

PROGRAM

Yale New Haven International Congress on Disaster Medicine and Emergency Management

September 12-13, 2005

Omni New Haven Hotel, 155 Temple Street, New Haven, Connecticut



Congress partners

This event is co-sponsored by

Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR)

Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR), an organization within the Yale New Haven Health System, develops and delivers emergency preparedness and disaster response programs and services to health care delivery organizations (acute care hospitals, skilled nursing facilities, community health centers, home health agencies, urgent care centers, emergency medical service providers and community medical practices) to better prepare their clinical, operations and administrative staff in responding to a natural or man-made disaster. YNH-CEPDR is a designated Centers for Disease Control and Prevention (CDC) Center for Public Health Preparedness as well as a State of Connecticut designated Center of Excellence for Bioterrorism Preparedness and Response.

Yale University School of Medicine (YSM)

Yale University School of Medicine (YSM) is one of the leading centers for biomedical research, education and advanced health care. The YSM faculty includes some of the world's most respected scholars in medicine, public health and biomedical science. YSM consistently ranks among the leading recipients of research funding from the National Institutes of Health (NIH) and other organizations supporting the biomedical sciences. YSM is committed to fulfilling its responsibility to make medicine responsive to the needs of society as a whole by generating new knowledge about human biology and improving human health through preventive, diagnostic and therapeutic programs.

Pan American Health Organization/World Health Organization (PAHO/WHO)

The Pan American Health Organization/World Health Organization (PAHO/WHO) is an international public health agency with 100 years of experience working to improve health and living standards of the countries of the Americas. It serves as the specialized organization for health of the Inter-American System. It also serves as the Regional Office for the Americas of the World Health Organization and enjoys international recognition as part of the United Nations system. PAHO is based in Washington, D.C., and has scientific and technical experts at its headquarters, in its 27 country offices and its nine scientific centers, all working with the countries of Latin America and the Caribbean in dealing with priority health issues, as well as emergency preparedness and mitigation activities.

World Association for Disaster and Emergency Medicine (WADEM)

The World Association for Disaster and Emergency Medicine (WADEM) exists to foster international collaboration in the application of knowledge gained from data collected through qualitative and quantitative research to the development of strategies aimed at promoting all aspects of human health, decreasing susceptibility and increasing resilience to future health disasters and emergencies. Its mission is to synthesize original research and practical experience in order to improve the delivery of everyday emergency medical services, public health and safety and the provision of medical care and health services to those stricken by disaster.



Yale New Haven International Congress on Disaster Medicine and Emergency Preparedness

September 12-13, 2005

Purpose

The congress is an international education and training symposium providing hospital, pre-hospital, public safety, public health and emergency management professionals with current best practices developed by a broad range of national and international experts in the fields of emergency preparedness and disaster medicine and will provide attendees with tools and programs that they can adapt and implement with their own jurisdictions, strengthening and enhancing a coordinated and integrated emergency response. This is a unique opportunity to obtain new information and to network with international experts.

Attendees will learn current concepts, best practices and latest advances in disaster medicine and emergency management from 45 distinguished international, national and regional speakers in four parallel tracks over two days.

Learning objectives

Participants will be able to describe:

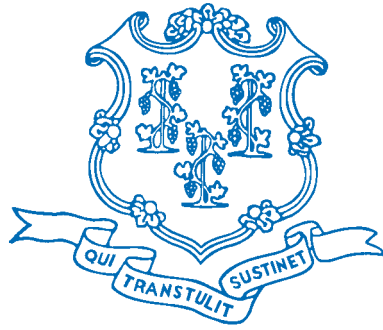
1. Emergency management issues relevant to regional, national and international health care response organizations.
2. Current programs related to hospital and health care delivery emergency management.
3. The role of first responders, first receivers and the public health system in disaster medicine.
4. Current trends in education and training for disaster medicine and emergency management.
5. Lessons learned in recent emergencies from a regional, national and international perspective.
6. Current issues confronting stakeholders in emergency management and response at a national and international level.

Table of contents

Governor's statement	
Welcome letters	
CME accreditation	7
Pre- and post-congress information	8-9
Congress at-a-glance	10
Oral abstract schedule	12
General sessions	14
Breakout sessions	19
Participating faculty	42
NOTES	



State of



Connecticut

By Her Excellency M. Jodi Rell, Governor: an

Official Statement

WHEREAS, Yale New Haven Health System will host an International Congress on Disaster Medicine and Emergency Management on September 12-13, 2005; and

WHEREAS, this congress will provide a unique opportunity to train emergency medical professionals with current developments and up to date practices for administering medical care in the event of an emergency; and

WHEREAS, numerous national and international experts have aided in creating this opportunity for professionals to network and learn the most recent developments in medical practices and concepts; and

WHEREAS, the Yale New Haven Center for Emergency Preparedness and Disaster Response develops and delivers emergency preparedness and disaster response programs and services internationally in order to better prepare care centers to respond to disasters; and

WHEREAS, the Yale New Haven Office of Emergency Preparedness remains actively involved at all possible levels and is recognized in the State of Connecticut as one of two designated Centers of Excellence for Bioterrorism Preparedness and Response; now

WHEREFORE, I M. Jodi Rell, Governor of the State of Connecticut, do hereby officially acknowledge

YALE NEW HAVEN HEALTH SYSTEM

for their efforts in hosting the International Congress on Disaster Medicine and Emergency Management during the National Preparedness Month of September.

A handwritten signature in blue ink that reads "M. Jodi Rell".

M. Jodi Rell
Governor



Dear Colleagues:

It is a great pleasure to welcome you to the first Yale New Haven International Congress on Disaster Medicine and Emergency Management sponsored by the Yale New Haven Center for Emergency Preparedness and Disaster Response at Yale New Haven Health System (the Center), the Yale University School of Medicine, the Pan American Health Organization, and the World Association for Disaster and Emergency Medicine.

The vision of the Yale New Haven Health System is to be the preferred, comprehensive health system, recognized for excellence in advanced patient care, safety, clinical quality, service and cost effectiveness. The formation of the Center for Emergency Preparedness and Disaster Response is consistent with this vision as the Center provides our System hospitals, Yale-New Haven Hospital, Bridgeport Hospital and Greenwich Hospital, the ability to better respond to man-made and natural emergency events. As a designated Center of Excellence for Bioterrorism Preparedness and Response for the State of Connecticut, the Center is a resource to other healthcare organizations throughout Connecticut. The Center has emerged as a national healthcare leader in its collaborations with state, national and international healthcare organizations to provide training and education, emergency planning, clinical strategies and logistical solutions designed to enhance emergency preparedness. The Center was recently designated as a Center for Public Health Preparedness by the Centers for Disease Control and Prevention, becoming the only non-university-based health center in the country to receive this designation.

This conference is an international education and training symposium for emergency preparedness and disaster medicine and a forum for you to develop partnerships, collaborate and share best practices with other healthcare, public health, emergency management and public safety professionals.

Thank you for joining us and we truly hope you will enjoy your stay in New Haven.

Sincerely,

A handwritten signature in black ink that reads 'Marna P. Borgstrom'.

Marna P. Borgstrom
President and Chief Executive Officer - Elect
Yale New Haven Health System



YALE UNIVERSITY
School of Medicine

Dear Colleagues and Visitors:

It gives me great pleasure to welcome you to Yale and New Haven for the Yale New Haven International Congress on Disaster Medicine and Emergency Management. As we know from the headlines and, for some among us, direct experience, this area of medicine and public health has become enormously important since the terrorist attacks of September 11, 2001. Add to this the ongoing global risks of earthquakes, SARS, typhoons and tsunamis, and it is clear that vigilance by health professionals cannot be a temporary response to such dangers. Recent federal, state and local initiatives have made us better prepared for future disasters, which we hope will never come but for which we must nonetheless be ready.

The Yale School of Medicine, a partner with Yale New Haven Health in providing cutting-edge care to the region and beyond, is engaged in research, education and clinical work relevant to emergency preparedness and disaster management. From the efforts of our faculty in emergency medicine and infectious diseases to research by experts in public health and the basic sciences, Yale has many contributions to make in this field. I am delighted that this distinguished group of experts from around the world has gathered here to advance the state of the art.

Sincerely,

A handwritten signature in cursive script that reads 'Robert J. Alpern'.

Dean Robert J. Alpern, MD
Ensign Professor of Medicine



**Pan American
Health
Organization**

Regional Office of the
World Health Organization

Dear Participant:

On behalf of the Pan American Health Organization/World Health Organization (PAHO/WHO), it gives me great pleasure to welcome you to the Yale New Haven International Congress on Disaster Medicine and Emergency Management, taking place on 12-13 September 2005.

PAHO/WHO is proud to be a sponsor of the Congress and we hope to contribute to the existing knowledge base in disaster medicine and emergency management, as well as to come away with fresh perspectives and experiences gained from other experts in the field. PAHO/WHO has a long history in emergency preparedness and mitigation activities gained through our role in many of the Region of the Americas' natural disasters, as well as those occurring in other regions of the world. PAHO/WHO will present not only our global vision, but will explore the many disaster myths and misconceptions that sometimes only compound the existing conditions. You will also note that an important component of our emergency preparedness actions includes mitigation activities, namely, those preparations that seek to minimize the consequences of future disasters or emergency situations.

I look forward to meeting you and sharing our common interests during the Congress.

Sincerely yours,

Joxel García, MD, MBA
Deputy Director



Dear Participants:

It is an honor that I welcome you, on behalf of the World Association for Disaster and Emergency Medicine (WADEM), to the 1st Yale New Haven International Congress on Disaster Medicine and Emergency Management. The Congress portends to be one of the most stimulating ever convened. The WADEM is proud to be a co-sponsor of this important Congress.

The Program is replete with a broad range of topics that is characteristic of Disaster Medicine and Emergency Management. The discussions will be led by a bevy of internationally renowned experts and teachers and will be attended by representatives of major agencies involved in Disaster Medicine and Emergency Management. In addition, representatives of major programs that are providing education and training in Disaster Medicine will present descriptions of their respective programs. The research papers selected for oral presentations also will reflect the current state of our science. It is my hope that many of you will attend these presentations as they will help to form the evidence base of the science of disaster, emergency, and prehospital medicine. The program is robust and will be beneficial to all who participate.

The Congress comes at a time when the WADEM is reshaping its role in the world community. As such, it is collaborating with other organizations and will strive to serve many of the needs of all of the stakeholders in disaster, emergency, and prehospital medicine worldwide. The WADEM is the only organization that can assume this difficult task and the WADEM welcomes you to participate in this mission.

On behalf of the WADEM and its journal, *Prehospital and Disaster Medicine*, I congratulate the organizers of this conference, and especially Dr. Jeffrey Arnold, for working so hard to assemble this special program. It is my hope that participating in this Congress will stimulate you to join us in our quest to build our science and to enhance our abilities to serve our fellow humans in crisis no matter where or when we can help to contain their unnecessary suffering or death. Enjoy this Congress and I look forward to discussions with each of you.

Sincerely,

Marvin L. Birnbaum, MD, PhD
President, WADEM

CME accreditation information

Eligible participants will receive up to 15 CME credits for participation in the congress.

Accreditation: The Yale University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. This educational activity is designated for a maximum of 15 Category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Disclosure Policy: It is the policy of Yale University School of Medicine, Continuing Medical Education, to ensure balance, independence, objectivity and scientific rigor in all its educational programs. All faculty participating as speakers in these programs are required to disclose any relevant financial relationship(s) they (or spouse or partner) have with a commercial interest that benefits the individual in any financial amount that has occurred within the past 12 months; and the opportunity to affect the content of CME about the products or services of the commercial interests. The Center for Continuing Medical Education will ensure that any conflicts of interest are resolved before the educational activity occurs.

Financial Support: Financial support for the congress is provided by the Health Resources and Services Administration (HRSA) through a BTCDP grant T01HP01399 as well as grants from Pfizer, Inc. and the Agency for Healthcare Research and Quality (AHRQ) and a contribution from the Northern New England Metropolitan Medical Response System and Dartmouth Hitchcock Medical Center.

Certificates of CME Credit: At the conclusion of the congress, eligible participants must turn in their overall congress evaluation at the registration desk in order to receive their CME certificates.



The following sessions are not CME accredited:

Oral Abstracts

Symposium on Managing Fear in a Hyper-vigilant Society

Cyanide Poisoning and Structural Fires

Pre-congress workshop

Health Disaster Management: Guidelines for Evaluation and Research in the Utstein Style

Knut Ole Sundnes, MD

Past President, World Association for Disaster and Emergency Medicine (WADEM)
Task Force on Quality Control of Disaster Management (TFQCDM), Norway
Norwegian Defence Forces Medical Division, N-2058 Sessvollmoen

Marvin L. Birnbaum, MD, PhD

Professor of Medicine and Physiology,
University of Wisconsin
President, World Association for Disaster and Emergency Medicine
Editor-in-Chief, Journal of Prehospital and Disaster Medicine

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine, Yale University School of Medicine
Medical Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

The World Association for Disaster and Emergency Medicine (WADEM) was charged by the 5th Asia-Pacific Conference on Disaster Medicine, the World Health Organization and the Active Learning Network for Accountability and Performance in Humanitarian Assistance to develop and implement (1) a standardized set of applied disaster evaluation tools and vocabulary and (2) standardized curricula to develop a cadre of healthcare professionals who can perform consistent disaster medicine research that will contribute to identification of best practices in healthcare emergency response. In response to this charge, WADEM has developed a curriculum that effectively introduces and prepares attendees to perform disaster medicine research and evaluation in the Utstein Style. Drs. Marvin Birnbaum (University of Wisconsin-Madison) and Knut Sundnes (Head, Office for War Surgery and Emergency Medicine, Norway) will conduct the workshop, employing a combination of brief lectures, discussions and individual and group exercises, and utilize their text, *Health Disaster Management: Guidelines for Evaluation and Research in the Utstein Style*. This course is appropriate for all individuals in the

disaster medicine and emergency management fields with an interest in learning and disseminating a systematic disaster research approach to enhance the understanding of the impact of disasters on societies and people including physicians, mid-level practitioners, hospital emergency managers, nurses, first responders, public health professionals, disaster scientists and emergency management professionals.

Upon completion of the workshop, participants will:

- Understand the need for a structured approach to disaster research
- Be able to identify the concepts contained in the Guidelines text
- Be able to define the terms and principles embedded in the Conceptual and Operational Frameworks for disasters and apply these toward conducting evaluation and research into the pathophysiology of disasters
- Be able to identify the requirements and mechanisms for the development of appropriate indicators of functional states, adequacies of supplies of goods and services and of the effectiveness and benefits associated with the implementation of interventions
- Learn how to utilize severity scores in disaster research
- Be able to discuss key ethical issues associated with the conduct of disaster research and evaluations
- Be able to collect and interpret quantitative and qualitative disaster research data

For more information on this workshop and future scheduled dates, please contact **Jeffrey Arnold, MD**, Medical Director, Yale New Haven Center for Emergency Preparedness and Disaster Response, at 203-688-3224 or Jeffrey.arnold@ynhh.org.

Post-congress workshop

The American Medical Association (AMA) and the Yale New Haven Center for Emergency Preparedness and Disaster Response are sponsoring the following National Disaster Life Support (NDLS) courses:

Basic Disaster Life Support (6.5 CME credits)

BDLS is an 8-hour lecture/discussion program that provides significant detail regarding natural and accidental disasters and terrorist events. This course is designed for physicians, nurses, physician assistants, nurse practitioners, dentists, pharmacists, medical examiners, allied health professionals, health profession students, emergency medical technicians, paramedics and emergency management and disaster relief workers.

Topics include:

- All-Hazards Overview
- Natural and Man-Made Disasters
- Traumatic and Explosive Events
- Nuclear and Radiological Events
- Biological Events
- Chemical Events
- Psychosocial Aspects of Terrorism and Disasters
- The Role of the Public Health System

Advanced Disaster Life Support (13.0 CME credits)

ADLS combines one day of lectures and small group scenarios with a full day of hands-on practice. Mass casualty triage, decontamination and treatment are reviewed and practiced. This course is designed for physicians, physician assistants, nurses and paramedics.

Topics include:

- Hospital and Field Triage Techniques
- Medical Decontamination
- Legal Issues of Disaster Response
- Media and Communications During a MCI or Disaster

- Health Care Facility and Planning
- Community, State and Federal Disaster Responses and Resources
- Mass Fatality Incidents

Practical stations include:

- The use of Level C suits and decontamination
- Mass triage and treatment
- SNS, smallpox vaccinations and the use of the Mark I kits
- Human patient simulator scenarios

National Disaster Life Support Instructor Course

The Instructor course is a 6-hour session consisting of small group discussions and practice sessions to assist physicians, physician assistants, nurse practitioners, nurses and paramedics with becoming familiar with setting up and conducting a course. Specific details regarding the needs of the program are discussed along with potential sources of assistance.

For more information on this workshop and future scheduled dates, please contact **David Burich, MSN, APRN-BC, NDLS-I**, Regional NDLS Program Coordinator, Yale New Haven Center for Emergency Preparedness and Disaster Response, at **203-688-3721** or david.burich@ynhh.org.

