <p><i>Rosanne Prats, MHA, ScD</i> – Louisiana State Health Officer, Louisiana Department of Health & Hospitals</p> <p><i>Donald MacMillan MA, PA-C, EMT-P</i> – Emergency Management Coordinator, Yale-New Haven Hospital and Section Faculty, Yale University School of Medicine</p> <p><i>Sandy Bogucki, MD, PhD</i> – Associate Professor, Yale University School of Medicine Department of Emergency Medicine</p> <p><i>Anthony Tomassoni, MD, MS, FACEP, FACMT</i> – Assistant Professor of Emergency Medicine, Yale University School of Medicine; Medical Director, Yale New Haven Health Center for Emergency Preparedness and Disaster Response</p> <p>LOCATION: LMI Room 4050</p>		
12:30 pm-12:45 pm	Break/Move to Breakout Session Rooms		
12:45 pm	Working Lunch/Breakout Sessions Begin		
12:45 pm-2:50 pm	<p>Breakout Session A</p> <p>FACILITATOR:</p> <p><i>Julie Kipers, MBA, PMP</i></p> <p>LOCATION: LMI Room 4050A</p>	<p>Breakout Session B</p> <p>FACILITATOR:</p> <p><i>Debbie L. Hettler, OD, MPH, FAAO</i></p> <p>LOCATION: LMI Room 4050B</p>	<p>Breakout Session C</p> <p>FACILITATOR:</p> <p><i>Kevin “Kip” Thomas, PHD, MBA</i> <i>*Mark Schneider, PhD</i></p> <p>LOCATION: 1st Floor LRI Conference Room</p>
2:50 pm-3:05 pm	Break		
3:05 pm-3:45 pm	<p><i>Breakout Session Report Outs</i></p> <p>LOCATION: LMI Room 4050</p>		
3:45 pm-4:00 pm	<p>End Note Speaker/Closing Remarks</p> <p><i>Kenneth W. Schor, DO, MPH</i> – Acting Director, National Center for Disaster Medicine and Public Health</p> <p>LOCATION: Room 4050</p>		



APPENDIX 2

BIOGRAPHIES: FACILITATORS, MODERATORS AND PRESENTERS

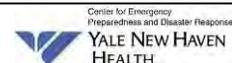


John Armstrong, MD

John H. Armstrong is a medical educator and trauma/critical care surgeon at the University of South Florida (USF), Tampa, FL, where he is Associate Professor of Surgery and Medical Director of the USF Center for Advanced Medical Learning and Simulation (CAMLS). CAMLS brings together all forms of simulation for specialty-specific and inter-professional education and training within a 90,000 sq ft building. Dr. Armstrong came to USF from the University of Florida & Shands Medical Center in Gainesville, FL, where he was Trauma Medical Director. He has internationally-recognized expertise in curriculum development and system implementation, casualty simulation, medical team training, and public health preparedness for disasters.

Dr. Armstrong is Co-Editor of the American College of Surgeons (ACS) Disaster Management and Emergency Preparedness course; Editor-in-Chief of the American Medical Association (AMA) Advanced Disaster Life Support, v.3.0; consultant to the ACS Committee on Trauma Ad Hoc Committee on Disaster and Mass Casualty Management; executive committee member of the AMA National Disaster Life Support Educational Consortium; and founding editorial board member of the AMA journal, Disaster Medicine and Public Health Preparedness. He has served on US Centers for Disease Control (CDC) expert panels in surge capacity, field triage, and blast injury, and is a principle author of the CDC curriculum, Bombings: Injury Patterns and Care, v.2.0. He is State Faculty for ATLS, a course director for the ACS Advanced Trauma Operative Management (ATOM) course, an instructor for the ACS Advanced Surgical Skills for Exposure in Trauma (ASSET) course, and a faculty member for the Definitive Surgical Skills in Trauma course of the Royal College of Surgeons of England. Dr. Armstrong serves as Chair of ACS Political Action Committee (SurgeonsPAC); Chair of the ACS delegation to the AMA House of Delegates (HOD); ACS Governor from Florida; member of the ACS Health Policy and Advocacy Groups; and host of ReachMD (XM 160) radio programs. He has recently been appointed to the Accreditation Council for Graduate Medical Education Residency Review Committee for Surgery. He is a former trustee and executive committee member of the AMA.

Dr. Armstrong completed his career in the US Army Medical Corps at the rank of Colonel in 2005. His final assignment was Director, US Army Trauma Training Center (ATTC), in association with the Ryder Trauma Center, Jackson Memorial Hospital, Miami, FL. He led the development and implementation of a two-week bona fide inter-professional team training program in trauma casualty care for military medical units

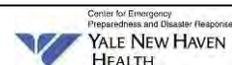


deploying to Iraq and Afghanistan. This incorporated elements of the AHRQ TeamSTEPPS program. Under his leadership, the ATTC was named the Department of Defense (DOD) Center of Excellence for Combat Casualty Care Team Training (2004), and received the DOD Patient Safety Award for Team Training (2005). He is an in-residence graduate of the US Army Command and General Staff College and remains on faculty at the Uniformed Services University of the Health Sciences, Bethesda, MD, where he was a Distinguished Visiting Professor in August 2010. Born in Montana, Dr. Armstrong graduated from Princeton University with an economics degree in 1984 and the University of Virginia School of Medicine in 1988. He completed his surgical residency at Tripler Army Medical Center in Hawaii in 1993, his fellowship in trauma/surgical critical care at the University of Miami/Jackson Memorial Medical Center in 1997, and a Master Educators in Medical Education fellowship at the University of Florida in 2008. He is a member of the Alpha Omega Alpha Honor Medical Society. He is recertified by the American Board of Surgery with added qualifications in surgical critical care, and is a fellow of the ACS and the American College of Chest Physicians. He is a member of the American Association for the Surgery of Trauma, the Eastern Association for the Surgery of Trauma, the Florida Medical Association, the American Medical Association, the American College of Physician Executives, and the Association of Military Surgeons of the United States.

Beverly M. Belton, RN, MSN, NE-BC

Ms. Belton is a Program Manager at Yale New Haven Health System, Center for Emergency Preparedness and Disaster Response. She has more than twenty-five years experience in healthcare management and leadership with experience in a variety of settings across the healthcare continuum – including the United States Army Nurse Corp. She has a demonstrated capacity to lead change with a focus on patient safety, employee satisfaction and regulatory compliance. She is a certified Six Sigma Green Belt who has successfully applied the principles of Six Sigma in healthcare improvement projects. She is also a skilled presenter who has presented to international audiences. Ms Belton applies her clinical expertise, leadership and project management skills to oversight of the AHRQ ACTION and DOD TCN 09238 projects.

She received her Bachelor of Science in Nursing from the University of Pennsylvania and her Master of Science in Nursing Policy, Management and Leadership in 2010 from Yale University. She is board certified in nursing executive practice.



Laura A. Biesiadecki, MSPH, CPH

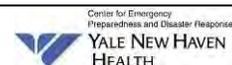
Laura Biesiadecki is a Senior Program Manager at the Association of Schools of Public Health (ASPH) working in both preparedness and communications. For the past eight years, Ms. Biesiadecki has been responsible for managing ASPH's preparedness portfolio which currently includes coordinating network activities for the 14 CDC-funded Preparedness and Emergency Responses Learning Centers (PERLC) and the nine Preparedness and Emergency Response Research Centers (PERRC). Previously, she managed ASPH network activities for the 27 Centers for Public Health Preparedness located in 40 schools of public health, medicine, dentistry and veterinary medicine.

Prior to coming to ASPH, Ms. Biesiadecki worked on a number public health issues for both not- for-profit organizations and for the federal government including children's health insurance, tobacco control, and worksite health promotion. She has an MSPH from the University of North Carolina at Chapel Hill Gillings School of Public Health and a BS from Indiana University. She was also a member of the charter class to become certified in public health from the National Board of Public Health Examiners.

Sandy Bogucki, MD, PhD

Dr. Bogucki is an Associate Professor of Emergency Medicine at Yale University School of Medicine, was Board Certified in Internal Medicine, Infectious Diseases and Emergency Medicine, and joined the Yale Emergency Medicine faculty in 1989. Dr. Bogucki holds several positions of leadership in the Fire Service and EMS communities. She chairs the NFPA 1582 Task Group, serves on the Board of Visitors of the National Fire Academy, the Interagency Board, and she conducts on-site investigations of fire fighter line-of-duty deaths for NIOSH.

Dr. Bogucki serves on the editorial board of Pre-hospital Emergency Care, and is an Associate Editor of Academic Emergency Medicine. She completed two terms on the Board of Directors of the National Association of EMS Physicians, and is a past Chairman of the Board of Directors of the National Registry of EMTs. From 2004-2008, Dr. Bogucki was a Senior Medical Advisor to the Assistant Secretary for Preparedness and Response in the US Department of Health & Human Services, participating in the Federal medical responses to major disasters. She continues research and program development in disaster planning and response.



Peter Brewster

Pete is the Director, Education and Training for the Emergency Management Strategic Healthcare Group, Veterans Health Administration (VHA), and the largest integrated health care system in the United States. VHA operates 158 VA Medical Centers and 919 outpatient clinics in all fifty states and U.S. territories. In his current position, Pete is responsible for providing policy and guidance for emergency management education, training and exercise for VHA. He is involved with Federal and NFPA technical committees that provide research, standards, guidance, education, training, evaluation and performance improvement for the health system and emergency management communities.

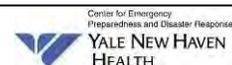
Mr. Brewster joined VHA in 1990 at the start of Operation Desert Shield from his previous position as an Emergency Management Coordinator with the Consolidated City of Indianapolis-Marion County. During his time with the City, Pete handled the medical, utilities and communications functional areas, and was instrumental in helping develop Indiana's FEMA Urban Search and Rescue Task Force. He worked with the National Park Service and United States Forest Service while in Wyoming and was active in technical climbing, wild land search, and emergency medical services.

Pete has a Bachelors of Science from the University of Wyoming, and a Certificate in Public Management from the Indiana University-Purdue University of Indianapolis.

Captain D.W. Chen, MD, MPH

Captain D.W. Chen, MD, MPH is an active duty medical officer with the U.S. Public Health Service (PHS) currently detailed to the Department of Defense (DOD), Office of the Assistant Secretary of Defense for Health Affairs, where he serves as Director of Civil-Military Medicine. In this capacity, he oversees DOD medical policies and programs supporting homeland defense; defense support to civil authority; emergency preparedness & response; and coalition and non-DOD beneficiary health care.

Prior to his present assignment, Capt. Chen was detailed to the U.S. Department of Agriculture (USDA), where he served as Deputy Associate Administrator for Food Security & Emergency Preparedness, providing leadership to an office within USDA that helps coordinate national food and agricultural homeland security & emergency preparedness. Before his assignment at USDA, Capt. Chen served as the Director, Division of Transplantation at the Health Resources & Services Administration (HRSA),



U.S. Department of Health & Human Services (HHS), an office which regulates the nation's organ & tissue transplantation system and as a former Deputy Division Director in HRSA's Bureau of Health Professions where he oversaw Federal programs supporting medical education & public health workforce development.

In addition to his primary duties at DOD, Capt. Chen is an Adjunct Assistant Professor at the Uniformed Services University of the Health Sciences and currently serves as a member of the PHS Surgeon General's Policy Advisory Council. He served part-time on the senior medical staff of the Naval Medical Clinic, U.S. Naval Academy, from 1994 to 2000.

Capt. Chen received early promotions to the rank of Commander in 1996 and to the rank of Captain in 2002. In 2003, Capt. Chen received the Harvard School of Public Health Alumni Award of Merit for his achievements in public health.

Capt. Chen completed his undergraduate studies (with honors) at Harvard University, his graduate work in public health at the Harvard School of Public Health and his medical degree at the Tufts University School of Medicine. Dr. Chen is Board-Certified in Preventive Medicine and is a Fellow of the American College of Preventive Medicine.

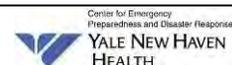
Richard M. Cocrane, MA, MPH

Mr. Cocrane has 29 years of experience in healthcare policy and strategic medical plans and operations in the military health system. His last five years on active duty were spent with the Joint Staff as the Director of the Joint Medical Planners Course and as Chief, Health Service Support Division. Since retiring from the Navy and joining LMI, Mr. Cocrane has supported the Assistant Secretary of Defense (Health Affairs) on several projects related to medical support to disasters, including the Defense Critical Infrastructure Program, the Installation Protection Program, and Homeland Security Presidential Directive 21 on Medical and Public Health Preparedness.

Mr. Cocrane received his Master of Arts in National Security and Strategic Studies from the Naval War College in 1991 and his Master of Public Health from the University of Pittsburgh, 1979.

Elaine Forte, BS, MT (ASCP)

Ms. Forte has more than 29 years of experience managing program development and delivery in laboratory settings, healthcare delivery and education and training and has



co-authored numerous articles and abstracts. She has extensive project management experience including design, development, implementation and evaluation of (1) information technology systems, (2) education and training programs, (3) risk communication materials and (4) emergency preparedness and surge capacity initiatives. She was one of the primary participants in the national Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) committee and guided the development and implementation of the statewide emergency credentialing program in Connecticut. She guides the activities of YNHHS' National Center for Integrated Civilian-Military Domestic Disaster Medical Response and the Center for Public Health Preparedness, a CDC designated center at YNHHS. Under Ms. Forte's leadership, YNHHS has delivered education and training through multiple modalities to more than 120,000 healthcare workers at all levels of skill in a variety of disciplines and healthcare settings in more than 42 states and US territories.

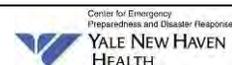
Debbie L. Hettler, O.D., MPH, FAAO

Dr. Debbie Hettler's education includes a B.S. and O.D. from The Ohio State University College of Optometry and an MPH from University of Illinois. Her professional practice experience includes optometric education, clinical practice in HMO's, and the VA as well as quality assurance activities. She has over 100 scientific presentations including such topics as clinical techniques, ocular disease, public health issues, contact lenses, and managed care, and authored articles published concerning public health, primary care coordination and ocular disease topics.

She has served in many professional organization leadership roles including the American Academy of Optometry, American Optometric Association, and American Public Health Association. She has been with the Veterans' Administration since 1994 as a clinical optometrist and associated education affiliations with University of Missouri Department of Ophthalmology and Internal Medicine. As Optometry Residency Supervisor there, she was associated with four optometry schools for optometric externships and residencies. Currently, she is the Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office located in Washington, DC.

Julie Kipers, MBA, PMP

Ms. Kipers is a Senior Consultant at LMI. She has 20 years of experience working with Department of Defense (DOD) resource analysis, requirements analysis, and



technology initiatives. While at LMI, she has participated in a variety of studies and analysis tasks for clients, such as the Occupational Safety and Health Administration (OSHA), the Defense Safety Oversight Council (DSOC), the Defense Logistics Agency (DLA), the Department of Education, the U.S. Coast Guard (USCG), , and the U.S. Army Corps of Engineers (USACE). Ms. Kipers, a project management professional, has supported the Assistant Secretary of Defense (Health Affairs) on several projects including the Defense Critical Infrastructure Program. She is a trained facilitator that is experienced in eliciting decision criteria and reaching consensus within groups. She has led groups through strategic planning, resource decisions, framework developments, and vendor selections.

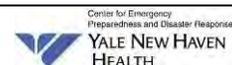
She received her BBA , Management from College of William and Mary and her MBA from Smith School of Business, University of Maryland

Karen L. Levin, RN, MPH, MCHES

Karen L. Levin, RN, MPH, MCHES is Director for the Columbia Regional Learning Center, the new CDC funded Preparedness and Emergency Response Regional Learning Center grant, and she is Associate Director of the Division of Planning and Response, at the National Center for Disaster Preparedness at Columbia University's Mailman School of Public Health.

Ms. Levin holds a master degree in epidemiology, and was recently earned her Master status as a Certified Health Education Specialist. She has leveraged her trauma nursing background to inform her career in public health emergency preparedness and response. Ms. Levin has held senior staff, management and acting director positions in the New York City Department of Health and Mental Hygiene, the California State Department of Public Health and the New York State Department of Health. While at those agencies, she participated in a leadership and field response capacity in the front line responses to a succession of public health emergencies: West Nile Virus outbreak, 9/11 World Trade Center attacks, and the subsequent intentional Anthrax release, SARS and in 2009-2010, health education role in community H1N1 awareness and prevention campaigns.

Ms. Levin also has significant international field experience: she served as Team Lead for World Health Organization- Afro region where she lived and worked in Ethiopia. Her recent disaster preparedness work was in India post tsunami developing and training



local disaster response task forces for emergencies such as cyclones, flooding and tsunami.

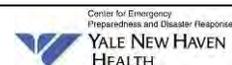
As Director of the Columbia Regional Learning Center, Ms. Levin oversees the center's core units responsible for the development the curricula and training programs for the region's public health workforce and their response partners. She actively participates in federal, state and local emergency preparedness and response planning groups, such as serving on a CDC-sponsored expert panel's development of a community rapid needs assessment (CASPER), and the National Consensus Panel on Cultural Diversity and Emergency Preparedness Planning and Response that released, last week, a planning tool kit. Her participation as a panel member and contributor to the tool kit's guiding principles informs her work with the center's curricula and research focus on at-risk populations as well as her work with the CDC/ASPH Public Health Preparedness and Response Competency Project. Ms. Levin is recognized as a strong advocate of regionally-oriented, cultural-sensitive preparedness and training activities and collaborations, and is the primary author of a Columbia University white paper on the subject of regional health and public health preparedness and challenges in nuclear terrorism. Also, Ms. Levin is a guest lecturer at Columbia School of Nursing for the advanced practice classes.

Donald MacMillian, MA, PA-C, EMT-P

Mr. MacMillian serves as Section faculty (Lecturer) and is the Emergency Management Coordinator for YNHH. He is a certified Hazardous Materials Technician, and is deputy chief for operations at the North Madison Volunteer Fire Company. A lieutenant commander in the US Naval Reserve, he received his Master of Arts degree in National Security and Strategic Studies from the Naval War College at Newport, RI, and recently returned from a nine-month tour of duty in Iraq.

M. LaCheeta McPherson, PhD, MLS

M. LaCheeta McPherson has over 35 years of experience in healthcare education with the last 31 years being spent at El Centro College in Dallas. She is currently the Executive Dean of Health and Legal Studies where she administers 17 health career programs, including two levels of nursing: registered nurse and licensed practical nurse. The RN program is the largest associate degree RN program in Texas. She developed



a six-course core curriculum for allied health and nursing in 1996. This curriculum model continues to be successful in creating career lattices for over 2500 students annually.

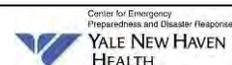
LaCheeta has been volunteering in health career programmatic accreditation for over 12 years. She is currently the President of the Board of Directors for CAAHEP, the Commission on Accreditation for Allied Health Education Programs. She continues to serve as a site visitor for various accreditation agencies, including NAACLS, the National Accrediting Agency for Clinical Laboratory Sciences.

Lynn Piacentini, RN, EMTP

Lynn Piacentini has more than 25 years of nursing experience in emergency and critical care settings, including pediatric/adult critical care. Pediatric/adult emergency care, nine years experience as a critical care flight Nurse and eight years experience in disaster nursing and management. In addition to clinical nursing, she has held positions as emergency medical services coordinator, paramedic, clinical instructor, state trauma/EMS coordinator, state emergency medical services for children coordinator and hospital trauma coordinator. Ms Piacentini also assisted in the development of a ground pediatric transport team. She is a board certified critical care nurse and an active member of the American Association of Critical Care Nurses. She is also a licensed paramedic.

Ms. Piacentini currently serves as the commander of CT-1 Disaster Medical Assistance Team. She has responded to multiple disasters, including Hurricanes Ivan, Katrina and Rita as well as national security events. She regularly deploys with this team in joint military/civilian and federal exercises in preparation for all-hazards emergency response.

As a clinical education coordinator for YNH-CEPDR Ms. Piacentini's responsibilities include serving as a subject matter expert for disaster-related course development and training programs. In addition, she is a HSEEP trained drills and exercise evaluator and provides training for hospital incident command systems, hazardous materials operations and various disaster related education courses for healthcare agencies. On a state level, Ms. Piacentini is a member of the Emergency Medical Services for Children Advisory Board. She currently holds a seat on the CT Public Health Foundation Board.



Mark Schneider, PhD, NREMT, CDIA, FF2

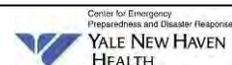
Dr. Schneider has extensive experience with developing user training strategies, planning, development, implementation, and post implementation activities to meet compliance requirements. He has provided leadership in emergency preparedness and related training projects, and has led several initiatives such as enterprise-wide implementations for departments of public health, emergency management associations, hospital systems, skilled nursing facilities, community health centers, etc. During these projects he managed training plans, logistics, environment and resources, training materials, learning modalities, trainers, and compiled the final training reports. He has worked on state and national contracts that employed complex education solutions.

At YNHHS-CHS, he has provided custom programs through various modalities to train thousands of healthcare and public health workers, through custom learning management systems, CD-ROMs, instructor-led formats, pod-casts and a variety of other media and blended learning used to engage the learner. Mr. Schneider holds a CDIA certification which qualifies him to test expertise in the technologies and best practices used to plan, design, and specify systems. Through his work on projects with the CDC, FEMA, DPH, DOD, DHS, ASPR, HHS, VHA, he has applied creative solutions to business problems. He has been a speaker at many national training venues (such as Society of Advanced Learning Technologies), and was presented the 2008 Top Young Trainer award by Training Magazine. He has also served on the FEMA national training advisory board in representing healthcare. Mr. Schneider has presented on knowledge management systems with the Director of Enterprise Web development from the Yale School of Medicine.

Dr. Schneider received his MBA with a major in international business from Pace University and his PhD in management from LaSalle University.

Steven J. Phillips, MD

Associate Director, Steven J. Phillips, M.D., directs the Division of Specialized Information Services, National Library of Medicine (NLM), National Institutes Health (NIH), and U.S. Department Health & Human Services. He led the effort to establish a Disaster Information Management Research Center at the NLM. This Center, totally devoted to disaster informatics, is the first of its kind in the world. He leads NLM's "boots on the ground" efforts to respond to the disaster in Haiti Dr. Phillips is a member of the



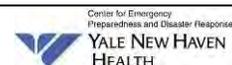
Institute of Medicine's Forum on Medical and Public Health Preparedness for Catastrophic Events. He serves as this years Chair of the Bethesda Hospital Emergency Partnership Program (BHEPP), a congressionally funded program to respond to a national capitol Disaster and to create a hospital surge model for the U.S. He is a member of the congressionally mandated Department of Defense Task Force on the Care, Management, and Transition of recovering Wounded, Ill, and Injured Members of the Armed Forces.

Dr. Phillips is a graduate of Hobart College and Tufts Medical School. He is board certified both in general and thoracic surgery. He co-founded the Iowa Heart Center, which by the time of his retirement employed 58 physicians, all-specializing in cardiovascular disease. In 1974, he pioneered techniques for emergency coronary bypass surgery for evolving heart attacks. This revolutionary effort demonstrated the efficacy of emergency intervention during evolving myocardial infarctions and was the basis for modern interventional technology. He implanted the first artificial heart in Iowa, performed the first heart transplant in central Iowa, and invented the technology for percutaneous cardiopulmonary bypass. He has been the principle investigator for numerous research projects.

In 1997, Dr. Phillips was interviewed by the White House search committee for the position of Commissioner of the Food and Drug Administration. On October 7, 1998, he was invited to testify before the Full Committee on Commerce as a witness on the Implementation of the Food and Drug Administration Modernization Act of 1997. Dr. Phillips served in 1997 as Board of Regents Chair of the National Library of Medicine, following Dr. Michael E. DeBakey.

Dr. Phillips' expertise in disaster management has led to a number of special appointments, including service on the Committee for Citywide Disaster Management and Triage in Des Moines, IA, appointment as National Science Advisor in Disaster Preparedness for the Iowa Department of Health, work as consultant to LTC Vick at the Fort Detrick Biological and Chemical Warfare Agents Laboratory, and service as a Board member of the Committee of Public Safety Communication, District of Columbia.

Dr. Phillips has a distinguished military service record, which has contributed to his experience and expertise to health information requirements under field conditions and in emergencies. He served twice in Vietnam from 1968-70, subsequently worked In the Department of Experimental Surgery at Walter Reed Army Institute of Research, and retired from active duty in 1993 as a Lieutenant Colonel. He is a life member of the



101st Airborne Association and an Associate Life member of the UDT/SEAL Association, U.S. Navy and sits on the Board of the Vietnam Veterans Memorial Reception Center. His national stature as a surgeon and inventor is evidenced by his election to many professional colleges and societies, including the America Association of Thoracic Surgeons, American College of Surgeons, the Society of Thoracic Surgeons, the American College of Cardiology, the International College of surgeons, the European Association for Cardio-thoracic Surgery, and the International Association of Artificial Organ Pioneers. He has served as President if the American Society of Artificial Internal Organs, the Society of Cardiac Surgeons, Spain, and the Polk County Medical Society, Iowa. Dr. Phillips has approximately 120 peer reviewed medical publications, and has been granted 6 patents.

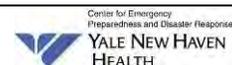
Houston H. Polson, JD

Dr. Houston H. Polson is the Chief, Joint Education Branch for North American Aerospace Defense Command (NORAD) and US Northern Command (USNORTHCOM). He is responsible for the establishment of programs, policies and curriculum for national defense, homeland security and defense support to civil authorities' educational initiatives to support the NORAD and USNORTHCOM missions. As Chair, Homeland Security/Defense Education Consortium, Dr. Polson directs an international network of colleges, universities and government institutions focused on promoting education, research, and cooperation related to and supporting the homeland security / defense mission.

Born in Charlotte, North Carolina, Dr. Polson graduated from East Lincoln High School and entered North Carolina State University at Raleigh, receiving Bachelor of Science

degrees in textile chemistry and technical education in 1975. He was named a distinguished graduate of the Reserve Officer Training Corps and commissioned a second lieutenant in the Air Force Reserve. Upon entering active duty, he attended missile combat crew initial training at Vandenberg Air Force Base, California where he was recognized as a Distinguished Graduate. He served on active duty from 1976 until 1987.

In 1987, Dr. Polson separated from active service and was commissioned a captain in the Air Force Reserve. He served in the US Air Force Reserve until his retirement in June 2005 completing 30 years of service and attaining the rank of colonel.



Dr. Polson served in academia from 1987 until 2005. Most recently, he was Dean and Professor of Business Administration, Harold Walter Siebens School of Business, Buena Vista University, Storm Lake, Iowa. He served on the faculty and as Department Chair of Business at Bellevue University, Bellevue, Nebraska, Mesa State College, Grand Junction, Colorado and Shawnee State University, Portsmouth, Ohio. Dr. Polson led the effort to develop Mesa State College's initial graduate degree. His graduate degrees include a Juris Doctor from Creighton University and Master of Business Administration from the University of Montana.

Selected past military assignments include: Deputy Missile Combat Crew Commander Instructor, Missile Combat Crew Flight Commander, IBM Weapon System Analyst, Disaster Preparedness Staff Officer; Senior Individual Mobilization Augmentee to the Base Civil Engineer, Senior Military Advisor to Commander – Stabilization Force and

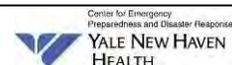
Director, Commander's Special Studies Group, and Emergency Preparedness Liaison Officer (EPLO) to The Adjutant General – Iowa.

Dr. Polson is a distinguished graduate of Squadron Officer School, and a graduate of the Air Force Command and Staff College and the Air War College. His decorations and awards include the Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal with two oak leaf clusters, Air Force Commendation Medal, Combat Readiness Medal, Air Force Expeditionary Service Ribbon with gold border, Armed Forces Reserve Medal with "M" device and Bronze Hourglass device, and NATO Service Medal. He was recognized as an Outstanding Young Man of America in 1982 and has been recognized for teaching excellence on multiple occasions.

He is the author of several publications and book reviews. Dr. Polson is married to the former Jeanie Dryer. They have three sons – Adam, David and Tim and two granddaughters.