Congress at-a-glance

DAY 1 – SEPTEMBER 12, 2005				
08:00-08:30	OPENING CEREMONY: Marna P. Borgstrom; Richard Carmona, MD; Robert Alpern, MD; Joxel García, MD; Marvin Birnbaum, MD; Christopher Cannon, FACHE; Jeffrey Arnold, MD			
08:30-09:20	KEYNOTE SPEAKER: P.K. Carlton, MD			
09:30-11:30	TRACK #1 Emergency Management PAHO	TRACK #2 National Emergency Management	TRACK #3 Lessons Learned in Recent Emergencies	TRACK #4 Oral Abstracts* *This session is not CME accredited.
09:30-10:00	PAHO/WHO's Vision of Emergency Preparedness <i>J. Garcia</i>	Children and Disaster Preparedness Planning: What We Need to Know <i>I. Redlener</i>	Too Little Too Late: The Swedish Tsunami Commission <i>T. Hodgetts</i>	<i>Please refer to the oral abstract schedule for presentation information.</i>
10:00-10:05	Q & A	Q & A	Q & A	
10:05-10:20	BREAK			
10:20-10:50	Disaster Myths that Will Not Die <i>J-L. Poncelet</i>	Health Care and Community Issues in Emergency Management <i>J. Cappiello</i>	2001 World Trade Center Attack <i>G. Asaeda</i>	
10:50-10:55	Q & A	Q & A	Q & A	
10:55-11:25	Common Misconceptions about Disaster Medicine <i>C. de Ville de Goyet</i>	Modifications to the Hospital Emergency Incident Command System <i>J. Paturas</i>	The London Bombings <i>T. Hodgetts</i>	
11:25-11:30	Q & A	Q & A	Q & A	
11:30-12:45	NETWORKING LUNCH			
12:45-01:35	KEYNOTE SPEAKER: Scott Lillibridge, MD			
01:40-04:20	TRACK #5 Education and Training in Disaster Medicine	TRACK #6 National Emergency Management	TRACK #7 Hospital Emergency Management	TRACK #8 Oral Abstracts *This session is not CME accredited.
01:40-02:10	The European Master in Disaster Medicine <i>H. Delooz</i>	Bioterrorism Training and Curriculum Development Program (BTCDP) <i>L. Coccodrilli</i>	Terrorism-related Trauma: Lessons Learned in Israel 2000-2005 <i>P. Halpern</i>	<i>Please refer to the oral abstract schedule for presentation information.</i>
02:10-02:15	Q & A	Q & A	Q & A	
02:15-02:45	National Disaster Life Support <i>J. James</i>	The Role of the CDC in Health Emergencies <i>R. Brown</i>	Hospital Preparedness for Mental Health Needs <i>D. Schonfeld</i>	
02:45-02:50	Q & A	Q & A	Q & A	
02:50-03:05	BREAK			
03:10-03:40	Disaster Medical Training: An International Standard <i>T. Hodgetts</i>	TOPOFF National Exercise Program <i>S. Cosgrove</i>	Hospital Preparedness for Biological Emergencies <i>L. Dembry</i>	
03:40-03:45	Q & A	Q & A	Q & A	
03:45-04:15	Education and Training for Homeland Defense and Security <i>S. Supinski</i>	The Role of ASTM in Health Emergencies and Preparedness <i>J. Augustine</i>	Hospital Emergency Incident Command System and SARS <i>M. Tsai</i>	
04:15-04:20	Q & A	Q & A	Q & A	
04:30-06:00	PANEL DISCUSSION: Hot Topics in Emergency Management - Moderator: Marvin Birnbaum, MD Jean-Luc Poncelet, MD; Frederick Burkle, MD; Tim Hodgetts, MD			

DAY 2 – SEPTEMBER 13, 2005				
08:00-08:30	OPENING CEREMONY: Commissioner Robert Galvin, MD; Commissioner James Thomas; Jeffrey Arnold, MD			
08:30-09:00	KEYNOTE SPEAKER: John Babb, RADM			
09:10-11:10	TRACK #1 Emergency Management in the 21st Century	TRACK #2 Lessons Learned in Recent Emergencies	TRACK #3 Hospital Emergency Management	TRACK #4 Fear Management Seminar* *This session is not CME accredited.
09:10-09:40	Health Disaster Management: Evaluation and Research in the Utstein Style <i>K. Sundnes</i>	The Mass-casualty Terrorist Bombings in Istanbul, Turkey, November 2003: Report of the Events and the Prehospital Emergency Response <i>U. Rodoplu</i>	Surge Capacity Approaches in Hospitals <i>C. Cannon</i>	Symposium on Managing Fear in a Hyper-vigilant Society <i>M. Magee</i>
09:40-09:45	Q & A	Q & A	Q & A	
09:45-10:00	BREAK			
10:00-10:30	Evidence-based Emergency Management <i>J. Arnold</i>	Bam Earthquake; Crush Syndrome, Acute Renal Failure and Some Reflections on International Medical Response <i>A. Rastegar</i>	The Role of the American Hospital Association in Emergency Preparedness <i>R. Schulman</i>	Symposium on Managing Fear in a Hyper-vigilant Society (cont.)
10:30-10:35	Q & A	Q & A	Q & A	
10:35-11:05	Principles of Response to Mega- terrorism Incidents in Israel <i>P. Halpern</i>	International Medical Response to Three Tsunamis <i>Y. Asai</i>	The Community Response: Resources for the Local Medical System <i>R. Gougelet</i>	
11:05-11:10	Q & A	Q & A	Q & A	
11:10-12:25	NETWORKING LUNCH			
12:30-01:20	KEYNOTE SPEAKER: Frederick Burkle, MD			
01:20-03:55	TRACK #5 Public Health and Disaster Medicine	TRACK #6 Stakeholders in Emergency Management	TRACK #7 Clinical Disaster Medicine	TRACK #8 Oral Abstracts *This session is not CME accredited.
01:20-01:50	Public Health Consequences of Disasters <i>E. Noji</i>	The Role of Disaster Medical Assistance Teams in Healthcare Emergency Management <i>R. Aghababian</i>	Cyanide Poisoning and Structural Fires* *This session is not CME accredited. <i>F. Baud</i>	<i>Please refer to the oral abstract schedule for presentation information.</i>
01:50-01:55	Q & A	Q & A	Q & A	
01:55-02:25	Legal Considerations in Disasters <i>J. Hodge</i>	The Role of Trauma Centers in Health Emergency Management <i>L. Jacobs</i>	Medical Care of Children in Disasters <i>A. Cooper</i>	
02:25-02:30	Q & A	Q & A	Q & A	
02:30-02:45	BREAK			
02:45-03:15	Rapid Assessment in Health Emergencies <i>D. Bradt</i>	The Role of Burn Centers in Health Emergency Management <i>P. Fidler</i>	Crush Injury and Crush Syndrome <i>J. Holliman</i>	
03:15-03:20	Q & A	Q & A	Q & A	
03:20-03:50	Complex Humanitarian Emergencies <i>G. Greenough</i>	The Role of EMS in Health Emergency Management <i>D. Cone</i>	Terrorism and Disasters: Treating Acute Stress and Preventing Psychological Dysfunction <i>S. Berkowitz</i>	
03:50-03:55	Q & A	Q & A	Q & A	
04:00-05:00	CLOSING CEREMONY: Joxel Garcia, MD; Marvin Birnbaum, MD; Christopher Cannon, FACHE; Jeffrey Arnold, MD			

Oral abstract schedule

DAY 1 – SEPTEMBER 12, 2005		
	TITLE	PRESENTERS
09:30-09:50	Is Our Public Health Protected? A Connecticut Panel Tells All	Vinci, Leon; Blitz, William; Gecewicz, Thomas; Fontana, Rick
09:50-10:00	Establishment of a Pharmacist Consulting Team for Statewide Bioterrorism Preparedness	Feret, Brett; Bratberg, Jeffrey; Cordy, Catherine; Mihalakos, Alysia
10:20-10:40	Building Hospital-Ready Medical Surge Capacity	Biviano, Marilyn; Duley, Mary; Omer, Atila; Hodge, James G.
10:40-10:50	Building Connecticut's Clinical Laboratory Surge Capacity to Mitigate the Health Consequences of Radiological and Nuclear Disasters	Albanese, Joseph; Kristie, Virginia; Forte, Elaine; Kelley, Katherine; Dainiak, Nicholas
10:50-11:00	Estimating Surge Capacity for Mass Casualty Incidents	Drake, Debi; Dent, Chris
11:00-11:10	Integration of the Hospital Emergency Incident Command System into the Command Center at Bridgeport Hospital	Winn, Christine; Jalbert, Ernest; Tepping, Mark; Schmincke, Patrick
11:10-11:20	Strengthening the Survival Chain in Disasters: Development of an Incident Medical Assistance Team	Trala, Stephen; Scollin, Raymond
11:20-11:30	Multiple Incidents EM Dispatch: The Gestión Integral de Recursos en Catástrofes (GIRECA) Software	Serrano-Moraza, Alfredo; Brinas-Freire, M.J.; Pacheco-Rodriquez, A.; Perez-Belleboni, A.
01:50-02:00	11 March 2003 Madrid Bombings: A Prehospital Analysis	Serrano-Moraza, Alfredo; Brinas-Freire, M.J.; Pacheco-Rodriquez, A.; Perez-Belleboni, A.
02:00-02:10	A Decade of Petroleum Disasters in Nigeria	Osazuwa, O.; Ehikhamenor, E. E.
02:10-02:20	Experience of a Korean Disaster Medical Assistance Team in Sri Lanka after the South Asia Tsunami	Choon, Sung Kim; Young, Ho Kwak; Sang, Do Shin; Kyu, Seok Jim
02:20-02:30	The Regional Medical Operations Center: Lessons from South Central Texas	Silenas, Rasa
02:30-02:40	Regional Trends in Road Traffic Accidents in Ghana, 2000-2004: What Are The Implications?	Okparavero, Eseoghene
02:40-02:50	Evaluation of a Disaster Simulation Method for a Disaster Medical Assistance Team	Park, Ju Ok; Young, Ho Kwak; Sang, Do Shin; Sung, Koo Jung
03:05-03:20	Community Preparedness Perspectives from California to Connecticut	Melbourne, Mollie; O'Brien, Nora
03:20-03:30	Assessing Emergency Preparedness in Federally Qualified Health Centers in New York City	Lee, Elsie; Sandville, Jonathan; Giebelhaus, Erich; Kendall, Mat
03:30-03:40	Development and Evolution of a Collaborative Community-wide Mass Vaccination Program	Parry, Michael; Lee, Johnnie; McCormack, Edward
03:40-03:50	Development and Application of a Bioterrorism Emergency Management Plan (EMP)	Bratberg, Jeffrey; Deady, Kimberly
03:50-04:00	Emergency Preparedness in Local Communities: A Post 9/11 Experience	Vinci, Leon
04:00-04:10	Community Partnership Development for Emergency Management	Nemeth, Lynda; Mola, Jan; Hines, Joseph
04:10-04:20	Healthcare Coalition for Emergency Preparedness	Drake, Debi; Dent, Chris
04:20-04:30	Public Health Infrastructure Expansion: A Formula for Success	Vinci, Leon

DAY 2 – SEPTEMBER 13, 2005		
	TITLE	PRESENTERS
01:50-02:00	The Pediatric Hospital Toolkit: A Resource for Pediatric Emergency Preparedness in General Hospitals	Wiley, James; Baum, Carl
02:00-02:20	Modifying the Advanced Disaster Life Support Course's DISASTER Paradigm for In-Hospital Emergency Response	Arnold, Jeffrey; Parwani, Vivek; Dainiak, Nicholas; Fidler, Phil; Albanese, Joseph; Russi, Mark; Foggie, John; Baum, Carl; Dembry, Louise-Marie; Powsner, Seth; Paturas, James; Burich, David; Martens, Kelly
02:20-02:30	A practical data collection tool for mass casualty incidents and disasters: The Medicina de Emergencis Basada en la Evidencia (MEBE) datasheet	Serrano-Moraza, Alfredo; Brinas-Freire, M.J.; Pacheco-Rodriguez, A.; Perez-Belleboni, A.
02:40-02:50	Relative Risk of Cyanide Exposure and Advanced Life Support Prehospital Provider Knowledge, Attitudes and Practices in the United States	Eyerman, Joe
02:50-03:00	Case Report: Cyanide as an Unrecognized Cause of Neurological Sequelae in a Fire Victim	Baud, Frederic; Boukobza, Monique; Borron, Stephen
03:00-03:10	What is the Threshold Value for SvO ₂ in the Diagnosis of Acute Cyanide Poisoning?	Baud, Frederic; Guerrier, Gilles
03:10-03:20	Pediatric Emergency Preparedness in General Hospital Emergency Departments in Connecticut	Wiley, James; Margolis, Asa; Reich, Kim
03:20-03:30	Analysis of Emergency Management in Nigeria	Ehikhamenor, E.; Olanipekun, A. O.; Bafor, A.
03:30-03:40	Training for Major Health Incidents: Developing a Training Course for Health Workers on Preparing Incident Action Plans	McColl, Graeme
03:40-03:50	Standardized Patients in Preparedness Education: In-Person and Online Training	Kachur, Elizabeth; Triola, Marc; Kalet, Adina; Zabar, Sondra
03:50-04:00	A Curriculum Integration Project: Utility of the Human Patient Simulator and Trauma/Disaster Care Kit in Disaster Management Course	Sulemana, Habiba
04:00-04:10	Teaching Risk Communication and Media Management: Lessons Learned	Kachur, Elizabeth; Praeger, Jane; Lipkin, Mack; Triola, Marc
04:10-04:20	Active Learning, Bioterrorism Clinics and Continuing Professional Education: An Ideal Combination	Bratberg, Jeffrey; Feret, Brett; Kogut, Stephen; Low, Gregory

General Sessions

DAY ONE

Monday, September 12, 2005

8:00-8:30 a.m.

OPENING CEREMONY - Grand Ballroom

Marna P. Borgstrom

President and Chief Executive Officer - Elect
Yale-New Haven Hospital and
Yale New Haven Health System

Richard H. Carmona, MD, MPH, FACS (by video)

Surgeon General of the United States
Vice Admiral, United States Public Health Service

Robert J. Alpern, MD

Dean, Yale University School of Medicine

Joxel García, MD, MBA

Deputy Director, Pan American Health
Organization/World Health Organization

Marvin L. Birnbaum, MD, PhD

Professor of Medicine and Physiology,
University of Wisconsin
President, World Association for Disaster and
Emergency Medicine
Editor-in-Chief, Journal of Prehospital and Disaster
Medicine

Christopher M. Cannon, FACHE

Director, Yale New Haven Center for Emergency
Preparedness and Disaster Response
Yale New Haven Health System

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine, Yale
University School of Medicine
Medical Director, Yale New Haven Center for
Emergency Preparedness and Disaster Response
Yale New Haven Health System

8:30-9:20 a.m.

KEYNOTE SPEAKER - Grand Ballroom

Paul K. Carlton, Jr., MD, FACS

Director of Integrative Homeland Security
Texas A&M University System
Health Science Center



Paul K. Carlton, Jr. received his Bachelor of Science degree from the U.S. Air Force Academy in 1969 and his doctor of medicine from the University of Colorado in 1973. From 1999 to 2002 Dr.

Carlton served as the Surgeon General of the Air Force. In 2002, he joined the Texas A&M University System Health Science Center as Director for the Office of Homeland Security. Dr. Carlton has published extensively in medical literature and is an 11,000-case surgeon who continues to “wash his hands” whenever he can.

Contact information: carlton@tamhsc.edu

Threats That Face Our Nation and Viable Solutions from the Medical Perspective

This presentation will present information regarding the threats that face our nation such as biological, chemical, radiological, man-made and natural disasters in order to raise the awareness of all participants. Dr. Carlton will also present viable solutions to face these types of disasters in a prepared manner. He will demonstrate that the future we face is different from the one we had planned for.

12:45-1:35 p.m.

KEYNOTE SPEAKER - Grand Ballroom

Scott R. Lillibridge, MD

Director, Center for Biosecurity and Public Health Preparedness,
The University of Texas Health Science Center
at Houston, School of Public Health



Dr. Scott R. Lillibridge is Professor of Epidemiology and Director, Center for Biosecurity and Public Health Preparedness at the University of Texas School of Public Health located in Houston. Dr. Lillibridge has

worked in emergency response and preparedness roles throughout the world in support of the United States Government and non-governmental organizations.

In 2002, Dr. Lillibridge was appointed by President George W. Bush to the White House Emergency Services, Law Enforcement, and Public Health and Hospitals Senior Advisory Committee for the Office of Homeland Security.

Contact information: scott.r.lillibridge@uth.tmc.edu

Health & Security

This session will provide insights related to the interplay between health preparedness and national security concerns. Dr. Lillibridge will discuss challenges in preparing the United States for these new threats and will discuss the specific role of health providers in addressing these needs.

4:30-6:00 p.m.

PANEL DISCUSSION - Grand Ballroom

Hot Topics in Emergency Management

Panel members will draw on their extensive international experience in disaster medicine and emergency management to conduct a lively discussion to round out the first day's proceedings. Attendees are encouraged to participate in the Q&A session that will conclude the panel discussion.

MODERATOR:

Marvin L. Birnbaum, MD, PhD

Professor of Medicine and Physiology,
University of Wisconsin
President, World Association for Disaster and
Emergency Medicine
Editor-in-Chief, Journal of Prehospital and
Disaster Medicine

PANELISTS:

Frederick M. Burkle, Jr., MD, MPH, FAAP, FACEP

Director, University of Hawaii
John A. Burns School of Medicine
Asia-Pacific Center for Biosecurity
Disaster & Conflict Research
Professor, Department of Public Health and
Sciences and Epidemiology

Colonel Tim Hodgetts QHP, OSTJ, MBBS, MMed, FRCP, FRCSEd, FFAEM, FIMCRCSEd, FRGS, L/RAMC

Defence Consultant Advisor, Emergency
Medicine to SG
Consultant Advisor (Army), Emergency Medicine
to DGAMS
Assistant Director Clinical Services, RCDM
Honorary Professor Emergency Medicine and Trauma,
University of Birmingham
Consultant Emergency Medicine, Selly Oak Hospital

Jean-Luc Poncelet, MD

Area Manager, Emergency Preparedness and
Disaster Relief
Pan American Health Organization/World Health
Organization

DAY TWO

Tuesday, September 13, 2005

8:00-8:30 am

OPENING CEREMONY - Grand Ballroom

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine, Yale University School of Medicine
 Medical Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

J. Robert Galvin, MD, MPH

Commissioner, Connecticut Department of Public Health

James Thomas

Commissioner, Connecticut Department of Emergency Management and Homeland Security

8:30-9:00 a.m.