Rosanne Prats, MHA, ScD

Currently, Rosanne Prats, MHA, ScD works for the Louisiana Department of Health & Hospitals (DHH) as the Director of Emergency Preparedness. Dr. Prats received her doctorate at Tulane University. She came to DHH with healthcare work experience in the federal, state and private sectors. Ms. Prats' work experience includes several years of working for the federal government in Information Technology Services (ITI) as a program manager and computer specialist.



While pursuing her MHA at Tulane University, she held a residency position at the Department of Health & Hospital's Office of Public Health (OPH). She was a key player in developing the Louisiana Public Health Institute, a non-profit entrepreneurial vehicle through which the promotion of public health activities could be furthered.

In June of 1997, she was recruited to work in the private sector for the largest private hospital system - Columbia/ HCA. As one of 4 consultants, she developed, interpreted, and evaluated market demographics and competitor analyses to determine strategic placement of clinics primarily in the Louisiana, Arkansas, and Florida markets.

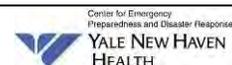
In October of 1997, Ms. Prats was recruited to work with Columbia/HCA's Legal Department to develop the Compliance Department for the company. In August 1999, Rosanne returned to Louisiana to assist the State Health Officer develop and implement the DHH's Emergency Preparedness Disaster Plan. This current position involves coordinating between local, state and federal agencies.

Kenneth Schor, D.O., MPH

Dr. Schor is a federal civilian faculty member of the Uniformed Services University of the Health Sciences (USU) having retired in May 2009 after 27 years active duty service in the US Navy Medical Corps. His appointments at the nation's federal health sciences university include: Acting Director of the National Center for Disaster Medicine and Public Health, Assistant Professor in the Department of Preventive Medicine and Biometrics, and Deputy Public Health Emergency Officer. He is the immediate past Associate Program Director, National Capital Consortium, USU General Preventive Medicine Residency.

Dr. Schor graduated cum laude from Allegheny College, Meadville, PA; received his Doctor of Osteopathic Medicine (DO) degree from the Philadelphia College of Osteopathic Medicine; is a Distinguished Graduate of the National Defense University Industrial College of the Armed Forces (MS, National Resources Policy); and received a Master of Public Health (MPH) degree from USU with a Health Services Administration concentration.

His graduate medical education includes a non-categorical medicine internship at Naval Medical Center, San Diego; completion of a Family Practice Residency at Naval Hospital, Jacksonville; and completion of a General Preventive Medicine Residency at



the Uniformed Services University of the Health Sciences. He is a Diplomate of the American Board of Preventive Medicine.

Kevin “Kip” Thomas, PhD, MBA

Dr. Kevin “Kip” Thomas is an Assistant Professor in the Department of Anatomy and Neurobiology at Boston University School of Medicine, where he is the director of the Master of Science in Healthcare Emergency Management Program.

He comes to Boston University from the greater Washington D.C. Metropolitan area, where he earned a Masters in Business Administration and a Doctorate in Public Policy from George Mason University, School of Public Policy, Fairfax Virginia.

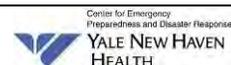
Dr. Thomas’s experience includes over 20 years of military service, both in the field as a submariner, and at the Pentagon as an aide to the Secretary of the Navy. Since 2002, he has taught diverse groups of students at both the undergraduate and graduate levels.

Dr. Thomas was the founding Research Programs Director for the Critical Infrastructure Protection Program at George Mason University- a \$20+ million research program for developing and analyzing methods of critical infrastructure protection and cyber security. In addition to providing project oversight for over 50 research activities conducted across more than 14 universities, Dr. Thomas personally led or participated as a researcher in a number of these projects.

Dr. Thomas teaches four classes for the Healthcare Emergency Management Program: Ethical and Policy Issues in Health and Medical Services, Experimental Design and Statistics for Emergency Managers, Psychology and Sociology of Disaster Methods and Risk Communication, and The Disaster Lifecycle. He is also active in advising students. His office is currently located in the Evans Biomedical Research Center at Boston University School of Medicine.

Anthony J. Tomassoni, MD, MS, FACEP, FACMT

Dr. Anthony Tomassoni currently practices and teaches Emergency Medicine, Disaster Medicine and Medical Toxicology at the Yale University School of Medicine, Department of Emergency Medicine in the Sections of Emergency Medical Services and Medical Toxicology. Through the Yale New Haven Health System (YNHHS) he serves as Medical Director of the Yale New Haven Center for Emergency Preparedness and



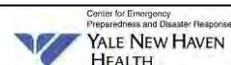
Healthcare Solutions (YNH-CEPHS). Through CEPHS, a World Health Organization Collaborating Center, his interests extend to Global Health.

Dr. Tomassoni has completed B.A. and M.S. Degrees in Science Education and Human Biochemistry respectively, followed by a residency in Emergency Medicine and a fellowship in Medical Toxicology and Hyperbaric Medicine at the University of Cincinnati, where he also served as a flight physician and an EMS Medical Director for both Basic and Advanced life squads. While in Cincinnati he was a member of the regional Red Cross Medical Assistance Team. He has served on FEMA Urban Search and Rescue Massachusetts Task Force 1 since 1995, been past faculty at the Department of Homeland Security's Noble Training Center and recently served on the CDC's Chemical Emergencies Workgroup. He has written and contributed to textbook chapters and scientific papers in the areas of medical toxicology, emergency preparedness and emergency medicine and has presented to diverse audiences on these topics regionally, nationally and internationally.

In his previous position at the Maine Medical Center Dr. Tomassoni contributed to the growth and certification of the Northern New England Poison Center where he served as Medical Director. While in Maine, he enjoyed contributing to the growth of the Emergency Medicine residency program at Maine Medical Center, and in strategic planning in the Maine CDC's Office of Public Health Emergency Preparedness, where he created the concept and supported the birth of Maine's three Regional Resource Centers for Public Health Preparedness. Tony also served as a member of the Northern New England Metropolitan Medical Response Systems Steering Committee and advocated for the creation of the regional Medical Strike Team. He is an active member of several medical professional associations, and is the past Chair of the American Association of Poison Control Centers Council of Medical Directors. He currently serves on the Board of Trustees of the American Academy of Clinical Toxicology. Throughout all these activities he values teamwork, sharing in collaborative and creative synergism to meet partners' needs. He has been awarded honors for his teaching by the Yale Emergency Medicine Residency Program in 2008, and by the American College of Emergency Physicians as a recipient of the 2010 National Faculty Teaching Award. He enjoys the outdoors and is a registered Master Maine Guide.

Stewart Smith, MPH, MA, FACCP

Stewart is the Founder, President and Chief Executive Officer of Emergency Preparedness and Response International, LLC (EP&R International) offering

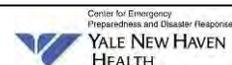


customized all-hazards expertise that emphasizes collaborative partnerships and coordinated programs with federal, regional, state, local, and international markets. Targeted areas include consultative services in strategic planning to include facilitation, business development, planning (medical and public health planning, and business continuity planning), assessments and evaluations, learning, drills and exercises, and program management. These services are dedicated to help ensure clients are fully prepared to meet the challenges of crises and disasters of any kind.

A retired Navy Commander, Medical Service Corps Officer, his previous military work history spans over 25 years of progressive assignments that includes Chief of the Joint Regional Medical Plans and Operations Division for the North American Aerospace Defense Command and the United States Northern Command (NORAD-USNORTHCOM), Surgeons Directorate; Director of International Health Operations Policy, Homeland Defense, and Contingency Planning Policy for the Assistant Secretary of Defense for Health Affairs; Branch Chief for the Joint Staff, Health Services Support Division; and Branch Head for the Deployable Medical Systems, Office of the Chief of Naval Operations, Medical Plans and Policy (OPNAV-N931).

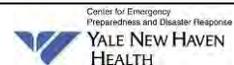
Stewart holds graduate degrees in Public Health Management and Policy from the Yale School of Medicine, Department of Public Health and Epidemiology; the Naval War College in National Security and Strategic Studies; is a Doctor of Health Sciences (Global Health) candidate at A.T. Still University of Health Sciences; and is an alumni of the Harvard Kennedy School of Government, Executive Leadership Education Program.

He is the co-founder of and past President to the American College of Contingency Planners (ACCP). His particular areas of interest and expertise include strategic medical planning; domestic consequence management operations, the National Disaster Medical System (NDMS), and the National Response Framework (NRF) with a focus on complex emergencies and calamitous events (including medical operations in the WMD/asymmetrical environment); and finally, international Weapons of Mass Destruction medical countermeasures policy. Stewart was selected as the first American to chair the North Atlantic Treaty Organization's (NATO's) Biomedical Defense Advisory Committee BIOMEDAC); holding that appointment from 2003-2005 while assigned to the Secretary of Defense and USNORTHCOM staffs.



APPENDIX 3

PARTICIPANT SURVEY AND DETAILED RESULTS



**From Process to Practice: Coordinating Core Competencies
for Medical Disaster Preparedness and Response
March 23, 2011
National Consultation Meeting Evaluation**

Thank you for taking the time to participate in this evaluation. Your comments will enable us to better plan and execute future meetings and tailor them to meet your needs.

1. Do you represent (check all that apply):

Professional association (e.g., American Public Health Association)

Academic agency

Federal agency

Private non-profit agency

Private for-profit agency

2. How do you rate (in terms of delivery of material, knowledge of material and discussion facilitation) the following speakers:

3.

Rick Cocrane <i>Review of Framework and Process</i>	Excellent Good Average Below Average Poor
Steven Phillips <i>The National Library of Medicine: Resources and Practical Tools that Support Competencies for Disaster Preparedness and Response</i>	Excellent Good Average Below Average Poor
Elaine Forte <i>Building Core Competencies: Viewpoint of Those Who Have Created Them</i>	Excellent Good Average Below Average Poor

From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting

Stewart Smith
Implementing Core Competencies

Excellent
Good
Average
Below Average
Poor

4. How do you rate (in terms of delivery of material, knowledge of material and discussion facilitation) the facilitator who conducted the afternoon breakout session: *Facilitated Discussion*? Please mark appropriate name.

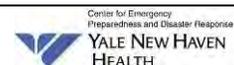
- | | | | |
|--------------------------|--|--------------------------|----------------------|
| <input type="checkbox"/> | Julie Kipers | <input type="checkbox"/> | Excellent |
| <input type="checkbox"/> | Debbie Hettler | | Good |
| <input type="checkbox"/> | Dr. Kevin Thomas/Mark Schneider | | Average |
| | | | Below Average |
| | | | Poor |

Comments

5. How do you rate the effectiveness of the *Facilitated Discussion* (afternoon breakout) as an approach to identifying long-term expectations of core competencies?

Excellent
Good
Average
Below Average
Poor

Comments



Chapter 1

6. How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?

Excellent

Good

Average

Below Average

Poor

Comments

7. What did you find most useful about the national consultation meeting?
8. Are there any topics that should have been covered but were not? Please list.
9. How can we improve the process for disseminating core competencies and putting them into practice for the clinical workforce responsible for medical preparation and response to a disaster event?
10. Once the full set of core competencies has been identified, how might you approach the implementation of these competencies at your institution/organization?

The following questions address the location and facilities of the workshop.

11. Please rate the location of this meeting (LMI, McLean, VA).

Excellent

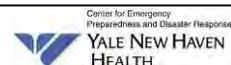
Good

Average

Below Average

Poor

12. Please rate the food.



Excellent
Good
Average
Below Average
Poor

13. Please rate the parking accommodations.

Excellent
Good
Average
Below Average
Poor

14. Please rate the pre-registration process.

Excellent
Good
Average
Below Average
Poor

15. Please rate the on-site meeting check-in process.

Excellent
Good
Average
Below Average
Poor

OBJECTIVE 2: Solicit existing examples of putting competencies into practice, including coordination and evaluation of existing competencies

OUTPUT 2: List of recommendations on how to disseminate, coordinate, update, evaluate

In demonstration of Objective/Output #2, participants submitted the following responses to the question: “How can we improve the process for disseminating core competencies and putting them into practice for the clinical workforce responsible for medical preparation and response to a disaster event?” (*responses are unedited*):

Training

- Develop the final list and simplify number of institutions where the core competencies can be acquired. Specialization for different competencies
- Incorporate them into professional training programs and continuing education

Funding/Grants

- Education and training grants

Electronic Solutions

- Put them online
- Web links, blogs

Engagement of Regulatory and Accrediting Bodies

- Need discussion with all accreditation bodies of professions concerning national associations for long term planning
- Through regulating body such as the accrediting process

Engage Key Stakeholders

- Conduct/present at staff meetings and at after action meetings
- Use of professional organizations. Elicit buy-in from employees who need to see the importance of preparedness (cost/analysis of prevention)
- It is such a daunting task that it may be difficult to do it. However, concentrate on primary stakeholders. State and local health departments, health care organizations. First responders have their own competencies and will be very resistant to change so I would not focus on them or Make them our standard, especially if they ?? the current standard.
- Utilize meeting participants, represented stakeholders

Collaborative Activities

- Collaboration between professions, organizations and institutions

Other

- Good start.
- Going well so far? Tough job!

Chart #1 illustrates that 80% of participants had a positive view of the efficacy of Facilitated Discussion as an approach to identifying recommendations on how to disseminate, coordinate, update and evaluate core competencies.

Chart 1
How do you rate the effectiveness of the Facilitated Discussion as an approach to identifying recommendations on how to disseminate, coordinate, update and evaluate core competencies?



OBJECTIVE 3: Identify additional methods of implementing core competencies for medical disaster preparedness and response

OUTPUT 3: List of practices used to implement core competencies for medical disaster preparedness and response

In demonstration of Objective/Output 3, participants submitted the following planned for approaches to implementation of competencies (once developed) at their agency (responses are unedited):

Training

- Through training
- Incorporate into drills, curricula
- Drills, exercises
- Build them on our LMS (?)
- Research institutional programs for best fit for training
- Ensure courses are standardized and competencies incorporated.

Organizational Directives/Policy

- Policy creation for organization, CE opportunities, recs for schools' curriculum
- Make them our standard, especially if they exceed the current standard
- one step at a time - approach/share with the Health Officer, Homeland Security, Citizen Corps Council

Professional Organization/Professional Literature

- Should be disseminated through professional journals
- We would map them to our own set and identify commonalities and discrepancies
- Disseminate to executive director then to membership. Academia. Hospital organizations. Examine model of prevention (cost/benefit retro).

Electronic Solutions

- Via internet and emergency preparedness/planning sessions

Funding Incentives

- Propose to adopt part or all of them, integrate them into program requirements, and tie them to grant funding.

OBJECTIVE 4: Solicit long-term expectations of competencies for medical disaster preparedness and response from both developers and practitioners

OUTPUT 4: List of long-term expectations of competencies for medical disaster preparedness and response from practitioners in the field

Chart #2 illustrates that 88% of participants had a positive view of the efficacy of Facilitated Discussion as an approach to identifying long-term expectations of core competencies.

Chart 2

How do you rate the effectiveness of the Facilitated Discussion as an approach to identifying long-term expectations of core competencies?



GENERAL MEETING FEEDBACK

94% of participants gave a positive rating to the inclusiveness of the invitees (Chart 3).

Chart 3
How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?



Participants also provided the following qualitative feedback in response to this question (responses are unedited):

- Perhaps representatives from some of the accrediting bodies would be helpful?

Participants submitted the following comments in response to the question: “*What did you find most useful about the national consultation meeting?*” (responses are unedited).

- The wide variety of participants
- The generated ideas from the panelists
- Ability to be proactive to make change prior to next event (although these occur constantly)
- NLM presentation and panels
- The networking and different world views
- Networking

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response: A National Consultation Meeting

- Exchange of ideas
- The panel discussions.
- The progression toward the goal throughout the meetings
- Networking, learning how other professions implement competencies
- Good dialogue around implementation into existing curricula, dissemination, outcomes of this series of workshops
- Becoming aware of the meeting
- Networking and learning about additional resources
- In depth discussions.
- Panel discussions were excellent and the breakout sessions

In addition and in response to the participant survey question, “*Are there any topics that should have been covered, but were not? Please list*”, the following suggestions were provided and should be considered for future meetings (responses are unedited):

- The local government can incorporate competencies
- Special populations important to consider. Ethnic/cultures
- Existing competencies with links
- Competency measurement
- Not sure.
- No-everything was great. However, crisis standard of care can be addressed next time.

APPENDIX 4
EVALUATION PLAN
AND
BREAKOUT SESSION OUTPUTS

OBJECTIVES	OUTPUTS	DATA SOURCES	PANEL #1 QUESTIONS	PANEL #2 QUESTIONS	BREAK OUT SESSION QUESTIONS
1. Solicit additional feedback regarding the competency development framework and process developed during workshops 2 and 3	List of revisions, for consideration, to the framework and process for competency development	→ Review of Framework and Process presentation → 1 st morning panel session → Participant Survey	1. How does the process your organization used to develop competencies differ from the process described this morning that was developed during previous workshops? 2. Did your organization work with an accrediting body to develop competencies? If yes, which one? 3. How did your organization determine which competencies were core? 4. Do you consider your competencies to be core according to the working definition of core provided today?	1. Who/Which organization do you look to for development of competencies for your profession?	1. Does your profession conduct education and training for disaster medicine? If so, are there published competencies? 2. What is the process for developing your profession's core competencies?
2. Solicit existing examples of putting competencies into practice, including coordination and evaluation of existing competencies	List of practices currently used to: <ul style="list-style-type: none"> disseminate coordinate update evaluate 	→ 1 st morning panel session → Afternoon breakout session → Participant Survey	1. How does your organization disseminate information to the field regarding competencies? 2. How does your organization integrate competencies into existing curriculum? 3. How did you approach profession specific competencies?	1. How do you implement competencies? 2. How do you build and measure competence in the existing workforce? 3. How do you integrate these competencies into existing curriculum?	1. How do you integrate competencies into existing curriculum? 2. What works? What does not work? Recommendations? 3. Describe the accreditation requirements for your profession. Do they include competencies for disaster medicine?
3. Identify additional methods of implementing core competencies for medical disaster preparedness and response	List of recommendations/new ideas to more effectively implement core competencies for medical disaster preparedness and response	→ 2 nd morning panel session → Participant Survey	1. What is your organization's plan for evaluating and updating competencies? 2. How does your organization plan to keep your competencies relevant over time? 3. Where does your organization obtain information to support the development of disaster response curriculum? 4. What are your thoughts regarding new approaches to implementing core competencies	1. Where does your organization obtain information to support the development of disaster response curriculum?	1. What is your plan for evaluating and updating core competencies?

From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response:
A National Consultation Meeting

OBJECTIVES	OUTPUTS	DATA SOURCES	PANEL #1 QUESTIONS	PANEL #2 QUESTIONS	BREAK OUT SESSION QUESTIONS
4. Solicit long-term expectations of competencies for medical disaster preparedness and response from both developers and practitioners	List of long-term expectations of competencies for medical disaster preparedness and response from practitioners in the field	→ 1st morning panel session → Afternoon breakout session	1. What are your expectations of what is supposed to be done with the competencies your organization has developed?		1. What are your expectations of what is supposed to be done with the core competencies you have developed?

From Process to Practice:
**Coordinating Core Competencies for
Medical Disaster Preparedness and Response**

Consolidated Verbatim Group Reportout



March 23, 2011 • LMI Corporate Headquarters, McLean, Virginia

1. What is the process for developing your profession's core competencies?

- PERL: pre-determined/contracted list of competencies clustered, national working team, whittle down many into 3-5 to define the title of the domain (interdisciplinary process), not specific to discipline, PH core comp., requirements in prep., which is the 'other job'. Definition reference from handout, taking those and expanding them or augmenting into disciplines [process for PH workforce]. KSAs developed recently. e.g. MRC, nursing, etc. mapping.
- Univ./former HRSA/ASPR-BTCDP: changing of guidelines, new ones from e.g. Colombia, CDC; collaborative with states, rewrite to national training strategies/federal, awareness to performance based to evaluating, curriculum development CE vs. degree based, (academic students vs. professionals in the field) differing, top down/federal then refining to community/professions.
- GW: from EMS, FEMA, rewrite curriculum (scope of practice and curriculum), individualized EMS courses and draft circulated, what different levels of EMS / executive education look like. Taking the facility, state, local, etc. advisory councils reviews into the development of competencies; backwards from exam (fire/rescue – NFPA process and regulation based e.g. OSHA)
- MRC: fragmented civilian vs. federal vs. etc. needs, mission document mapping to prior HHS deployments and identified target capabilities into 3 categories. Gap analysis from exiting to specific.
- Medicine: ABMS determines – schools have exams to verify; augmented ASPH. Core competencies based on prep. exp.
- Vets: clinical AMA, 28 in US, triage and critical care determined by schools; ABMA standards into deployment.
- PH: NDMS, 63 modules old, 8 required, difficult to accomplish.
- ED/CC RN:ER RN national standards CCRN national standards – give time frames of Q 6months or year training updates
- NLM: entry level of competencies and on requirement to move up – determined my mgt
- Core competencies are in core curriculum and is reviewed periodically –
- Partner with medical licensing boards to decided what is necessary to receive licensure – offer CME's for important topics for continuing education
- PA: core competencies for entry level – 4 organizations developed competencies – reviewed every 5 years – based on medical competencies
- ASPH: depending on education level and specialty – gather experts from the field and work with core agencies to develop competencies
- Academia: AACN – follow core (essentials) and continue to re-evaluate to be up-to date and ensure everyone is following them.
- AMA DPHR – HRSA grand to develop core competencies for all health professions – currently undergoing updates
- Military – CE mandates and readiness training - reviewed as needed – currently developing core competencies to ensure that training it appropriate
- National association provide guidance on a national level and to state associations and will assist in providing education on a national level when needed.

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response:
A National Consultation Meeting

- Assess training requirements on the state level – provide guidance and recommendation for training
- DOD medical mission to be ready for anything anywhere – joint training for all military – competencies determined by the mission – DMRTI – updated as needed on magnitude on plan
- Combine knowledge needs from emergency mgt, hospital mgt, public health and utilized other competencies
- Participatory process
- Broad based
- Drafted “Core Competencies”
- Input and feed back
- For a very specific targeted audience at a targeted level
- Everyone had be proficient in 19 “core” areas
- Setting up a framework
- ID the requirements
- Organizational
- Individual
- Meaningful in a real response
- What should be rather than what is
- Medical health care NACHO/and SME
- AAR
- 14 PERL taking the competencies and breaking them down to common knowledge, skill an d attitudes and Incorporating the Knowledge Sills and attitudes into curriculum based on the partner specific needs
- Literature review (needs assessment)
- Filter thru SME
- Sent out to various organization
- Delphi Process
- 7 Domains /19 Competencies/73 Subs to three types of personnel
- Assignment of competencies to various professional s
- Evolving - Looking at competencies thru the lenses of metrics
- Clinical/Public Health
- ACS – Acute Care Professions (Team Approach)
- Ecumenical Approach
- Used a Survey tool
- Literature Review
- Interviews
- ID where there were best practices and where there were gaps
- Developing a list of competencies and developing the syllabus

2. How do you integrate competencies into existing curriculum?

- Univ./BTCDDP = examined top down and merged into new and existing needs/courses.
- PERL/PH = utilized pre-existing competencies and tailored PH into graduate curriculum and verified via exercises; those behaviors and information pertaining disciplines into the PH workforce. Review of e.g. Columbia comp. and research / subject matter / evaluations and SME review, emphasis on capabilities into curriculum.
- EMS = no current process, moving towards the integration, varies by program or state/local. From stakeholder publishing process to text publisher (e.g. Brady) and NREMT association.
- MRC = deployment workgroup helps the MRC office and correlates to training design, such as scenario driven programs. Matching grant requirements to program needs, what information would they need for deployment – core model.
- Veterinary = integrated at the school level.
- Phil. University.: Grass roots effort, curriculum mapping to many sets of standards and moving to the delivery ‘true’ program, weekly mapping (details beyond the syllabus high level overview).
- Col. U. = Certificate program, tailored the many into the new course. Map courseware (weekly measures).
- Yale PH = multidisc. track, MPH specialties available, new EP courses into existing program.
- Texas = additive components from basic curriculum. Needs assessment of workforce.
- Healthcare = how to prepare non-students, how to integrate education into day-to-day tasks. Have students/teams/interns work and give feedback to course developers and also give students experience and with regional response. Tabletop exercise and include rural partners for a community solution, as well as CEUs and education components.
- PH Services = web based programs, refreshing them and mapping. Consider courses and modalities, testing, etc. Determine what the core courses are critical.
- Utilize the current existing knowledge base curriculum
- Map competencies to current knowledge and skill based courses
- Infusion into NDLS and similar programs
- Look at the competencies
- Keep what meets competencies and get rid of the elements that don't meet competencies
- Metrics
- Refine the instructional design
- Professional School Curriculum
- Curriculum committee
- Inter professional levels
- Encourage interdisciplinary training and competencies
- Address continuum of training and education

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response:
A National Consultation Meeting

- Competencies pulled from didactic portions to assess the ability to perform skills – entry and annual validation
- Entry level only didactic and competency skills upon entry to work force job mandates – and CE
- Challenge in fitting core competencies in academics for time constraints - * legal concerns for programs*
- Mission/type of disaster determines the competencies and curriculum.
- Ensure continuing education focuses on disaster medicine
- JIT for disaster specific information *legal aspects for hospitals*
- Academia: develop competencies and curriculum tool kits to align competencies to curriculum – aligning objectives to module competencies and follow-up with clinical practice
- Pod casts – JIT training
- Multidisciplinary CE program already in place and review of course content – will be difficult to incorporate into medical schools without a mandate or questions added to exams
- Scoping the mission to allow required training – working groups review all competencies yearly
- Training pushed to states to add to core competencies
- Differs between academia and continuing education for practitioner
- Challenge to balance needed training and other duties or requirements
- Need mandates or policy to support training

3. Describe the accreditation requirements for your profession. Do they include competencies for disaster medicine? (cross sectional)

- Vets: accrediting complete by the association ABMA, not yet there in the disaster space, collaborating on new ones.
- School of Med./Nursing: LCME, no comp., RRC under specialty training, EMS: none. Nurses have comp., not related to disaster medicine curriculum.
- School PH: not accrediting body,. CEPH accrediting body, but none for emergency preparedness.
- Univ.: Several developing but not complete. Those interested to advanced level of EM may have a advanced comp. model, debate if determined by schools or recommended or required by other assoc./agency. but do require a comp. based approach into teaching.
- Among the staff:
- Public Health Department (CEU needed / refresher course)
- Varies between professions
- No competencies/requirements for emergency preparedness yet for physicians. There are no ACGME Standards.
- Joint Commission does have standards for emergency management
- ACS Committee on trauma working to put competencies for disaster into verification for trauma centers.