KEYNOTE SPEAKER - Grand Ballroom

John Babb, RADM

Assistant Surgeon General, Office of Force Readiness and Deployment
 Office of the Surgeon General
 U.S. Department of Health and Human Services



RADM John Babb received his degree in Pharmacy from the University of Tennessee and his Masters in Public Administration from the University of Memphis. He worked as a community

pharmacist for over 20 years before joining the U.S. Public Health Service (USPHS) Commissioned Corps in 1989. In 2000 he was selected for his current position coordinating the deployment of USPHS officers on behalf of the Surgeon General to urgent public health needs in venues including the attacks of September 11, anthrax responses, hurricanes, typhoons, earthquakes, floods, wildfires, avian influenza, smallpox vaccination teams and the tsunami.

Contact information: jbabb@osophs.dhhs.gov

The Federal Role in Disaster Response

The Federal role in emergency preparedness and disaster response will be discussed from the perspective of public health and medical services through the USPHS. The Office of the Surgeon General directs the 6,000 officers in the USPHS to support a wide array of urgent public health needs and indirectly coordinates the over 300 Medical Reserve Corps units, over 50,000 volunteers in 49 states, in their roles in preparedness, prevention, and addressing health disparities. The presentation will address domestic as well as international responses undertaken by the USPHS.

12:30-1:20 p.m.

KEYNOTE SPEAKER - Grand Ballroom

Frederick M. Burkle, Jr., MD, MPH, FAAP, FACEP
 Director, University of Hawaii, John A. Burns
 School of Medicine
 Asia-Pacific Center for Biosecurity, Disaster &
 Conflict Research
 Professor, Department of Public Health and
 Sciences and Epidemiology



Frederick M. Burkle, Jr., MD,
 MPH is Professor, Department
 of Public Health Sciences and
 Epidemiology, and Director,
 Asia-Pacific Center for
 Biosecurity, Disaster &
 Conflict Research, the John A.

Burns School of Medicine, University of Hawaii.
 He also serves as Senior Scholar, Scientist and
 Visiting Professor at the Center for International
 Emergency, Disaster & Refugee Studies at Johns
 Hopkins. He is the former Deputy Assistant
 Administrator, Bureau for Global Health, USAID
 and Interim Minister of Health for Iraq.

Contact information: skipmd77@aol.com

Mass Illness Triage Management in Large-Scale Biological Emergencies

Both the accidental and deliberate release of a
 bioevent on a population can bring
 catastrophic consequences. Whereas bioevents
 have similarities with other disasters, there are
 also major differences, especially in the
 approach to triage and triage management.
 Large-scale disasters and mass casualty events
 specify a uniform method for triage (START
 & SAVE). These trauma related triage systems
 are limited in scope when a bioevent occurs.
 This presentation addresses a population
 approach to triage (SEIRV methodology)
 where decision making recognizes exclusion
 criteria, minimal qualification for survival and
 specific measures of effectiveness to ensure
 likelihood of medical success, epidemic control
 and conservation of scarce resources.

4:00-5:00 p.m.

CLOSING CEREMONY - Grand Ballroom

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine,
 Yale University School of Medicine
 Medical Director, Yale New Haven Center for
 Emergency Preparedness and Disaster Response

Marvin Birnbaum, MD, PhD

Professor of Medicine and Physiology,
 University of Wisconsin
 President, World Association for Disaster and
 Emergency Medicine
 Editor-in-Chief, Journal of Prehospital and
 Disaster Medicine

Christopher M. Cannon, MSN, MPH, MBA, FACHE

Director, Yale New Haven Center for Emergency
 Preparedness and Disaster Response

Joxel García, MD, MBA

Deputy Director, Pan American Health Organization/
 World Health Organization

Marvin Birnbaum, MD, PhD

Research Imperatives in Disaster Medicine and
 Emergency Management

The *science* of disaster medicine and emergency
 management is in its infancy. Prior to 1988, the
 literature consisted only of anecdotal reports. Most
 of the practice was based on sharing of experiences.
 “Learning” was passed on from one adventure to
 the next. Since 1988, the application of research
 methodologies commonly used in the social sciences
 has begun to open disasters for research.

As one peruses records of conferences convened to
 discuss the responses to the 2004 tsunami, one
 theme is repeated over and over: “Why do we not
 learn from what we have learned?”

Given this question, several more questions arise:

1. Where are we today and how did we get there?
2. What is missing?
3. What do we need? and
4. What must we do to get there?

Almost all of the research in disaster medicine/management to date has lacked structure. Therefore, it is difficult to know what to search. Furthermore, the same recommendations repeat and repeat, but they have not made their way into our practice. Several reasons for failure of the science to impact practice include:

1. Without structure, it is not possible to develop an evidence base;
2. Without an evidence base, it has not been possible to generate even minimum standards of practice;
3. Without standards, it is not possible to teach the principles of disaster medicine and management;
4. Without curricula, it is not possible to professionalize our disciplines;
5. Without a set of standardized definitions, it is not possible to communicate;
6. Without standards, evaluations of performance are difficult, if not impossible; and
7. Responders fear evaluations (“NGO paralysis”).

These observations mandate several imperatives for future research:

1. All research, past, present, and future must be forced into a single structure;
2. A universal glossary of terms must be devised and accepted;
3. An initial set of standards must be developed and promulgated upon which future universal training will be based;
4. Every intervention applied to preparedness or response must be evaluated based on the evidence generated by good research.



Break-out session abstracts

TRACK #1: Emergency Management PAHO
Monday, September 12, 2005

9:30-10:00 a.m.

PAHO/WHO's Vision of Emergency Preparedness

Joxel García, MD, MBA

Deputy Director, Pan American Health Organization/
World Health Organization (PAHO/WHO)

In the last decade, more than 24 million persons in Latin America and the Caribbean have lost their lives, loved ones, homes, workplaces and possessions to natural or manmade disasters. Disasters have damaged or destroyed hospitals and health facilities, leaving many without access to health services. The direct cost of these losses has been estimated at US \$3.12 billion. Reducing vulnerability to disasters is therefore a public health priority and a responsibility of the Pan American Health Organization/World Health Organization (PAHO/WHO). Dr. Joxel García, Deputy Director, will discuss the three focus areas of emergency preparedness, i.e. disaster preparedness, risk reduction, and disaster response. He will show how we:

- Enhance the capacity of the health sector to respond to all types of disasters, create awareness of the associated public health risks, and improve the knowledge and skills of all health actors;
- Encourage countries to promote a national culture of disaster prevention and focus on the safety of health facilities by using existing knowledge and tools to build new hospitals to ensure they remain operational in disaster situations and by examining the vulnerability of existing health facilities and incorporating appropriate disaster mitigation measures; and
- Mobilize our extensive network of public health experts to assess damage and provide an authoritative assessment of health sector needs, conduct epidemiological surveillance, detect potential health risks, monitor water quality, and improve the overall coordination and leadership in the health sector.

Dr. García will also describe how PAHO/WHO can offer advocacy, technical information services, training and capacity building, and partnerships to safeguard health by:

- Persuading decision-makers to invest in risk reduction initiatives prior to a disaster, so that the know-how is in place to save lives and reduce health risks;
- Actively supporting training opportunities, including those aimed at senior disaster experts to enhance management skills and to improve knowledge and capacity in new areas such as planning, assessment of health needs, preparedness for chemical accidents, risk reduction for health services, etc.; and
- Supporting the ministries of health in achieving and maintaining their leadership role in the formulation of disaster management and risk reduction policies.

Contact information: deputydirector@paho.org

10:20-10:50 a.m.

Disaster Myths that Will Not Die

Jean-Luc Poncelet, MD

Area Manager, Emergency Preparedness and Disaster Relief, Pan American Health Organization/World Health Organization

Contact information: poncelej@paho.org

10:55-11:25 a.m.

Common Misconceptions about Disaster Medicine

Claude de Ville de Goyet, MD

Natural disasters in developing countries are not merely large mass casualty events that respond well to the traditional concepts of disaster medicine. They are complex, social and political phenomena with implications far beyond those of past hurricanes in Florida or earthquakes in California. However complex they may be, they follow a standard scenario where misconceptions and preconceived ideas from the well-intentioned international community may be clashing with local realities and needs.

Attention to casualties will be mostly a local issue and responsibility. The level of emergency care will depend on resources available locally. The rule of six golden hours for primary care has only one conclusion: external investment should be on preparedness of local health services, not on providing response. The presentation will discuss why field hospitals were too late for advanced trauma care in the Gujarat and Bam earthquakes and in the aftermath of the tsunami in Asia.

The challenges in disasters are not medical but related to public health. Fear of communicable diseases is generally unfounded. Medical community misconceptions too often lead to costly and counterproductive waste of resources. Dead bodies are NOT a cause of epidemics while mass burial or unceremonious disposal create serious psychological and legal problems. The initiative of the Pan American Health Organization/World Health Organization in promoting a sensitive approach will be presented.

Most misconceptions persist regarding the usefulness of unsolicited donations or assistance in personnel in a disaster. Few well published disasters escape the flood of inappropriate donations of medicines resulting in expensive and sensitive destruction of unusable stocks. The Humanitarian Supply Management System (SUMA) is attempting to address the real challenge of coordination of the incoming supplies by local authorities.

The rush of volunteers unfamiliar with the culture and often insensitive to the legitimate concerns of their local counterparts is another problem. How do we justify spending, in the aftermath of a tsunami, thousands of dollars to provide non-critical care to chronic ailments unrelated to the disaster while we deny enough support to cost-effective health programs in normal times? What motivates the international response to disasters will be a subject of discussion. Strangely, it is not the needs of the survivors but the number of deaths that will determine the news coverage and therefore our generosity! The presentation will argue that the best

and only effective investment is in preparedness and risk reduction.

Contact information: cdevill@attglobal.net

TRACK #2: National Emergency Management Monday, September 12, 2005

9:30-10:00 a.m.

Children and Disaster Preparedness Planning:

What We Need To Know

Irwin Redlener, MD

Associate Dean and Director

The National Center for Disaster Preparedness

Columbia University, Mailman School of Public Health

Since the attacks of 9/11, the level of national focus on disaster planning has heightened considerably, as have the resources intended to enhance preparedness within the health and public health systems. Yet, in spite of billions of dollars appropriated and spent, it is unclear whether and how much these efforts have increased preparedness generally throughout the health care system. Even more concerning is the level of readiness for catastrophic events that might affect children.

With the possibility of children being secondary victims in a major disaster, as well as potentially being directly targeted by terrorists, there is reason to pay special attention to the emergency planning needs of pediatric victims in a mass casualty or non-conventional weapon attack. While such efforts are already underway, much remains to be done to ensure that health systems and first responders are adequately prepared to cope with an attack affecting large numbers of children.

Contact information: lr2110@columbia.edu

10:20-10:50 a.m.

Health Care and Community Issues in

Emergency Management

Joseph Cappiello, BSN, MA

Vice President for Accreditation Field Operations

Joint Commission on Accreditation of Healthcare Organizations

Despite the passage of four full years since September 11, 2001, many communities in the United States are struggling to meet the mandate for

emergency preparedness and response that would enable them to function on their own in the hours or days before help arrives from regional, state, and federal sources. Readiness barriers include: lack of clarity about who is responsible for preparedness and response planning; what elements of the planning and response processes are critical; how to coordinate with state and federal emergency management programs; and how to obtain and sustain funding. Whenever or whatever disaster or mass casualty event occurs, community and local response will be the key to survival. Communities must look to themselves and adjoining communities for answers.

This presentation will provide consensus-developed guidance designed to help remove emergency readiness barriers in the emergency management planning process applicable to small, rural and suburban communities.

Contact information: jcappiello@jcaho.org

10:55-11:25 a.m.

Modifications to the Hospital Emergency Incident Command System

James Paturas, EMTP, CHS III, SEM System Manager, Yale New Haven Center for Emergency Preparedness and Disaster Response Yale New Haven Health System

The Hospital Emergency Incident Command System (HEICS), developed by Orange County Emergency Medical Services in 1991, has emerged as a popular incident command system model for hospital emergency response in the United States and other countries. Since HEICS was introduced in the early 1990s, several events, unanticipated by previous iterations of HEICS, have transformed the requirements of hospital emergency management. The specter of chemical, biological, radioactive and nuclear (CBRN) events due to acts of terrorism became real for many hospitals. These produce new challenges for hospital emergency response such as infectious diseases with secondary transmission, mental health and electronic information-sharing to name a few. This presentation will outline the modifications of HEICS required to match the needs of hospital emergency management today, including

the introduction of several new leadership positions. New applications of HEICS, including the adoption of HEICS as the conceptual framework for organizing all phases of hospital emergency management, and the application of HEICS to healthcare systems will also be reviewed.

Contact information: james.paturas@ynhh.org

TRACK #3: Lessons Learned in Recent Emergencies Monday, September 12, 2005

9:30-10:00 a.m.

Too Little Too Late: The Swedish Tsunami Commission

Colonel Timothy Hodgetts
QHP, OSTJ, MBBS, MMed, FRCP, FRCSEd, FFAEM, FIMCRCSEd, FRGS, L/RAMC
Defence Consultant Advisor, Emergency Medicine to SG Consultant Advisor (Army), Emergency Medicine to DGAMS
Assistant Director Clinical Services, RCDM
Honorary Professor Emergency Medicine and Trauma, University of Birmingham
Consultant Emergency Medicine, Selly Oak Hospital

Background: The Asian tsunami of December 26, 2004 claimed the lives of many foreign nationals. The largest group of foreign nationals came from Sweden, with 543 listed as dead or missing and 1500 injured. The majority of these casualties were in the beach resorts of Thailand. A public outcry in Sweden followed what was perceived to be a delayed and inadequate response to support Swedish citizens in Thailand. The author was co-opted to an independent Commission to evaluate the healthcare needs of Swedish citizens and how these were met.

Method: Questionnaire studies, structured interviews and site visits were used to evaluate the healthcare support needs of Thai hospitals, the needs of Swedish patients, the needs of Swedish volunteers and the homeland response to the disaster.

Results: Intense surgical activity in the principal receiving hospitals was sustained for over 5 days, which contradicts the planning assumption that the requirement for additional surgical support is limited to the first 48 hours. Wounds were mostly treated by primary suture which universally became infected. The most common cause of death in hospital was sepsis.

Conclusions: Poor medical intelligence, an inadequate and delayed health needs assessment and inadequate utilization of trained disaster medical response teams have been identified as contributing to avoidable suffering of Swedish patients. The requirement for a national disaster coordination centre has been called for following previous disasters (Estonia, Chernobyl) and is again recommended.

Contact information: timothy.hodgetts@uhb.nhs.uk

10:20-10:50 a.m.

2001 World Trade Center Attack

Glenn Asaeda, MD

Deputy Medical Director, Fire Department of New York – Office of Medical Affairs

September 11, 2001 marks one of the darkest days in the history of the United States, New York City and the Fire Department of the City of New York. This presentation will provide participants with information from the front lines of the events that unfolded that tragic day from initial attack and initial response to subsequent reorganization after the collapse of the towers. This presentation will discuss many of the difficulties encountered on that dark, gloomy day from patient casualties, operational issues, to overall on scene medical command.

Contact information: asaedag@fdny.nyc.gov

10:55-11:25 a.m.

The London Bombings

Colonel Timothy Hodgetts

QHP, OSTJ, MBBS, MMed, FRCP, FRCSEd, FFAEM, FIMCRCSEd, FRGS, L/RAMC

Defence Consultant Advisor, Emergency Medicine to SG Consultant Advisor (Army), Emergency Medicine to DGAMS

Assistant Director Clinical Services, RCDM

Honorary Professor Emergency Medicine and Trauma, University of Birmingham

Consultant Emergency Medicine, Selly Oak Hospital

On 7th July 2005 at 0851 hours suicide bombers simultaneously detonated three bombs on board trains in the London Underground network; a fourth bomb was detonated on a double-decker bus carrying 80 passengers at 0947 hours. A total of 53 people died in the incidents with an estimated 700 injured.

This presentation describes the events and states the actions at the scene of a terrorist bomb both before and after an explosion. The mechanisms of injury following a bombing are reviewed (blast wave, blast wind, fragmentation, burns, crush, psychological) and a comparison made from the literature of the severity of injury and primary blast complications from explosions in the open air and confined spaces. The value of a perforated eardrum as a predictor of blast lung is challenged. The implications of these multiple terrorist bombings are discussed with respect to disaster medical planning, preparedness and response.

Contact information: timothy.hodgetts@uhb.nhs.uk

TRACK #4: Oral Abstracts

Monday, September 12, 2005

9:30-11:30 a.m.

For a listing of abstracts to be presented in this session, see the Oral Abstracts Schedule.

Oral abstract texts can be found in the Prehospital and Disaster Medicine journal included in the congress registration materials.

TRACK #5: Education and Training in

Disaster Medicine - Monday, September 12, 2005

1:40-2:10 p.m.

The European Master in Disaster Medicine (EMDM)

Herman H. Delooz, MD, PhD, FCCM, FFAEM

Professor of Emergency and Disaster Medicine, Free University of Brussels

Executive Committee Member, European Master in Disaster Medicine

Quality Manager, Leonardo da Vinci "I SEE" Project

Background:

1987: CEMEC (European Centre of Disaster Medicine), created by the Council of Europe, in the Republic of San Marino.

1988: Post-graduate Course in Disaster Medicine and Disaster Management, set up by the University Department of Emergency Medicine, Catholic University Leuven, Belgium and the Medical Service of the Belgian Armed Forces.

2000: Certificate in Disaster Medicine, organized by the University of Eastern Piedmont (UPO), Italy and the Free University of Brussels (VUB), Belgium in collaboration with CEMEC and the University of San Marino.

2002: University Diploma of European Master in Disaster Medicine (2nd level Master or Master after Master) issued by the University of Eastern Piedmont on behalf of the UPO and the VUB, according to the European Directives.

Aims:

The Master in Disaster Medicine degree is intended to provide participants with a clear picture of current concepts and developments in the medical preparedness and management of disasters.

Format:

One Academic Year, 70 credit units and maximum number of students 35.