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response:
A National Consultation Meeting

- The LCME (AMA/AAMC) has no competencies requirements for disaster medicine - AMA policy is that there should be
- Schools and programs have an accrediting bodies. Graduates are eligible for a certification exam in public health. Emergency Preparedness is foundational competency in both.
- State driven for physicians – no for OH and most states (NV requires 4 hours) – may have CE's at state levels
- RT/RN – Employer/department specific mostly – no guidelines for accreditation or licensure at state levels
- Military has team and individual requirements that are more strict than individual professions within this team do not for individual states
- RN does not have requirements for competencies – states may individually
- PH requires competency that may or may not be disaster medicine specific unless in a disaster medicine subspecialty
- PA: state or job driven not accreditation specific
- CAAHEP has requirement of all hazards core competencies that must be placed in profession specific core competencies – each profession puts their own
- Location specific accreditation must have specific components and training performed to receive funding (i.e. trauma center levels, etc)
- Take Away:
- Academia versus State driven
- Employer driven

4. What is your plan for evaluating and updating core competencies?

- 1- BTCDP/Hawaii = Takes existing, works with local community. Lessons learned from events, recent disasters and incorporating that into the curriculum. Consider the SNAHEC disaster education site for information from other former program information.
- 2- PERL Colombia = workgroup of SMEs to establish, Kirpatrick 4 levels, Colombia, LMS, review modalities, pre/post tests, learning obj. based on core comp., blended approach, comp. checklist to learning obj. and approved by Supervisor, LMS analytics and web trends, etc.
- 3. PERL Texas = use of virtual / online learning technologies and associated tools. Looking back and evaluating classes.
- 4. Yale PH = review other assoc. and workgroups, lit. search on events and gaps and infusing into the curriculum.
- 5. MRC/Federal = ESF partners, VA, DoD and other groups to provide recent input, continually.
- 6. Private = sustainability options and opportunity for other civ. providers to share work and lessons learned with federal, associations, etc. (e.g. national center options).
- Hospitals
- Drill
- Exercise
- Real World Events

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response:
A National Consultation Meeting

- Lessons Learned
- Post event analysis
- Post education assessment of application of learning
- Linking re verification with competencies Updates
- Tested thru performance
- Captured thru Research
- Emerging concepts and current practices for validation/implementation
- Drills and exercises and after action reports
- No mandate but done every 5 years in academia – professional side done by institution specific guidelines
- State has no requirements but can try to use after action reports or lessons learned regionally – mostly relies on institutions
- PA: approximately 3-5 years
- PH – every 5-6 years; work with stakeholders to put metrics in place
- RN: 3-5 years via multiple stakeholders
- AMA – currently convening multidisciplinary group to determine competencies for all disciplines than breaking out to profession specific competencies.
- Military: exercises, after action reports and annual reviews
- real world events
- Develop a process to have a debriefing team to go into an area after the real world event to determine if the training was enough and if not what was needed.
- METC is addressing a lot of these concerns for allied health students at training center

5. What are your expectations of what is supposed to be done with the core competencies you have developed?

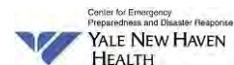
- Univ. of Phil: Implement, measure, student outcome assessed, faculty assessed, re-evaluation, new developments, faculty process loop
- Texas: PERL comp. tested/validated, institutionalized process, school of PH, standardize.
- Yale: moving forward of core to students and curricula and infrastructure, and judge to real events.
- Montg: Need to show up and respond to real events.
- Other: National center involvement, etc., Comp. need to be accessible, varied disciplines and domains, how to have access to? Process to make alive and visible.
- Disseminated and implemented across professional spectrum
- Incorporate them into the accreditation across undergraduate, graduate and continuing health education process
- Placed into existing disaster education and training curriculum (as the reference standards
- Used to develop metrics and revised accordingly
- Incorporate into job action sheets, job descriptions, organizational plans, disaster plans
- Incorporated into drills and exercises.

From Process to Practice: Coordinating Core Competencies for Medical Disaster
Preparedness and Response:
A National Consultation Meeting

- Linking to broader standards, grants, and grant guidance
- Linking competencies from various professions into a combined capability
- Collate and report best practices
- Minimum mandatory core competencies for all professions and then branches (secondary) for each profession
- Building consensus for national curriculum for each profession
- Must be able to relate to evidence based practice and translate in clinically
- Balance specific vs general training
- Review existing courses to determine if they support the existing competencies before creating new ones
- Policies or structures – use existing before creating new
- Promote collaboration not competition
- Ensure development and use of metrics
- Review use of grants for implementation of standard curriculum
- Look beyond competencies and assist with barriers to implementation - parking lot items related to practice during a disaster (each state having different disaster equipment – ventilator, medication pumps, determines barriers to treatment from state to state – billing issues with volunteers in hospitals, legal issues, use of personnel during emergencies, utilize ICS on a normal basis to know how to utilize this communication system for a disaster, international considerations)
- Understand professional role and disaster role

APPENDIX 5

NATIONAL LIBRARY OF MEDICINE PRESENTATION BY STEVEN J. PHILLIPS, MD





The National Library of Medicine
**Resources and Practical Tools that Support Competencies
 for Disaster Preparedness and Response**

Steven J. Phillips, MD
 Associate Director National Library of Medicine, NIH, DHHS
sphillip@mail.nih.gov



March 23, 2011 • LMI Corporate Headquarters, McLean, Virginia



1



WORLD'S LARGEST MEDICAL LIBRARY

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PubMed
Genome
Toxicology
MedLine Plus
History of Medicine



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Disaster Information Management Research Center
IMPROVING ACCESS TO DISASTER HEALTH INFORMATION

National Library of Medicine
National Institutes of Health
 SPECIALIZED INFORMATION SERVICES

SIS Home > DIMRC | .SIS Home | About Us | Site Map & Search | SIS News | Contact Us

Text size: [S](#) [M](#) [L](#) [XL](#) | [Bookmark and share](#)

→ **Disaster-Related Competencies for Healthcare Providers** ←

- ▶ Community Volunteers
- ▶ Culturally Competent Responders
- ▶ Emergency Managers
- ▶ Humanitarian Workers
- ▶ Long-Term Care Facility Providers
- ▶ Medical Reserve Corps
- ▶ Multiple Disciplines
- ▶ Nurses
- ▶ Pharmacists
- ▶ Physicians
- ▶ Public Health Professionals and Students
- ▶ Veterans Affairs Employees
- ▶ Veterinarians

Related Resources

Competencies for Librarians and Information Professionals

Community Volunteers

- CERT Training Materials
 Citizen Corps, Community Emergency Response Team Program
- Code of Good Practice in the Management and Support of Aid Personnel: Principles and Indicators (PDF, 88.4 KB)
 People in Aid
- DSHR Competencies: Baseline Requirements (PDF, 20 KB)
 Oregon Red Cross Disaster Services Human Resources

Culturally Competent Responders

- Cultural Competency Curriculum for Disaster Preparedness and Crisis Response
 This curriculum is based on the Office of Minority Health's Recommended National Standards for Culturally and Linguistically Appropriate Services in Health Care (PDF, 20.6 KB). A description of the curriculum starts here.
 U.S. Department of Health and Human Services Office of Minority Health

Emergency Managers

- Public Risk Management Association Core Competencies (PDF, 48.8 KB)
 Public Risk Management Association

Humanitarian Workers

NLM's Disaster Information Management Research Center (DIMRC)

- *Disaster Information Specialist*
- *Organize the disaster (health) literature*
- *Responder information/management tools*
- *Conduct research & development*
- *Congressionally funded hospital partnership model*

Disaster Information Management Research Center
 Improving access to the nation's disaster information








4

The Disaster Information Specialist

Becoming a new subspecialty of library science

- **Support emergency personnel with competent, academic disaster information tools & training**
 - + 500 librarians in 49 states & 10 countries
 - Teamed with disaster planners & responders' / EOC
 - "just- what-I-need" information "just-in-time"



Disaster Health Literature

NCBI PubMed

Search: PubMed for

Limits: Preview/Index History

Display: Summary

All: 1777 Review: 165

Items 1 - 20 of 1777

- 1: [Webster D.](#)
The effect of local calamities on...
Disasters. 2008 Apr 24. [Epub ahead of print]. PMID: 18457170 [PubMed]. as supplied by
- 2: [Schmidt J, Serrano T.](#)
Corruption in emergency procurement...
Disasters. 2008 Apr 24. [Epub ahead of print]. PMID: 18457169 [PubMed]. as supplied by
- 3: [Zakari S, Beedy SD, Zoscock WG, Urdan.](#)
Social vulnerability and the natural an...
Disasters. 2008 Apr 24. [Epub ahead of print]. PMID: 18457168 [PubMed]. as supplied by
- 4: [Kupstern L, Rocco M, Herlihy JG, Gilbert vs. sussex.](#)
Regional health system response to the Virginia Tech mass casualty inci...
Disaster Med Public Health Prep. 2007 Sep 13 [Suppl]:S9-13. PMID: 1838822 [PubMed]. in process
- 5: [Armstrong JH, Frykberg ER.](#)
Lessons from the response to the Virginia Tech shootings.
Disaster Med Public Health Prep. 2007 Sep 13 [Suppl]:S7-8. No abstract available

Emergency Access Initiative

The Emergency Access Initiative (EAI) is a partnership of the National Library of Medicine, the National Network of Libraries of Medicine, and the Professional/Scholarly Publishing Division of the Association of American Publishers. EAI provides free access to full text articles from major biomedicine titles to healthcare professionals, librarians, and the public in the United States affected by disasters.

Users in the United States affected by a disaster can request access to free full text articles by calling 1-800-239-7657 or contacting your local medical library.

Active Event: **None**

Free access period: **Not Available**

This service is provided to healthcare professionals and libraries following a disaster affecting a region of the United States. This site is active only when a disaster event is named and the access period specified.

For on-going access to biomedical literature, contact your local medical library.

Contact Information

Phone: (800) 239-7657
Web Address: <http://eai.nlm.gov>
Questions? [Contact Us](#)
E-IDs: [E-IDs](#)

Related Pages

[Erai Biomedical Literature Resources](#)

2007
Type: Report (research)
Date: 12/01/2007

3. Sponsor: University of Albany So
Title: **Risk Communication**
Type: Webcast
Date: 11/08/2007

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

CHEMM

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Chemical Hazards Emergency Medical Management

Chemical Hazard Emergency Medical Management (CHEMM)

SEARCH

WHAT KIND OF EMERGENCY? INITIAL EVENT ACTIVITIES PATIENT MANAGEMENT MANAGEMENT MODIFIERS TOOLS & GUIDELINES

WHAT KIND OF EMERGENCY?

- Public Incident
- Terrorist Incident
- Transportation Accidents
- Multiple Agent Incident

INITIAL EVENT ACTIVITIES

- Estimation of Threat Zone (CAMEO)
- Onsite Activities
- Triage Guidelines
- Hospital Activities

OTHER AUDIENCES

- First Responders in the Field
- Mental Health Professionals
- Hospitals/Poison Centers
- Public Information Officers
- Industrial Hygienists/Toxicologists
- Preplanning
- Debriefing and Debrief

PATIENT MANAGEMENT

- Choose Appropriate Algorithm:
 - Diagnosis by Toxic Syndromes

MANAGEMENT MODIFIERS

- Responder Exposure and Management
- Burn Triage and Treatment
- Combined Injury Triage and Treatment
- Mass Casualty
- Psychological Issues
- Specific Populations

TOOLS & GUIDELINES

- Tool Comparator (WISER, CAMEO, CHEMTREC)
- Estimation of Exposure
- Template for Hospital Orders
- Follow-up Instructions
- Population Monitoring
- Management of the Deceased
- Development of Chemical Response Plan

Where do I start?

Let the CHEMM Guided Navigation help you find what you need

START

FEATURES

- NIH Strategic Plan and Research Agenda for Medical Countermeasures Against Chemical Threats, 8/2007 (HHS/NIH/ID)
- HHS Public Health Emergency Medical Countermeasures Plan for Chemical, Biological, Radiological and Nuclear (CBRN) Threats, 4/2007 (HHS)

QUICK LINKS

- New Users: Where Do I Start?
- Use CHEMM: Earn CME
- Patient Management Algorithms
- Print Algorithms & Tables
- Specific Chemical Agents

Information & Communications

Conventional + Facebook/Twitter/?

Mobile MedlinePlus is available in English and Spanish (<http://m.medlineplus.gov/spanish>) and includes a subset of content from the full Web site. It includes summaries for over 800 diseases, conditions and wellness topics, the latest medical encyclopedia, and information on prescription medications.

For instance, page on Mobile MedlinePlus when you're trying to choose an antibiotic when you're trying to choose an antibiotic at the drug store.

And if you use Mobile MedlinePlus wherever you are, you can get reliable health information.

Information Research by the National Library of Medicine

Programs Related to Information

Partners Related to Information

and Emergency Response and

Information Outreach

at Subject Headings

on and Referral Tools

NLM Disaster Resources

Spills & Health

Get this Widget



National Library of Medicine "boots on the ground"



**MITCH & KATRINA
2004 TSUNAMI
HAITI
GULF OIL SPILL
JAPAN**



13



When **DISASTER STRIKES**

By Dr. Steven J. Phillips and Rear Admiral
George R. Worthington, U.S. Navy (Retired)

**In the wake
of the next big
storm, disease,
or attack, we
can be ready—by
preparing now.**

WAITING FOR SPACE Emergency-room capacity is stressed under normal conditions, but after a large-scale event such as flooding, it cannot accommodate everyone. In July 2009, the SR at San Francisco General Hospital, Houston, was so crowded that patients were placed in the hall.

Surge bed need

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"I'LL BE PERFECTLY FRANK WITH YOU,
WE NEED THAT BED!"



What Happens in Hospitals During a Disaster?

- Increased demand for care
- **Increased demand for information**
- **Communications problems**
- System disruptions
- Lack of critical resources
- People are asked to do things they don't customarily do



...and hospitals are expected to continue to function and meet the needs of the community!



15



Communications

- UN office in Egypt hosts websites for humanitarian relief efforts around the world
- Health cluster in Haiti uses a section of the **haiti.humanitarianresponse.info** website to communicate with cluster members
 - Status of Cholera Treatment Centers
 - Oral Rehydration Centers
 - Announce cluster meetings
 - Other news.
- Effect of the Egyptian government shutting down the Internet in Egypt, the PAHO information management team in Port au Prince lost access to this information dissemination tool for nearly 3 days!



16



ARE WE READY FOR A BED SURGE NEED?

Studies & reports 2001-2009

- *Institute of Medicine-NO*
- *American Hospital Assoc.-NO*
- *Lay Media-NO*
- *2008 House Committee On Oversight & Gov't Reform reported:*



Emergency Care Capacity Survey in 7 major cities



- » **No ER capacity for a surge**
- » **Few ICU beds for a surge**
- » **Few regular beds for a surge**



17



Bethesda Hospitals' Emergency Preparedness Partnership (BHEPP/2004)

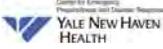
Support area needs

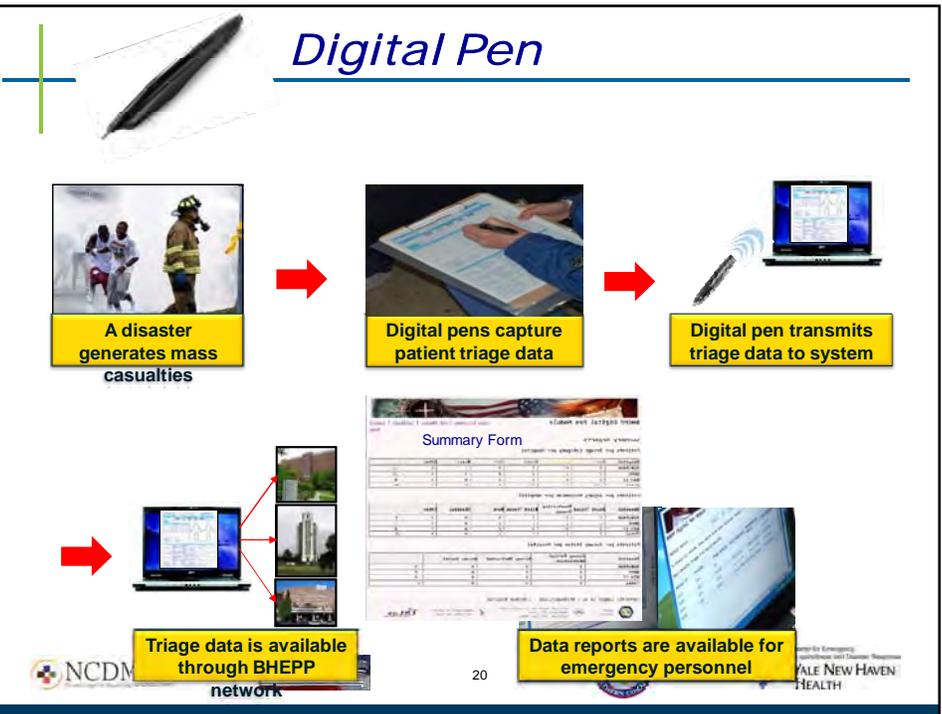


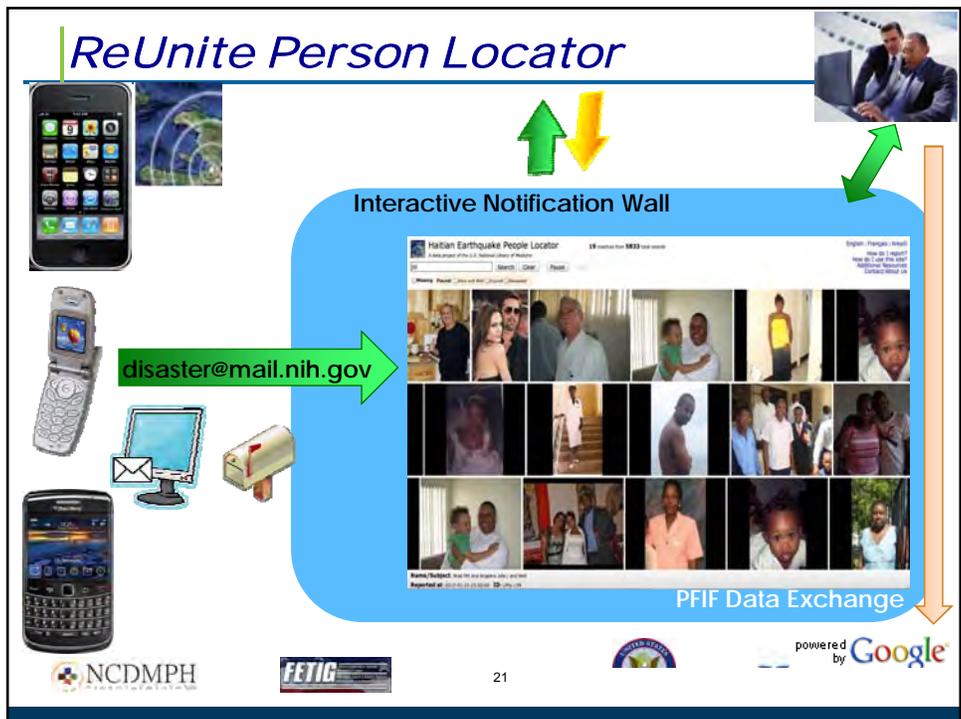
Reproducible U.S. model



NLM Research Initiatives

Patient Management	Communications	Family Reunification	Information Access	Responder Training
<i>Digital Pen</i>	Laser Back-up	<i>Lost Person Finder</i>	SureScripts/ RxHub Prescription Drug Access	Virtual World Disaster Training
Patient Data Exchange	Dark Fiber Back-up			
Patient RFID/IR Tracking	Radio Back-up (MARS)			
				







TAB 5

After Action Report Workshop #5:

From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response *A Continuing National Consultation Meeting*

**AFTER ACTION REPORT
FY2009 TCN 09238
Workshop 5**



**From Practice to Preparedness: Evaluating Competency Based
Education for Disaster Medicine and Public Health Preparedness and
Response**

A National Consultation Meeting

June 8, 2011 • Logistics Management Institute, McLean, VA

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation.

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INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) program of the Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR) under TCN 09238 funded by the United States Northern Command. This task requires conduct of a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the fifth in the series of six. It was co-sponsored by the National Center for Disaster Medicine and Public Health (NCDMPH), the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), the United States Northern Command (USNORTHCOM) and the YNH-CEPDR.

HANDLING INSTRUCTIONS

1. The title of this document is “FY’09 TCN 09238 Workshop #5: *“From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response: A National Consultation Meeting”*”. For additional information, please consult the following points of contact:

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EXECUTIVE SUMMARY

OVERVIEW

Workshop Title: “From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response: A National Consultation Meeting”.

The topic and format for workshop #5 were developed by the Workshop Planning Committee based on qualitative feedback from facilitators and participants in addition to a review of the findings from workshop #4.

Location and Date: Logistics Management Institute (LMI) Corporate Headquarters, McLean, Virginia. LMI generously offered the use of their conveniently located facilities in support of the meeting held on June 8, 2011.

Workshop Format: Workshop #5 was designed as a one-day intensive participatory consultation meeting (see [Appendix 1](#) for complete agenda) with 3 plenary sessions that were each followed by a moderated roundtable integrating the use of audience response technologies and guided by skilled moderators. The moderated roundtables allowed three groups of 4-6 subject matter experts (SMEs) to effectively share key information on the topic while facilitating dialogue between SMEs and the attendees (see [Appendix 2](#) for Facilitator, Moderator and Speaker Biographies).

Meeting strategies were employed to maximize dialogue and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to no more than 55 participants and the use of an audience response system to fully integrate audience members into discussions. Questions posed via the audience response system were integrated into panel discussions allowing subject matter experts and audience members to discuss their different responses. This helped to keep the audience engaged and spurred additional creative thoughts from both sides. Participants commented on the positive value of this approach.

The meeting began with an introduction that included an overview of the objectives as well as the desired and actual outputs of the 4 previous workshops. The first moderated roundtable “*The Case for Evaluation*” engaged a variety of federal and non-federal SMEs to discuss the importance of evaluating educational programs designed to build competency within the disaster medicine and public health response workforce.

The second moderated panel “*Existing and Emerging Methods for Evaluation of Continuing Health Education*” explored various methods employed to evaluate educational programs. The final moderated panel “Challenges” explored the challenges associated with the evaluation of educational programs.

Targeted Audience: Members of the following Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) professions were targeted. We also made a special effort to engage representatives of professional organizations and academic institutions that focus on continuing education aimed at members of the ESAR-VHP professions.

TABLE 1: TARGETED AUDIENCE

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professional	Diagnostic Medical Sonographers	Medical and Clinical Laboratory Technologists	Physician Assistants
Cardiovascular Technologists & Technicians	Emergency Medical Technicians and Paramedics	Pharmacists	RNs
Veterinarians	Respiratory Therapists	Radiologic Technologists and Technicians	

Meeting Objectives: The objectives of the meeting were as follows:

- Solicit existing methods and examples for conducting evaluation of competency based education focused on medical disaster preparedness and response
- Identify the challenges associated with the evaluation of educational programs
- Solicit long-term approaches for effective evaluation of professional disaster medicine and public health preparedness and response education

DESIRED OUTPUTS

The desired outputs of the meeting were:

- Representative sample of existing methods for conducting evaluation of competency based education focused on medical disaster preparedness and response
- Catalogue of challenges associated with evaluation of educational programs
- Inventory of long-term approaches to effective evaluation of professional disaster medicine and public health preparedness and response education

Workshop Evaluation: An integrated evaluation plan was designed to guide workshop activities (see the complete plan in [Appendix 6](#)). Evaluators were deployed to take notes and record key findings. At the end of the day, a participant satisfaction survey was administered to all participants. The results of the survey are provided in [Appendix 2](#).

Participating Organizations: This workshop was co-sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

ATTENDANCE

A total of 48 attendees representing 13 states and the District of Columbia participated in the workshop. Fifty percent of attendees indicated they had attended 3 or more of the previous workshops.

FIGURE 1: ATTENDEES - STATES REPRESENTED

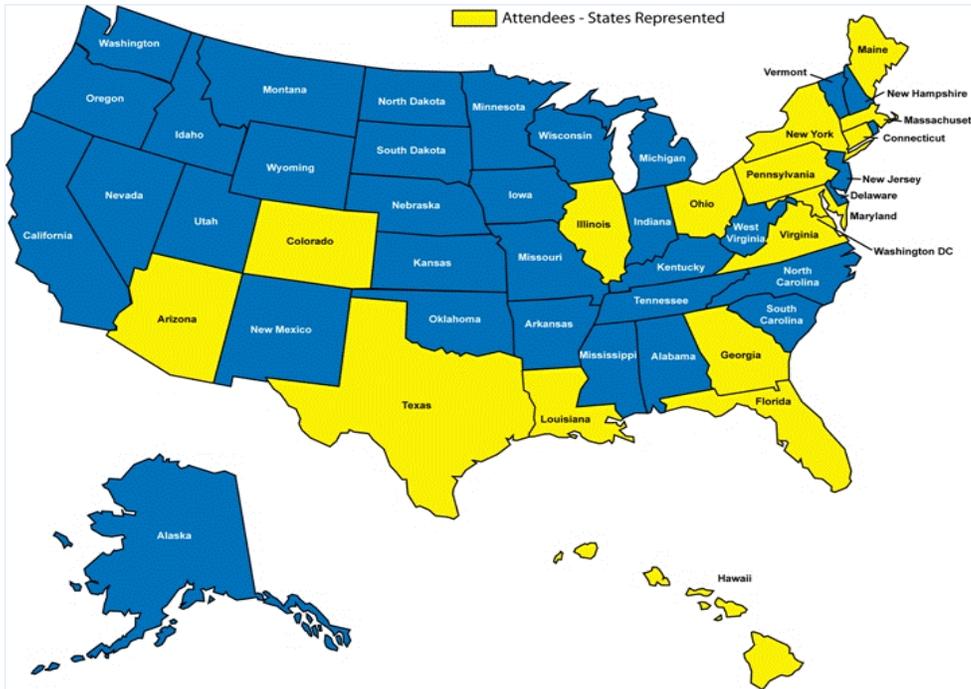
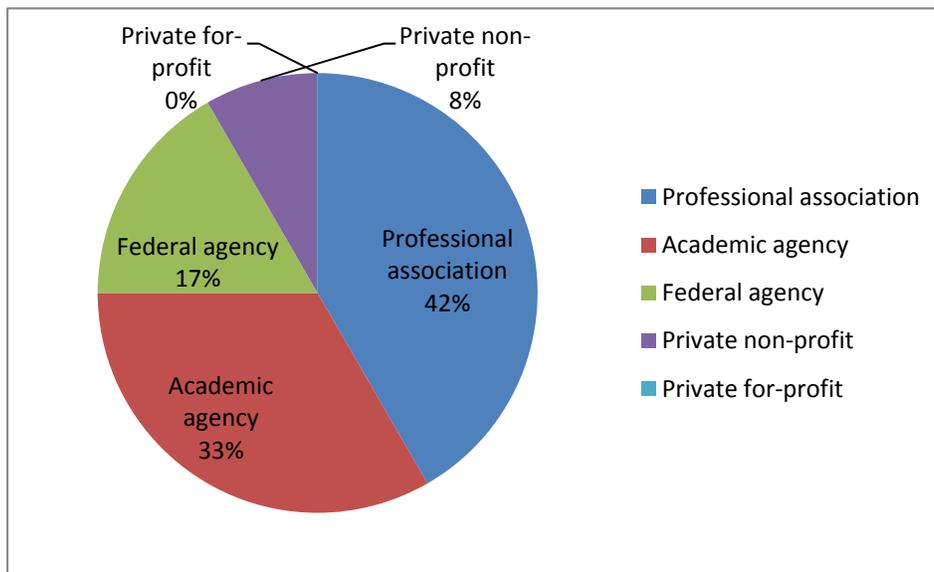


CHART 1: ATTENDEE ORGANIZATIONS

Workshop attendees represented the following organizations



BACKGROUND

The overarching mission of the ICMDDMR program is to enhance the ability to develop integrated civilian/military approaches to large-scale disasters and to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM
- Developing models for education and training that can be modified, replicated and made scalable for the civilian/military health delivery workforce
- Determining appropriate evaluation modalities for education and training programs that are implemented
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs
- Integrating civilian/military emergency preparedness strategies for medical and public health delivery

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations to better prepare to work together during a disaster, Homeland Security Presidential Directive 21 (HSPD-21): Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and public health and the establishment of the NCDMPH to lead those coordination efforts. The FETIG serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

ICMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions

The workshop development plan for TCN 09238 builds on the work done by the NCDMPH in its inaugural workshop entitled, “*A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health*”. During its initial meeting, the NCDMPH performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

A Workshop Planning Committee made up of representatives from: the FETIG, the NCDMPH and YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of TCN 09238. This integration of civilian, military and federal partners allows the development of workshops and other outputs that are meaningful to all sectors. The Workshop Planning Committee has weekly meetings to conduct workshop planning activities.

The first workshop conducted under TCN 09238, entitled “*Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities*” was designed to bring together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation

- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration

The outputs of workshop #1 and feedback from the FETIG were used to design the structure and content of workshop #2 “*Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting*”. Workshop #2 used a scenario-based format to elicit the following desired outputs:

- Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at the meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #3” *Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A Continuing National Consultation Meeting*” continued the discussions begun in Workshop #2 and followed a similar format to achieve the outputs described below:

- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #4 was entitled “*From Process to Practice: Implementing Core Competencies for Medical Disaster Preparedness and Response*”. This workshop included the use of an audience response system, separating participants into smaller groups for more focused discussions and the use of brief plenary sessions followed by moderated panels to provide a strong evidence base for the discussions.