1. Self-directed study of an e-learning, problem-based, curriculum provided on the Master website.
2. 14-day live-in session, presenting interactive debates and exercises, and allowing the discussion of the students' thesis projects.
3. Thesis under guidance of a faculty tutor.
4. On-line examination.

Content:

Contrary to the format, the content, with modular structure, is in constant evolution, based on debriefing with the faculty and recommendations of the Scientific Committee.

Organization:

Representatives of the Founding Universities (UPO and VUB) constitute the Organizing Body. The Executive Committee and the Scientific Committee expand following agreements with Associated and/or Co-organizing Institutions, based on the Convention between the Founding Universities.

Activities:

125 Students of over 40 nationalities, coming from the 5 continents have taken the Master in Disaster Medicine program thus far. They founded the EMDM-Alumni Association (EMDM-A), which, according to the bylaws, both supports the EMDM and provides a platform for networking and research.

Contact information: herman.delooz@az.vub.ac.be

2:15-2:45 p.m.

National Disaster Life Support

James J. James, MD, DrPH, MHA
Director, Center for Public Health Preparedness and Emergency Response, American Medical Association

In 2003, the American Medical Association (AMA), in partnership with four major medical centers and three national health organizations, established the National Disaster Life Support (NDLS) training program to better prepare health care professionals and emergency response personnel for mass casualty events. The overarching goal is to standardize emergency response training nationwide and strengthen our nation's public health system.

The NDLS courses stress a comprehensive all-hazards approach to help physicians and other health professionals deal with catastrophic emergencies from terrorist acts as well as from explosions, fires, natural disasters (such as hurricanes and floods) and infectious diseases, which are much more likely to occur.

In large-scale mass casualty events, physicians and other health care workers must be knowledgeable of the need for efficient coordination among local, state and federal emergency response efforts; how to protect themselves and others from further harm; how to communicate effectively with other emergency personnel and the media; and how to address the unique psychological impacts and related social chaos that may ensue. By completing these courses, clinicians will better understand their integrated roles in the broader disaster response system.

Contact information: james_james@ama-assn.org

3:10-3:40 p.m.

Disaster Medical Training: An International Standard

Colonel Timothy Hodgetts
OHP, OSTJ, MBBS, MMEd, FRCP, FRCSEd, FFAEM, FIMCRCSEd, FRGS, L/RAMC
Defence Consultant Advisor, Emergency Medicine to SG Consultant Advisor (Army), Emergency Medicine to DGAMS
Assistant Director Clinical Services, RCDM
Honorary Professor Emergency Medicine and Trauma, University of Birmingham
Consultant Emergency Medicine, Selly Oak Hospital

The Major Incident Medical Management and Support Course (MIMMS) was established in 1994

in the United Kingdom (UK) and has spread to 17 countries. It provides a systematic approach to preparing and responding to the scene of a multiple casualty incident, irrespective of its nature. The course has been translated into Japanese, Swedish, Dutch and Italian. There is a one-day Provider Course and a three-day Advanced Course (for those in a command role at the scene).

There are separate military and civil versions of the course: the military version is a standard across UK, Italian and Dutch Defence Services and is also run in the North Atlantic Treaty Organization School in Germany. The civil version is widely used as an emergency service standard and has been used to train all medical personnel for both the Sydney Olympics 2000 and the forthcoming Winter Olympics in Italy 2006.

Within India, the one-day Provider Course is coupled with a one-day bespoke hospital incident management course to generate the National Disaster Preparedness Course for Hospitals, which has been running across India since 2002.

This session will describe the evolution, scope, content and future direction of the MIMMS course.

Contact information: timothy.hodgetts@uhb.nhs.uk

3:45-4:15 p.m.

Education and Training for Homeland Defense and Security

Stanley B. Supinski, PhD

Former Director, Homeland Security/Defense Education Consortium

The United States Northern Command (NORTHCOM)

New policies, procedures, and organizations established after 9/11 demanded a new level of understanding for everyone involved in homeland security and homeland defense. The United States Northern Command (charged with defending the homeland) recognized this requirement and established the Homeland Security/Defense Education Consortium (HSDEC) in December 2003. The effort was initially designed to address shortfalls

in military education for those assigned to the command, but quickly evolved into a national effort to address educational shortfalls in these critical areas.

The HSDEC mission is fourfold:

1. Ensure the Department of Defense (NORAD/NORTHCOM) role in and perspective on, homeland security is adequately and accurately reflected in educational initiatives.
2. Promote and facilitate homeland security related education program development.
3. Focus and facilitate homeland security related research and development.
4. Encourage cooperation between consortium institutions.

In just 20 months, the Consortium has grown to over 160 members in 40 states, Canada and Argentina. Membership includes several associations, such as the American Association of Community Colleges, which includes 1150-plus member institutions that train 85% of the nation's first responders. The HSDEC has made strides in providing courseware and curricular materials through its website, located at <http://hsdec.org>. It has also created vast networking opportunities through its two annual symposia, held in the national capital region each spring and in Colorado Springs in the fall.

In recent months the HSDEC has undertaken the crucial task of developing accreditation standards for homeland security and defense education. The effort is designed to improve the overall quality and consistency of educational offerings as they proliferate nationwide.

The potential contribution of the HSDEC toward achieving homeland security is boundless. It is akin to the Manhattan Project in World War II in that it is searching for solutions to end the Global War on Terror. It also mirrors the efforts undertaken by academia to prepare the nation for the Cold War. The HSDEC is leading today's effort to formalize and integrate HLS/HLD education and research programs into the academic community and ultimately support the national homeland security effort.

Contact information: sjsupin@adelphia.net

TRACK #6: National Emergency Management
Monday, September 12, 2005

1:40-2:10 p.m.

Bioterrorism Training and Curriculum Development Program (BTCDP)

Lou Coccodrilli, MPH

Branch Chief, Area Health Education Centers (AHEC)
 Division of State, Community and Public Health
 Bureau of Health Professions
 Health Resources and Services Administration

Created with the passage of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, the Bioterrorism Training and Curriculum Development Program (BTCDP) aims to fulfill its goal of developing a health care workforce with the knowledge, skills, abilities and core competencies to: (1) recognize indications of a terrorist event; (2) meet the acute care needs of patients, including pediatric and other vulnerable populations, in a safe and appropriate manner; (3) participate in a coordinated, multidisciplinary response to terrorist events and other public health emergencies, and include consideration of surge capacity issues; and (4) rapidly and effectively alert the public health system of such an event at the community, state, and national level.

Cooperative agreements for BTCDP projects provide continuing education to practicing providers and/or develop/enhance preparedness curricula in health professions schools. The BTCDP is in its third year and in its second competitive cycle. In Fiscal Year 2003 and Fiscal Year 2004, the BTCDP cooperative agreement program made 32 awards as follows: 19 Continuing Education (CE) and 13 Curricular Enhancement/Curriculum Development (CD) awards.

Contact information: LCoccodrilli@hrsa.gov

2:15-2:45 p.m.

The Role of the CDC in Health Emergencies

CAPT Robyn G. Brown, MBA, BSN

U.S. Public Health Service

Centers for Disease Control and Prevention

The United States Department of Health and Human Services (DHHS) bears responsibility for public health

activities at the federal level; however, federal, state and local public health organizations form the nerve center of the public health system. The Centers for Disease Control and Prevention (CDC) is one of four federal agencies within DHHS charged with responsibilities for emergency preparedness and response. As with most Federal programs, there exists a legal framework; however, the most public health authority rests with the states. With an agency mission to promote health and quality of life by preventing and controlling disease, injury and disability, the CDC works collaboratively and cooperatively with states, localities and other nations to detect, investigate and mitigate health effects during and recovery from health emergencies. Through funds from CDC's Cooperative Agreement 99051 "Preparedness and Response to Bioterrorism," all 50 states, four municipalities, the Pacific Islands, Puerto Rico and Virgin Islands have addressed specific activities on preparedness and response, such as planning, epidemiology, laboratory, communication and education.

In August 2002, the Coordinating Office for Terrorism Preparedness and Emergency Response was established to help focus on public health issues, specifically those related to terrorism preparedness and response and those with increased national and global visibility. Key activities such as BioWatch, National Interagency Biodefense Campus Initiative, Select Agent Program, Biosense and Global Disease Detection are accomplished by addressing seven preparedness goals – prevent, detect, report, investigate, control, recover and improve. Finally, the Agency's Emergency Response Resources include the Strategic National Stockpile, specialized technical consultation and expertise, specialized laboratory support and the Director's Emergency Operation Center (DEOC). Moreover, the DEOC serves as the CDC's central public health incident management center for coordinating and supporting the staff, information, communications and security issues associated with CDC's response to public

health disasters, emergencies, disease outbreaks and investigations.

In conclusion, as public health's role expands to new threats, the responsibility of the CDC remains steadfast – to protect people's health.

Contact information: rdd8@cdc.gov

3:10-3:40 p.m.

TOPOFF National Exercise Program

Sandra Santa Cosgrove

Office for Domestic Preparedness

U.S. Department of Homeland Security

The Top Official 3 (TOPOFF 3) National Exercise Series is a Congressionally-mandated, national terrorism-combating exercise and is the cornerstone of the Department of Homeland Security's (DHS) National Exercise Program. The DHS Office for Domestic Preparedness (ODP) followed an ambitious timeline with a series of seminars and exercise activities designed to highlight the issues and critical decision points that would follow a weapons of mass destruction (WMD) terrorist attack. The TOPOFF 3 cycle of exercise activities included a command post exercise, a large-scale game, an advanced distance learning exercise, four national-level seminars, and culminated on April 4-8, 2005 with a Full Scale Exercise.

The overarching TOPOFF 3 objectives were to: improve the nation's capacity to prevent, respond to, and recover from terrorist attacks in accordance with DHS protocols using the National Response Plan and National Incident Management System; identify baseline capabilities and derive consensus performance standards to measure proficiency against a range of probable threats; synchronize the TOPOFF exercise series with national goals and objectives; improve international coordination and cooperation during a WMD terrorist incident response; and assess and strengthen government, non-government and private sector partnerships to prevent, respond to and recover from WMD incidents.

Educating, exercising and equipping crisis and consequence managers and responders remains a national priority. TOPOFF 3 used a series of exercise activities of increasing complexity, and simulated

an international terrorist WMD campaign with a chemical attack occurring in the State of Connecticut and a biological attack occurring in the State of New Jersey with the United Kingdom and Canada playing off both attacks. Participants included leaders from the Federal, State and local government; private sector agencies; and nongovernmental organizations, as well as international representatives from the United Kingdom and Canadian governments. Every aspect of the exercise was carefully analyzed to obtain lessons learned from the activities that took place at the international, national, state and local levels.

Contact information: Sandra.santa@dhs.gov

3:45-4:15 p.m.

The Role of ASTM in Health Emergencies and Preparedness

James Augustine, MD

Department of Emergency Medicine,

Emory University School of Medicine

Major incident preparedness is necessary to prepare communities and hospitals for expected and unexpected events that challenge the ability to provide basic health services. Standards are useful as tools to assist in developing best practices for this activity. The levels of preparedness planning can be arrayed in a cascade. International and Federal planning provides synchrony with the greatest depth of resources. State and regional resources focus on local hazards and response agencies. Hospitals function at the local level to provide the medical evaluation and treatment services to victims. The environment of hospital planning must utilize existing community industry standards.

The Department of Homeland Security and other governmental planners sought a set of standards that would combine the available resource documents and develop a planning process that would integrate community and hospital planning. The American Society for Testing and Materials (ASTM) was given the opportunity to address the standard process in 2004, and convened a Task Group to write a hospital preparedness standard. That standard, ASTM E 2413, was approved in November 2004.

The ASTM Standard E 2413 was created to address the process for preparedness and mitigation; the process of organizing and planning a hospital

response plan; the nature of supplies that hospitals need to make available; and an acceptable means to protect the facilities for usual operation, patients, and staff while still providing an effective level of response. This allows hospitals to address more effectively the issue of surge capacity. The standard places emphasis on the coordination of operations with community assets, including the Local Emergency Planning Committees. It emphasizes the effective development and utilization of a Hospital Vulnerability Analysis. The standard encourages the use of a Hospital Incident Command System for organizing human resources, and then mandates communications and infrastructure systems to integrate the response. The standard highlights the need for education, drills and exercises.

The attendees will be given information to:

1. Cite three standards-setting organizations writing emergency management guidelines for health care organizations.
2. Explain the benefit of standards to emergency system planners.
3. Identify critical elements of standards that have relevance to community plans, and the future direction of standards in major incident preparedness.

Contact information: jaugust@emory.edu

TRACK #7: Hospital Emergency Management
Monday, September 12, 2005

1:40-2:10 p.m.

Terrorism-related Trauma:

Lessons Learned in Israel 2000-2005

Pinchas Halpern, MD, CDR

Israeli Navy Reserve

Chair, Department of Emergency Medicine,
Tel Aviv Sourasky Medical Center

Trauma due to terrorism, especially in the form of bombs, has significant characteristics which distinguish it from trauma of similar severity incurred in non-terrorism related events. It presents casualties with a multidimensional injury pattern resulting from the simultaneous primary, secondary, tertiary and quaternary explosion injury mechanisms.

However, an added dimension is the care of the individual victim in the context of a multiple casualty incident (MCI). This combination sometimes results in a need to modify patient care protocols to allow for the logistic and ethics requirements specific of an MCI. As such, it is important that trauma surgeons, emergency physicians and hospital managers and planners understand these specific features and modify preparations, training and even management protocols accordingly. Adherence to the “trauma team ideology” during MCI requires much manpower. It is well documented that most of the casualties in MCI are lightly injured. For them, our protocols dictate evaluation by junior medical staff, sometimes from disciplines other than surgery, supervised by a senior surgeon. Therefore, their primary task is to identify under-triaged patients.

When the acute emergency phase ends, it is crucial to conduct a tertiary survey of all the admitted patients. It is not uncommon to miss injuries during an MCI. Systematic repeated examinations by medical teams are warranted. Members of the tertiary survey team are different from those of the admitting team. In our institution this team includes an attending surgeon with experience in trauma, an orthopedic surgeon, a plastic surgeon, a nurse and a psychiatrist.

ATLS® guidelines continue to represent the mainstay of trauma care in MCI, and if manpower is insufficient to follow these guidelines, or if operating theaters or other resources are deficient, the medical center is declared a “Triage Hospital”. The hospital’s mission then becomes to treat life-threatening injuries only, and to transfer, after initial evaluation, all other patients to nearby hospitals. Immediate transfer of some of the injured to other medical centers allowed continued management of all other admitted wounded and alleviated the case load of these hospitals.

In conclusion, there are sufficient differences in the patterns of injury and management methods between terrorism and non-terrorism related, single and MCI-context trauma to warrant specific training of care givers and attention of managers and planners.

Contact information: dr_halperin@tasmc.health.gov.il

2:15-2:45 p.m.

Hospital Preparedness for Mental Health Needs

David J. Schonfeld, MD

Thelma and Jack Rubinstein Chair and Director
Division of Developmental Disabilities,
Cincinnati Children's Hospital Medical Center

Hospital crisis response plans need to be adequately informed by an understanding of the psychological and behavioral reactions of children and adults in crisis settings. In addition, all emergencies create mental health needs among patients, members of the community, and/or healthcare workers. Hospitals therefore need to be prepared to mitigate the psychological impact of these events.

This presentation will briefly review basic principles related to mental health needs in the setting of a terrorist or disaster event, including the distinction between psychological first aid and mental health triage and clinical services; the difficulty in identifying mental health needs, in part related to the stigma associated with mental illness; the need to address basic needs first; and the mental health considerations in public announcements.

Over the past several years, a multidisciplinary team of mental health professionals from hospitals participating in the Yale New Haven Health System have worked to develop guidelines and protocols for anticipating and addressing the mental health needs in a crisis situation as relates to hospital services. This session will draw from this work and focus on highlighting important considerations for hospital preparedness planning for mental health needs, including: incorporating mental health response into the Hospital Emergency Incident Command System (HEICS); addressing the mental health needs of different groups (i.e., patients, guests and staff); identifying different levels of mental health needs and sites for delivery of services; outlining essential mental health functions and critical ancillary services; anticipating healthcare worker support issues; providing guidelines for the development of psycho-educational materials; and identifying training needs of healthcare workers.

Contact information: david.schonfeld@cchmc.org

3:10-3:40 p.m.

Hospital Preparedness for Biological Emergencies

Louise M. Dembry, MD, MS

Associate Professor of Medicine and Epidemiology and
Lecturer, Department of Pharmacology, Yale University
School of MedicineHospital Epidemiologist and Director, Hospital
Epidemiology Laboratory, Yale-New Haven Hospital

Preparing for a public health emergency (e.g. an infectious diseases outbreak or epidemic, an emerging pathogen, bioterrorism) presents a unique challenge to healthcare facilities. Such events generally do not occur at a single point in time, but rather begin with a few patients and grow over time. If the infectious agent has the capability of person-to-person transmission, the event can be sustained for a period of weeks to months or even longer. The severe acute respiratory syndrome (SARS) experience in 2003 is a good example of what can happen when an emerging infection begins at the local level, spreads quickly around the world through international travel, and is sustained via person-to-person transmission particularly, in this case, in the healthcare setting.

Elements of planning and preparation for biological emergencies for healthcare facilities include addressing: facilities and security, surveillance, syndrome identification, precautions/isolation, personal protective equipment (PPE), supplies/equipment, laboratory testing, ancillary services, occupational health and human resources, education and training, communication and the needs of special populations. Each of these elements will be discussed using the 2003 Toronto SARS experience as an example. Lessons learned from the SARS outbreak include 1) the need to improve recognition and prevention of transmission of infectious agents at the initial point of patient entry into a healthcare facility, 2) the need to reinforce and monitor the appropriate and consistent use of PPE and 3) following additional precautions for aerosol-generating procedures.

Contact information: louise-marie.dembry@ynhh.org

3:45-4:15 p.m.

Hospital Emergency Incident Command System and SARS

Ming-Che Tsai, MD, MPH

Department of Emergency Medicine, National Cheng Kung University Hospital

We sought to describe the implementation of the Hospital Emergency Incident Command System (HEICS) at National Cheng Kung University Hospital (NCKUH) in Taiwan during the outbreak of severe acute respiratory syndrome (SARS) in early 2003.

We administered a 14-question survey via structured interviews to individuals occupying activated HEICS leadership positions at NCKUH to identify the organization, structure, and function of the HEICS units and subunits they led and the job actions they performed from 25 March to 16 June 2003.

Thirty-three of 38 persons (87%) occupying 39 of 44 (89%) activated HEICS leadership positions directly participated in the survey. The participants collectively reported: 1) the creation of four new HEICS unit leader positions and corresponding units during the outbreak, including the infection control officer (administrative section) and SARS assessment, isolation, and critical care unit leaders (operations section); 2) the creation of six new HEICS subunits, including functional areas for fever screening, SARS assessment, and resuscitation outside the hospital, and SARS patient care, SARS critical care, and employee isolation inside the hospital; and 3) the performance of new job actions related to infection control by all HEICS unit leaders. HEICS provides a flexible framework that seems to have assisted NCKUH in the organization of its emergency response to the SARS outbreak in Taiwan.

Contact information: terence40kimo@yahoo.com.tw

TRACK #8: Oral Abstracts

Monday, September 12, 2005

1:40-4:20 p.m.

For a listing of abstracts to be presented in this session, see the Oral Abstracts Schedule.

Oral abstract texts can be found in the *Prehospital and Disaster Medicine* journal included in the congress registration materials.

DAY TWO

TRACK #1: Emergency Management in the 21st Century - Tuesday, September 13, 2005

9:10-9:40 a.m.

Health Disaster Management: Evaluation and Research in the Utstein Style

Knut Ole Sundnes, MD

Past President, World Association for Disaster and Emergency Medicine (WADEM)

Task Force on Quality Control of Disaster Management (TFQCDM), Norway

Norwegian Defence Forces Medical Division, N-2058 Sessvollmoen

For decades, humanitarian responses to assist populations in distress have not improved as should be expected.(1,2) Lack of such improvement can partly be attributed to the absence of formalised and appropriate research methods. Different backgrounds, different disaster “languages” and also different agendas add to this problem. All actors involved in disaster management must accept to be evaluated, preferably by a globally endorsed standard.

The ultimate objective of the Guideline and Templates is to reduce potential damage from an identified hazard through production of evidence based competence. The goals are to identify and modify key factors causing disasters before they happen, prepare society for absorbing its destructive energy and facilitate relevant post-event actions.(3)

Four pillars support this “Table of Research”:

1. Conceptual Framework comprising standardised definitions and concepts(4)

2. Template with identifiable chronological phases and functions
3. Scientific Methods applicable to disaster research and evaluation (qualitative and quantitative)
4. Tools for the development and maintenance of inventories of a society (Basic Societal Functions (BSF))

For comparative research, regardless of type of disaster and their location, disasters will be divided into identifiable phases described by their properties exclusively, and not by time. Other concepts, e.g. "Best Outcome Without Assistance (BOWA)" and "Disaster Critical Control Point (DCCP)" (when resources match the needs) will become crucial. (3,4) Indicators for the Disaster Severity Score and Health Disaster Severity Score have been developed. Additional indicators to measure efficiency, effectiveness and benefit will be developed for all BSFs alongside the use of these Guidelines. Be aware that indicators of benefit mostly differ from indicators of effectiveness.(4)

Since 1999, this process is formally tied to the World Association for Disaster and Emergency Medicine (WADEM).

Reference:

1. HRH Prince Sadruddin Aga Khan. Improving Disaster Management of the United Nations. United Nations Management & Decision making Project, UNA-US, New York 1987.
2. PAHO/WHO. Evaluation of Preparedness and Response to Hurricanes George and Mitch: Conclusions and recommendations. PDM 1999: 14;53-65.
3. TFQCDM, Chair: Sundnes KO. Health Disaster Management: Guidelines for Evaluation and Research in the Utstein Style: Executive Summary. Prehosp Disast Med 1999;14;43-52.
4. Sundnes KO, Birnbaum ML (Editors). Health Disaster Management. Guidelines for Evaluation and Research in the Utstein Style (Volume I). Prehosp Disast Med, Volume 17/Supplement 3.

Contact information: knut.sundnes@sanr.mil.no

10:00-10:30 a.m.

Evidence-based Emergency Management

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine,
Yale University School of Medicine
Medical Director, Yale New Haven Center for
Emergency Preparedness and Disaster Response

Introduction: An enormous gap exists between the fantasy in people's minds about emergencies and disasters and the reality of what actually occurs during these events. The net result of this disconnect ranges from disaster exercises based on Hollywood scenarios to programs that target people at extremely low risk of health damage. Evidence-based emergency management involves the conscientious, explicit and judicious use of current best evidence in making decisions regarding the prevention of, mitigation of, preparedness for, response to and recovery from emergencies and disasters.

Objective: This presentation will describe the application of an evidence-based approach to common issues in emergency management.

Methods: Descriptive information was obtained from the peer-reviewed scientific literature, government reports and media reports.

Results: An evidence-based approach may be applied to several common issues in emergency management to distinguish reality from fantasy, including: (1) public behavior in disasters; (2) role of first responders in initial search and rescue; (3) mode of victim transport to hospitals; (4) role of on-scene decontamination; (5) distribution of victims to healthcare facilities; (6) time course of arrival of victims in sudden onset events; (7) pattern of victim arrival at hospitals; (8) early deaths at hospitals; (9) victim dispositions; (10) role of disaster medical assistance teams; (11) role of urban search and rescue teams; (12) role of critical incident stress debriefing in disaster recovery. The specific results of these queries will be presented.

Conclusion: An evidence-based approach provides a rational basis for emergency management. Emergency managers at all levels should develop a mechanism for critically appraising and incorporating the best available evidence about

emergencies and disasters into their decision-making before, during and after an event.

Contact information: Jeffrey.arnold@ynhh.org

10:35-11:05 a.m.

Principles of Response to Mega-terrorism

Incidents in Israel

Pinchas Halpern, MD, CDR

Israeli Navy Reserve

Chair, Department of Emergency Medicine,
Tel Aviv Sourasky Medical Center

Israel perceives itself to be under significant threat of major terrorism. Two wars in Iraq, which were also perceived to pose significant risk to the civilian population (and indeed almost 50 SCUD missiles hit Israel in 1991), as well as 5 years of terror activity in the so-called Intifadah, have produced a very high sense of risk, a very active preparation activity, significant operational experience and much organizational and personal expertise.

A mega-terror event is defined as a terror event resulting in:

- a) A quantity or severity of injuries beyond the capacity of the adjacent medical system, and/or
- b) A disruption of infrastructure and/or
- c) A need for rescue, decontamination, containment, or evacuation, resulting in a need for a national level response.

The relevant scenarios of a mega-terror event are defined as:

- a) A number of casualties greater than 500, with significant severity distribution (15% dead on site, 50% severe and moderate)
- b) Conventional events (e.g., building collapse due to truck bomb, explosion of ship in port, aircraft crash into built-up area)
- c) Chemical (e.g., explosion involving chemical plant or truck, water source poisoning)
- d) Biological
- e) Radiological
- f) Combined

The response structure in Israel includes:

- a) The planning and mitigation responsibility lies with the Ministry of Defense for threat assessment

and scenario definition, Ministry of Health Emergency Preparedness Office for health system preparedness, Ministry of the Environment for chemical agent detection and containment, and multiple agencies for various other components

- b) Coordination, command and control: Army Home Front Command C&C Center coordinates EMS, Fire Brigade and Police C&C's, as well as Army Heavy Rescue units and others
- c) The medical response is based on 25 general hospitals with approximately 1,000 emergency department beds, immediately expandable to double that, a well prepared and experienced national EMS system with 400 ambulances, a large community medical capacity with some 1500 clinics, 10,000 doctors and 10-15 major medical centers, national stocks of relevant medications and equipment at the Ministry of Health, a large rescue and transportation capacity in the armed forces, a large reserve emergency medical capacity in the armed forces medical corps

The lecture will delineate in detail the various components of the Israeli response system to mega-terrorism, concentrating on conventional terrorism.

Contact information: dr_halperin@tasmc.health.gov.il

TRACK #2: Lessons Learned in Recent Emergencies
Tuesday, September 13, 2005

9:10-9:40 a.m.

The Mass-casualty Terrorist Bombings in Istanbul, Turkey, November 2003: Report of the Events and the Prehospital Emergency Response

Ülkümen Rodoplu, MD

Vice President, European Society of
Emergency Medicine

MD Chairman, Emergency Medicine Association
of Turkey

Background: We sought to describe the two mass-casualty, terrorist attacks that occurred in Istanbul, Turkey in November 2003 and the resulting prehospital emergency response.

Methods: We performed a complex retrospective descriptive study, using open source reports, interviews, direct measurements of street distances, and hospital

records from the American Hospital (AH) and Taksim Education and Research State Hospital (TERS) in Istanbul.

Results: On 15 November, improvised explosive devices (IEDs) in trucks were detonated outside the Neve Shalom and Beth Israel Synagogues, killing 30 persons and injuring an estimated additional 300. Victims were maldistributed to 16 medical facilities. For example, AH, a private hospital located six km from both synagogues, received 69 injured survivors of which 86% had secondary blast injuries and 13% were admitted to the hospital. TERS, a government hospital located one km from both synagogues, received 48 injured survivors. On 20 November, IEDs in trucks were detonated outside the Hong Kong Shanghai Banking Corporation (HSBC) headquarters and the British consulate (BC), killing 33 and injuring an estimated additional 450. Victims were maldistributed to 16 medical facilities. For example, TERS, located 18 km from the HSBC site and two km from the BC site received 184 injured survivors, of which 93% had secondary blast injuries and 15% were hospitalized. AH, located nine km from the HSBC site and six km from BC site, received 16 victims.

Conclusion: The twin suicide truck bombings on 15 and 20 November 2003 were the two largest terrorist attacks in modern Turkish history, collectively killing 63 persons and injuring an estimated 750 others. The vast majority of victims had secondary blast injuries, which did not require hospitalization. Factors associated with the maldistribution of casualties to medical facilities appeared to include the distance from each bombing site, the type of medical facility and the personal preference of injured survivors.

Contact information: ulkumenrodoplu@yahoo.com

10:00-10:30 a.m.

Bam Earthquake; Crush Syndrome, Acute Renal Failure and Some Reflections on International Medical Response

Asgar Rastegar, MD
Professor of Medicine (Nephrology), Associate Chairman for Academic Affairs,
Yale University School of Medicine

On December 26, 2003 a 6.3 Richter earthquake destroyed the ancient city of Bam in Southeast Iran. The earthquake resulted in 30-40,000 deaths, over 20,000 injured and over 50,000 homeless. The international response was probably the largest to that date bringing over 60 NGO's from 40 countries.

One medical consequence of such a disaster is crush syndrome and the resultant acute renal failure. Although the major focus should be to prevent development of acute renal failure (ARF) by early identification and appropriate treatment of these patients, the recommended therapies have not been field tested.

ARF developed in 124 patients in the Bam disaster, 96 requiring dialysis treatment. Experience in multiple major earthquakes has shown that these patients have an excellent chance of survival if treated appropriately. Dr. Rastegar will describe the structure and activity of a unique response team (International Society of Nephrology Renal Disaster Relief Task Force) in this and other recent disasters. This unique team is able to quickly mobilize needed personnel as well as equipment and other resources to help deal with the needs of these patients.

The Bam disaster was also a unique setting to become familiar with the work of other medical teams. Dr. Rastegar will reflect on some aspects of the work done by these teams.

Contact information: asghar.rastegar@yale.edu

10:35-11:05 a.m.

International Medical Response to Three Tsunamis

Yasufumi Asai, MD, PhD
Department of Traumatology and Critical Care
Medicine, Sapporo Medical University, Sapporo, Japan

On two occasions, the Japan Disaster Medical Team was dispatched by the Government of Japan

to provide aid to the victims of a tsunami disaster. The first tsunami response took place in Papua, New Guinea on July 17, 1998 and the other in Sumatra on December 26, 2004. The author served as an emergency physician in Sumatra for 10 days and treated more than 1435 patients with three other doctors and seven nurses.

Japan is no stranger to tsunami disaster. The Okushuri islands located in the northern part of Japan experienced a tsunami disaster on July 12, 1993. More than 200 people drowned at this location as the result of a 10 meter high tsunami. This session will contain information regarding the response to and lessons learned from the Papua, New Guinea, Sumatra and Okushuri Island tsunamis.

Contact information: asai@sapmed.ac.jp

TRACK #3: Hospital Emergency Management
Tuesday, September 13, 2005

9:10-9:40 a.m.

Surge Capacity Approaches in Hospitals

Christopher M. Cannon, MSN, MPH, MBA, FACHE
Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

In the event of a large-scale disaster, the resources needed to provide appropriate care to large numbers of victims with various types and levels of injury can be overwhelming. Surge capacity represents a healthcare system's ability to provide adequate quantity and quality of healthcare facilities, equipment, supplies and personnel to address a sudden increase in patient volume, provide medical care and minimize death and disability. Representing a large, urban hospital, a mid-size community hospital with Connecticut's only burn center, a small community hospital, a children's hospital and a psychiatric hospital, Yale New Haven Health System has a unique perspective in developing surge capacity response for various sized hospitals.

Main components of surge capacity include beds, supplies, equipment, pharmaceuticals and staff, but may include other auxiliary considerations such as security. Key considerations for surge capacity planning include: basing surge capacity targets on

evidence from past similar events, facilitating constructive dialog among clinical and operational leaders and stakeholders, becoming familiar with other potentially available local, regional and national services, coordinating surge capacity initiatives with those other local agencies and organizations and testing all facets of surge capacity response. Potential barriers to implementation include adequacy of funding, time required to meet and develop plans, time required to maintain surge capacity plans such as rotating stockpiles and increasing lack of interest in the absence of a large-scale disaster. Developing surge capacity response is a formidable and critically important task, requiring the collaboration and partnership of statewide healthcare professionals, academic and clinical partners as well as state and federal government agencies.

Contact information: christopher.cannon@ynhh.org

10:00-10:30 a.m.

The Role of the American Hospital Association in Emergency Preparedness

Roslyne Schulman, MHA, MBA
Senior Associate Director, Policy Development
American Hospital Association

This session will provide an update on the American Hospital Association's (AHA) activities related to hospital emergency preparedness. Ms. Schulman will describe the ongoing advocacy and education that AHA is engaging in with the Department of Health and Human Services, the Department of Homeland Security, with Congress, and with other relevant organizations working on preparedness issues. She will provide some detail on the AHA's contract with Health Resources and Services Administration (HRSA) to provide the hospital perspective on the development of state-based Emergency Systems for the Advance Registration of Volunteer Health Professionals (ESAR-VHP). She will also describe the mechanisms that are used to get input from hospitals and hospital associations to inform AHA policy related activities.

Contact information: rschulman@aha.org

10:35-11:05 a.m.

The Community Response: Resources for the Local Medical System

Robert Gougelet, MD
Assistant Professor of Medicine (Emergency Medicine),
Dartmouth Medical School

This talk will emphasize the need for appropriate community level response following a mass casualty incident. Although rural communities and smaller urban areas will be emphasized, the principles discussed are applicable to any community regardless of size. Previous discussions have highlighted the need for appropriate community based response following an incident; however, limited guidance exists addressing the actual accomplishment of these community response capabilities following a mass casualty event. Therefore, it is imperative that local communities have an awareness of the abilities and capabilities of other state and federal resources in order to develop continuity between local responses and these larger resources.

This session will highlight best practices and current experiences in community response within the states of New Hampshire and Vermont. Additionally, the status of the Ambulatory Care Center, Neighborhood Emergency Help Center and Modular Emergency Medical System will be discussed. This collaborative effort among the Edgewood Chemical and Biological Command, Northern New England Metropolitan Medical Response System and New England Center for Emergency Preparedness focuses on providing appropriate materials to local and state planners specifically addressing critical response capabilities.

Specific barriers to effective community response such as sustainability, funding, motivation, geographical and political boundaries will be addressed. Attention will be given to the time sensitive nature of mass casualty incidents, and the vital role of local efforts in mitigating the effects will be highlighted.

Contact information: *Robert.m.gougelet@dartmouth.edu*

TRACK #4: Symposium on Managing Fear in a Hyper-vigilant Society - Tuesday, September 13, 2005

9:10-11:10 a.m.

Mike Magee, MD
Director, Pfizer Medical Humanities Initiative
Host, Healthpolitics.com

Delon Human, MBChB, MPraxMed, MFGP, DCH, MBA
Former Director General, World Medical Association
President, Health Diplomats

Charles P. Henderson
Executive Director, Association for Religion and Intellectual Life
Editor, CrossCurrents

Allen S. Keller, MD
Director, Bellvue/NYU Program for Survivors of Torture
Assistant Professor of Medicine, New York University School of Medicine

In the wake of 9/11, and more recently the London bombings, Franklin D. Roosevelt's advice, "the only thing we have to fear is fear itself" offers fresh counsel. Some fifty years later, Ronald Reagan, reflecting on his presidential legacy said, "I hope our people would remember me as having appealed to their best hopes and not their fears."

Today's world presents civil societies with real and tangible threats that cannot be ignored. Over the past decade, our populations have been exposed to a wide array of natural and man made disasters. Whether war, terrorism, or tsunami, a common by-product is fear, mental illness and the undermining of trust and confidence in society and in each other.

This interactive panel will critically examine the various sources of fear, their impact on the patient-physician relationship, and explore strategies to decrease its occurrence and manage its byproducts from a public health perspective. In addition, the latest survey results of fear levels in New York City, four years post 9/11, will be reviewed with a special focus on mass transit systems.