Questions posed via the audience response system were integrated into the panel discussions allowing subject matter experts and audience members to dialogue regarding the differences in their responses. This helped to keep the audience engaged and spurred additional creative thoughts from both sides. Participants commented on the positive value of this approach and it was effective in supporting achievement of the outputs described below:

- Revised recommended framework and process for competency development
- List of long-term expectations of competencies for medical disaster preparedness and response from practitioners in the field
- List of recommendations on how to disseminate, coordinate, update and evaluate core competencies (acknowledging the dynamic nature of disaster response)
- List of practices used to implement core competencies for medical disaster preparedness and response

Outputs from the preceding workshops and feedback from key stakeholders were used to design the structure and content of workshop #5 and will inform the remaining workshop to ensure that the objectives outlined in the SOW for this task are met. A draft sequence of future topics was designed based on the trajectory of outputs and is listed below. Each potential topic was re-evaluated in light of the results of the preceding workshop. The final workshop will occur in August of 2011 as outlined in the draft schedule below:

TABLE 2: WORKSHOP SCHEDULE

Workshop #	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities
2	Sept. 22	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting
3	Nov. 17	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A Continuing National Consultation Meeting
2011 Workshops			
4	March 23	McLean, VA	From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response – A National Consultation Meeting
5	June 8	McLean, VA	From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response
6	August 3	National Capital Region	TBD

The first 5 workshops were held in the National Capital Region. This area has proven to be a central location that works well for the targeted audience and has drawn participants from the 48 contiguous states and Hawaii.

Workshop attendees have included, but were not limited to, civilian, federal and military representatives from accredited academic institutions, accrediting groups, professional

organizations and members of the ESAR-VHP professions as well as representatives of state and local organizations and the member organizations of the FETIG.

Should the planning committee determine a need for additional attendees who are currently not included in the listed groups, to participate we will seek approval of their inclusion from the Contract Officer's Representative (COR).

At the conclusion of all six workshops, a comprehensive final report will be developed that addresses our key findings relative to the stated objectives of the TCN.

SUMMARY OF WORKSHOP RESULTS

An analysis of the workshop's presentations and discussions generated the following 5 major topics:

1. **Decreased funding to support evaluation activities**

Both speakers and participants discussed emergency preparedness program funding cuts and their deleterious impact on the evaluation portions of program budgets. Public health funding for emergency preparedness is particularly challenging. For all programs, using line/clinical staff to conduct evaluation activities in addition to or instead of their usual tasks is expensive.

However, professionally trained evaluators (particularly external evaluators) are also costly. Despite the funding challenges, health systems (e.g. hospital systems, public health agencies) need to financially support both individual and system-wide evaluation activities.

2. **Knowledge retention**

The ability of students to retain new information gained from trainings is a concern. The limited frequency of disasters means that students are not quickly applying their new knowledge, skills and attitudes in the workplace.

Both speakers and participants pointed out that supporting students to quickly apply new skills (e.g., via exercises) takes both time and funding. Workshop speakers also articulated the need to investigate how technology can be applied to support knowledge retention. Refresher courses and continuing education classes are also needed.

3. **Competencies and metrics**

Throughout the workshop, speakers consistently raised the need for nationally accepted metrics and competencies to support national training goals that are both intra and inter-disciplinary.

4. **Progress beyond individual and program evaluations to system-level and population-level evaluation**

The speakers pointed out that the current state of emergency preparedness training evaluations primarily remains at the individual student or program level. Further, these individual learner and program accomplishments cannot be aggregated to demonstrate achievement of national goals for preparedness.

Additionally, although the Federal Emergency Management Agency has developed and distributed the Target Capabilities List, which includes some preliminary measures of achievement, these have been principally used to guide the development of national training goals for preparedness in some areas. These issues reflect the early stage of the science, which can be viewed in contrast to the decades of data that has been collected and analyzed in furtherance of the national health improvement goals and activities associated with smoking cessation and injury prevention, for example.

5. Transition beyond knowledge acquisition to impact evaluation

Also indicative of a relatively new field, evaluations of emergency preparedness training programs have focused on short-term outcomes, rather than the trainings' long-term impact on learner knowledge, attitudes and skills. Further, the desired (long-term) impacts of trainings remain imprecisely defined.

A review of workshop objectives and desired outputs reveals the following:

OBJECTIVE #1 - Solicit existing methods and examples for conducting evaluation of competency based education focused on medical disaster preparedness and response

OUTPUT - Representative sample of existing methods for conducting evaluation of competency based education focused on medical disaster preparedness and response

Existing Evaluation Methods

Measuring competency or skills acquired through an educational program is one element of determining the quality and effectiveness of an educational program. Methods used to determine this acquisition of knowledge include:

- Pre/post tests
- Longitudinal post tests (e.g., at six months)
 - Increasing response rates to longitudinal post tests with sequential delivery of CEUs and certificates
- Testing skills via exercises
- Questions provided during the training (e.g., during online training)
- Testing skills via simulations
- A variety of training modalities should be considered

- Length, cost and value of courses are key issues for consumers
- Interactive courses are consistently well-received
- Web-based courses should be interactive, case/problem-based, and include learning checks throughout the course
- Confidence-based learning has shown promise
- Clients/consumers want ready access to reliable and current information regarding recommended course
- Students need opportunities to quickly apply new knowledge and skills
- Trainings should be designed to keep workforce interested and engaged
- Providing reach-back as students go into workforce, provide mentorship and ongoing conversation

Recommendations for conducting evaluations of educational programs include:

- Improving objectivity with outside evaluators
- Using alumni of training programs for feedback

OBJECTIVE #2 - Identify the challenges associated with the evaluation of educational programs

OUTPUT - Catalogue of challenges associated with evaluation of educational programs

Challenges to Evaluations of Emergency Preparedness Training Programs

1. As noted above, funding for internal and/or external evaluation staff is limited. In addition, higher costs are necessarily a part of longitudinal evaluations.
2. Programs often lack professionally trained evaluators.
3. Particularly for non-evaluators, the terminology can be confusing (e.g., compliance vs. evaluation).
4. Since the science that undergirds best practice in emergency preparedness is currently very shallow, evidence-based practices are limited.
5. Retaining participants to collect longitudinal data is very challenging.

6. Program staff can be biased in their assumption that “their” program is well-designed and executed.

Challenges to Quality of Training Programs

1. Content is:
 - Erroneous/inaccurate
 - Outdated
 - Not technical (e.g., making decisions, making teams)
 - Unstimulating
 - Not operational
 - Not based on scientific study
 - Not readily prepared for consumers to evaluate (such as in a centralized catalogue)
 - Not culturally competent
2. SMEs (e.g., staff who directly experienced Katrina) are not necessarily qualified to develop curricula. Conversely, writers often lack operational experience. It is challenging to blend book content and operational components.
3. There has been a failure to collect data during disasters that can inform training content.
4. Faculty development is often overlooked.
5. Lessons learned from program evaluations often do not result in modifications to training programs, both at the local and the federal level.
6. Dedicated evaluation teams from the federal government (e.g., those who collected data following Katrina) are sometimes reluctant to quickly share what they have learned so that relevant course material can be updated.
7. Using the leverage of regulations/licensure to mandate or institutionalize disaster medicine and public health preparedness and response education and training is not yet universally accepted or employed.

OBJECTIVE #3 - Solicit long-term approaches for effective evaluation of professional disaster medicine and public health preparedness and response education

OUTPUT - Inventory of long-term approaches to effective evaluation of professional disaster medicine and public health preparedness and response education

As noted above, the identification and development of long-term approaches to evaluation of emergency preparedness training programs have been significantly challenged by funding and staffing issues. However, when discussing this issue, the evaluation professionals participating in this workshop readily articulated the long-term goals of this field. These were as follows:

1. Provide the greatest good for the country.
2. Identify evidence-based/best practices.
3. Develop metrics.
4. Demonstrate that emergency preparedness training is essential.
5. Support a business case for emergency preparedness training and education.
6. Evaluate the (longer-term) impact of training.
7. Evaluate at the systems (e.g., public health systems) and population levels.
8. Support a national training curriculum with linkages across content but varying across learners and disciplines.
9. Conduct real-time evaluation of disaster response.

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

The workshop identified the following 5 major subjects, which are described in detail above:

1. Decreased funding to support evaluation activities.
2. Knowledge retention.
3. Competencies and metrics.
4. Progress beyond individual and program evaluations to system-level and population-level evaluation.
5. Transition beyond measures of knowledge acquisition to impact evaluation.

Key recommendations from the workshop link back to the themes identified above. The identification and development of long-term approaches to evaluation of emergency preparedness training programs have been significantly challenged by funding and staffing issues.

However, when discussing this issue, the evaluation professionals participating in this workshop readily articulated nine long-term goals of this field. These were as follows:

1. Provide the greatest good for the country.
2. Identify evidence-based/best practices.
3. Develop metrics.
4. Demonstrate that emergency preparedness training is essential.
5. Support a business case for emergency preparedness training and education.
6. Evaluate the (longer-term) impact of training.
7. Evaluate at the systems (e.g., public health systems) and population levels.
8. Support a national training curriculum with linkages across content, but varying across learners and disciplines.
9. Conduct real-time evaluation of disaster response.

In addition the recommendations in the chart below were made regarding training and education:

CHART 2: TRAINING AND EDUCATION RECOMMENDATIONS

Recommendations Regarding Training and Education
<ul style="list-style-type: none">• A variety of training modalities should be considered• Length, cost and value of courses are key issues for consumers• Interactive courses are consistently well-received• Web-based courses should be interactive, case/problem-based, and include learning checks throughout the course• Confidence-based learning has shown promise• Clients/consumers want ready access to reliable and current information regarding recommended courses• Students need opportunities to quickly apply new knowledge and skills• Trainings should be designed to keep the workforce interested and engaged.• Exercises and drills encourage retention of knowledge gained through trainings

CONCLUSIONS

Overall the stated objectives and desired outputs were attained and this workshop has positively contributed to the achievement of the statement of work for this TCN. Participant feedback was overwhelmingly positive. We will use the recommendations and feedback herein to design the 6th workshop.

APPENDIX 1

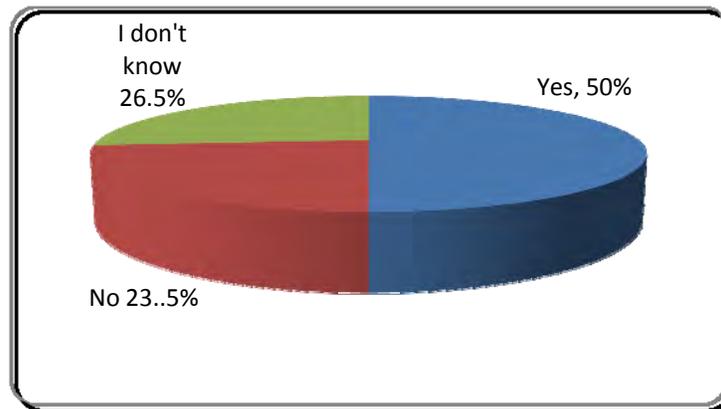
AUDIENCE RESPONSE QUESTION RESULTS

APPENDIX 1

AUDIENCE RESPONSE QUESTION RESULTS

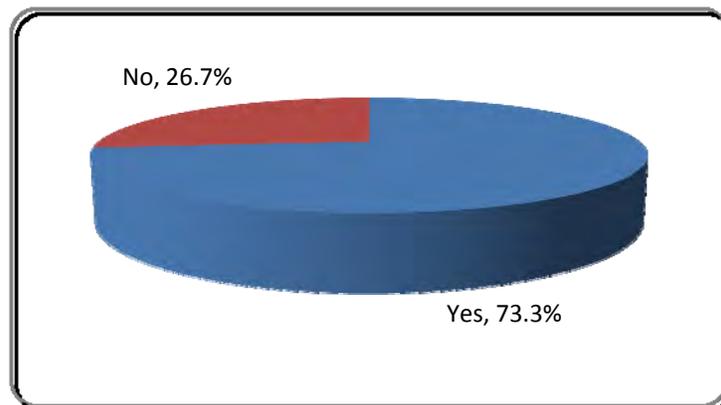
Is evaluation of education programs generally supported by funders and sponsors?

CHART 3: EDUCATION PROGRAMS



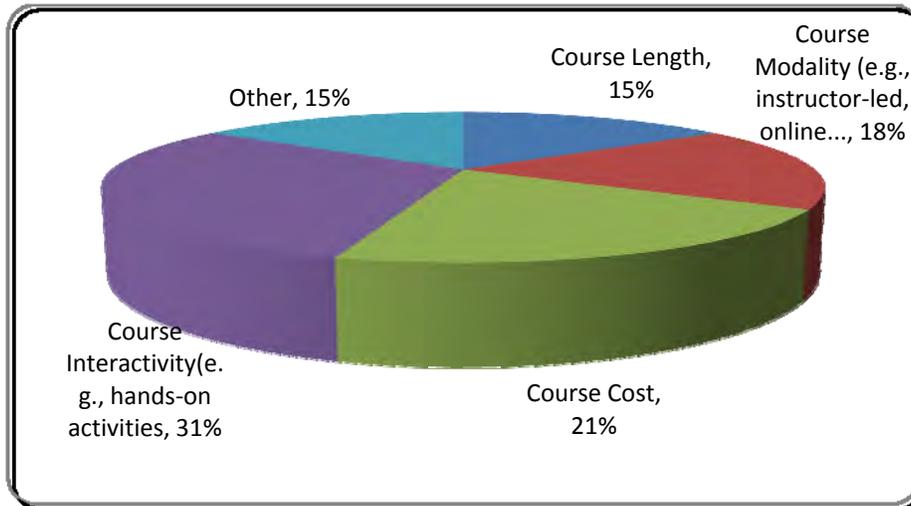
Should there be a standardized evaluation design and tools for evaluation of emergency response training?

CHART 4: EVALUATION DESIGN



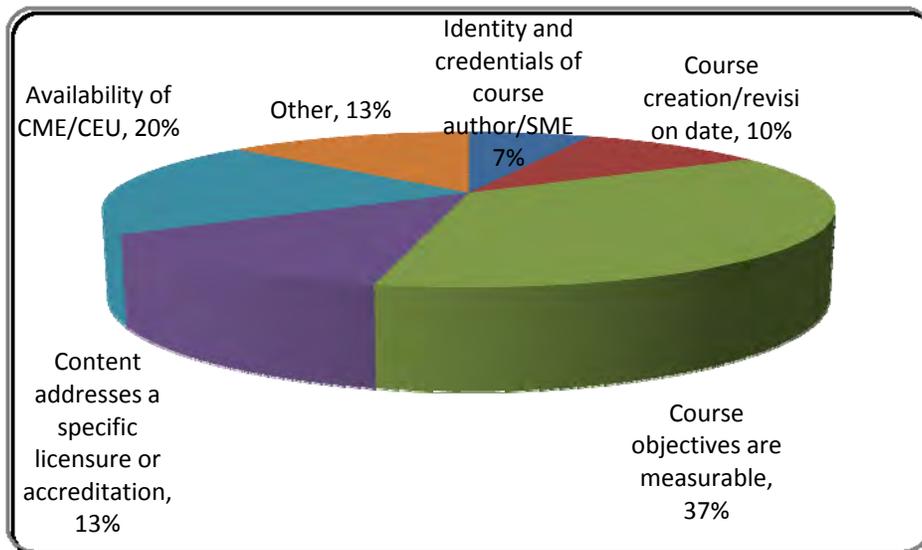
Which of the following instructional design evaluation elements would be most important to your organization when making a decision about purchasing an educational program? (multiple choice)

CHART 5: INSTRUCTIONAL DESIGN



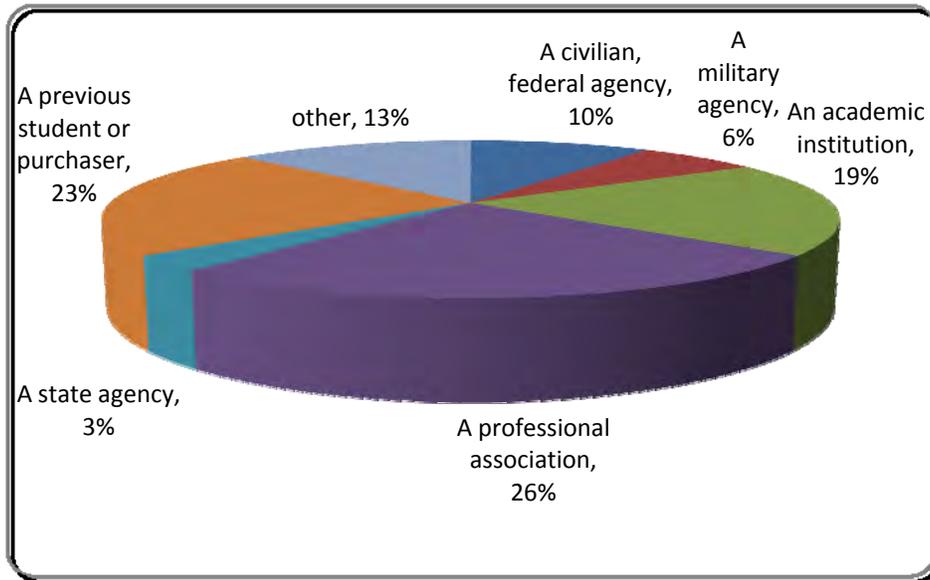
Which of the following content evaluation elements would be most important to your organization when making a decision about purchasing an educational program? (multiple choice)

CHART 6: CONTENT EVALUATION



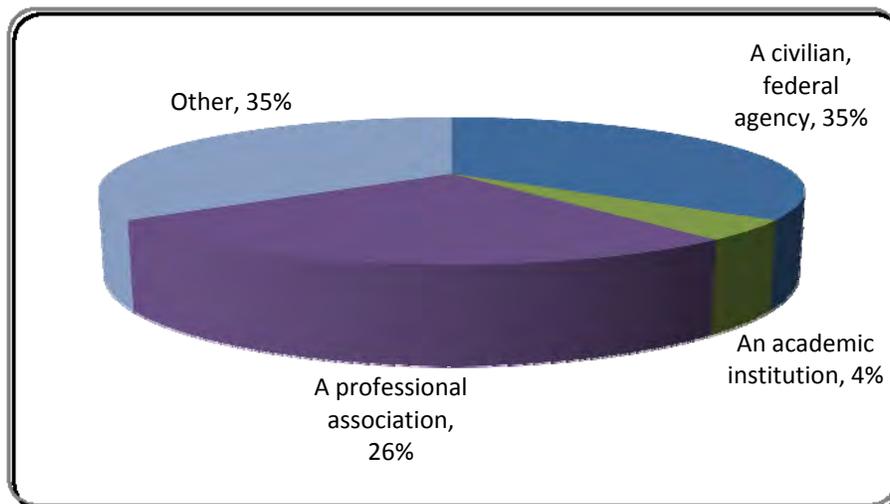
Where would you currently go to find a reliable evaluation of a course your organization was considering purchasing? (multiple choice)

CHART 7: COURSE EVALUATION



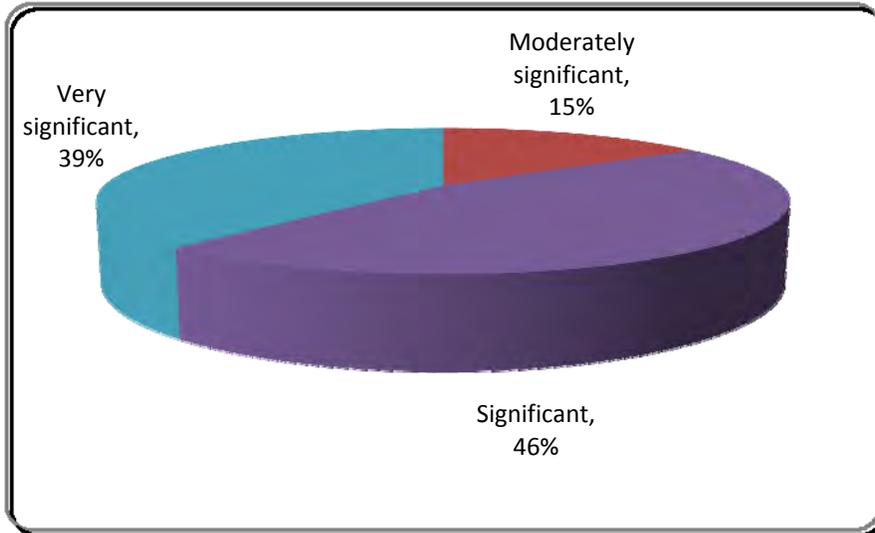
Where do you think potential consumers of courses should be directed for objective, standardized course evaluation? (multiple choice)

CHART 8: STANDARDIZED COURSE EVALUATIONS



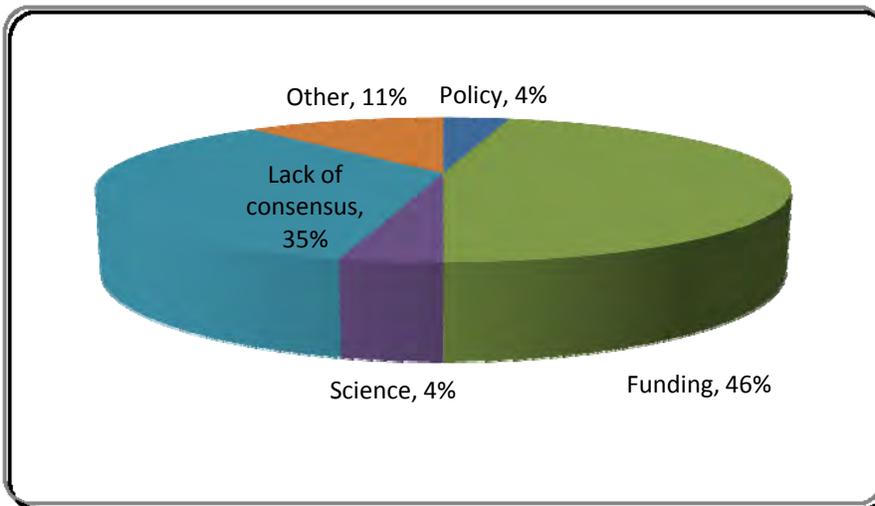
In your discipline/field, how significant are the challenges to evaluation of training programs? (multiple choice)

CHART 9: CHALLENGES TO COURSE EVALUATIONS



What is the biggest barrier to evaluation of education and training programs? (multiple choice)

CHART 10: BARRIERS TO COURSE EVALUATIONS



APPENDIX 2

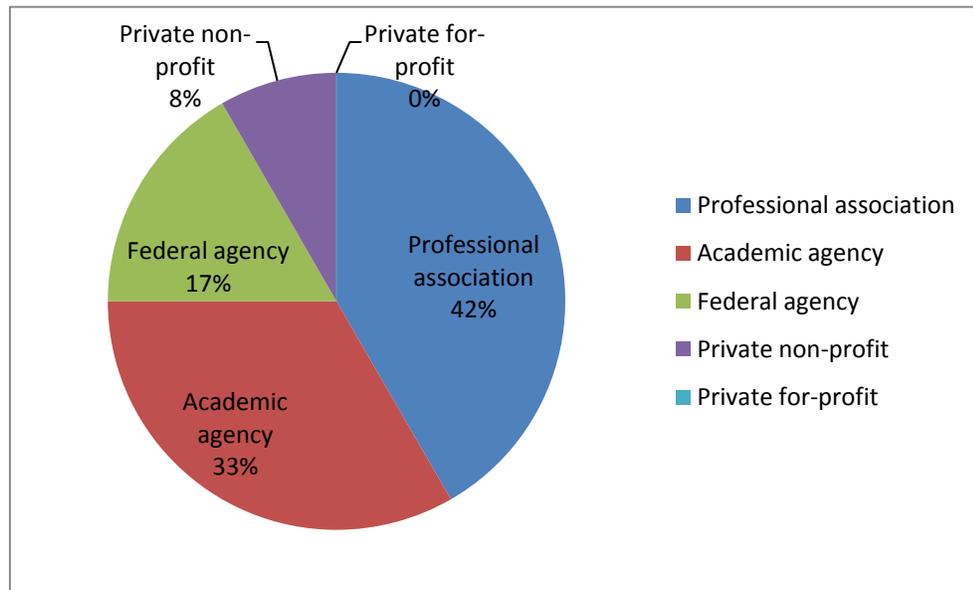
PARTICIPANT SURVEY RESULTS

APPENDIX 2

PARTICIPANT SURVEY RESULTS

CHART 1: ATTENDEE ORGANIZATIONS

Agencies represented by workshop participants (n=12)



Participants submitted the following comments in response to the question: “**What did you find most useful about the national consultation meeting?**” (responses are unedited).

- Level of discussion and engagement was impressively robust
- The speakers - I learned specific useful tools that can be used; also evaluation elements and how it needs to be a first step rather than last
- It placed many issues on the table from multiple perspectives. The challenge is to find answers
- Hearing what everyone is doing and finding out how people are solving the problems
- Discussions were helpful in understanding how much work needs to be done
- Hearing the points from the wide range of presenters and participants in the room
- Networking

- Learned several specific factoids. Some of the evaluation discussion was not helpful or clearly applicable
- Sharing of experience and lessons learned. Gathering a better understanding of the issues faced by both training course creators and end users
- Participants having the opportunity to discuss issues and challenges in-depth during panel discussions
- Networking Discussing issues and how they relate to the needs of different groups
- One of the best of the series as the rubber met the road - got down to the "so what"
- The impressive expertise of the panelists

In addition and in response to the participant survey question, “**Are there any topics that should have been covered, but were not? Please list**”, the following suggestions were provided and should be considered for future meetings (responses are unedited).

- None
- Crisis standards of care in relation to competencies since this also involve low resource situations
- Not quite sure how this dialogue will be taken forward with actionable recommendations. And what recommendations
- The role of communication with end user (i.e., less to follow-up). Issues, barriers and best practice
- More in-depth topic on program/training center evaluation vs. participant evaluation of an all-hazards preparation training course. This would have been a good opportunity to break people into groups to develop first draft evaluation forms
- I would have liked more examples of well-conducted evaluations

APPENDIX 3

WORKSHOP AGENDA

APPENDIX 3

WORKSHOP AGENDA

From Practice to Preparedness: Evaluating Competency based Education for Disaster Medicine and Public Health Preparedness and Response

June 8, 2011 • LMI Corporate Headquarters, McLean, Virginia

Meeting Objectives:

- Solicit existing methods and examples for conducting evaluation of competency based education focused on medical disaster preparedness and response
- Identify the challenges associated with the evaluation of educational programs
- Solicit long-term approaches for effective evaluation of professional disaster medicine and public health preparedness and response education



Desired Outputs to be Integrated into an After Action Report Enumerating Gaps, Associated Challenges and Recommendations:

- Representative sample of existing methods for conducting evaluation of competency based education focused on medical disaster preparedness and response
- Catalogue of challenges associated with evaluation of educational programs
- Inventory of long-term approaches to effective evaluation of professional disaster medicine and public health preparedness and response education

Meeting Sponsors:

This meeting is sponsored by the National Center for Disaster Medicine and Public Health, Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, United States Northern Command and Yale New Haven Center for Emergency Preparedness and Disaster Response.

Thank you to meeting participants, panelists, speakers and moderators for your participation. Your input and expertise will help to shape the future of disaster medicine and public health preparedness education and training.