Fear exists as part of a continuum that includes hope. In this post 9/11, the panel will explore: Is there balance in the continuum, or is it unhealthily skewed towards fear? If the continuum is imbalanced,

what “tributaries” are feeding our sense of fear, and how can we better engage the tributaries of hope? What are the consequences of an imbalance of fear and hope? How does it manifest itself in individuals and societies? And how should we manage it? Who should take responsibility for “fear management”?

The answers may come from an interplay of institutions: Religion helps us remain hopeful, even in times of fear and turmoil; government has the power to instill either fear or hope, and can manipulate either; in some professions, notably health care, the continuum of fear and hope is part of the daily fabric of life and thus can play an extraordinary role in helping societies and individuals manage their fear and anxiety; and in an era of mass communications, the media can play an extremely powerful role because it can shape - and sometimes distort — our sense of the “reality” around us.

Each of these institutions plays a separate role in fear management (and members of the panel will speak to these roles), but for hope to prevail over fear, it is also important to examine the interrelationship of institutions: How, for example, can the medical and religious communities work together to restore balance to the continuum?

The answers also must come from deep within individuals. How do fear and conscience interact to influence behavior? How does our individual level of tolerance or intolerance contribute to a societal level of fear? Is there a collective consciousness that unites us and can play a greater role in an increasingly interconnected world?

Finally, the panel will explore the impact of fear on the patient-physician relationship. Studies indicate that, in addition to day to day care delivery, this relationship contributes to society in three significant ways. First, the relationship, hundreds of thousands of times a day, processes the nation’s fear and worry, which would otherwise accumulate with destabilizing effects. Second, the relationship subtly reinforces critical bonds between individual, family, community and society. Third, the relationship reinforces hope and encourages the investment of human, social and financial capital with an eye toward the future.

This panel then will balance issues of preparedness and vigilance on the one hand, with the multilevel repercussions of fear and hopelessness on the other, and identify reasonable approaches within the health care community to manage fear more effectively.

Contact information: Michael.magee@pfizer.com

TRACK #5: Public Health and Disaster Medicine
Tuesday, September 13, 2005

1:20-1:50 p.m.

Public Health Consequences of Disasters

Eric K. Noji, MD, MPH
Senior Policy Advisor, Congressional, White House and Executive Branch Affairs (Health & National Security)
Centers for Disease Control and Prevention, Washington Office

Although disasters have exacted a heavy toll of death and suffering, the future seems more frightening. Good disaster management must link data collection and analysis to the decision-making process. The overall objectives of disaster management from the viewpoint of public health are:

1. needs assessments,
2. matching available resources with defined needs,
3. prevention of further adverse health effects,
4. implementation of disease-control strategies,
5. evaluation of the effectiveness of the application of these strategies, and
6. improvement in contingency planning for future disasters.

The effects of sudden-onset, natural disasters on humans are quantifiable. Knowledge of the epidemiology of deaths, injuries, and illnesses is essential to determine effective responses; provide public education; establish priorities, planning and training. In addition, the temporal patterns for the medical care required must be established so that the needs in future disasters can be anticipated.

Contact information: exn1@cdc.gov

1:55-2:25 p.m.

Legal Considerations in Disasters

James G. Hodge, Jr., JD, LLM

Associate Professor, Johns Hopkins Bloomberg School of Public Health

Executive Director, Center for Law and the Public's Health

Core Faculty, Berman Bioethics Institute

Since September 11, 2001 and the ensuing anthrax attacks, federal, tribal, state and local governments in the United States have made tremendous progress in public health preparedness and response to disasters and bioterrorism events through new funding, organizational efforts, training and relationship-building among key partners in national security, law enforcement, public health and health care. These and other efforts have better prepared responders and the public for major disasters and bioterrorism events. However, they also highlight significant underlying legal issues regarding intra- and inter-governmental and private sector planning, preparedness and response.

Government at all levels in the United States has recently created or enhanced emergency response statutory laws, regulations, policies and plans. Model provisions, like the Model State Emergency Health Powers Act developed by the Center for Law and the Public's Health, have contributed to substantial legal reforms. Collectively, these disaster laws create mechanisms that, when triggered through formal emergency declarations, change the legal landscape for public and private sector providers. Legal issues include the use of expedited public health powers to manage property and protect persons, assign responsibility (with potential accompanying liability) of various actors, or authorize the use of volunteer health professionals. These issues are essential to resolve especially during inter-jurisdictional emergencies that require effective coordination across multiple jurisdictions. Coordination, however, is complicated by legal variations and failures to anticipate challenges and problems. A host of legal tools (including

aforementioned model laws, mutual aid agreements, compacts and legal checklists) are being used to identify and address gaps that may improve inter-jurisdictional preparedness.

Assessing the legal environment for disaster preparedness and response implicates a wide array of public (e.g., governmental emergency responders, public health workers, law enforcers, and security agents) and private sector actors (e.g., health care providers, hospital administrators, insurers, laboratories). This session shall discuss this legal environment and examine particular legal interests underlying medical responders to public health emergencies.

Contact information: jhodge@jhsph.edu

2:45-3:15 p.m.

Rapid Assessment in Health Emergencies

David A. Bradt, MD, MPH, FACEM, FAFPHM, FAAEM, DTM&H

Department of Emergency Medicine,
Royal Melbourne Hospital

Johns Hopkins Bloomberg School of Public Health

This presentation examines the current state of practice in post-disaster rapid health assessments evidenced in the recent Indian Ocean tsunami. Inter-agency assessments by military, donor country, the United Nations agency and non-governmental organizations are presented to illustrate key issues in methodology. After-action conference reports are presented to illustrate key issues in appraisal.

Apparent strengths in post-disaster rapid health assessment include: inter-agency cooperation, methodological consensus and promptness of reporting. Apparent weaknesses include: belated starts, fusion of opinion with fact and inattention to quantifying unmet need. Disaster timelines are introduced to show the association between assessments and subsequent relief activities. Such comparisons enable: rational consideration of implementation benchmarks for inter-agency coordination, epidemic preparedness, commodity donations and disease surveillance.

Contact information: dbradt@jhsph.edu

3:20-3:50 p.m.**Complex Humanitarian Emergencies**

Gregg Greenough, MD, MPH

Assistant Professor, Emergency Medicine
Deputy Director, Center for Refugee and
Disaster Response

Johns Hopkins Bloomberg School of Public Health

Complex humanitarian emergencies (CHE) has traditionally been the name given to post-Cold War human-generated disasters where high levels of violence and conflict have spawned catastrophic consequences in the public health of such vulnerable populations as refugees and internally displaced persons. Often natural disasters, ethnic animosities and environmental degradation add to the complexity. Thus, the international community — non-governmental organizations, UN agencies and multilateral governmental agencies (including militaries) — have developed a multi-faceted response, most of which has been, to greater or lesser degree, framed within the language of international humanitarian and human rights law. Health care providers who work or seek to work in this setting must learn to work within the humanitarian paradigm, and, in particular, understand the significant consequences of CHEs on the health of the affected population through the destruction of the public health infrastructure.

This discussion will describe the characteristics of CHEs, define affected populations, introduce the humanitarian imperative and review the lessons learned through the various models of humanitarian response. It will further detail the required knowledge base and possible roles of health care providers in such settings. An understanding of the health priorities in a humanitarian response, a working knowledge of humanitarian actors, the use of applied epidemiologic methods in rapid assessments and health outcomes and potential opportunities for humanitarian participation will be emphasized. We will conclude with a look at the issues and controversies surrounding complex emergencies of the future and how the global humanitarian community can best respond to them.

Contact information: ggreenou@jhsphe.edu

TRACK #6: Stakeholders in Emergency Management
 Tuesday, September 13, 2005
1:20-1:50 p.m.**The Role of Disaster Medical Assistance Teams in Healthcare Emergency Management**

Richard V. Aghababian, MD, FACEP

Professor and Chairman, Department of
Emergency MedicineAssociate Dean, Continuing Medical Education,
University of Massachusetts Medical School

The National Disaster Management Medical System (NDMS) was formed in 1983. The purpose of NDMS was to: 1. create a system whereby civilian hospital beds could be used in the event of a disaster within the United States and 2. create Disaster Medical Assistance Teams (DMATs) who could respond to those disasters.

A number of federal agencies collaborated in the development and implementation of NDMS. As the need became apparent, NDMS formed additional support teams including VMATs, DMORTs, etc. DMATs are composed of nurses, doctors, EMTs, respiratory technicians, pharmacists, mental health specialists and non-medical support personnel. Teams may have as many as 200 members, but generally deploy teams of 35 to 40 members at any one time. DMATs perform triage, medical field management prior to evacuation of acute patients and primary care when deployed in hospital settings. All team members must participate in rigorous training prior to being eligible for deployment.

Over the last 14 years, MA-2 has been activated 16 times including most recently a July 2005 deployment to Pensacola, Florida following hurricane Dennis. NDMS and the DMAT system have grown and matured over the last 2 decades. The esprit de corps amongst team members working as an individual unit or cooperatively with other teams at the scene of disaster has been inspiring to me. The NDMS DMAT system should be viewed as a valuable national asset in the time of disaster.

Contact information: aghababr@ummmhc.org

1:55-2:25 p.m.

**The Role of Trauma Centers in Health
Emergency Management**

Lenworth M. Jacobs, MD, MPH, FACS
Professor of Surgery
Professor and Chairman, Department of Traumatology
and Emergency Medicine, University of Connecticut
School of Medicine
Chairman, EMS/Trauma Program/LIFE STAR/
Rehabilitation, Hartford Hospital

The threat of mass casualties and widespread injuries and infections that may result from terrorist activity is now a challenge for the government, the public health system and the hospital based healthcare delivery systems. The Centers for Disease Control and Prevention and the Health Resources and Services Administration have granted funds to the state to establish terrorism preparedness and resource capabilities. The State of Connecticut has responded to this challenge by designating two Centers of Excellence for Bioterrorism Preparedness which serve the northern and southern areas of the state. The two centers are designed to work collaboratively and cooperatively and have significant redundancy so that in the event of a severe terrorist attack, one or the other center could effectively provide the health related hospital based responses to provide care for patients.

The Centers have provided a nidus for education and training, dissemination of new and relevant tactics to more effectively mitigate health related problems and an infrastructure to quantify and disseminate bed availability and surge capacity to the Department of Public Health and the Homeland Security Agency in order to be maximally prepared for an event. This detailed immediate knowledge of bed specific surge capacity allows the system to be most flexible in responding to large numbers of casualties. The web based communication system also allows the Department of Public Health to query in a real-time basis the hospitals for specific information relative to the specific type of mass casualty event. This system has been tested on a number of occasions and has been an excellent operational management tool.

The designation of a Center of Excellence for Bioterrorism Preparedness in Connecticut has been a successful strategy and has been used to modify a trauma system to meet the challenge of a new public health threat of terrorism.

Contact information: ljacobs@harthosp.org

2:45-3:15 p.m.

**The Role of Burn Centers in Health
Emergency Management**

Philip E. Fidler, MD
Medical Director, Andrew J. Panettieri Burn Center
Bridgeport Hospital, Yale New Haven Health System

Burn centers serve a vital role for best outcomes in disasters. Burn care over the long term is unfamiliar to most practitioners and has evolved to specialized care with only 44 centers in the U.S. verified by the American Burn Association amongst a total of approximately 120. Much emphasis on disaster management is placed on the initial hours to days but can be a shortsighted plan when it comes to the burn victim whose course is often measured in months. Since burn centers are few and far between, the choice to mobilize burn specialists to over-worked burn centers or to non-burn centers with burn victims are the prevailing concepts for best outcomes.

Contact information: ppfidl@bpthosp.org

3:20-3:50 p.m.

The Role of EMS in Health Emergency Management

David C. Cone, MD
Section of Emergency Medicine,
Yale University School of Medicine

Emergency medical services (EMS) play a key role in health emergency management, both in day-to-day circumstances (including multi-casualty incidents) and in true disasters. While the most obvious role for EMS is the triage, treatment and transport of victims, there are other features of the emergency medical component of disaster response that may be overlooked in the planning process. For example, EMS plays an important role in disaster communications. Dispatch (which entails gathering information, providing instructions to callers, determining what resources to send and coordinating the response of those resources) is one sub-discipline of disaster communications.

Inter-facility transport is another vital function of EMS in disasters. EMS personnel, equipment and vehicles move patients between hospitals when a higher level of care or specialized services is needed. These same units can help create surge capacity by emptying inpatient beds in anticipation of increased patient load. This dual demand can create conflict, however, particularly in systems where the same ambulance agency is responsible for both emergency and inter-facility work, and this needs to be considered when regional (or even single hospital) disaster plans are developed.

In many respects, EMS includes not just field units, but the emergency departments at receiving hospitals. Complete integration of the field and emergency department aspects of EMS is desirable from a number of logistical and operational perspectives. For example, the incident command system (ICS) has developed to facilitate the integration of the response of multiple agencies (EMS, fire, law enforcement, public health, etc.), and while scientific data are lacking, the incident command system (ICS) does appear to streamline communications, simplify reporting structures and ensure coordinated relief efforts. Integration of the emergency department and, in some cases (particularly an internal disaster), the entire hospital into the overall ICS may offer many of the same benefits. Scientific data are also lacking regarding many of the EMS system's other functions, including triage and major trauma management, and there is a distinct need for a more academic approach to EMS operations.

Contact information: david.cone@yale.edu

TRACK #7: Clinical Disaster Medicine
Tuesday, September 13, 2005

1:20-1:50 p.m.

Cyanide Poisoning and Structural Fires

Frédéric J. Baud, MD

Director, Toxicological and Medical Intensive Care Unit,
Lariboisière Hospital (Paris, France)

A study of the thermal degradation of various materials showed a positive correlation between their nitrogen content and the amount of released cyanide. Further experimental studies showed that significant cyanide

concentrations in smoke altered neurological status, and reduced time to incapacitation and time to death. Simultaneously, blood cyanide concentrations were within the toxic and even lethal ranges.

Whether cyanide acts additionally or synergistically with other gases remains debatable. Nonetheless, models are able to predict the toxicity of materials using several parameters including the atmospheric concentration of cyanide. In contrast, the acute human toxicity of cyanide in smoke remains a matter of debate. The severity of cyanide poisoning is mainly assessed in fire fatalities using the measurements of blood cyanide concentrations. Numerous biases, including delays in blood sampling and analysis and storage of blood specimens, may significantly alter the actual blood cyanide level.

Finally, conclusions were made comparing blood cyanide concentrations to cut-offs used in forensic medicine defining potentially toxic (> 1 mg/l) and potentially lethal (> 2.7 mg/l) blood cyanide concentrations. However, these cut-offs were determined in pure cyanide poisonings and extended to fire victims without any evidence of the accuracy of this extrapolation. Indeed, smoke inhalation always induces a poly-intoxication including carbon monoxide and oxygen deprivation in addition to cyanide poisoning.

Data collected in nonfatal fire victims are quite limited. Improving our knowledge is difficult as cyanide and carbon monoxide are consistently reported to cause similar signs and symptoms, the "asphyxiant toxidrome". More especially, the understanding of the medical literature is difficult as a number of signs assumed to be related to carbon monoxide poisoning have been reported in fire victims. However, a careful examination of the effects of pure carbon monoxide evidences significant differences in comparison with pure cyanide poisonings. Indeed, cyanide rapidly and frequently causes bradypnea and even apnea, cardiovascular shock, and severe lactic acidosis that are rarely and even not at all observed at the time of presentation in pure carbon monoxide poisoning. Only a prospective study collecting selected clinical data at the scene of the fire while a blood

sample is drawn for the measurement of blood cyanide and carboxyhemoglobin as well as lactate levels can definitively address this major concern of the toxicity of structural fires.

Contact information: Frederic.baud@irb.ap-hop-paris.fr

1:55-2:25 p.m.

Medical Care of Children in Disasters

Arthur Cooper, MD, MS, FACS, FAAP, FCCM
Professor of Surgery, Columbia University
College of Physicians & Surgeons
Director, Pediatric Surgical Services,
Harlem Hospital Center
Director, Regional Trauma Center,
Harlem Hospital Center

This presentation reviews the medical care of children in disasters, with a focus on blast terror, the most likely terrorist threat to our nation. The presentation opens with a review of the relevant scientific literature on children in disasters, emphasizing recent experience from Israel. The fundamentals of blast physics and blast injury are then discussed, after which planning and mitigation of blast injuries in children are described, based upon the known mechanisms and patterns of blast injury in children. The presentation next covers the medical care of pediatric victims of blast terror, both early and late, before examining the strengths and weaknesses of triage strategies for children with blast terror, as well as a simplified approach to pediatric triage recently developed for use in New York City. The presentation then explores the necessary preparations for hospital care of blast injuries in pediatric patients, with an emphasis on both trauma center and trauma system readiness. The presentation concludes with brief overviews of current management of nerve agent poisoning in children, including a treatment paradigm recently adopted for use in New York City, as well as current management of nuclear and biological terrorism in children.

Contact information: ac38@columbia.edu

2:45-3:15 p.m.

Crush Injury and Crush Syndrome

James Holliman, MD
Professor of Surgery and Emergency Medicine
Director of the Center for Emergency Medicine
Pennsylvania State University School of Medicine
and Hershey Medical Center

Crush syndrome is the clinical condition caused by compression of muscle with subsequent rhabdomyolysis which can then cause the complications of electrolyte disturbances, particularly hyperkalemia, fluid sequestration leading to hypovolemia, and myoglobinuria leading to renal failure. Much of the deleterious pathophysiologic effects of crush syndrome are related to reperfusion injury. There are numerous causes of crush syndrome and much of the literature on it reports cases from entrapment in collapsed buildings from earthquakes.

Analyses of cases related to earthquakes have shown that about 1% of hospitalized patients develop renal failure due to crush syndrome and half of these patients end up requiring dialysis. Patients with crush syndrome also frequently have other associated injuries, particularly fractures and lacerations. The main treatment for crush syndrome is early intravenous fluid resuscitation, ideally started even before the victim may be fully extricated from entrapment in rubble. Secondary aspects of treatment involve use of oxygen and intravenous sodium bicarbonate and mannitol.