TABLE 3: WORKSHOP AGENDA

Agenda: Wednesday, June 8, 2011	
7:30 am- 8:00 am	Registration and Networking Breakfast LOCATION: LMI MCC1
8:00 am- 8:15 am	Introduction and Meeting Overview <i>Beverly M. Belton, RN, MSN, NE-BC</i> – Program Manager, AHRQ ACTION Projects, Yale New Haven Center for Emergency Preparedness and Disaster Response Welcome and Opening Remarks <i>Houston Polson, JD</i> – Chief Joint Education, United States Northern Command Brief Review of Overall Workshop Roadmap <i>Rick Cocrane, MA, MPH</i> – Support of the Office of the Assistant Secretary of Defense (Health Affairs)
8:15 am- 8:45 am	Plenary Session # 1 – The Case for Evaluation <i>Peter Brewster</i> – Director, Education and Training for the Emergency Management Strategic Healthcare Group, Veterans Health Administration
8:45 am- 10:00 am	Moderated Roundtable I: The Case for Evaluation Moderator: <i>Kandra Strauss-Riggs, MPH</i> – Joint Program Coordinator, National Center for Disaster Medicine and Public Health Panelists: <i>Kenneth W. Schor, DO, MPH</i> – Acting Director, National Center for Disaster Medicine and Public Health <i>LTC (Ret) Joanne McGovern</i> – ESF 8 Planning and Response Program at Yale University and Tulane University <i>Joan P. Cioffi, PhD</i> – Associate Director, Learning Office and Program Official for Preparedness and Emergency Response Learning Centers (PERLC) <i>Marcia M. Sass, Sc.D.</i> – Assistant Professor, University of Medicine and Dentistry of New Jersey School of Public Health, Health Systems and Policy and Senior Evaluator for New Jersey Center for Public Health Preparedness at University of Medicine and Dentistry of New Jersey (UMDNJ) <i>Kimberly Shoaf, DrPH</i> – Associate Director, Center for Public Health Disasters, UCLA School of Public Health <i>LT CDR James (Claude) Long</i> – Chief, Joint Operations Program, Defense Medical Readiness Training Institute
10:00 am- 10:15 am	Break/Morning Refreshments

Agenda: Wednesday, June 8, 2011 CONTINUED	
10:15 am- 11:15 am	<p>Plenary Session #2: Existing and Emerging Methods for Evaluation of Continuing Health Education</p> <p>Elizabeth Ablah, PhD, MPH – Assistant Professor, Department of Preventive Medicine and Public Health, and Program Director for Emergency Preparedness at the University of Kansas School of Medicine</p> <p>Sylvia K. Scherr, MS, RN – Director, Continuing Education for Health Professionals, CHE, USUHS</p>
11:15 am- 12:30 pm	<p>Moderated Roundtable II: Methods</p> <p>Moderator: Elaine Forte, BS, MT (ASCP) – Senior Deputy Director, Operations, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Panelists:</p> <p>Richard Smith, BS, FF1– Evaluation Specialist, Yale New Haven Center for Emergency Preparedness and Disaster Response</p> <p>Marcia M. Sass, Sc.D. – Assistant Professor at UMDNJ School of Public Health, Health Systems and Policy and Senior Evaluator for New Jersey Center for Public Health Preparedness at UMDNJ</p> <p>Sylvia K. Scherr, MS, RN – Director, Continuing Education for Health Professionals, CHE, USUHS</p> <p>Elizabeth Ablah, PhD, MPH – Assistant Professor, Department of Preventive Medicine and Public Health, and Program Director for Emergency Preparedness at the University of Kansas School of Medicine</p>
12:30 pm- 1:15 pm	Lunch/Networking
1:15 pm- 1: 45 pm	<p>Plenary Session #3: Challenges Associated with the Evaluation of Educational Programs</p> <p>Joan P. Cioffi, PhD – Associate Director, Learning Office and Program Official for Preparedness and Emergency Response Learning Centers (PERLC)</p>
1:45 pm- 3:15 pm	<p>Moderated Roundtable III: Challenges</p> <p>Moderator: Debbie Hettler, OD, MPH, FAAO – Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office</p> <p>Panelists:</p> <p>John Armstrong, MD, FACS – Associate Professor of Surgery, University of South Florida College of Medicine</p> <p>Joan P. Cioffi, PhD – Associate Director, Learning Office and Program Official for Preparedness and Emergency Response Learning Centers (PERLC)</p> <p>Kimberly Shoaf, DrPH – Associate Director, Center for Public Health Disasters, UCLA School of Public Health</p> <p>Elizabeth Ablah, PhD, MPH – Assistant Professor, Department of Preventive Medicine and Public Health, and Program Director for Emergency Preparedness at the University of Kansas School of Medicine</p> <p>LTC Thomas Jones – Medical Operations, United States Central Command</p> <p>Linda Hill – Chief, Disaster Medicine Program, Defense Medical Readiness Training Institute</p>

Agenda: Wednesday, June 8, 2011 CONTINUED	
3:15 pm- 3:30 pm	Kenneth W. Schor, DO, MPH – Acting Director, National Center for Disaster Medicine and Public Health
	Closing Remarks and The Way Ahead
3:30 pm- 4:00 pm	Networking Break with Beverages and Hors d’oeuvres

APPENDIX 4

BIOGRAPHIES: FACILITATORS, MODERATORS AND PRESENTERS

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BIOGRAPHIES: FACILITATORS, MODERATORS AND PRESENTERS

Elizabeth Ablah, PhD, MPH

Dr. Elizabeth Ablah, Assistant Professor in the Department of Preventive Medicine and Public Health at the University of Kansas, School of Medicine in Wichita, is the Program Director for Emergency Preparedness at the University of Kansas School of Medicine in Wichita, Kansas.

Dr. Ablah's recent emergency preparedness research includes evaluating: integrated disaster drills, multiple point of dispensing (POD) drills, and training for first responders, public health and health professionals, county commissioners, and behavioral health professionals. She is currently interested in understanding why some health professionals do not report to work when needed during an emergency.

Dr. Ablah received a BA from St. Olaf College, a MA from Wichita State University, a MPH from the University of Kansas and a PhD from Wichita State University.

John Armstrong, MD

John H. Armstrong is a medical educator and trauma/critical care surgeon at the University of South Florida (USF), Tampa, FL, where he is Associate Professor of Surgery and Medical Director of the USF Center for Advanced Medical Learning and Simulation (CAMLS). CAMLS brings together all forms of simulation for specialty-specific and inter-professional education and training within a 90,000 sq ft building. Dr. Armstrong came to USF from the University of Florida & Shands Medical Center in Gainesville, FL, where he was Trauma Medical Director. He has internationally-recognized expertise in curriculum development and system implementation, casualty simulation, medical team training, and public health preparedness for disasters.

Dr. Armstrong is Co-Editor of the American College of Surgeons (ACS) Disaster Management and Emergency Preparedness course; Editor-in-Chief of the American Medical Association (AMA) Advanced Disaster Life Support, v.3.0; consultant to the ACS Committee on Trauma Ad Hoc Committee on Disaster and Mass Casualty Management; executive committee member of the AMA National Disaster Life Support Educational Consortium; and founding editorial board member of the AMA journal, Disaster Medicine and Public Health Preparedness. He has served on US Centers for Disease Control and Prevention (CDC) expert panels in surge capacity, field triage, and blast injury, and is a principle author of the CDC curriculum, Bombings: Injury Patterns and Care, v.2.0. He is State Faculty for ATLS, a course director for the ACS Advanced Trauma Operative Management (ATOM) course, an instructor for the ACS Advanced Surgical Skills for Exposure in Trauma (ASSET) course, and a faculty member for the Definitive Surgical Skills in Trauma course of the Royal College of Surgeons of England. Dr. Armstrong serves as Chair of ACS Political Action Committee (SurgeonsPAC); Chair of the ACS delegation to the AMA House of Delegates (HOD); ACS Governor from Florida; member of the ACS Health Policy and Advocacy Groups; and host of ReachMD (XM 160) radio programs. He has recently been

appointed to the Accreditation Council for Graduate Medical Education Residency Review Committee for Surgery. He is a former trustee and executive committee member of the AMA.

Dr. Armstrong completed his career in the US Army Medical Corps at the rank of Colonel in 2005. His final assignment was Director, US Army Trauma Training Center (ATTC), in association with the Ryder Trauma Center, Jackson Memorial Hospital, Miami, FL. He led the development and implementation of a two-week bona fide inter-professional team training program in trauma casualty care for military medical units deploying to Iraq and Afghanistan. This incorporated elements of the AHRQ TeamSTEPPS program. Under his leadership, the ATTC was named the Department of Defense (DOD) Center of Excellence for Combat Casualty Care Team Training (2004), and received the DOD Patient Safety Award for Team Training (2005). He is an in-residence graduate of the US Army Command and General Staff College and remains on faculty at the Uniformed Services University of the Health Sciences, Bethesda, MD, where he was a Distinguished Visiting Professor in August 2010.

Born in Montana, Dr. Armstrong graduated from Princeton University with an economics degree in 1984 and the University of Virginia School of Medicine in 1988. He completed his surgical residency at Tripler Army Medical Center in Hawaii in 1993, his fellowship in trauma/surgical critical care at the University of Miami/Jackson Memorial Medical Center in 1997, and a Master Educators in Medical Education fellowship at the University of Florida in 2008. He is a member of the Alpha Omega Alpha Honor Medical Society. He is recertified by the American Board of Surgery with added qualifications in surgical critical care, and is a fellow of the ACS and the American College of Chest Physicians. He is a member of the American Association for the Surgery of Trauma, the Eastern Association for the Surgery of Trauma, the Florida Medical Association, the American Medical Association, the American College of Physician Executives, and the Association of Military Surgeons of the United States.

Beverly M. Belton, RN, MSN, NE-BC

Ms. Belton is a Program Manager at Yale New Haven Health System, Center for Emergency Preparedness and Disaster Response. She has more than twenty-five years experience in healthcare management and leadership with experience in a variety of settings across the healthcare continuum – including the United States Army Nurse Corp. She has a demonstrated capacity to lead change with a focus on patient safety, employee satisfaction and regulatory compliance. She is a certified Six Sigma Green Belt who has successfully applied the principles of Six Sigma in healthcare improvement projects. She is also a skilled presenter who has presented to international audiences. Ms Belton applies her clinical expertise, leadership and project management skills to oversight of the AHRQ ACTION and DOD TCN 09238 projects.

She received her Bachelor of Science in Nursing from the University of Pennsylvania and her Master of Science in Nursing Policy, Management and Leadership in 2010 from Yale University. She is board certified in nursing executive practice.

Peter Brewster

Mr. Brewster is the Director, Education and Training for the Emergency Management Strategic Healthcare Group, Veterans Health Administration (VHA), the largest integrated health care system in the United States. VHA operates 158 VA Medical Centers and 919 outpatient clinics in all fifty states and U.S. territories. In his current position, Mr. Brewster is responsible for providing policy and guidance for emergency management education, training and exercise for VHA. He is involved with Federal and NFPA technical committees that provide research, standards, guidance, education, training, evaluation and performance improvement for the health system and emergency management communities.

Mr. Brewster joined VHA in 1990 at the start of Operation Desert Shield from his previous position as an Emergency Management Coordinator with the Consolidated City of Indianapolis-Marion County. During his time with the City, he handled the medical, utilities and communications functional areas, and was instrumental in helping develop Indiana's FEMA Urban Search and Rescue Task Force. He worked with the National Park Service and United States Forest Service while in Wyoming and was active in technical climbing, wild land search, and emergency medical services.

Mr. Brewster has a Bachelors of Science from the University of Wyoming, and a Certificate in Public Management from the Indiana University-Purdue University of Indianapolis.

Joan P. Cioffi, PhD

Dr. Cioffi serves as the Associate Director, Learning Office for the Office of Public Health Preparedness and Response (OPHPR), Centers for Disease Control and Prevention (CDC). In this role, Dr. Cioffi is responsible for developing and executing CDC's preparedness and response learning strategy. Her office has oversight and coordination responsibilities related to analysis, design, development, implementation, policy, and evaluation of workforce development programs that target CDC emergency responders, and external audiences, at the state and local levels, with public health preparedness and response responsibilities. Dr. Cioffi is the Program Official for the Preparedness and Emergency Response Learning Centers program (PERLC). CDC funds 14 schools of public health to develop and implement competency based preparedness training to support state, tribal, local and territorial public health agencies. She continues as the Deputy Director for the WHO-CDC Collaborating Center for Global Public Health Workforce Development (2005 -2011).

Dr. Cioffi has a doctoral degree in educational leadership/educational psychology from Georgia State University, a master's degree in physiology from New York University and a bachelor's degree in pharmacy, magna cum laude, from St. John's University. She serves as adjunct assistant professor in behavioral and social sciences at Emory University, Rollins School of Public Health. She has held certifications as a senior professional in human resources (S.P.H.R) and a diplomate in the American College of Health Care Executives (A.C.H.E.). She is trained as an accreditation chairperson and surveyor for the Council on Public Health Education. Since 1999 she has published and presented on workforce development research, competencies, certification and credentialing. She is a member of, and has served as an officer

in, numerous state and local professional organizations in public health, health education and training and health administration.

Richard M. Cocrane, MA, MPH

Mr. Cocrane has 29 years of experience in healthcare policy and strategic medical plans and operations in the military health system. His last five years on active duty were spent with the Joint Staff as the Director of the Joint Medical Planners Course and as Chief, Health Service Support Division. Since retiring from the Navy and joining LMI, Mr. Cocrane has supported the Assistant Secretary of Defense (Health Affairs) on several projects related to medical support to disasters, including the Defense Critical Infrastructure Program, the Installation Protection Program, and Homeland Security Presidential Directive 21 on Medical and Public Health Preparedness.

Mr. Cocrane received a Master of Arts in National Security and Strategic Studies from the Naval War College in 1991 and his Master of Public Health from the University of Pittsburgh, 1979.

Elaine Forte, BS, MT (ASCP)

Ms. Forte has more than 29 years of experience managing program development and delivery in laboratory settings, healthcare delivery and education and training and has co-authored numerous articles and abstracts. She has extensive project management experience including design, development, implementation and evaluation of (1) information technology systems, (2) education and training programs, (3) risk communication materials and (4) emergency preparedness and surge capacity initiatives. She was one of the primary participants in the national Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) committee and guided the development and implementation of the statewide emergency credentialing program in Connecticut. She guides the activities of YNHHS' National Center for Integrated Civilian-Military Domestic Disaster Medical Response and the Center for Public Health Preparedness, a CDC designated center at YNHHS. Under Ms. Forte's leadership, YNHHS has delivered education and training through multiple modalities to more than 120,000 healthcare workers at all levels of skill in a variety of disciplines and healthcare settings in more than 42 states and US territories.

Debbie L. Hettler, O.D., MPH, FAAO

Dr. Debbie Hettler's education includes a BS and OD from The Ohio State University College of Optometry and an MPH from University of Illinois. Her professional practice experience includes optometric education, clinical practice in HMOs and the VA as well as quality assurance activities. She has over 100 scientific presentations including such topics as clinical techniques, ocular disease, public health issues, contact lenses, and managed care, and authored articles published concerning public health, primary care coordination and ocular disease topics.

She has served in many professional organization leadership roles including the American Academy of Optometry, American Optometric Association, and American Public Health Association. She has been with the Veterans' Administration since 1994 as a clinical optometrist and associated education affiliations with University of Missouri Department of Ophthalmology and Internal Medicine. As Optometry Residency Supervisor there, she was associated with four optometry schools for optometric externships and residencies. Currently, she is the Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office located in Washington, DC.

LT CDR James (Claude) Long

Lieutenant Commander Long was born in Waynesville, NC and entered the Navy at the age of 17. After 14 years of enlisted service he was commissioned an Ensign in the Medical Service Corps. Lieutenant Commander Long is currently assigned to the Defense Medical Readiness Training Institute (DMRTI) in San Antonio, Tx. He is currently serving as the Chief, Joint Operations Programs that includes the Homeland Security Medical Professionals Course (HLSMPC), Joint Operations Medical Managers Course (JOMMC), Medical Humanitarian Assistance Course (MHAC), and the Medical Stability Operations Course (MSOC). Lieutenant Commander Long directly manages the HLSMPC and will assume direct responsibility for JOMMC later this year. He is the senior Plans, Operations & Medical Intelligence Officer (POMI) assigned to DMRTI and in this capacity serves as a subject matter expert to the Commander. His most recent previous assignment was at United States Northern Command as a Joint Regional Medical Plans and Operations Officer (JRMPO). He provided regional military and civil medical planning coordination in support of DoD, Department of Health and Human Services, National Disaster Medical System, Department of Homeland Security and other Federal and state disaster plans. He deployed to numerous disasters, contingencies and other events of national significance to provide direct medical operations and planning support to the Defense Coordinating Officer, the affected state(s) and the US Northern Command Commander.

Lieutenant Commander Long has deployed in support of the USNORTHCOM Commander, USNORTHCOM Command Surgeon and the FEMA Region VI Defense Coordinating Officer (DCO) for several tropical storms/depressions, Hurricanes Dean, Gustav and Ike. He also deployed in support of FEMA Region IX DCO for the California wildfires, to the Louisiana FEMA Joint Field Office to provide medical planning support to the Gulf Coast Recovery Office (Warm Cell) and deployed as the Navy Fellow to NDMS in support of Hurricanes Dennis, Emily, Katrina, and Rita. He has also planned, participated and evaluated numerous strategic, operational and tactical level disaster related exercises at the Federal and state/local levels. Lieutenant Commander Long coordinated military and other Federal level support for several state-led exercises to include aeromedical evacuation, hospital evacuation and pandemic influenza.

Lieutenant Commander Long has also served as the Division Officer/Medical Regulating Control Officer, Fleet Surgical Team ONE. He has numerous deployments with Naval and Marine Corps units to provide surgical component capability to operational forces. While deployed to the Western Pacific (WESTPAC) with the USS TARAWA (LHA 1) Amphibious Ready Group (ARG)/13th Marine Expeditionary Unit (MEU), his team provided medical-surgical command and

control for *Operation Determined Response* in support of the USS COLE attack recovery operations. He also conducted a rapid redeployment with USS BONHOMME RICHARD (LHD 6) ARG/13th MEU in support of *Operation Enduring Freedom* immediately following September 11th attacks.

Lieutenant Commander Long served honorably for 14 years as a hospital corpsman, attaining the rank of Chief Petty Officer. As an independent duty corpsman he had numerous assignments with the responsibility to provide direct health care and emergency medical support to operating forces of the Navy and Marine Corps.

LTC(Ret) Joanne McGovern

Lieutenant Colonel (Retired) McGovern enlisted in the United States Army as a private in 1975 and served as an electrical engineer and a combat medic. In 1979 she was accepted to the Military College of Vermont, Norwich University and transferred from active duty to the Vermont National Guard to become one of the first military members to participate in the Simultaneous Membership Program in the fall of 1979. She received her commission as a Lieutenant in September 1981 and completed her Bachelor of Science (Earth Science) from Norwich University in December 1981. She returned to active service as a Medical Service Corps officer in January 1982.

Her initial assignment was as a platoon leader in the Medical Company, 498th Support Battalion, 2nd Armored Division (FWD), Garlstedt, Germany. While serving in the Division she established the Family Health Clinic and served as its Executive Officer. In 1985 Lieutenant Colonel McGovern became Chief of Plans, Operations and Training for the Supreme Headquarters Allied Powers Europe Medical Activity Center (SHAPE MEDDAC). In 1986 she became the Commander of the Medical Company at SHAPE. She returned to the United States in 1987 to serve as the Senior Medical Advisor, Readiness Group, Ft Sill, Oklahoma.

Lieutenant Colonel McGovern returned to Europe in 1991 and was assigned as the Chief of Operations to the 45th Field Hospital, Vicenza Italy. She deployed on several contingency and humanitarian missions to Southwest Asia, the Balkans and Africa while serving as the Executive Officer for the contingency hospital. In 1992 she established the Airborne Forward Surgical Team, the first in Europe, and became the Deputy Surgeon, Southern European Task Force (SETAF). In that role she was instrumental in writing the initial Health Service Support Plans for operations in the Balkans to include Operation Able Sentry. As a result of this expertise she was assigned as the Chief, 1st Armored Division Medical Operations Center (DMOC), Bad Kreuznach, Germany, in 1993.

As the DMOC for 1st Armored Division, Lieutenant Colonel McGovern played a pivotal role in preparing the Division to deploy to Bosnia. She spearheaded training initiatives to better prepare medical personnel for operations in a non-permissive environment and developed the Health Service Support Plan for the Division. In 1995 Lieutenant Colonel McGovern was transferred to Headquarters, V Corps, to develop the Health Service Support portion of the Campaign Plan for Operation Joint Endeavor, the United States forces entry and operations into the Balkans. Lieutenant Colonel McGovern deployed as a member of USAREUR (FWD) and served as the

Chief of Medical Plans and Operations for one year. Upon her redeployment she was assigned as the Executive Officer, 212th Mobile Army Surgical Hospital.

She returned to the United States in 1998 to serve as the Chief of Plans and Current Operations, US Southern Command. She deployed several times to Central and South America in support of Humanitarian Assistance Operations and Disaster Relief as a result of Hurricane Mitch, the volcano eruptions in Ecuador, the Venezuelan floods and chemical disaster, the earthquakes in El Salvador and US counter drug actions in Colombia. She served as a member of the SOUTHCOM's Deployable Joint Task Force Augmentation Cell (DJTFAC) and was a member of its Joint Interagency Task Force (JIATF) working both counter drug and counter terrorism issues. LTC McGovern was one of the founding members of the Center for Disaster Management Humanitarian Assistance, a collaborative endeavor between SOUTHCOM, Tulane University, and the University of South Florida, and one of our country's Centers of Excellence.

LTC McGovern was then assigned to the United States Army Medical Department Center and School, FT Sam Houston, TX, where she has served as the Deputy Director for Healthcare Operations and after September 11th assumed the position as the Chief of the Homeland Security Branch for the Army Medical Department's Center and School. She also served as an Adjunct Professor for the U.S. Army Baylor University Program in Healthcare Administration where she taught courses in Readiness, Homeland Security and Counter-terrorism.

LTC McGovern volunteered to serve in Operation Iraqi Freedom and was deployed in April 2003. She became the Chief of Medical Plans and Operations for the Coalition Forces Land Component Command and was deployed forward with its command post to Baghdad. She returned to Kuwait and was part of the planning team that spearheaded the largest force rotation of its kind. When Multi National Force – Iraq was established in the spring of 2004, LTC McGovern was asked to establish the Surgeon's Office and serve as its Deputy Surgeon/Chief of Operations. She returned to Iraq in March 2004 and by May 2004 had the office fully operational. During the Battle of Fallujah in the fall of 2004, LTC McGovern, was in charge of all Iraqi Ministry of Health Forces deployed forwarded and was tasked with the medical evacuation of all civilian and Iraqi soldiers. For her actions she was awarded the Bronze Star. She redeployed in May 2005 and was assigned to 5th Army as the Deputy Surgeon/Chief of Operations. Her first mission was to serve as the Senior Medical Operations Officer for Hurricane Katrina where she was responsible for coordinating the evacuation of over 26 hospitals and thousands of sick and injured. In 2008 she became the ARNORTH Surgeon and retired in September 2009 having served thirty-four years in the Army.

LTC (RET) McGovern is currently the Chief Operations Officer for the ESF#8 Planning and Response Program at Yale University's School of Public Health and is a staff associate at Yale University, Department of Emergency Medicine, Section of Emergency Medical Services. She also serves as a consultant to the Yale New Haven Center for Emergency Preparedness and Disaster Response.

Houston H. Polson, JD

Dr. Houston H. Polson is the Chief, Joint Education Branch for North American Aerospace Defense Command (NORAD) and US Northern Command (USNORTHCOM). He is responsible for the establishment of programs, policies and curriculum for national defense, homeland security and defense support to civil authorities' educational initiatives to support the NORAD and USNORTHCOM missions. As Chair, Homeland Security/Defense Education Consortium, Dr. Polson directs an international network of colleges, universities and government institutions focused on promoting education, research and cooperation related to and supporting the homeland security / defense mission.

Born in Charlotte, North Carolina, Dr. Polson graduated from East Lincoln High School and entered North Carolina State University at Raleigh, receiving Bachelor of Science degrees in textile chemistry and technical education in 1975. He was named a distinguished graduate of the Reserve Officer Training Corps and commissioned a second lieutenant in the Air Force Reserve. Upon entering active duty, he attended missile combat crew initial training at Vandenberg Air Force Base, California where he was recognized as a Distinguished Graduate. He served on active duty from 1976 until 1987.

In 1987, Dr. Polson separated from active service and was commissioned a captain in the Air Force Reserve. He served in the US Air Force Reserve until his retirement in June 2005 completing 30 years of service and attaining the rank of colonel.

Dr. Polson served in academia from 1987 until 2005. Most recently, he was Dean and Professor of Business Administration, Harold Walter Siebens School of Business, Buena Vista University, Storm Lake, Iowa. He served on the faculty and as Department Chair of Business at Bellevue University, Bellevue, Nebraska; Mesa State College, Grand Junction, Colorado and Shawnee State University, Portsmouth, Ohio. Dr. Polson led the effort to develop Mesa State College's initial graduate degree. His graduate degrees include a Juris Doctor from Creighton University and Master of Business Administration from the University of Montana.

Selected past military assignments include: Deputy Missile Combat Crew Commander Instructor, Missile Combat Crew Flight Commander, IBM Weapon System Analyst, Disaster Preparedness Staff Officer; Senior Individual Mobilization Augmentee to the Base Civil Engineer, Senior Military Advisor to Commander–Stabilization Force and Director, Commander's Special Studies Group, and Emergency Preparedness Liaison Officer (EPLO) to The Adjutant General–Iowa.

Dr. Polson is a distinguished graduate of Squadron Officer School and a graduate of the Air Force Command and Staff College and the Air War College. His decorations and awards include the Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal with two oak leaf clusters, Air Force Commendation Medal, Combat Readiness Medal, Air Force Expeditionary Service Ribbon with gold border, Armed Forces Reserve Medal with "M" device and Bronze Hourglass device and NATO Service Medal. He was recognized as an Outstanding Young Man of America in 1982 and has been recognized for teaching excellence on multiple occasions.

He is the author of several publications and book reviews. Dr. Polson is married to the former Jeanie Dryer. They have three sons – Adam, David and Tim and two granddaughters.

Marcia M. Sass, ScD

Born in Baltimore, Maryland, Marcia M. Sass received her BS/RN degree in 1970 from the University of Maryland, School of Nursing. In 1974, she received a MSN degree from the University of Pennsylvania and subsequently served on the Maternal and Child Health faculty until 1980. From 1979 to 1980, Dr. Sass participated in a Robert Wood Johnson Nurse-Faculty Fellowship in Primary Care at the University of Maryland and then began her doctoral studies at the Johns Hopkins University, Bloomberg School of Public Health in the Department of Health Policy and Management. Later, in 1985 and while working at the Robert W. Johnson Foundation in Princeton, New Jersey, she completed her ScD degree with emphases in health services research and evaluation and health policy analysis.

Beyond her three degrees, Dr. Sass now has more than twenty-six years of experience in program evaluation and community health assessment at the national, state and local levels.

She has had long-standing interest in health statistics and health data systems. From 1986 to 1988 she served as a consultant to New Jersey Department of Health and Senior Services (NJDHSS) in the development of New Jersey's HealthStart Program. With her extensive educational training and experience, particularly in maternal and child health services, she served as a consultant to several organizations, most notably the Philadelphia Health Management Corporation and the National Governors Association, before returning to NJDHSS.

While employed at NJDHSS, Dr. Sass held positions as an administrator and manager as well as an evaluator of health service projects. Common to all of these positions, she had major responsibilities for the dissemination of information on health data and outcomes. From 1991 to 1994, she was responsible for implementing, providing technical assistance, building capacity, managing, and developing evaluative mechanisms for the State's six Local Advisory Boards (Regional Health Planning Agencies covering all 21 counties) and Competitive Initiatives Program grants. Moving to the Division of HIV/AIDS Services, she then served as NJDHSS' representative to national groups developing evaluation guidelines for CDC-funded HIV prevention programs. From 1994 to 2005, Dr. Sass was Chair of the Evaluation Committee of the New Jersey HIV Community Planning Group and in December 2005 received the First Annual Ralph Mitchell Award for Outstanding Leadership in the Field of HIV Prevention.

Moving to the University of Medicine and Dentistry of New Jersey (UMDNJ) in 2002, Dr. Sass is presently an Assistant Professor in the Department of Health Systems and Policy in the UMDNJ-School of Public Health as well as the Senior Evaluator for the New Jersey Center for Public Health Preparedness at UMDNJ and the regional New York-New Jersey Preparedness and Emergency Response Learning Center. In addition to teaching topics related to health services research and evaluation and public health policy and practice, she collaborates on community health assessment projects with other UMDNJ faculty and students. She has served as the UMDNJ consultant to the NJDHSS-Diabetes Prevention and Control Program on the implementation of the State Diabetes Public Health System Assessment Process and has

provided guidance on performance management, surveillance and program evaluation. Currently, she serves as the evaluator for the NJDHSS-Office of Cancer Control and Prevention comprehensive cancer control plan.

Sylvia K. Scherr, MS, RN

Sylvia K. Scherr has served as Director, Office of Continuing Education for Health Professionals at the Uniformed Services University (USU) of the Health Sciences since August 2007. USU, the military medical school within the Department of Defense, is approved as a provider of Continuing Education (CE) for six different professions: physicians, nurses, pharmacists, psychologists, health care executives (ACHE), and social workers. While the CE program covers the breadth of topics and issues across the spectrum of medicine, it is unique in relating these activities to military medicine, disaster medicine, and military medical readiness. The purpose of the program is to provide a vital and compelling program of life-long learning designed to change the behaviors of the team of interdisciplinary health professionals in the DoD and other allied federal agencies.

USU's CE interventions are inspired by USU's motto: *Learning to Care for Those in Harm's Way*. The overall content of its educational activities reflects an analysis of needs and gaps in professional performance from multiple sources of current and best practices, evidence-based content presented in a variety of formats, as well as formative, summative, and overall program evaluation. Ms. Scherr is responsible for 1000+ individual educational activities annually provided in a variety of formats to 13,500 health care professionals.

Prior to her present position, Ms. Scherr was Executive Director of Continuing Education at the National Institutes of Health, where she established a web-based request/review process and CE tracker, and oversaw intramural and extramural education for physicians and psychologists. In prior positions Ms. Scherr served as Coordinator, Centers for Disease Control and Prevention/Training Center in Baltimore and as Director of the HRSA and CDC-funded Maryland HIV/AIDS Training Center at the University of Maryland School of Medicine. She has volunteered as a site visitor, published and presented on disease control and professional education served on the advisory panel of the National Commission for Certification of CME Professionals, Inc, and participated on task forces and other work of the ACCME, ACME, and ANCC. Ms. Scherr currently is co-chair of the Alliance for Continuing Medical Education Federal Providers section and serves on the Member Sections Committee. She is a member of the Society for Academic CME and the nursing honor society Sigma Theta Tau. She earned a BSN from University of Maryland and MS from Johns Hopkins University in adult learning and organizational development, and has been especially interested in educational design and evaluation for many years.

Whenever possible, she enjoys playing in her garden and romping with her 6 beautiful grandchildren ages 1-7.

Kenneth Schor, D.O., MPH

Dr. Schor is a federal civilian faculty member of the Uniformed Services University of the Health Sciences (USU) having retired in May 2009 after 27 years active duty service in the US Navy Medical Corps. His appointments at the nation's federal health sciences university include: Acting Director of the National Center for Disaster Medicine and Public Health, Assistant Professor in the Department of Preventive Medicine and Biometrics, and Deputy Public Health Emergency Officer. He is the immediate past Associate Program Director, National Capital Consortium, USU General Preventive Medicine Residency.

Dr. Schor graduated cum laude from Allegheny College, Meadville, PA; received his Doctor of Osteopathic Medicine (DO) degree from the Philadelphia College of Osteopathic Medicine; is a Distinguished Graduate of the National Defense University Industrial College of the Armed Forces (MS, National Resources Policy); and received a Master of Public Health (MPH) degree from USU with a Health Services Administration concentration.

His graduate medical education includes a non-categorical medicine internship at Naval Medical Center, San Diego; completion of a Family Practice Residency at Naval Hospital, Jacksonville; and completion of a General Preventive Medicine Residency at the Uniformed Services University of the Health Sciences. He is a Diplomate of the American Board of Preventive Medicine.

Kimberly Shoaf, DrPH

Kim Shoaf is an Associate Professor In-Residence in the Department of Community Health Sciences at the UCLA School of Public Health, where she teaches a number of courses in emergency public health. She serves as the Acting Director of the UCLA Center for Public Health and Disasters, where she has overall responsibility for the Center's scientific research and training activities. Dr. Shoaf received her BS degree in Community Health Education from the University of Utah. She received her Master of Public Health degree in Population and Family Health, and her DrPH in Community Health Sciences from UCLA. Her expertise is in the combination of qualitative and quantitative methodologies for studying the social and health impacts of disasters as well as the public health response to emergencies. Dr. Shoaf has published numerous scientific articles in peer-reviewed journals and professional publications, specifically in the areas of disasters and emergency public health. Currently, she is an Ad Hoc Reviewer for several publications including Earthquake Spectra, Environmental Hazards, and Prehospital and Disaster Medicine. She recently served as a member of the National Research Council Committee on Disaster Research in the Social Sciences.

Richard Smith, BS, FF1

Mr. Smith is a Training and Evaluation Specialist at YNH-CEPDR with two Bachelor of Science degrees in the area of Fire Science, Firefighter I Certification and numerous FEMA Public Assistance qualifications. He has designed, developed and evaluated surveys and assessments for the organization and its clients. As a subject matter expert, Mr. Smith has been trained in the Homeland Security Exercise and Evaluation Program (HSEEP) as well as several meteorological, radiological and terrorism/CBRNE courses offered through

FEMA. Additionally, past experience has led Mr. Smith to assisting in the assessment of healthcare facilities' ability to shelter in place during hurricanes or similar weather events. Mr. Smith has assisted YNH-CEPDR in exercise development, conduct and evaluation both internally and externally and has served as Task Lead for multiple projects for the National Center for Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) Program. Currently, Mr. Smith is leading an effort to evaluate training and education programs to enhance civilian-military response as well as the development of a process and tool to enhance planning and collaboration for resource allocation during catastrophic health events.

Mr. Smith spent the last several years working with Emergency Response Program Management Consultants (ERPMC) and Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC) under a FEMA Public Assistance contract during the State of Louisiana recovery effort for Hurricanes Katrina and Rita. During the recovery, Mr. Smith served as a Debris Team Lead, Acting Deputy Division Manager, Lead Administrator, Reporting Section Lead and most recently as the Database Support Group Lead for the state's recovery under FEMA Public Assistance (PA). His work with FEMA led to the creation of innovative tools to expedite funding options and enable better overall tracking of the more than \$7 billion in PA funding for the state. These efforts were recognized by FEMA Management and were implemented in the Gulf Coast Region, including Texas, following Hurricanes Ike and Gustav. Mr. Smith has also participated with the Public Assistance Expedited Information Response (PAXIR) Team in Louisiana and has assisted with compiling reports for local media sources, local government entities, state government entities and federal government audiences, including the Executive Offices of the White House.

Kandra Strauss-Riggs, MPH

Ms. Strauss-Riggs is developing the Academic Joint Program of the National Center for Disaster Medicine and Public Health in collaboration with Dr. Kenneth Schor and the entire Center team. She brings a particular focus on the issues that impact children and pregnant women in the event of a disaster.

She is also currently serving as an Adjunct Instructor in the Boston University Healthcare Emergency Management program in the Department of Anatomy and Neurobiology at the Boston University School of Medicine. Prior to joining the National Center, Ms. Strauss-Riggs served as Program Director for Research at the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) where she coordinated the growth of A.S.P.E.N.'s complex research program in nutrition support. Earlier in her career, Ms. Strauss-Riggs served as a Project Coordinator with the National Education Association's Health Information Network where she implemented and evaluated programs serving the health education needs of the NEA's 3.2 million members.

Ms. Strauss-Riggs actively serves her community in Prince George's County, Maryland through membership on the board of a developing women's health and birth center. She has a bachelor's degree in sociology/anthropology from Guilford College and a Master's in Public Health degree from George Washington University School of Public Health and Health Services.

APPENDIX 5

PARTICIPANT SURVEY

APPENDIX 5

PARTICIPANT SURVEY

Thank you for taking the time to participate in this evaluation. Your comments will enable us to better plan and execute future meetings and tailor them to meet your needs.

1. Do you represent (check all that apply):

- Professional association (e.g., American Public Health Association)
- Academic agency
- Federal agency
- Private non-profit agency
- Private for-profit agency

2. How do you rate (in terms of delivery and knowledge of material) the following speakers:

Peter Brewster <i>Plenary Session #1: The Case for Evaluation</i>	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Below Average <input type="checkbox"/> Poor
Elizabeth Ablah, PhD, MPH <i>Plenary Session #2: Existing and Emerging Methods for Evaluation of Continuing Health</i>	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Below Average <input type="checkbox"/> Poor
Sylvia Scheer, MS, RN <i>Plenary Session #2: Existing and Emerging Methods for Evaluation of Continuing Health</i>	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Average <input type="checkbox"/> Below Average <input type="checkbox"/> Poor
Joan Cioffi, PhD <i>Plenary Session #3: Challenges Associated with the</i>	<input type="checkbox"/> Excellent

Evaluation of Educational Programs

- Good**
- Average**
- Below Average**
- Poor**

3. How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

Comments

4. What did you find most useful about the national consultation meeting?

5. Are there any topics that should have been covered but were not? Please list.

The following questions address the location and facilities of the workshop.

6. Please rate the location of this meeting (LMI, McLean, VA).

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

7.

8. Please rate the food.

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

9. Please rate the pre-registration process.

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

10. Please rate the on-site meeting check-in process.

- Excellent**
- Good**
- Average**
- Below Average**
- Poor**

APPENDIX 6

EVALUATION PLAN

APPENDIX 6

EVALUATION PLAN

ICMDDMR 09238 Workshop #5 Evaluation Plan

<p>OBJECTIVE #1 - Solicit existing methods and examples for conducting evaluation of competency based education focused on medical disaster preparedness and response</p> <p>OUTPUT - Representative sample of existing methods for conducting evaluation of competency based education focused on medical disaster preparedness and response</p>	<p>ROUND TABLE #1: THE CASE FOR EVALUATION - PANEL QUESTIONS</p> <ol style="list-style-type: none"> 1. Why are we evaluating training programs? 2. What are your concerns about the quality of the content in EP training courses? 3. What have we learned already from evaluations of disaster response training in regards to the following: course content, course delivery, knowledge acquisition, knowledge retention, knowledge application? 4. How have evaluations of training programs stimulated change in the field of emergency response education and training? 5. Going forward, what else should we seek/expect to learn from evaluating disaster response training? 6. What have we learned from recent disasters about the need to improve disaster response training?
<p>OBJECTIVE #2 - Identify the challenges associated with the evaluation of educational programs</p> <p>OUTPUT - Catalogue of challenges associated with evaluation of educational programs</p>	<p>ROUND TABLE #3: CHALLENGES – PANEL QUESTIONS</p> <ol style="list-style-type: none"> 1. What do you see as emerging criteria for effectively evaluating educational programs? 2. What are some the challenges you have faced in ensuring your educational program evaluation process is valid and effective? 3. What are your recommendations for overcoming the challenges or barriers associated with ensuring your educational program evaluation process is valid and effective? 4. What are the major challenges you are either experiencing or foresee in evaluating disaster medical and public health education programs as related to medical and public health competencies? 5. What are your recommendations for overcoming the challenges or barriers associated with evaluating disaster medical and public health education programs as related to medical and public health competencies? 6. What do see as the challenges in ensuring evaluation criteria are coordinated with current policy and standards? 7. What are your recommendations for overcoming the challenges and barriers in ensuring evaluation criteria are coordinated with current policy and standards? <p>AUDIENCE QUESTIONS</p> <ol style="list-style-type: none"> 1. In your discipline/field, how significant are the challenges to evaluation of training programs? (1 = Not at all significant, 5=Very Significant) 2. What is the biggest barrier to evaluation of education and training programs (policy, legislation, funding, science, lack of consensus, other)

OBJECTIVE #3 - Solicit long-term approaches for effective evaluation of professional disaster medicine and public health preparedness and response education

OUTPUT - Inventory of long-term approaches to effective evaluation of professional disaster medicine and public health preparedness and response education

ROUNDTABLE #2: METHODS - PANEL QUESTIONS

1. What are some key elements of course evaluation related to instructional design parameters?
2. What are appropriate credentials for an evaluator of instructional design parameters?
3. What are some key elements of course evaluation related to content?
4. What are appropriate credentials for an evaluator of course content?
5. Where (or what entity) should guidance related to standardized course evaluations for this topic come from?

AUDIENCE QUESTIONS

1. Which of the following instructional design evaluation elements would be most important to your organization when making a decision about purchasing an educational program?
 - a. Course length
 - b. Course modality (e.g., instructor-led, online, CD-ROM)
 - c. Course cost
 - d. Course interactivity (e.g., hands-on activities for instructor-led, point and click “puzzles” for online)
 - e. Other

2. Which of the following content evaluation elements would be most important to your organization when making a decision about purchasing an educational program?
 - a. Identity and credentials of course author/subject matter expert
 - b. Course creation/revision date
 - c. Course objectives are measurable
 - d. Content addresses a specific licensure or accreditation requirement
 - e. Availability of CME/CEU
 - f. Other

3. Where would you currently go to find a reliable evaluation of a course your organization was considering purchasing?
 - a. A civilian, federal agency
 - b. A military agency
 - c. An academic institution
 - d. A professional association
 - e. A state agency
 - f. A previous student or purchaser
 - g. Other

From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response - A Continuing National Consultation Meeting

- | | |
|--|---|
| | <p>4. Where do you think potential consumers of courses should be directed for objective, standardized course evaluation?</p> <ul style="list-style-type: none">a. A civilian, federal agencyb. A military agencyc. An academic institutiond. A professional associatione. A state agencyf. A previous student or purchaserg. Other |
|--|---|



TAB 6

After Action Report Workshop #6:

From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response *A National Consultation Meeting*

AFTER ACTION REPORT

FY2009 TCN 09238

Workshop 6



**From Preparedness to Performance: Assessing Individual and Team Performance in
Disaster Medicine and Public Health Preparedness and Response**
A National Consultation Meeting

August 3, 2011 • Walter Reed Army Institute of Research, Silver Springs, MD

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Defense position, policy or decision, unless so designated by other documentation.

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INTRODUCTION

PREFACE

This workshop was conducted through the Integrated Civilian-Military Domestic Disaster Medical Response (ICMDDMR) program of the Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR) under TCN 09238 funded by the United States Northern Command (USNORTHCOM). This task requires conduct of a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study is through a series of at least six (6) workshops where federal and non-federal stakeholders would convene. This workshop served as the final in the series of six. It was co-sponsored by the National Center for Disaster Medicine and Public Health (NCDMPH), the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response (FETIG), USNORTHCOM and YNH-CEPDR.

HANDLING INSTRUCTIONS

1. The title of this document is "FY'09 TCN 09238 Workshop #6: *From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response: A National Consultation Meeting*". For additional information, please consult the following points of contact:

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---	---

Thank you to the Workshop Planning Committee:

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Kandra Strauss-Riggs, MPH, National Center for Disaster Medicine and Public Health

EXECUTIVE SUMMARY

OVERVIEW

Workshop Title: “From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response: A National Consultation Meeting”.

The topic and format for workshop #6 were developed by the Workshop Planning Committee based on feedback from facilitators and participants and a review of the findings from workshop #5.

Location and Date: Walter Reed Army Institute of Research (WRAIR) and the Uniformed Services University of the Health Sciences (USUHS) National Capital Area Medical Simulation Center, Silver Springs, Maryland. Dr. Kenneth W. Schor facilitated access to these two strategically located facilities.

Workshop Format: Workshop #6 was designed as a one-day intensive participatory consultation meeting (see [Appendix 1](#) for complete agenda) with two plenary sessions that were each followed by a moderated roundtable integrated with audience response technologies and guided by skilled moderators. The moderated roundtables allowed two groups of five accomplished subject matter experts (SMEs) to share key information on the topic and engage in discussions with the attendees (see [Appendix 2](#) for Facilitator, Moderator and Speaker Biographies). The workshop also included a guided tour of the state of the art USUHS National Capital Area Medical Simulation Center (SimCenter). The SimCenter is on the vanguard of medical simulation research with initiatives that address training requirements of military medical providers, improving learner assessments and measuring teamwork skills.

Several meeting strategies were employed to maximize dialogue and interaction among participants and to increase exploration of the topic. These strategies included limiting attendance to no more than 50 participants and using an audience response system to fully integrate audience members into discussions. Questions posed via the audience response system were integrated into panel discussions, which allowed subject matter experts and audience members to discuss their different responses. This kept the audience engaged and spurred additional creative thoughts from both sides. Participants commented on the positive value of this approach.

Target Audience: Members of the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) professions were targeted for participation.

The Planning Committee also made a special effort to engage representatives of professional organizations and academic institutions that focus on providing continuing education to members of the ESAR-VHP professions.

TABLE 1: TARGET AUDIENCE

APRNs	Dentists	LPNs	Physicians
Behavioral Health Professional	Diagnostic Medical Sonographers	Medical and Clinical Laboratory Technologists	Physician Assistants
Cardiovascular Technologists & Technicians	Emergency Medical Technicians and Paramedics	Pharmacists	RNs
Veterinarians	Respiratory Therapists	Radiologic Technologists and Technicians	

Meeting Objectives

- To explore the state of the art in individual learning assessment in the context of disaster medicine and public health preparedness and response
- To explore the state of the art in team learning assessment and performance in the context of disaster medicine and public health preparedness and response

Target Meeting Outputs

1. Broad sample of existing methods for conducting assessments of team and individual learner competency and performance in medical disaster preparedness and response
2. Catalogue of challenges associated with assessment of the team and individual learner
3. Inventory of long-term approaches to effective assessment of team and individual learner competency and performance in disaster medicine and public health preparedness and response education

Workshop Evaluation: An integrated evaluation plan was designed to guide workshop activities (see the complete plan in [Appendix 6](#)). Evaluators were employed to record key findings. At the end of the day, a meeting evaluation was administered to all participants. The results of the evaluation are provided in [Appendix 2](#).

Participating Organizations: This workshop was co-sponsored by the National Center for Disaster Medicine and Public Health, the Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, the United States Northern Command and the Yale New Haven Center for Emergency Preparedness and Disaster Response.

ATTENDANCE

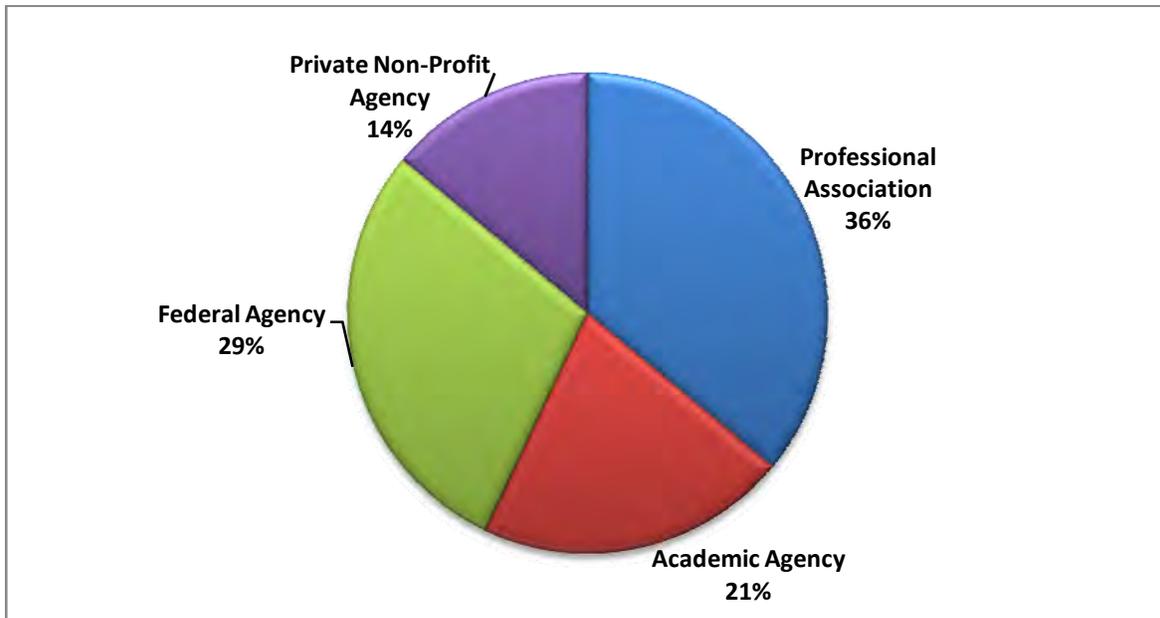
A total of 41 attendees representing 12 states and the District of Columbia participated in the workshop. Seventy-one percent of attendees indicated they had attended three or more of the previous workshops.

FIGURE 1: ATTENDEES - STATES REPRESENTED



Workshop attendees represented the following types of organizations:

CHART 1: ATTENDEE ORGANIZATIONS



BACKGROUND

The overarching mission of the ICMDDMR program is to enhance the ability to develop integrated civilian/military approaches to large-scale disasters and to maximize the coordination, efficiency and effectiveness of a medical response. This mission is being implemented through various activities, including:

- Developing a national strategy for civilian/military collaboration on integration of medical/public health preparedness education and training programs with USNORTHCOM
- Developing models for education and training that can be modified, replicated and made scalable for the civilian/military health delivery workforce
- Determining appropriate evaluation modalities for education and training programs that are implemented
- Capturing and utilizing a best practices approach across the civilian/military continuum to implement education and training programs
- Integrating civilian/military emergency preparedness strategies for medical and public health delivery

Both the military and the civilian sectors have significant resources that can be mobilized in the event of an emergency or disaster. Unfortunately, their respective organizational structures and lack of integration with each other have the unintended consequence of an ineffective mass casualty response in the homeland. In recognition of the importance of education and training as a strategy and tool to assist civilian and military organizations to better prepare to work together during a disaster, Homeland Security Presidential Directive 21 (HSPD-21): Public Health and Medical Preparedness called for the coordination of education and training programs related to disaster medicine and public health and the establishment of the NCDMPH to lead those coordination efforts. The FETIG serves in an advisory role to the NCDMPH and worked closely with USNORTHCOM to craft ICMDDMR TCN 09238 to support and further the work of the NCDMPH.

ICMDDMR TCN 09238 entitled “Study to determine the current state of disaster medicine and public health education and training and determine long-term expectations of competencies” establishes the following Statement of Work (SOW) and charges YNH-CEPDR with the following task:

Conduct a study to: (1) clarify the federal disaster medicine and public health education and training products currently in existence, (2) identify needs and explore strategies to fill education and training gaps and (3) synthesize long-term expectations of competencies. The means to accomplish this study should be through a series of at least six (6) workshops where federal and non-federal stakeholders would convene.

The results of this study will:

- Provide the structure needed to address core curricula, training and research in disaster medicine as set forth in HSPD 21
- Ensure USNORTHCOM is prepared to provide continuous health service support in meeting its homeland defense and civil support missions

The workshop development plan for TCN 09238 builds on the work done by the NCDMPH in its inaugural workshop entitled, “*A Nation Prepared: Education and Training Needs for Disaster Medicine and Public Health*”. During its initial meeting, the NCDMPH performed a needs assessment and brought together federal partners in a dynamic workshop intended to support networking across federal agencies and gathering of data that would be useful to the assessment. In addition the inaugural meeting was structured to facilitate its replication and the collection of comparative data.

A Workshop Planning Committee made up of representatives from the FETIG, the NCDMPH and YNH-CEPDR was convened to design a series of workshops to meet the stated objectives of TCN 09238. This integration of civilian, military and federal partners supported the development of workshops and other outputs that are meaningful to all sectors. The Workshop Planning Committee held weekly conference calls to conduct workshop planning activities.

The first workshop conducted under TCN 09238, entitled “*Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities*” was designed to bring together federal and non-federal stakeholders for discussion of key issues, information sharing and networking related to disaster medicine and public health education and training. Participants were expected to:

- Receive the latest update regarding key federal activities and legislation
- Share federal and private sector education and training integration strategies
- Develop recommendations and a way ahead for future collaboration

The outputs of workshop #1 and feedback from the FETIG were used to design the structure and content of workshop #2 “*Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A National Consultation Meeting*”. Workshop #2 used a scenario-based format to elicit the following desired outputs:

- Framework for identification and validation of core capabilities and competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at the meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #3” *Building a Framework for the Development of Core Capabilities and Competencies for Medical Disaster Preparedness and Response: A Continuing National*

Consultation Meeting” continued the discussion begun in Workshop #2 and followed a similar format to achieve the outputs listed below:

- Process for identification and validation of core competencies for the clinical workforce responsible for medical preparedness and response to a disaster event
- Draft set of core capabilities and recommended associated competencies for selected capabilities for the clinical workforce in attendance at this meeting
- List of perceived barriers to attaining core capabilities and competencies
- List of common core capabilities and potential gaps identified for ESAR-VHP professionals

Workshop #4 was entitled “*From Process to Practice: Implementing Core Competencies for Medical Disaster Preparedness and Response*”. This workshop included the use of an audience response system, separating participants into smaller groups for more focused discussions and the use of brief plenary sessions followed by moderated panels to provide a strong evidence base for the discussions.

Questions posed via the audience response system were integrated into the panel discussions and encouraged SMEs and audience members to discuss differences in their responses. This approach engaged the audience and spurred additional creative thoughts from both sides. Participants commented on the value of this approach, and it was effective in supporting achievement of the outputs described below:

- Revised recommended framework and process for competency development
- List of long-term expectations of competencies for medical disaster preparedness and response from practitioners in the field
- List of recommendations on how to disseminate, coordinate, update and evaluate core competencies (acknowledging the dynamic nature of disaster response)
- List of practices used to implement core competencies for medical disaster preparedness and response

Workshop #5 was designed as a one-day intensive participatory consultation meeting with three plenary sessions that were each followed by a moderated roundtable that incorporated the use of audience response technologies. The moderated roundtables allowed three groups of four to six SMEs to effectively share key information on the topic and concurrently engage in a dialogue with the attendees.

From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response - A National Consultation Meeting

Several strategies were employed to maximize dialogue and interaction among participants and to increase exploration of the topic. These included limiting attendance to no more than 55 participants and using the audience response system to fully integrate audience members into discussions. Questions posed via the audience response system were embedded into panel discussions, which encouraged subject matter experts and audience members to discuss their responses. Participants reacted positively to this approach, which was effective in achieving the following outputs:

- Representative sample of existing methods for conducting evaluation of competency-based education focused on medical disaster preparedness and response
- Catalogue of challenges associated with evaluation of educational programs
- Inventory of long-term approaches to effective evaluation of professional disaster medicine and public health preparedness and response education

Outputs from the preceding workshops and feedback from key stakeholders were used to design the structure and content of workshop #6. Care was taken to ensure that the objectives outlined in the SOW for this task were met. A list of the topics explored during the workshop series is provided in the table below:

TABLE 2: WORKSHOP SCHEDULE

Workshop	Date	Location	Topic
2010 Workshops			
1	May 5-6	Gaithersburg, MD	Education and Training Needs for Disaster Medicine and Public Health Preparedness: Building Consensus, Understanding and Capabilities
2	Sept. 22	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A National Consultation Meeting
3	Nov. 17	McLean, VA	Disaster Medicine and Public Health Preparedness Workforce Definition and Required Capabilities: A Continuing National Consultation Meeting
2011 Workshops			
4	March 23	McLean, VA	From Process to Practice: Coordinating Core Competencies for Medical Disaster Preparedness and Response – A National Consultation Meeting
5	June 8	McLean, VA	From Practice to Preparedness: Evaluating Competency Based Education for Disaster Medicine and Public Health Preparedness and Response
6	August 3	Silver Springs, MD	From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response – A National Consultation Meeting

From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response - A National Consultation Meeting

All six workshops were held in the National Capital Region. This central location proved to work well for the target audience and drew participants from the 48 contiguous states and Hawaii.

Workshop attendees have included, but were not limited to, civilian, federal and military representatives from accredited academic institutions, accrediting groups, professional organizations and members of the ESAR-VHP professions as well as representatives of state and local organizations and the member organizations of the FETIG.

Following an analysis of the aggregated data collected from the six workshops, a comprehensive final report will be developed that addresses the key findings relative to the statement of work for this TCN.

SUMMARY OF WORKSHOP RESULTS

The tools and technologies available for individual and team assessment have become more sophisticated over time. However, key process and organizational issues have limited their effectiveness in assessing individual and team performance in disaster medicine and public health preparedness and response.