Crush injuries should be suspected in any patient who either has had trapped parts of the body compressed or has been in an immobile position against a hard surface. Crush syndrome can develop with compression times of as little as one hour. Controversies in the management of crush syndrome include the volume of intravenous fluid that should be infused, whether routine fasciotomy should be performed on injured limbs after delayed extrication, and whether intravenous calcium should be given as part of initial treatment.

Mortality directly related to crush syndrome has a wide reported variation in different studies ranging from less than 10% to over 60%. One important aspect of disaster planning in relation to crush syndrome patients from earthquakes is to increase regional hemodialysis capacity, as up to several hundred patients after a single earthquake may require temporary hemodialysis.

Contact information: jholliman@psu.edu

3:20-3:50 p.m.

Terrorism and Disasters: Treating Acute Stress and Preventing Psychological Dysfunction

Steven Berkowitz, MD

Yale University, Child Study Center, Assistant Professor

Contact information: steven.berkowitz@yale.edu

TRACK #8: Oral Abstracts
Tuesday, September 13, 2005

1:20-3:55 p.m.

For a listing of abstracts to be presented in this session, see the Oral Abstracts Schedule.

Oral abstract texts can be found in the Prehospital and Disaster Medicine journal included in the congress registration materials.



Participating faculty

Richard V. Aghababian, MD, FACEP

Professor and Chairman, Department of
Emergency Medicine
Associate Dean, Continuing Medical Education
University of Massachusetts Medical School

Dr. Aghababian has been involved in disaster medicine since 1978. During the early 1980's he worked with the Federal Emergency Management Agency and the American College of Emergency Physicians in developing a disaster medicine curriculum for emergency care providers. Dr. Aghababian has written papers on infectious disease problems occurring during disasters, disasters that occur within hospitals and the use of EMS helicopters for disaster response. He has been involved in disaster training in several countries for emergency personnel, including training for response to disasters involving exposure to ionizing radiation. He has also written a course that addressed the needs of children during disasters.

Contact information: aghababr@umhmc.org

Robert J. Alpern, MD

Dean, Yale University School of Medicine

Dr. Robert Alpern was appointed Dean of the Yale University School of Medicine in June 2004, after serving as Chief of Nephrology and then Dean at Southwestern Medical School in Dallas. His career has combined interests in research, clinical practice and teaching. Dr. Alpern has made major contributions to the field of kidney transport protein regulation, advancing understanding of how the kidney maintains the life-sustaining balance of acids and bases in the bloodstream. He has been the recipient of ten teaching prizes, has served as President of the American Society of Nephrology and currently serves as a member of the Advisory Council of the National Institute of Diabetes and Digestive and Kidney Diseases.

Jeffrey Arnold, MD, FACEP

Assistant Professor of Emergency Medicine, Yale
University School of Medicine
Medical Director, Yale New Haven Center for
Emergency Preparedness and Disaster Response,
Yale New Haven Health System

Dr. Jeffrey Arnold is the Medical Director of the Yale New Haven Health System's Center for Emergency Preparedness and Disaster Response. He is also an assistant professor of emergency medicine at the Yale University School of Medicine. Board-certified in Emergency Medicine, Dr. Arnold has 15 years of experience in emergency medicine and has lectured and published widely on the topics of emergency and disaster management. He is on the Board of Directors of the World Association for Disaster and Emergency Medicine, is Chairman of the Task Force on Terrorism of the World Association for Disaster and Emergency Medicine and is on the faculty of the European Master in Disaster Medicine program. Dr. Arnold's research interests include the use of meta-analysis techniques to identify the epidemiology of terrorism-related events to better prepare healthcare systems. Dr. Arnold has served as a consultant on disaster and emergency medicine projects for government and healthcare organizations around the world. He has authored more than 50 papers or chapters on disaster and emergency medicine and has lectured on disaster medicine topics in 18 countries.

Contact information: jeffrey.arnold@ynhh.org

Glenn Asaeda, MD

Deputy Medical Director, Fire Department of
New York – Office of Medical Affairs

Dr. Asaeda is Division Medical Director with the Fire Department of the City of New York as well as an auxiliary police officer with the New York City Police Department. He was one of the two EMS Medical Directors on scene during the 2001 World Trade Center attack and collapse of the buildings, providing on scene medical command during the events of that tragic September day.

Contact information: asaedag@fdny.nyc.gov

Yasufumi Asai, MD, PhD

Department of Traumatology and Critical Care
Medicine, Sapporo Medical University, Sapporo, Japan

Dr. Asai graduated from Sapporo Medical University School of Medicine in 1972. In June 1986 he attended UCLA Division of Cardiovascular Surgery, where he studied heart-lung transplantation. Since September

1999 he has served as Professor and Chairman of the Department of Traumatology and Critical Care Medicine at Sapporo Medical University in Sapporo, Japan. Dr. Asai has been a visiting Professor at the University of Alberta, Canada (1991) and the University of Massachusetts Medical School (2001).

Contact information: asai@sapmed.ac.jp

James Augustine, MD

Department of Emergency Medicine,
Emory University School of Medicine

Dr. Augustine is an emergency physician from Atlanta, Georgia. He serves on the Clinical Faculty in the Department of Emergency Medicine at Emory University. Dr. Augustine serves as Chair of ASTM Task Group E54.02.01, which develops Standards for Hospital Preparedness under Committee E54 on Homeland Security Applications. He is the Medical Director for the Atlanta Fire Department, which includes operations at Atlanta Hartsfield Jackson International Airport, and is Chair of the Atlanta Metropolitan Medical Response System. He has served 23 years as a firefighter and EMT-A. He has published numerous articles on emergency services and major incident preparedness and has participated in national and state leadership activities on emergency and trauma systems.

Contact information: Jaugust@emory.edu

Frédéric J. Baud, MD

Director, Toxicological and Medical Intensive Care Unit, Lariboisière Hospital (Paris, France)

Dr. Frédéric Baud is the director of the medical and toxicological critical care department at Lariboisière Hospital (Paris, France). He is also a professor of critical care medicine at University Paris 7. He has published more than 200 works in peer-reviewed journals including four in the New England Journal of Medicine and three in the Lancet. Dr. Baud is an expert consultant at the National Institutes of Health (NIH) counterterrorism program. Additionally, he serves as a consultant for EMD Pharmaceuticals in the United States in the development of hydroxocobalamin as an antidote to cyanide.

Contact information: Frederic.baud@irb.ap-hop-paris.fr

Marvin L. Birnbaum, MD, PhD

Professor of Medicine and Physiology,
University of Wisconsin
President, World Association for Disaster and
Emergency Medicine
Editor-in-Chief, Journal of Prehospital and
Disaster Medicine

Marvin L. Birnbaum, MD, PhD, holds the current positions of Emeritus Professor of Medicine and Physiology with the University of Wisconsin - Madison, Director of the Emergency Medical Services Program with the University of Wisconsin Hospital and Clinics, Medical Director of the City of Madison Fire Department Emergency Medical Services System and the Paramedic Training Program and Medical Director of Emergency Medical Services for the Division of Intercollegiate Athletics, University of Wisconsin.

Dr. Birnbaum is the President of the World Association for Disaster and Emergency Medicine and is presently transitioning the position of Editor-in Chief of "Prehospital and Disaster Medicine", the official journal of the World Association for Disaster and Emergency Medicine, to another person. Dr. Birnbaum is also a member of the Executive Committee for the World Association for Disaster and Emergency Medicine. He is co-author of the Health Disaster Management Guidelines for Evaluation and Research in the Utstein Style.

Contact information: mlb@medicine.wisc.edu

Marna P. Borgstrom

President and Chief Executive Officer - Elect
Yale New Haven Health System

Marna Borgstrom has recently been named President and Chief Executive Officer of Yale-New Haven Hospital and Yale New Haven Health System. She will assume her new responsibilities on October 1, 2005, after serving as Executive Vice President and Chief Operating Officer since 1993. The Yale New Haven Health System is a regional, integrated healthcare system composed of three local healthcare delivery networks anchored by Yale-New Haven Hospital, Yale-New Haven Children's Hospital and Yale-New Haven Psychiatric Hospital in New Haven,

Connecticut. The System also includes a Bridgeport network led by Bridgeport Hospital and a Greenwich network led by Greenwich Hospital.

Ms. Borgstrom began her career at Yale-New Haven Hospital in 1979 as an administrative resident and has held various staff and operating positions of increasing responsibility since then. Selected highlights of her accomplishments at Yale-New Haven include planning and overseeing the construction and occupancy of Children's Hospital and the 1993 acquisition of two, independent ambulatory surgery facilities and one radiology facility. As Chief Operating Officer, Ms. Borgstrom has been responsible for strategy and operations at Yale-New Haven Hospital (\$860 million annual revenue) and its related entities in the New Haven Delivery network.

Ms. Borgstrom currently serves on the Board of Directors of the University HealthSystem Consortium (Oak Brook, Illinois) as well as the Boards of Yale-New Haven Hospital and the Yale Medical Group Board of Governors. She is the current President of the Board of Yale New Haven Ambulatory Services Corporation and Chair of The Country School (Madison, CT) Board. She has also served on the Boards and Executive Committees of the Greater New Haven Chamber of Commerce, the Connecticut Hospital Association, and the United Way of Greater New Haven.

David A. Bradt, MD, MPH, FACEM, FAFPHM, FAAEM, DTM&H

Department of Emergency Medicine,
Royal Melbourne Hospital
Johns Hopkins Bloomberg School of Public Health

Dr. David A. Bradt is a disaster epidemiologist triple board-certified in emergency medicine and public health. His professional interest is health services delivery in natural and complex disasters leading to field disaster experience in 21 countries and territories. Among his recent assignments, he served as World Health Organization (WHO) technical consultant in West Timor, Indonesia during the Timor crisis, WHO health coordinator in Bhuj, India after the Gujarat earthquake, American Red Cross medical consultant in New York City after World Trade Center terrorism, U.S.AID Office of U.S. Foreign Disaster Assistance senior field officer in Darfur, Sudan during the Darfur genocide and WHO medical coordinator in Aceh Jaya, Indonesia after the tsunami. Dr. Bradt

holds faculty appointments in the United States at the Johns Hopkins Medical Institutions and in Australia at the Royal Melbourne Hospital.

Contact information: dbradt@jhsph.edu

CAPT Robyn G. Brown, MBA, BSN

U.S. Public Health Service
Centers for Disease Control and Prevention

CAPT Brown joined the U.S. Public Health Service Commissioned Corps in 1990 after serving 8 years in the U.S. Air Force Nurse Corps. Since October 2002, she has served as a Senior Program Management Officer Consultant and Interim Leadership Team member in the Centers for Disease Control and Prevention (CDC), Coordinating Office of Terrorism Preparedness and Emergency Response, Division of State and Local Readiness. She has a long-standing commitment to public health preparedness and response because her primary responsibilities at CDC include project and budget management of an approximately \$2 billion Public Health Emergency Preparedness Cooperative Agreement that comprises planning, epidemiology, laboratory, communication and education components. CAPT Brown's interests span organizational continuity, nursing informatics and health disparities. She is the recipient of numerous honors and awards including the Public Health Service Outstanding Unit Citation for 8-Cities Enhanced Terrorism Surveillance, Smallpox Vaccination Program and CDC Futures Initiative. CAPT Brown is a graduate of the College of New Rochelle (BSN) and Barry University (MBA). Prior to her assignment with CDC, CAPT Brown was assigned to the Food and Drug Administration's Center for Food Safety and Applied Nutrition.

Contact information: rdd8@cdc.gov

Christopher M. Cannon, MSN, MPH, MBA, FACHE

Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

Christopher M. Cannon is System Director for the Yale New Haven Health System (YNHHS) Office of Emergency Preparedness (OEP), which coordinates the emergency preparedness efforts of the health system's five hospitals. He directs the Yale New Haven Center for Emergency Preparedness and Disaster Response, providing statewide, regional and national emergency preparedness leadership to acute care hospitals, skilled nursing facilities, community health centers, home health agencies, urgent care

centers, emergency medical services and community medical practices. He also directs the Connecticut Center for Public Health Preparedness (CPHP) at YNHHS, the only hospital system in the United States with a CPHP designation from the Centers for Disease Control and Prevention. The OEP is also a State of Connecticut designated Center of Excellence for Bioterrorism Preparedness and Response. Mr. Cannon was previously the Vice President for Ambulatory Services at Bridgeport Hospital and Director of Health for the City of Bridgeport (CT). He has 27 years of experience in hospital administration, healthcare management and ambulatory care and is a Fellow of the American College of Healthcare Executives.

Contact information: christopher.cannon@ynhh.org

Joseph Cappiello, BSN, MA

Vice President for Accreditation Field Operations
Joint Commission on Accreditation of Healthcare Organizations

Joe Cappiello is the Vice President for Accreditation Field Operations at the Joint Commission on Accreditation of Healthcare Organizations. Based on his many years of experience in disaster management and planning, Mr. Cappiello has been a Joint Commission leader in the national dialog and debate on emergency preparedness and response. His background as an EMT, critical care nurse and hospital administrator provide him with a keen insight into the challenges that our communities face in this uncertain world.

Contact information: jcappiello@jcaho.org

Lou Coccodrilli, MPH

Branch Chief, Area Health Education Centers (AHEC)
Division of State, Community and Public Health
Bureau of Health Professions, Health Resources and Services Administration

Louis D. Coccodrilli, MPH, serves as AHEC Branch Chief in the Division of State, Community and Public Health, Bureau of Health Professions, Health Resources and Services Administration. Mr. Coccodrilli has worked closely with Division, Bureau and Agency leadership to develop and implement the Bioterrorism Training and Curriculum Development Program (BTCDDP), which was initiated in September 2003. He participates in the management of current BTCDDP awardees: 19 health professions schools focused on Continuing Education of local health providers and 13 schools focused on

Curriculum Development to enhance existing curricula or develop new curricula on preparedness for bioterrorism and other terrorist events (all hazards) and public health emergencies. He has worked jointly with others to encourage collaborative training relationships among preparedness programs at Federal, State and local levels.

Contact information: LCoccodrilli@hrsa.gov

David C. Cone, MD

Section of Emergency Medicine,
Yale University School of Medicine

Dr. Cone is an associate professor in both emergency medicine and public health at the Yale University School of Medicine and directs the public health school's course on disaster management. He has been an active field provider since 1984 and is currently a deputy fire chief as well as chief of the regional physician response team. He has served as Medical Team Manager to two different urban search and rescue task forces, and his international work includes serving as a field instructor for the Norwegian Civil Defense Academy. He is currently the President-Elect of the National Association of EMS Physicians, the Deputy Editor of Prehospital Emergency Care and the Senior Associate Editor of Academic Emergency Medicine.

Contact information: david.cone@yale.edu

Arthur Cooper, MD, MS, FACS, FAAP, FCCM

Professor of Surgery, Columbia University College of Physicians & Surgeons
Director, Pediatric Surgical Services,
Harlem Hospital Center
Director, Regional Trauma Center, Harlem Hospital Center

Dr. Cooper was educated at Harvard College and the University of Pennsylvania, School of Medicine. He was trained in general surgery at the Hospital of the University of Pennsylvania and in pediatric surgery and surgical critical care at the Children's Hospital of Philadelphia and is certified by the American Board of Surgery in all three specialties. Dr. Cooper is currently Professor of Surgery at the Columbia University College of Physicians & Surgeons and Director of Pediatric Surgical Services and Director of the Regional Trauma Center at the Harlem Hospital Center.

Contact information: ac38@columbia.edu

Sandra Santa Cosgrove

Office for Domestic Preparedness,
U.S. Department of Homeland Security

Ms. Cosgrove served as the Connecticut Venue Director during the TOPOFF exercise process in April 2005. Prior to TOPOFF, she served as an Exercise Manager for the Office for Domestic Preparedness and managed exercise programs for eight states. Currently, Ms. Cosgrove is working with the Interagency Group in Washington, DC to prepare for TOPOFF 4. She graduated from Regis College with a major in Biochemistry and a minor in Sociology and went on to obtain a Master's in Public Health from George Washington University with a concentration in Epidemiology.

Contact information: sandra.santa@dhs.gov

Herman H. Delooz, MD, PhD, FCCM, FFAEM

Professor of Emergency and Disaster Medicine, Free University of Brussels
Executive Committee Member, European Master in Disaster Medicine
Quality Manager, Leonardo da Vinci "I SEE" Project

Dr. Delooz is an Executive Committee Member for the European Master in Disaster Medicine as well as Quality Manager for the Leonardo da Vinci "I SEE" Project. He is Emeritus Professor of Anesthesiology, Critical Care and Emergency Medicine at the Catholic University of Leuven. Dr. Delooz is Immediate Past President of the European Society for Emergency Medicine and Founding Editor of the European Journal of Emergency Medicine.

Contact information: herman.delooz@az.vub.ac.be

Louise M. Dembry, MD, MS

Associate Professor of Medicine and Epidemiology and Lecturer, Department of Pharmacology, Yale University School of Medicine
Hospital Epidemiologist and Director, Hospital Epidemiology Laboratory, Yale-New Haven Hospital

Dr. Dembry is an Associate Professor of Medicine/ Infectious Diseases and Epidemiology at the Yale University School of Medicine. She is the Hospital Epidemiologist at Yale-New Haven Hospital and has participated in various activities related to planning for public health emergencies in Connecticut. She has worked with the 17 hospitals in the southern tier of the state and the Connecticut Department of Public Health on several initiatives including surge

capacity, emergency credentialing, mass vaccination and quarantine. In June of 2003, she spent two weeks working at a SARS hospital in Toronto focusing on efforts to prevent continued transmission of SARS in the healthcare setting.