A review of workshop objectives and desired outputs reveals the following:

OBJECTIVE #1 – To explore the state of the art in individual learning assessment in the context of disaster medicine and public health preparedness and response

OUTPUT #1: Broad sample of existing methods for conducting assessments of team and individual learner competency and performance in disaster medicine and public health preparedness and response

Existing and New Methods of Individual Learning Assessment

Performing individual learner assessments requires measurement of knowledge, skills and attitudes. Methods used to measure gains in these domains include:

- High fidelity healthcare simulation
- Cognitive diagnostic modeling
- Computer simulations
- Competency-based assessments via simulation pre- and post-hire
- Retrospective cohort studies of responders
- Gaming technology
- Videotaping during an exercise
- Advanced human patient simulators
- Hybrid Kirkpartrick Model
- Retrospective cohort studies applied to actual event responses
- In situ simulation
- Experiential learning
- Procedural simulation
- Computer screen-based simulation
- Immersive environments
- Self-assessment and learner portfolios
- Online pre- and post-test
- Post-event survey of responders
- Blended approach between gaining knowledge and owning knowledge

- Longitudinal impact analyses
- **OBJECTIVE #2** - To explore the state of the art in team learning assessment and performance in the context of disaster medicine and public health preparedness and response

OUTPUT #2: Inventory of long-term approaches to effective assessment of team and individual learner competency and performance in disaster medicine and public health preparedness and response

Existing and New Methods of Team Learning Assessment

Participants indicated the above individual assessment methods could also be applied to assessment of teams. The following additional team-specific methods were identified:

- Collaborative virtual environments
- Scenario-based exercises with reliable and accurate outcome measures and rigorous evaluation methods

OUTPUT #3 - Catalogue of challenges associated with assessment of the team and individual learner

Challenges to Assessment of the Team and Individual Learner

- Lack of staff time
- Lack of funding and other critical resources
- Lack of standardized, straightforward, valid assessment tools
- Lack of buy-in at the administrative/decision-maker level
- Lack of or limited training in learner assessment methodologies and tools
- Lack of consistent approach among reviewers
- Siloed approach to performance measurement and assessment Questionable reliability of self-reporting
- Changing roles of public health responders (role changes event to event)
- Inability to measure the gap between knowledge and application of skills
- Poor reliability of tests when administered across different institutions or cycles of testing
- Dearth of practical applications of test results
- Over-reliance on quantitative assessment techniques
- Difficulty in measuring retention of knowledge gains over time given infrequency of disasters during which knowledge can be applied

The SMEs attending this workshop readily articulated the following long-term goals of this field:

- Identify evidence-based/best practices for individual and team evaluation
- Develop standardized metrics
- Demonstrate that emergency preparedness training, and its associated evaluative activities, is essential.
- Support a business case for assessment
- Assess the impact of training
- Assess at the systems (e.g., public health systems) and organizational level
- Support a national training curriculum and consistent evaluation approach that supports development of team and organizational competency across disciplines

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

The workshop identified the following key recommendations:

1. Build programs with assessment in mind (look at program from beginning to end)
2. Expand academic and practice partnerships
3. Apply new and innovative techniques to the assessment of gains in individual knowledge, skills and attitudes during a real event
4. Integrate the training and assessment of various disciplines (training and exercising away from silos)
5. Map measurement of knowledge, skills and attitudes directly to competencies
6. Develop an application for self-assessment during an exercise or real event (instead of relying on observers)
7. Utilize video in assessments
8. Conduct longitudinal post-event surveys
9. Create safe environments in which to assess
10. Conduct research to determine if training individuals has an impact on the system
 - In addition, the general recommendations and observations in the chart below were made regarding education and training in disaster medicine and public health preparedness and response:

CHART 2: GENERAL RECOMMENDATIONS

General Recommendations/Observations Related to Education and Training in Disaster Medicine and Public Health Preparedness and Response

- Develop and propagate a single competency model with a common core set of competencies for all health professionals
- Work with national associations and credentialing bodies to develop a plan to implement a core curriculum with appropriate incentives and mandates
- Develop and rigorously validate measures for competence
- Mandate a baseline level of emergency preparedness education- not clinical skills- in all health professions' academic education
- Widely disseminate information on a recommended approach that can be implemented to prepare all disciplines in working together in public health and disaster medicine preparedness
- Develop and disseminate assessment techniques and tools that produce meaningful data and lead to improved performance of individuals and teams such as disaster training using simulation in a multidisciplinary fashion in professional schools

Conclusions

The results of this workshop are congruent with those of workshop #5, which focused on the evaluation of programs. The findings and recommendations of both workshops point to a need for the development of integrated cross-disciplinary programs in disaster medicine and public health preparedness and response that reflect effects-based planning and training and build in rigorous methods for individual and team assessment from inception.

Participant feedback for this workshop was overwhelmingly positive. Overall, the objectives and outputs were attained, and this workshop has positively contributed to the achievement of the statement of work for this TCN. For the final report, the planning committee will aggregate, analyze and summarize the results of all six workshops in the context of the overall SOW.

APPENDIX 1

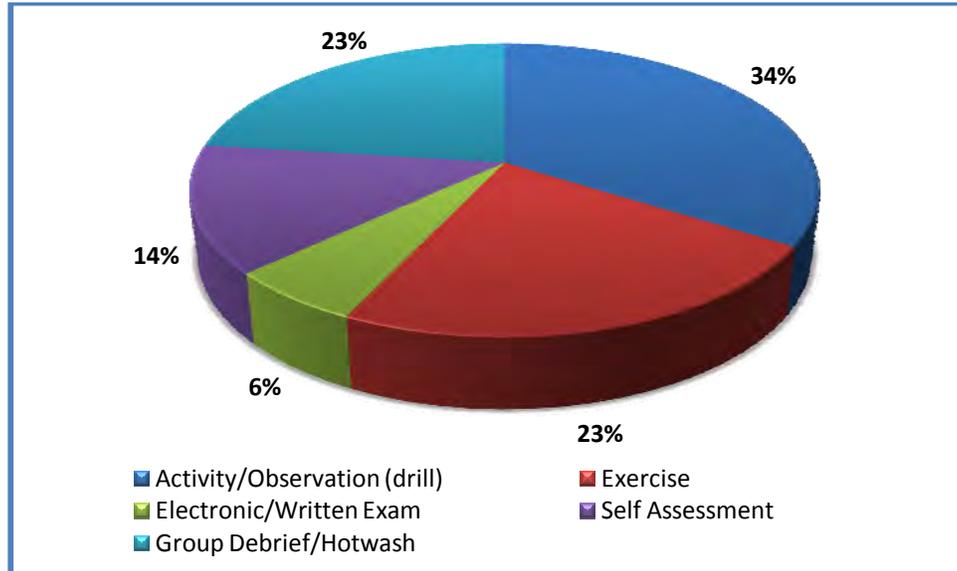
AUDIENCE RESPONSE QUESTION RESULTS

APPENDIX 1

AUDIENCE RESPONSE QUESTION RESULTS

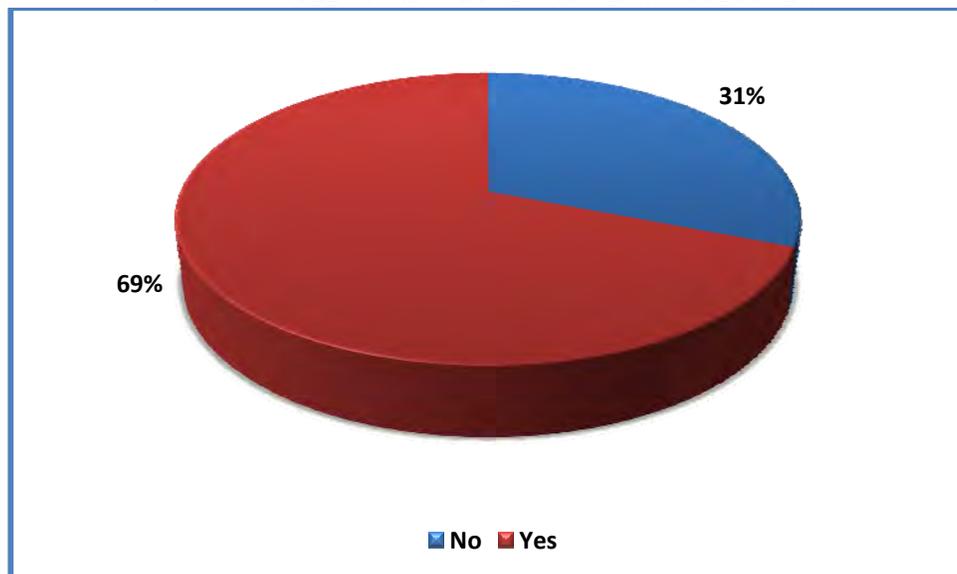
How do you prefer to be assessed?

CHART 3: PREFERRED ASSESSMENT METHOD



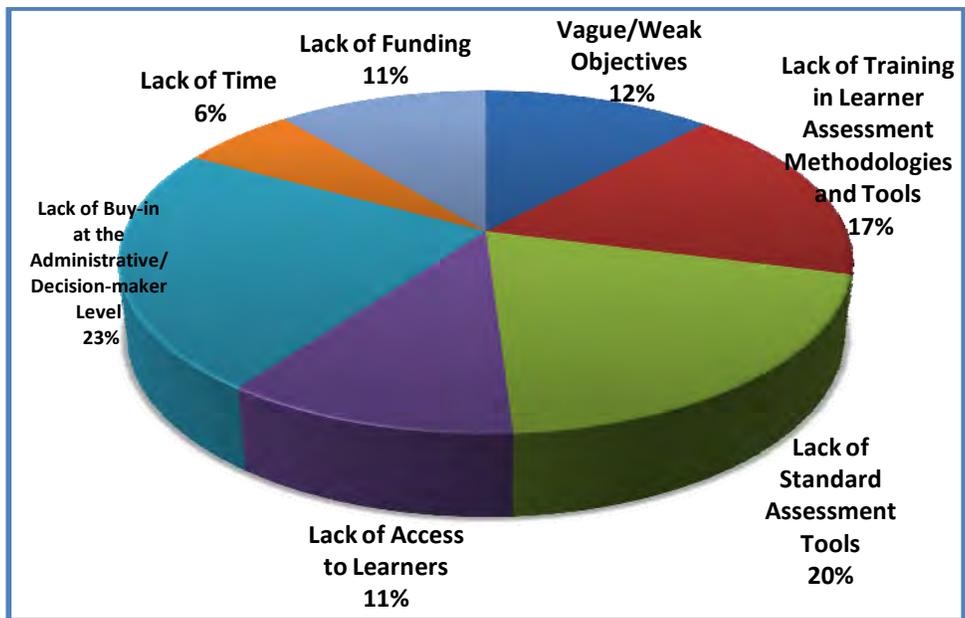
Does your current role require you to perform individual learner or team assessments?

CHART 4: ROLE IN INDIVIDUAL AND TEAM ASSESSMENT



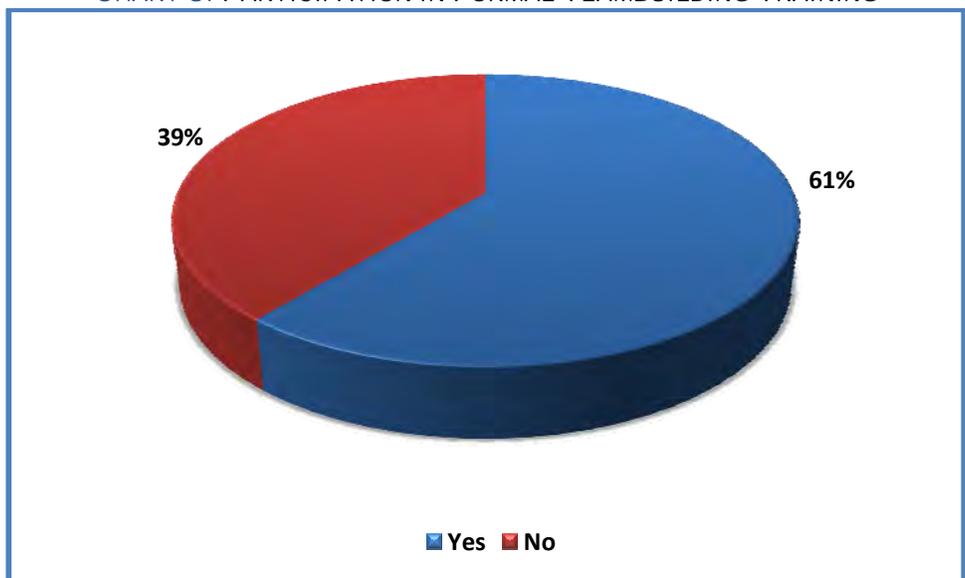
Please identify your biggest challenge to conducting and acting on individual training assessments

CHART 5: BIGGEST CHALLENGE



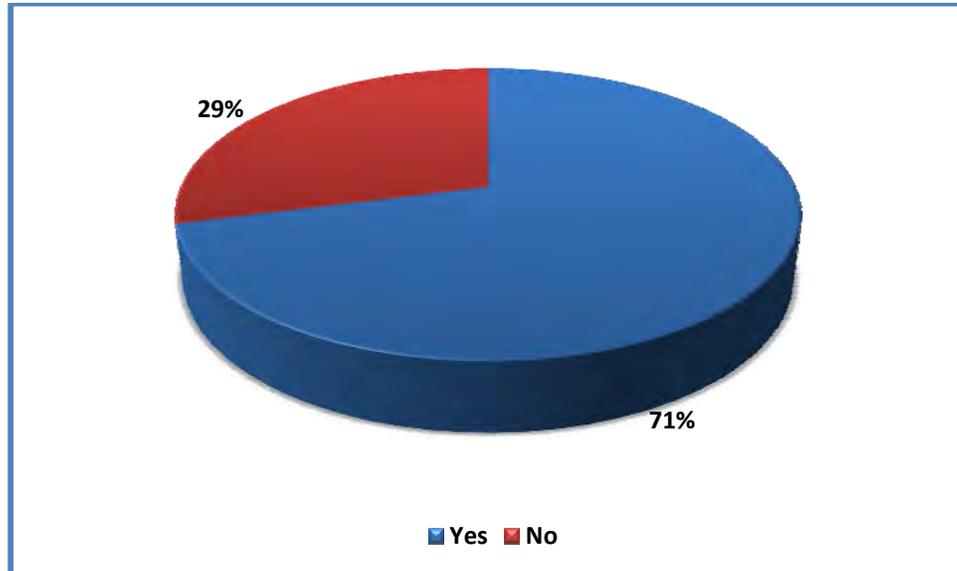
Have you participated in formal team building training specific to disaster medicine and public health preparedness and response?

CHART 6: PARTICIPATION IN FORMAL TEAMBUILDING TRAINING



Have you participated as a member of a professional team via a social media platform (e.g., blogs, social networking, news-sharing sites, photo-sharing sites, video-sharing sites)?

CHART 7: SOCIAL MEDIA



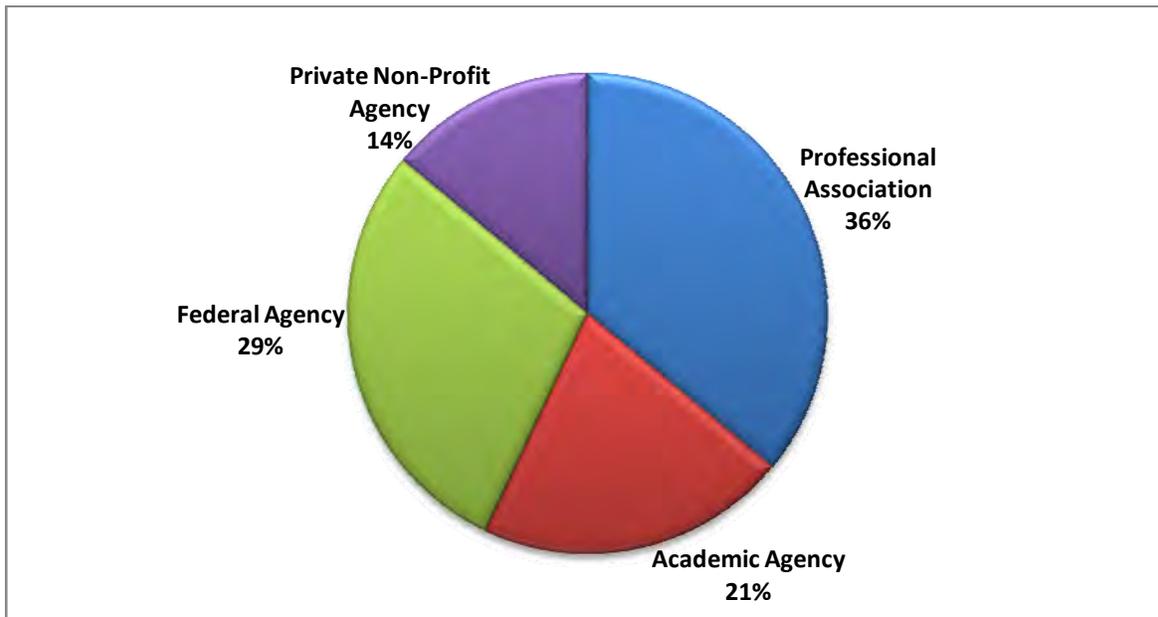
APPENDIX 2

Participant Survey Results

APPENDIX 2

PARTICIPANT SURVEY RESULTS

CHART 8: THE AGENCIES
Agency Types represented by workshop participants



Participants submitted the following comments in response to the questions that were posed to inform the final report:

“Identify the top three gaps/needs in disaster medicine and public health preparedness and response.” (Responses are unedited)

- Unified evaluation and assessment framework
- Clear adoption of terminology across all levels of public and private sectors
- Discuss incentives and policy application
- Provide a common language
- Clarify the community leadership
- Interconnectedness ———>communication. Include all those in the field ———> partnerships
- National standard for education and training evaluation of effectiveness of education and training
- Inter-professional teamwork body of knowledge
- Integration of medicine into community preparedness and response

- Interdisciplinary trainings and exercises
- Teamwork training
- Humanitarian assistance
- Real time data collection
- Buy-in at multiple levels of support driving this forward
- Standardization or unification of capabilities and competencies expectations and requirements
- Appropriate assessment methodologies
- Integration
- Vernacular – is the language a common one
- Silos how do you break them
- Multidisciplinary teams – med, police, fire, etc
- Lack of a national health surveillance program
- Lack of active community resilience programs
- Lack of regional disaster exercises
- Funding
- Resource
- Standards of assessment based on best practices
- Preparedness standards for all areas of disaster medicine and public health
- Focus on non-governmental organizations who respond to disaster- are they prepared?
- Public private partnerships
- ? business sector (including healthcare)
- Coordination amongst states – potentially at a national level in regards to licensure and paperwork to receive qualified assistance during a disaster as well as utilization of the same equipment in stockpiles so that anyone that comes to assist can jump right in with no questions or training (i.e., ventilators, IV pumps, monitors, etc)

“Provide your long-term expectations of emergency preparedness competencies response.” (Responses are unedited)

- Necessity for a single competency model
- Validated (rigorously) measures for competence
- Have they made a difference with system
- Increased preparedness within communities
- That they will be the gold standard among preparedness professionals

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- Provide a common core set of competencies for all health professionals in disasters
- Will become a standard/baseline to identify gaps in a communities level of preparedness and develop improvement plans
- A baseline level of emergency preparedness education- not clinical skills- in **all** health professions academic education
- Competency ———▶ adaptability
- Publication in either multiple publications simultaneously, or in a widely read journal that crosses disciplines, to identify the needs and a recommended approach that can be implemented to prepare all disciplines in working together in public health and disaster medicine preparedness
- Lifelong learning
- Not static
- ID competency
- ID risk/benefits
- The national center for disaster medicine and public health will follow through with issues from this workshop series as they coordinate the development of core competencies and a standard curriculum
- Data that can be measurable and leads to increased performance of ind/team preparedness and response
- A national standard will be developed, set of
- An outline of what the minimum curriculum is necessary for all disciplines and with national association and credentialing bodies to come up with a plan to implement--- there needs to be teeth behind the recommendation to ensure follow through or all of this work is for nothing
- Have simulation and disaster training done multidisciplinary in schools

APPENDIX 3

Workshop Agenda

APPENDIX 3

WORKSHOP AGENDA

From Preparedness to Performance: Assessing Team and Individual Performance in Disaster Medicine and Public Health Preparedness and Response – A National Consultation Meeting

August 3, 2011 • Walter Reed Army Institute of Research (WRAIR) • Silver Springs, MD

Meeting Objectives:

- To explore the state of the art in individual learning assessment in the context of disaster medicine and public health preparedness and response
- To explore the state of the art of team learning assessment and performance in the context of disaster medicine and public health preparedness and response



Desired Outputs:

- Broad sample of existing methods for conducting assessments of team and individual learner competency and performance in medical disaster preparedness and response
- Catalogue of challenges associated with assessment of the team and individual learner
- Inventory of long-term approaches to effective assessment of team and individual learner competency and performance in disaster medicine and public health preparedness and response education

This meeting is co-sponsored by the National Center for Disaster Medicine and Public Health, Federal Education and Training Interagency Group for Public Health and Medical Disaster Preparedness and Response, United States Northern Command and Yale New Haven Center for Emergency Preparedness and Disaster Response.

From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response - A National Consultation Meeting

Agenda: Wednesday, August 3, 2011 Walter Reed Army Institute of Research (WRAIR) • Silver Springs, MD	
7:30 am- 8:00 am	Registration and Networking Breakfast LOCATION: WRAIR 1 West 81
8:00 am- 8:15 am	Introduction and Meeting Overview <i>Beverly M. Belton, RN, MSN, NE-BC</i> – Program Manager, AHRQ ACTION Projects, Yale New Haven Center for Emergency Preparedness and Disaster Response Brief Review of Overall Workshop Roadmap <ul style="list-style-type: none"> • <i>Stewart Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response WRAIR 1 West 81
8:15 am – 8:45 am	Plenary Session #1: Individual Learner Assessment in a Training Context <ul style="list-style-type: none"> • <i>Speaker – Debra Olson, DNP, MPH, RN, COHN-S, FFAOHN</i> – Professor and Associate Dean for Education, University of Minnesota School of Public Health and Director of the University of Minnesota: Simulations, Exercises and Effective Education Preparedness and Emergency Response Learning Center (U-SEEEE PERL) WRAIR 1 West 81
8:45 am- 10:00 am	Moderated Roundtable I: Individual Learner Assessment <ul style="list-style-type: none"> • <i>Moderator: Stewart Smith, MPH, MA, FACCP</i> – Yale New Haven Center for Emergency Preparedness and Disaster Response Panelists: <ul style="list-style-type: none"> • <i>Debra Olson, DNP, MPH, RN, COHN-S, FFAOHN</i> – Professor and Associate Dean for Education, University of Minnesota School of Public Health and Director of the University of Minnesota: Simulations, Exercises and Effective Education Preparedness and Emergency Response Learning Center (U-SEEEE PERL) • <i>Matthew S. Prager, BSc Ed</i> – Chief of Distance Learning, FEMA Emergency Management Institute • <i>Jonathan Sury, MPH, CPH</i> – National Center for Disaster Preparedness, Columbia University Mailman School of Public Health • <i>Barbara Quiram, PhD</i> – Professor, Director, Office of Special Programs and Director, USA Center for Rural Public Health Preparedness Texas A&M University Health Science Center • <i>Jason Zigmot, PhD, NREMT-P</i> – Manager of Simulation Center at Yale New Haven: Advancing Patient Safety and Education (SYN:APSE) WRAIR 1 West 81
10:00 am- 10:15 am	Break WRAIR 1 West 81
10:15 am- 10:30 am	Move to USU National Capital Area Medical Simulation Center

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Agenda: Wednesday, August 3, 2011 Walter Reed Army Institute of Research (WRAIR) • Silver Springs, MD	
10:30 am-12:15 p.m.	Tour USU National Capital Area Medical Simulation Center
12:15 pm-12:30 pm	Move back to WRAIR
12:30 pm-1:45 pm	<p> Lunch and Debrief of Visit to USU National Capital Area Medical Simulation Center <i>Facilitator: Kandra Strauss-Riggs, MPH</i> – Joint Program Coordinator, National Center for Disaster Medicine and Public Health </p> <ul style="list-style-type: none"> Special Guest: Gil Muniz, PhD – Deputy Director, NCA Medical Simulation Center, Assistant Professor, School of Medicine and Assistant Professor, Graduate School of Nursing Uniformed Services WRAIR 1 West 81
1:45 pm-2:15 pm	<p> Plenary Session # 2 – The Emerging Science of Teams </p> <ul style="list-style-type: none"> Speaker – MG, USA (Ret) Donna F. Barbisch, DHA, MPH – President, Global Deterrence Alternatives, LLC WRAIR 1 West 81
2:15 pm-3:30 pm	<p> Moderated Roundtable II: Team Assessment <i>Moderator: Debbie Hettler, OD, MPH, FAAO</i> – Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office Panelists: </p> <ul style="list-style-type: none"> John Armstrong, MD, FACS – Associate Professor of Surgery, University of South Florida College of Medicine LTC (Ret) Joanne McGovern – ESF 8 Planning and Response Program at Yale University and Tulane University Jason Zigmot, PhD, NREMT-P – Manager of Simulation Center at Yale New Haven: Advancing Patient Safety and Education (SYN:APSE) BG (Ret) Michael H. Walter, MD – VP, Operations Department of Medicine, Loma Linda University Medical Center MG(Ret) Lester Martinez-Lopez, MD, MPH – Chief Medical Officer, Brandon Regional Hospital WRAIR 1 West 81
3:30 pm-4:00 pm	<p> Closing Question and Remarks </p> <ul style="list-style-type: none"> Kenneth W. Schor, DO, MPH – Acting Director, National Center for Disaster Medicine and Public Health WRAIR 1 West 81
4:00 pm-4:30 pm	<p> Recognition and Networking Break <i>Beverly M. Belton, RN, MSN, NE-BC</i> – Program Manager, AHRQ ACTION Projects, Yale New Haven Center for Emergency Preparedness and Disaster Response </p> WRAIR 1 West 81

APPENDIX 4

BIOGRAPHIES: FACILITATORS, MODERATORS AND PRESENTERS

APPENDIX 4

BIOGRAPHIES: FACILITATORS, MODERATORS AND PRESENTERS

John Armstrong, MD

John H. Armstrong is a medical educator and trauma/critical care surgeon at the University of South Florida (USF), Tampa, FL, where he is Associate Professor of Surgery and Medical Director of the USF Center for Advanced Medical Learning and Simulation (CAMLS). CAMLS brings together all forms of simulation for specialty-specific and inter-professional education and training within a 90,000 sq ft building. Dr. Armstrong came to USF from the University of Florida & Shands Medical Center in Gainesville, FL, where he was Trauma Medical Director. He has internationally recognized expertise in curriculum development and system implementation, casualty simulation, medical team training and public health preparedness for disasters.

Dr. Armstrong is Co-Editor of the American College of Surgeons (ACS) Disaster Management and Emergency Preparedness course; Editor-in-Chief of the American Medical Association (AMA) Advanced Disaster Life Support, v.3.0; consultant to the ACS Committee on Trauma Ad Hoc Committee on Disaster and Mass Casualty Management; executive committee member of the AMA National Disaster Life Support Educational Consortium; and founding editorial board member of the AMA journal, Disaster Medicine and Public Health Preparedness. He has served on US Centers for Disease Control and Prevention (CDC) expert panels in surge capacity, field triage and blast injury and is a principle author of the CDC curriculum, Bombings: Injury Patterns and Care, v.2.0. He is State Faculty for ATLS, a course director for the ACS Advanced Trauma Operative Management (ATOM) course, an instructor for the ACS Advanced Surgical Skills for Exposure in Trauma (ASSET) course and a faculty member for the Definitive Surgical Skills in Trauma course of the Royal College of Surgeons of England. Dr. Armstrong serves as Chair of ACS Political Action Committee (SurgeonsPAC); Chair of the ACS delegation to the AMA House of Delegates (HOD); ACS Governor from Florida; member of the ACS Health Policy and Advocacy Groups; and host of ReachMD (XM 160) radio programs. He has recently been appointed to the Accreditation Council for Graduate Medical Education Residency Review Committee for Surgery. He is a former trustee and executive committee member of the AMA.

Dr. Armstrong completed his career in the US Army Medical Corps at the rank of Colonel in 2005. His final assignment was Director, US Army Trauma Training Center (ATTC), in association with the Ryder Trauma Center, Jackson Memorial Hospital, Miami, FL. He led the development and implementation of a two-week bona fide inter-professional team training program in trauma casualty care for military medical units deploying to Iraq and Afghanistan. This incorporated elements of the AHRQ TeamSTEPPS program. Under his leadership, the ATTC was named the Department of Defense (DOD) Center of Excellence for Combat Casualty Care Team Training (2004, and received the DOD Patient Safety Award for Team Training (2005). He is an in-residence graduate of the US Army Command and General Staff College and remains on faculty at the Uniformed Services University of the Health Sciences, Bethesda, MD, where he was a Distinguished Visiting Professor in August 2010.

Born in Montana, Dr. Armstrong graduated from Princeton University with an economics degree in 1984 and the University of Virginia School of Medicine in 1988. He completed his surgical

residency at Tripler Army Medical Center in Hawaii in 1993, his fellowship in trauma/surgical critical care at the University of Miami/Jackson Memorial Medical Center in 1997 and a Master Educators in Medical Education fellowship at the University of Florida in 2008. He is a member of the Alpha Omega Alpha Honor Medical Society. He is recertified by the American Board of Surgery with added qualifications in surgical critical care and is a fellow of the ACS and the American College of Chest Physicians. He is a member of the American Association for the Surgery of Trauma, the Eastern Association for the Surgery of Trauma, the Florida Medical Association, the American Medical Association, the American College of Physician Executives and the Association of Military Surgeons of the United States.

Donna F. Barbisch, DHA, MPH, MG, USA (Ret)

Dr. Barbisch is among the nation's most distinguished experts in disaster and terrorism related preparedness and response. Her focus is on interoperability in national and international programs and building resiliency to catastrophic events. She has more than 30 years experience in the public and private sectors facilitating organizational change related to complex disasters and emergency management. Her expertise spans civilian and military communities in combating weapons of mass destruction, emergency management, health and medical integration and strategic and operational planning and implementation. She guides modeling and simulation for complex disasters and develops best outcomes and evidence-based programs in catastrophic events. Dr Barbisch uses research based theory and practice reinforced by modeling and simulation to drive decision support tools at all levels from individual preparedness and response to executive decision-making. Her integrated training and operations modeling is designed to produce a cultural shift in preparedness. Dr Barbisch retired as a Major General in the US Army and is currently President of Global Deterrence Alternatives.

Dr. Barbisch works with private and public, local, regional, state, national and international clients to define their vision and develop implementation strategies. She gives them the tools to assess the environment and optimize their end state. She worked at every level of command and staff in the military while climbing the corporate ladder in the civilian sector. Representative examples of her efforts include:

- Deputy Chief of Party, Project Prepare, a USAID initiative to improve pandemic preparedness in Africa and South East Asia
- Senior subject matter expert, California Department of Public Health Standards and Guidelines in Emergency Management
- Senior advisor/reviewer, After Action Review of the 2009 Presidential Inauguration
- Senior analyst in review of Iraq's Mosul Dam emergency preparedness. Developed process to improve outcomes from a projected dam breach affecting a population of more than 5 million in Iraq's Tigris River Valley

Beverly M. Belton, RN, MSN, NE-BC

Ms. Belton is a Program Manager at Yale New Haven Health System, Center for Emergency Preparedness and Disaster Response. She has more than twenty-five years experience in healthcare management and leadership with experience in a variety of settings across the healthcare continuum – including the United States Army Nurse Corp. She has a demonstrated capacity to lead change with a focus on patient safety, employee satisfaction and regulatory compliance. She is a certified Six Sigma Green Belt who has successfully applied the principles

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of Six Sigma in healthcare improvement projects. She is also a skilled presenter who has presented to international audiences. Ms Belton applies her clinical expertise, leadership and project management skills to oversight of the AHRQ ACTION and DOD TCN 09238 projects.

She received her Bachelor of Science in Nursing from the University of Pennsylvania and her Master of Science in Nursing Policy, Management and Leadership in 2010 from Yale University. She is board certified in nursing executive practice.

Debbie L. Hettler, OD, MPH, FAAO

Dr. Debbie Hettler's education includes a BS and OD from The Ohio State University College of Optometry and an MPH from University of Illinois. Her professional practice experience includes optometric education, clinical practice in HMOs and the VA as well as quality assurance activities. She has over 100 scientific presentations including such topics as clinical techniques, ocular disease, public health issues, contact lenses and managed care and authored articles published concerning public health, primary care coordination and ocular disease topics.

She has served in many professional organization leadership roles including the American Academy of Optometry, American Optometric Association and American Public Health Association. She has been with the Veterans' Administration since 1994 as a clinical optometrist and associated education affiliations with University of Missouri Department of Ophthalmology and Internal Medicine. As Optometry Residency Supervisor there, she was associated with four optometry schools for optometric externships and residencies. Currently, she is the Clinical Director, Associated Health Education, Office of Academic Affiliations, VA Central Office located in Washington, DC.

LTC(Ret) Joanne McGovern

Lieutenant Colonel (Retired) McGovern enlisted in the United States Army as a private in 1975 and served as an electrical engineer and a combat medic. In 1979 she was accepted to the Military College of Vermont, Norwich University and transferred from active duty to the Vermont National Guard to become one of the first military members to participate in the Simultaneous Membership Program in the fall of 1979. She received her commission as a Lieutenant in September 1981 and completed her Bachelor of Science (Earth Science) from Norwich University in December 1981. She returned to active service as a Medical Service Corps officer in January 1982.

Her initial assignment was as a platoon leader in the Medical Company, 498th Support Battalion, 2nd Armored Division (FWD), Garlstedt, Germany. While serving in the Division, she established the Family Health Clinic and served as its Executive Officer. In 1985 Lieutenant Colonel McGovern became Chief of Plans, Operations and Training for the Supreme Headquarters Allied Powers Europe Medical Activity Center (SHAPE MEDDAC). In 1986 she became the Commander of the Medical Company at SHAPE. She returned to the United States in 1987 to serve as the Senior Medical Advisor, Readiness Group, Ft Sill, Oklahoma.

Lieutenant Colonel McGovern returned to Europe in 1991 and was assigned as the Chief of Operations to the 45th Field Hospital, Vicenza, Italy. She deployed on several contingency and humanitarian missions to Southwest Asia, the Balkans and Africa while serving as the Executive Officer for the contingency hospital. In 1992 she established the Airborne Forward Surgical

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Team, the first in Europe, and became the Deputy Surgeon, Southern European Task Force (SETAF). In that role she was instrumental in writing the initial Health Service Support Plans for operations in the Balkans to include Operation Able Sentry. As a result of this expertise, she was assigned as the Chief, 1st Armored Division Medical Operations Center (DMOC), Bad Krueznach, Germany, in 1993.

As the DMOC for 1st Armored Division, Lieutenant Colonel McGovern played a pivotal role in preparing the Division to deploy to Bosnia. She spearheaded training initiatives to better prepare medical personnel for operations in a non-permissive environment and developed the Health Service Support Plan for the Division. In 1995 Lieutenant Colonel McGovern was transferred to Headquarters, V Corps, to develop the Health Service Support portion of the Campaign Plan for Operation Joint Endeavor, the United States forces entry and operations into the Balkans. Lieutenant Colonel McGovern deployed as a member of USAREUR (FWD) and served as the Chief of Medical Plans and Operations for one year. Upon her redeployment she was assigned as the Executive Officer, 212th Mobile Army Surgical Hospital.

She returned to the United States in 1998 to serve as the Chief of Plans and Current Operations, US Southern Command. She deployed several times to Central and South America in support of Humanitarian Assistance Operations and Disaster Relief as a result of Hurricane Mitch, the volcano eruptions in Ecuador, the Venezuelan floods and chemical disaster, the earthquakes in El Salvador and US counter drug actions in Colombia. She served as a member of the SOUTHCOM's Deployable Joint Task Force Augmentation Cell (DJTFAC) and was a member of its Joint Interagency Task Force (JIATF) working both counter drug and counter terrorism issues. LTC McGovern was one of the founding members of the Center for Disaster Management Humanitarian Assistance, a collaborative endeavor between SOUTHCOM, Tulane University and the University of South Florida, and one of our country's Centers of Excellence.

LTC McGovern was then assigned to the United States Army Medical Department Center and School, FT Sam Houston, TX, where she has served as the Deputy Director for Healthcare Operations, and after September 11th assumed the position as the Chief of the Homeland Security Branch for the Army Medical Department's Center and School. She also served as an Adjunct Professor for the U.S. Army Baylor University Program in Healthcare Administration, where she taught courses in Readiness, Homeland Security and Counter-terrorism.

LTC McGovern volunteered to serve in Operation Iraqi Freedom and was deployed in April 2003. She became the Chief of Medical Plans and Operations for the Coalition Forces Land Component Command and was deployed forward with its command post to Baghdad. She returned to Kuwait and was part of the planning team that spearheaded the largest force rotation of its kind. When Multi National Force – Iraq was established in the spring of 2004, LTC McGovern was asked to establish the Surgeon's Office and serve as its Deputy Surgeon/Chief of Operations. She returned to Iraq in March 2004 and by May 2004 had the office fully operational. During the Battle of Fallujah in the fall of 2004, LTC McGovern was in charge of all Iraqi Ministry of Health Forces deployed forwarded and was tasked with the medical evacuation of all civilian and Iraqi soldiers. For her actions she was awarded the Bronze Star. She redeployed in May 2005 and was assigned to 5th Army as the Deputy Surgeon/Chief of Operations. Her first mission was to serve as the Senior Medical Operations Officer for Hurricane Katrina, where she was responsible for coordinating the evacuation of over 26 hospitals and thousands of sick and injured. In 2008 she became the ARNORTH Surgeon and retired in September 2009 having served thirty-four years in the Army.

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LTC (RET) McGovern is currently the Chief Operations Officer for the ESF#8 Planning and Response Program at Yale University's School of Public Health and is a staff associate at Yale University, Department of Emergency Medicine, Section of Emergency Medical Services. She also serves as a consultant to the Yale New Haven Center for Emergency Preparedness and Disaster Response.

MG (Ret) Lester Martinez-Lopez, MD, MPH

Dr. Martínez-López is currently the Chief Medical Officer of the Brandon Regional Hospital in Brandon, Florida. Previously he was Senior Vice President & Administrator of the Lyndon B. Johnson General Hospital Houston, Texas. In 2005 he retired from the Army with the permanent rank of Major General. Dr. Martínez joined the active Army in 1978 at Fort Bragg, North Carolina. He is the first Hispanic to head the Army Medical and Research Command at Fort Detrick, Maryland. His responsibilities included overseeing the Army Medical Research Institute of Infectious Disease, which develops antidotes and vaccines for diseases soldiers might face on the battlefield.

Awards: Legion of Merit with three oak leaf clusters, Defense Meritorious Service Medal, Army Meritorious Service Medal with three oak leaf clusters, Army Commendation Medal with one oak leaf cluster, Army Achievement Medal with one oak leaf cluster and Senior Flight Surgeon Badge. Dr. Martínez-López earned his MD from the University of Puerto Rico and his MPH from Johns Hopkins University. He is a diplomat of the American Board of Family Practice and the American Board of Preventive Medicine. Major General Martínez is also a fellow of the American Academy of Family Practice.

Gil Muniz, PhD

Dr. Gilbert M. Muñoz, a recognized expert in military medical readiness and medical education simulation technology, was selected as the Director of Administration for the National Capital Area Medical Simulation Center (SimCen) in July 2000. Today, he serves as Deputy Director as well as the Director of the Computer Laboratory and the Video Tele-Conferencing Advanced Distributive Learning Laboratory. Dr. Muniz was the project officer who managed the design, construction and initial operation of the SimCen. His additional current responsibilities include serving as the primary project manager for the new SimCen expansion project. The project seeks to establish a Computer Aided Virtual Environment (CAVE) designed to teach medical teams in triage, mass casualty and biochemical training scenarios. He is also the principal managing an Internet 2 initiative in collaboration with the National Library of Medicine and the National Institutes of Health. Dr. Muniz holds an Associate Degree in Nursing, a Bachelor of Arts (Political Science major), a Masters of Urban and Regional Planning (Health Systems Planning) and a Doctorate in Urban and Regional Science (Health Policy Analysis). Dr. Muniz also holds an appointment as assistant professor in the USU Department of Military and Emergency Medicine and the Graduate School of Nursing.

Debra Olson, DNP, MPH, RN, COHN-S, FAAOHN

Debra Olson, DNP, MPH RN, COHN-S, FAAOHN, is the Associate Dean for Education at the University of Minnesota School of Public Health and is responsible for developing strategic partnerships for the delivery of lifelong learning opportunities for interdisciplinary health professional students and the public health practice community. These programs are

developed to increase the availability of public health education and to enhance the capability of working professionals through the application of innovative teaching techniques such as technology-enhanced learning. Her years of experience in the practice of public health and an extensive background in the delivery of public health academic and professional education allow for leadership both in the community and the University.

Dr. Olson is Center Director and PI for the University of Minnesota Simulations, Exercises and Effective Education (U-SEEE - <http://www.sph.umn.edu/research/centers/u-seee.asp>) CDC funded centers for public health preparedness research (2008-2013) and preparedness education and training (2010-2015) and the Midwest Center for Life-Long-Learning in Public Health, a public health training center funded in part by the Health Resources and Services Administration (2001-2011). Dr. Olson is a Professor in the Division of Environmental Health Sciences, School of Public Health and adjunct instructor in Public Health Nursing, School of Nursing and the University of North Dakota, School of Medicine and Health Sciences. As an occupational and environmental health specialist, Dr. Olson was the inaugural chair of the major in Public Health Practice in the School of Public Health providing dual-degree options for veterinary and medical students who wish to integrate population science into their clinical careers and public health certificates for working professionals who wish a credential in public health. In addition, she has extensive experience in the application of new information technologies and competency-based curriculum development. She has published numerous articles relating to occupational and environmental health and the roles and credentialing of public health professionals.

Michael S. Prager, BSc Ed

Matthew S. Prager is the Chief of Distance Learning for FEMA's Emergency Management Institute, Emmitsburg, Maryland, where he oversees the programs used to provide online training to state, local, tribal, federal and non-government personnel in incident management, preparation, mitigation, response and recovery operations. These programs serve over 5 million students with an average of 3 million course completions per year. Mr. Prager also manages the Institute's Master Trainer Program, providing advanced skill training in the areas of instruction, instructional design and training management.

Prior to this position he was the Director of Training for the U.S. Navy's Mine Warfare Training Center, Ingleside, Texas, where he was responsible for the proper implementation, delivery and administration of Mine Warfare technical and tactical training. He had also previously been a staff member of Commander, Mine Warfare Command as the lead for Doctrine/Tactics Development and Concept Development/Experimentation for the Mine Warfare Center of Excellence, where he was responsible for development and evaluation of concepts of operation, tactics, techniques and procedures for the Mine Warfare force.

Mr. Prager retired from active naval service, where he served in a variety of operational and technical billets ashore and afloat, including combat operations in support of OPERATION IRAQI FREEDOM. During his military and civil service careers, he has earned numerous awards including multiple awards of the Meritorious Service Medal and the Navy Meritorious Civilian Service Medal. Mr. Prager completed a Bachelor of Science degree in Education at Southern Illinois University and an Associate of Applied Science degree in Emergency Management at Frederick Community College in Frederick, Maryland.

Barbara Quiram, PhD

Dr. Barbara Quiram serves as Director of the Office of Special Programs and Director the USA Center for Rural Public Health Preparedness at the School of Rural Public Health, Texas A&M Health Science Center and is responsible for identification of partnership opportunities for the school with communities, organizations and agencies. Dr. Quiram has over 30 years of experience in healthcare and public health. She serves as Principal Investigator/Project Director on a wide range of research projects, in particular, leading the school's efforts in areas of emergency preparedness/bioterrorism, rural public health systems and public health workforce competencies. Her research, training and evaluation interests include rural emergency preparedness, rural public health infrastructure, health policy and rural community development.

Kenneth Schor, DO, MPH

Dr. Schor is a federal civilian faculty member of the Uniformed Services University of the Health Sciences (USU) having retired in May 2009 after 27 years active duty service in the US Navy Medical Corps. His appointments at the nation's federal health sciences university include: Acting Director of the National Center for Disaster Medicine and Public Health, Assistant Professor in the Department of Preventive Medicine and Biometrics and Deputy Public Health Emergency Officer. He is the immediate past Associate Program Director, National Capital Consortium, USU General Preventive Medicine Residency.

Dr. Schor graduated cum laude from Allegheny College, Meadville, PA; received his Doctor of Osteopathic Medicine (DO) degree from the Philadelphia College of Osteopathic Medicine; is a Distinguished Graduate of the National Defense University Industrial College of the Armed Forces (MS, National Resources Policy); and received a Master of Public Health (MPH) degree from USU with a Health Services Administration concentration.

His graduate medical education includes a non-categorical medicine internship at Naval Medical Center, San Diego; completion of a Family Practice Residency at Naval Hospital, Jacksonville; and completion of a General Preventive Medicine Residency at the Uniformed Services University of the Health Sciences. He is a Diplomate of the American Board of Preventive Medicine.

Stewart Smith, MPH, MA, FACCP

Mr. Smith is the Founder, President and Chief Executive Officer of Emergency Preparedness and Response International, LLC (EP&R International) offering customized all-hazards expertise that emphasizes collaborative partnerships and coordinated programs with federal, regional, state, local and international markets. Targeted areas include consultative services in strategic planning to include facilitation, business development, planning (medical and public health planning and business continuity planning), assessments and evaluations, learning, drills and exercises and program management. These services are dedicated to help ensure clients are fully prepared to meet the challenges of crises and disasters of any kind.

A retired Navy Commander, Medical Service Corps Officer, his previous military work history spans over 25 years of progressive assignments that include Chief of the Joint

Regional Medical Plans and Operations Division for the North American Aerospace Defense Command and the United States Northern Command (NORAD-USNORTHCOM), Surgeons Directorate; Director of International Health Operations Policy, Homeland Defense, and Contingency Planning Policy for the Assistant Secretary of Defense for Health Affairs; Branch Chief for the Joint Staff, Health Services Support Division; and Branch Head for the Deployable Medical Systems, Office of the Chief of Naval Operations, Medical Plans and Policy (OPNAV-N931).

Mr. Smith holds graduate degrees in Public Health Management and Policy from the Yale School of Medicine, Department of Public Health and Epidemiology; the Naval War College in National Security and Strategic Studies; is a Doctor of Health Sciences (Global Health) candidate at A.T. Still University of Health Sciences; and is an alumnus of the Harvard Kennedy School of Government, Executive Leadership Education Program.

He is the co-founder of and past President to the American College of Contingency Planners (ACCP). His particular areas of interest and expertise include strategic medical planning; domestic consequence management operations, the National Disaster Medical System (NDMS) and the National Response Framework (NRF) with a focus on complex emergencies and calamitous events (including medical operations in the WMD/asymmetrical environment); and international Weapons of Mass Destruction medical countermeasures policy. Mr. Smith was selected as the first American to chair the North Atlantic Treaty Organization's (NATO's) Biomedical Defense Advisory Committee BIOMEDAC), holding that appointment from 2003-2005 while assigned to the Secretary of Defense and USNORTHCOM staffs.

Jonathan Sury, MPH, CPH

Jonathan Sury is a Research Assistant for the National Center for Disaster Preparedness at the Columbia University Mailman School of Public Health. Mr. Sury's skills and abilities allow him a leadership role in both the Center's Regional Learning Center and the Research Division. The Columbia Regional Learning Center (CRLC) is the CDC-funded program that provides education-training curriculum for the public health preparedness and response workforce. Mr. Sury serves in a leadership role in the CRLC's Learning Management System and assures that evaluation measures for all learning projects, both distance-learning and face-to-face trainings, align with curriculum objectives and goals. He is team lead for the 'embed team', a needs assessment team that literally 'embeds' itself within a health department to identify training gaps and to develop, deliver and evaluate customized learning project curriculum. Customized trainings include the use of current technologies, video, and social media.

He also contributes to a variety of disaster-related research, including determining unanticipated consequences of pandemic flu, analyzing the long-term resiliency and recovery issues of communities following a disaster as well as the measurement and mapping of social vulnerability. He received a MPH degree in Environmental Health Sciences with a concentration in Environmental and Molecular Epidemiology from Columbia University's Mailman School of Public Health.

Kandra Strauss-Riggs, MPH

Ms. Strauss-Riggs is developing the Academic Joint Program of the National Center for Disaster Medicine and Public Health in collaboration with Dr. Kenneth Schor and the entire Center team. She brings a particular focus on the issues that impact children and pregnant women in the event of a disaster.

She is also currently serving as an Adjunct Instructor in the Boston University Healthcare Emergency Management program in the Department of Anatomy and Neurobiology at the Boston University School of Medicine. Prior to joining the National Center, Ms. Strauss-Riggs served as Program Director for Research at the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.), where she coordinated the growth of A.S.P.E.N.'s complex research program in nutrition support. Earlier in her career, Ms. Strauss-Riggs served as a Project Coordinator with the National Education Association's Health Information Network, where she implemented and evaluated programs serving the health education needs of the NEA's 3.2 million members.

Ms. Strauss-Riggs actively serves her community in Prince George's County, Maryland through membership on the board of a developing women's health and birth center. She has a bachelor's degree in sociology/anthropology from Guilford College and a Master's in Public Health degree from George Washington University School of Public Health and Health Services.

BG (Ret) Michael H. Walter, MD

Dr. Walter's educational background includes a BS from Walla Walla College in College Place, Washington, an MD from Loma Linda University in Loma Linda, California, and an MSS from U.S. Army War College. Dr. Walter's training includes an Internship at Loma Linda University Medical Center, a Residency in Internal Medicine at Fitzsimmons Army Medical Center in Denver, Colorado, and a Fellowship in Gastroenterology at Walter Reed Army Medical Center in Washington, DC. Dr. Walter holds board certifications from the American Board of Internal Medicine and the American Board of Gastroenterology.

Dr. Walter served in the U.S. Army - Active Duty from June 28, 1975, to July 29, 1988, and in the U.S. Army - Reserve from July 30, 1988, to May 2005 with a rank of Brigadier General. Dr. Walter's assignments included service as a Resident in Internal Medicine at Fitzsimmons Army Medical Center, Chief, Outpatient Clinic at the 130th Station Hospital in Heidelberg, Germany, Internist at the 130th Station Hospital, Fellow in Gastroenterology at the Walter Reed Army Medical Center, Instructor at the Department of Medicine at the Uniformed Services University of Health Sciences in Bethesda, Maryland, Staff Gastroenterologist at the Dwight David Eisenhower Army Medical Center in Augusta, Georgia, Assistant Clinical Professor in the Department of Medicine at the Medical College of Georgia in Augusta, Georgia, Assistant Chief of Gastroenterology at the Madigan Army Medical Center in Tacoma, Washington, Assistant Professor at the Department of Medicine, Uniformed Services University of the Health Sciences, Clinical Instructor at the University of Washington, Chief of the Endoscopy Clinic at the Madigan Army Medical Center, Associate Chief of the Section of Gastroenterology at the Loma Linda University School of Medicine, Director of the GI Fellowship Training Program and Associate Professor of Medicine at the Loma Linda University School of Medicine, Chief of the Division of Gastroenterology at the Loma Linda University School of Medicine, Director of the GI Fellowship Training Program at Loma Linda University Medical Center, Associate Professor of Medicine at

From Preparedness to Performance: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response - A National Consultation Meeting

the Loma Linda University School of Medicine, Chief Financial Officer at LLUPMGI in Loma Linda, California and VP, Operations at the Department of Medicine at Loma Linda University.

Dr. Walter is a Fellow of both the American College of Physicians and the American College of Gastroenterology and a Member of the American Gastroenterological Association and the American Society of Gastrointestinal Endoscopy.

Jason Zigmot, PhD, NREMT-P

Dr. Zigmot is the Manager and Educator for SYN:APSE. Simulation at Yale New Haven: Advancing Patient Safety and Education (SYN:APSE), a multi-disciplinary state-of-the-art healthcare simulation and experiential learning center. SYN:APSE consists of over 10,000 square feet of training space across three campuses. Last year SYN:APSE completed 1200 simulations for 3600 students. Current and past programs include hospital-wide interdisciplinary TeamSTEPPS® training, measuring and improving nurse competency, improving staff responses to codes and rapid responses and pre-hire testing of nurses. All programs are outcomes-based, focused on improving healthcare delivery.

He earned his PhD at the University of Connecticut in Adult Learning. His academic interests focus on the role of Experiential Learning, Analogical Reasoning and Mental Models in improving daily practice. He is also an active Nationally Registered EMT-Paramedic and has published extensively on EMS issues.

APPENDIX 5

Meeting Evaluation Survey

APPENDIX 5

MEETING EVALUATION SURVEY

From Process to Practice: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response

August 3, 2011

National Consultation Meeting Evaluation

Thank you for taking the time to participate in this evaluation. Your comments will enable us to better plan and execute future meetings and tailor them to meet your needs.

1. Do you represent (check all that apply):

- Professional association (e.g., American Public Health Association)
- Academic agency
- Federal agency
- Private non-profit agency
- Private for-profit agency

2. How do you rate the representativeness of the meeting participants (the right people in terms of level and mix of disciplines)?

- Excellent
- Good
- Average
- Below Average
- Poor

Comments

**From Process to Practice: Assessing Individual and Team Performance in Disaster Medicine and Public Health Preparedness and Response
August 3, 2011
National Consultation Meeting Evaluation**

3. To inform the final report:
 - a. Identify the top three gaps/needs in disaster medicine and public health preparedness and response

 - b. Provide your long-term expectations of emergency preparedness competencies

4. Please rate the visit to the USU National Capital Area Medical Simulation Center
 - Excellent**
 - Good**
 - Average**
 - Below Average**
 - Poor**

THANK YOU FOR ALL OF YOUR SUPPORT!

APPENDIX 6

Evaluation Plan

APPENDIX 6

EVALUATION PLAN

ICMDDMR 09238 Workshop #6 Evaluation Plan

<p>OBJECTIVES:</p> <p>#1 : To explore the state of the art in individual learning assessment in the context of disaster medicine and public health preparedness and response</p> <p>#2 : To explore the state of the art in team learning assessment and performance in the context of disaster medicine and public health preparedness and response</p> <p>DESIRED OUTPUTS:</p> <p>#1 : Broad sample of existing methods for conducting assessments of team and individual learner competency and performance in medical disaster preparedness and response</p> <p>#2 : Inventory of long-term approaches to effective assessment of team and individual learner competency and performance in disaster medicine and public health preparedness and response education</p>	<p>Roundtable 1: <u>Individual Learner Assessment</u> – Panel Questions</p> <ol style="list-style-type: none"> 1. What are some of the methods you use for conducting individual learning assessments? 2. How could these techniques be applied to the assessment of gains in individual knowledge, skills and attitudes during real-time disaster response events or exercises? 3. Describe the three most critical issues related to learner assessment in your environment. <p>Roundtable 1: <u>Individual Learner Assessment</u> – Audience Response Questions</p> <ul style="list-style-type: none"> • How do you prefer to be assessed? • Does your current role require you to perform individual learner or team assessments? • Please identify your biggest challenge to conducting and acting on individual training assessments. <p>Roundtable 2: <u>Team Assessment</u> – Panel Questions</p> <ol style="list-style-type: none"> 1. Discuss the challenges and barriers of bringing a team together. <ol style="list-style-type: none"> a. What are the unique challenges associated with team formation and functioning in a disaster setting? 2. How have you assessed gains in knowledge, skills and attitudes of teams during real-time disaster response events and exercises? 3. Describe the three most critical issues related to team assessment in your environment. <p>Roundtable 2: <u>Team Assessment</u> – Audience Response Questions</p> <ol style="list-style-type: none"> 1. Have you participated in formal team building training specific to disaster medicine and public health preparedness and response? 2. Have you participated as member of a professional team via a social media platform (e.g., blogs, social networking, news-sharing sites, photo-sharing sites, video-sharing sites)?
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ICMDDMR 09238 Workshop #6 Evaluation Plan (continued)

DESIRED OUTPUTS (continued):

#3 : Catalogue of challenges associated with assessment of the team and individual learner

Roundtable 1: Individual Learner Assessment – Panel Questions

- What challenges have you experienced with assessment of the individual learner, specific to gains in:
 - a. Knowledge
 - b. Skills
 - c. Attitudes

Roundtable 2: Team Assessment – Panel Questions

- What challenges have you experienced with assessment of teams?
- Describe the strategies that you have used in the workplace to overcome these challenges.