Contact information: louise-marie.dembry@ynhh.org

Philip E. Fidler, MD

Medical Director, Andrew J. Panettieri Burn Center
Bridgeport Hospital, Yale New Haven Health System

Dr. Fidler is a graduate of the University of Kansas School of Medicine and completed a General Surgery Residency at SUNY-Downstate in Brooklyn, N.Y. He completed a Trauma/Critical Care Fellowship at Yale University School of Medicine and a Burn Surgery Fellowship at Harvard University Medical School. Dr. Fidler is board certified in surgery and surgical critical care. He is on the surgery faculty at the Yale University School of Medicine and is medical director of Connecticut's Burn Center at Bridgeport Hospital, where he also provides trauma and critical care services. Dr. Fidler is on the Governmental Affairs Committee for the American Burn Association and is on the national faculty for Advanced Burn Life Support.

Contact information: ppfidl@bpthosp.org

J. Robert Galvin, MD, MPH

Commissioner, Connecticut Department of Public Health

Dr. Galvin was appointed commissioner of the Connecticut Department of Public Health on Dec. 1, 2003. Dr. Galvin has broad experience in the field of medicine and public health. He has been a physician since 1965 and over the course of his career, has practiced primary care, emergency and aviation medicine.

As commissioner, Dr. Galvin's priorities include public health preparedness, children's health and eliminating health disparities. Dr. Galvin is also committed to ensuring quality health care for all Connecticut residents.

Joxel García, MD, MBA

Deputy Director, Pan American Health Organization/
World Health Organization (PAHO/WHO)

Dr. García was appointed deputy director of the Pan American Health Organization (PAHO) on 1 August 2003. A clinician with expertise in health

policy, administration and business, Dr. García holds a medical degree from the Ponce School of Medicine in Ponce, Puerto Rico, and a Masters of Business Administration from the University of Hartford, Connecticut.

As deputy director of the Organization, Dr. García has primary responsibility for several important areas of the Organization's work, including the Emergency Preparedness and Disaster Relief program, which also covers preparedness for biological, chemical or radiological terrorism.

Dr. García serves on numerous boards, including the National Advisory Committee on Violence Against Women, National Dialogue on Cancer and the U.S. Preventive Services Task Force. He is a recognized national leader on bioterrorism and surveillance, health disparities, Latino and public health issues.

Contact information: deputydirector@paho.org

Robert Gougelet, MD

Assistant Professor of Medicine (Emergency Medicine), Dartmouth Medical School

Dr. Gougelet is an Assistant Professor of Emergency Medicine at the Dartmouth Medical School as well as an attending physician in the Emergency Department at the Dartmouth Hitchcock Medical Center. In addition to his clinical responsibilities, Dr. Gougelet is the Program Director for the Northern New England Metropolitan Medical Response System (Maine, New Hampshire and Vermont). Dr. Gougelet participated in the development and continued operation of one of the nation's first Disaster Medical Assistance Teams (DMAT) NM-1 and continues to work closely and respond with the Boston area disaster response teams. Dr. Gougelet's interests continue to be mass casualty preparedness in civilian populations.

Contact information: Robert.m.gougelet@dartmouth.edu

Gregg Greenough, MD, MPH

Assistant Professor, Emergency Medicine
Deputy Director, Center for Refugee and Disaster Response
Johns Hopkins Bloomberg School of Public Health

Dr. Gregg Greenough has had extensive experience in emergency medicine and international public health. After receiving his medical degree from Case Western Reserve University, he served as a general medical officer in the United States Air Force. After

leaving the military, he completed his residency and fellowship in emergency medicine at UCLA followed by an MPH at Johns Hopkins University in 1998. He currently holds joint appointments in the Schools of Medicine and Public Health at Johns Hopkins and serves as Deputy Director of the Center for Refugee and Disaster Response.

In addition to teaching in the clinical setting, he has worked in several humanitarian relief operations in Bosnia and Albania, conducted emergency services and disaster preparedness assessments in Tanzania and Guatemala, designed and led population-based food security and nutrition studies and managed an emergency health systems development project in the Palestinian Territories. He is currently working with the State Department on health indicators in protracted refugee camp populations. He will be joining the Humanitarian Crises and Human Rights Program at the François-Xavier Bagnoud Center for Health and Human Rights at the Harvard University School of Public Health this fall.

Contact information: ggreenou@jhsph.edu

Pinchas Halpern, MD, CDR

Israeli Navy Reserve
Chair, Department of Emergency Medicine,
Tel Aviv Sourasky Medical Center

Pinchas ("Pinny") Halpern, MD, is Senior Lecturer in Anesthesia, Critical Care and Emergency Medicine, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel and Chair, Department of Emergency Medicine, Tel Aviv Sourasky Medical Center, Tel Aviv.

Dr. Halpern trained in Hyperbaric Medicine at the Israeli Naval Medical Institute and served as its Vice Chair until 1984; he retired from the Israeli Navy with the rank of Commander and is still active in the Navy Reserves Diving and Hyperbaric Medicine system. He then trained in Anesthesiology in Tel Aviv and in Critical Care Medicine at Ohio State University in Columbus, Ohio. Dr. Halpern is a member of the Israeli Association for Emergency Medicine National Committee, serves on many national medical boards, as well as on the Magen David Adom National EMS System Board of Directors; he is Chief Medical Advisor, National Board of Sports Diving; and Chair, National Taskforce on Development of Informatics Policy in Disaster and Mass Casualty. He is also Chairman of

Continuing Medical Education in Emergency Medicine, Tel Aviv University and on the staff of the European Master of Disaster Medicine.

Contact information: dr_halperin@tasmc.health.gov.il

Charles P. Henderson

Executive Director, Association for Religion and Intellectual Life
Editor, CrossCurrents

Charles Henderson is the Executive Director of the Association for Religion and Intellectual Life and the editor of CrossCurrents, a quarterly, inter-religious academic journal. Mr. Henderson graduated from Princeton University with a BA in English literature and earned a Masters of Divinity degree at Union Theological Seminary in New York. He is the author of several books, including “God and Science”, and his articles have appeared in the New York Times, the Nation and other publications. As an ordained Presbyterian minister, he has led congregations in Connecticut, New Jersey and New York. He edits a weekly newsletter on Christianity for About.com.

James G. Hodge, Jr., JD, LLM

Associate Professor, Johns Hopkins Bloomberg School of Public Health
Executive Director, Center for Law and the Public's Health
Core Faculty, Berman Bioethics Institute

James G. Hodge, Jr., JD, LLM, is an Associate Professor at the Johns Hopkins Bloomberg School of Public Health, an Adjunct Professor of Law at Georgetown University Law Center and a Core Faculty member of the Berman Bioethics Institute at Johns Hopkins University. Professor Hodge has collaborated with others to draft several public health law reform initiatives, including the Model State Public Health Information Privacy Act (MSPHPA), the Turning Point Model State Public Health Act and the Model State Emergency Health Powers Act (MSEHPA). His diverse additional grant projects include work on: (1) legal issues concerning Health Resources and Services Administration's (HRSA) development of an emergency system for the advance registration of volunteer health professionals; (2) historical and legal bases underlying school vaccination programs and (3) public health law case studies in many states.

Contact information: jhodge@jhsphe.edu

Colonel Tim Hodgetts

OHP, OSTJ, MBBS, MMed, FRCP, FRCSEd, FFAEM, FIMCRCSEd, FRGS, L/RAMC
Defence Consultant Advisor, Emergency Medicine to SG
Consultant Advisor (Army), Emergency Medicine to DGAMS

Assistant Director Clinical Services, RCDM
Honorary Professor Emergency Medicine and Trauma, University of Birmingham
Consultant Emergency Medicine, Selly Oak Hospital

Colonel Hodgetts was educated at Woodhouse Grove School, Bradford, and Westminster Medical School, from which he qualified with distinction. He joined the Royal Army Medical Corps as a cadet in 1983. Colonel Hodgetts has served in peace in military hospitals in Hanover, Woolwich and Aldershot; he has served on operations in hospitals in Northern Ireland, Kosovo, Oman, Afghanistan, Kuwait and Iraq. Within the DMS he has been responsible for nurturing the specialty of emergency medicine from infancy to maturity.

Colonel Hodgetts is the author of over 60 original papers and 16 books and has been the clinical leader for medical research projects generating over £12 million of funding. He was named in a British Medical Association dossier in 2004 as one of the most innovative doctors in the country. Colonel Hodgetts' passion is medical education and following personal experience has established the international standard for disaster medical preparedness in 17 countries (“Major Incident Medical Management and Support”). Since 2002 he has developed and propagated the “National Disaster Preparedness Course for Hospitals” across India, supported by the British Council and the British High Commission.

Colonel Hodgetts was named a Queen's Honorary Physician in 2004 and Officer of the Order of St. John of Jerusalem in 1999. He has been awarded 12 academic medals and has been made a Fellow of the Royal College of Surgeons of Edinburgh without examination.

Contact information: timothy.hodgetts@uhb.nhs.uk

James Holliman, MD

Professor of Surgery and Emergency Medicine
Director of the Center for Emergency Medicine
Pennsylvania State University School of Medicine and
Hershey Medical Center

Dr. Holliman is Professor of Emergency Medicine and Director of the Center for International Emergency Medicine and Director of the International Emergency Medicine Fellowship Program at Pennsylvania State University in Hershey, Pennsylvania. He also serves as the Associate Program Director for the Pennsylvania State University Emergency Medicine Residency Program. His major career interest is in developing the specialty of Emergency Medicine in other countries and in facilitating international collaboration in Emergency Medicine.

Contact information: jholliman@psu.edu

Delon Human, MBChB, MPraxMed, MFGP, DCH, MBA

Former Director General, World Medical Association
President, Health Diplomats

Dr. Human is a practicing physician and the former Secretary General and Chief Executive Officer of the World Medical Association (WMA) and president of Health Diplomats in Geneva, Switzerland. During his time as CEO of the WMA, Dr. Human spearheaded the development of new units for ethics and human rights. Dr. Human completed his medical studies in South Africa and continued his postgraduate studies in family medicine and child health in South Africa and Oxford, England. He also has a business degree from the Edinburgh Business School. Dr. Human has served on the Health Policy Committee of the South African Medical Association (SAMA) and as President of the Gauteng Branch of SAMA.

Lenworth M. Jacobs, MD, MPH, FACS

Professor of Surgery
Professor and Chairman,
Department of Traumatology and Emergency
Medicine,
University of Connecticut School of Medicine
Chairman, EMS/Trauma Program/LIFE STAR/
Rehabilitation, Hartford Hospital

Dr. Jacobs received his medical degree from the University of the West Indies and completed his residency at Boston University Medical Center. He received his Masters in Public Health at Harvard University School of Public Health. He is Professor

of Surgery at the University of Connecticut and Chairman of the Department of Traumatology and Emergency Medicine at the University. He is the Director of the Trauma Program at Hartford Hospital. He is on the Board of Trustees of the University of Connecticut. He is the founder of the Advanced Trauma Operative Management Course. He has numerous publications in peer reviewed journals and has presented papers internationally, nationally and regionally.

Contact information: ljacobs@harthosp.org

James J. James, MD, DrPH, MHA

Director, Center for Public Health Preparedness and
Emergency Response
American Medical Association

Dr. James is the Director for the Center for Public Health Preparedness and Disaster Response. The center is a new undertaking for the American Medical Association (AMA) and underscores that organization's commitment to supporting practicing physicians in their expanded roles and obligations under Homeland Security. Dr. James brings over 30 years of experience in the public and private health care sector—as a clinician, researcher, professional personnel manager and program director—to this challenging and critical undertaking.

Dr. James, who 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 has recently worked as an independent consultant, providing services in evaluating the strategic plans and resulting high-level physician needs for not-for-profit and public health care systems. He has also overseen the building and management of the FHC Options team responsible for winning several multi-billion dollar U.S. government managed care contracts. Prior to his experiences in the commercial sector, Dr. James served 26 years with the U.S. Army Medical Department, serving in a multitude of capacities. His last assignment was as the Commanding General of William Beaumont Army Medical Center in El Paso, Texas. Upon retirement he was awarded the Distinguished Service Medal, the military's highest peace-time honor.

Contact information: james_james@ama-assn.org

Allen S. Keller, MD

Director, Bellvue/NYU Program for Survivors of Torture
Assistant Professor of Medicine, New York University School of Medicine

Dr. Keller is an Assistant Professor of Medicine at New York University School of Medicine and Director of the Bellvue/NYU Program for Survivors of Torture. As a witness, practicing internist and medical educator in New York City on 9/11 and beyond, Dr. Keller accumulated valuable insights into the impact of this historic event on the city's populace, on its caregivers and on medical faculty, residents and students at NYU in the aftermath. His work with survivors of torture provides important knowledge regarding the processing of trauma and fear in varied peoples and cultures.

Mike Magee, MD

Director, Pfizer Medical Humanities Initiative
Host, Healthpolitics.com

Dr. Magee is the director of the Pfizer Institute for Advanced Medical Communications and a Senior Fellow in the Humanities to the World Medical Association. He is a former David Rockefeller Fellow, professor of surgery at Jefferson Medical College and is a Master Scholar at New York University School of Medicine. Dr. Magee's work on creating healthy and productive cross-sector partnerships between government, industry, academia and non-governmental organizations is well known. He discusses many of these themes as the host of the Video Blog webcast "Health Politics with Dr. Mike Magee." He is the author of *Health Politics: Power, Populism and Health* and several other books.

Contact information: Michael.magee@pfizer.com

Eric K. Noji, MD, MPH

Senior Policy Advisor, Congressional, White House and Executive Branch Affairs (Health & National Security)
Centers for Disease Control and Prevention, Washington Office

Dr. Noji is a physician serving as Senior Policy Advisor to the Director of the Centers for Disease Control and Prevention (CDC) in Washington, DC. He is responsible for working with Congress, the White House and other Executive Branch agencies on issues related to public health emergency preparedness and response. During his 18-year

career at the CDC, he has had extensive domestic and international experience in responding to natural and technological disasters, terrorism and other humanitarian crises and is the author or co-author of over 200 scientific articles and publications on disaster medicine and disaster epidemiology including the most widely used textbook, *The Public Health Consequences of Disasters* (Oxford University Press). Dr. Noji is currently President of the Society of Alumni of the Johns Hopkins School of Public Health and the recipient of this year's Woodrow Wilson Award for Distinguished Government Service. This award is intended to honor individuals for their current or recently concluded distinguished service to the public as elected or appointed officials.

Contact information: exn1@cdc.gov

James Paturas, EMTP, CHS III, SEM

System Manager, Yale New Haven Center for Emergency Preparedness and Disaster Response, Yale New Haven Health System

Jim Paturas is the System Manager for the Yale New Haven Center for Emergency Preparedness and Disaster Response (YNH-CEPDR). He has 30 years of experience in hospitals and emergency health care. From 1981 until being assigned his new role with Yale New Haven Health System, Mr. Paturas was the Director of Ambulatory Development and Emergency Medical Services for Bridgeport Hospital and served as the hospital emergency management coordinator. Prior to that he was the Director, Prehospital Care Services for St. Lukes-Roosevelt Hospital Center in New York City. He is the Past President of the American College of Contingency Planners and a Past President of the National Association of Emergency Medical Technicians. He has served on the National Fire Protection Administration Disaster Committee and is a member of the International Association of Emergency Managers.

Contact information: james.paturas@ynhh.org

Jean-Luc Poncelet, MD

Area Manager, Emergency Preparedness and Disaster Relief, Pan American Health Organization/World Health Organization

Dr. Poncelet was appointed Area Manager of Emergency Preparedness and Disaster Relief for the Pan American Health Organization (PAHO) in May

2002. Prior to assuming his current position, Dr. Poncelet was assigned to the PAHO Headquarters in Washington, DC as the Regional Advisor on Emergency Preparedness. He has also served as the PAHO's Associate Expert in Disaster Relief in Costa Rica, the Emergency Preparedness Advisor for the Caribbean in Antigua, as well as in the Caribbean Program Coordination (CPC) in Barbados and Ecuador. Since beginning his professional career in 1984, Dr. Poncelet has conducted several research studies for the Institute of Tropical Medicine of Antwerpen, the Institute of Hygiene and Epidemiology of the Ministry of Public Health of Belgium and the University of Louvain. A national of Belgium, Dr. Poncelet received his MD from Louvain University in Belgium (1983), a Diploma in Tropical Medicine from the Institute of Tropical Medicine of Antwerpen (1984) and his MPH degree from the Université Libre de Bruxelles (1985).

Contact information: poncelej@paho.org

Asghar Rastegar, MD

Professor of Medicine (Nephrology), Associate Chairman for Academic Affairs,
Yale University School of Medicine

Dr. Rastegar, a native of Iran, received BA and MD degrees from the University of Wisconsin (Madison). He did his postgraduate training in internal medicine and nephrology at the Hospital of the University of Pennsylvania in Philadelphia, where he also served as clinical instructor and Chief Medical Resident. He returned to Iran in 1973 as associate professor in the Department of Medicine at Pahlavi (Shiraz), where he also served as an Associate Dean for Academic Affairs (1975-1976). After the Iranian Revolution, he was elected as the Chair of the Medical School Executive Council responsible for overall management of the school during this turbulent time.

He returned to the United States in 1983 and joined the faculty at Yale in 1985, where he is presently Professor of Medicine in the Section of Nephrology and Associate Chair for Academic Affairs. Dr. Rastegar continues to be involved in international medical education, presently serves as Co-Chair of the Education Committee of the International Society of Nephrology.

He has been involved in two major earthquakes, most recently the 2003 Bam earthquake, when he was a member of the team sponsored by AmeriCares

to deliver medical supplies and assess medical needs immediately after the disaster.

Contact information: asghar.rastegar@yale.edu

Irwin Redlener, MD

Associate Dean and Director of the National Center for Disaster Preparedness, Columbia University,
Mailman School of Public Health

Dr. Redlener is associate dean of the Columbia University Mailman School of Public Health and director of The National Center for Disaster Preparedness. He is also President of the Children's Health Fund and has expertise in health care systems, crisis response and public policy with respect to access to health care for underserved populations. Dr. Redlener was Co-Director of the first U.S. Consensus Conference on Pediatric Preparedness for Disasters and Terrorism. He is a founding member of the American Academy of Pediatrics Task Force on Terrorism. Dr. Redlener organized medical response teams in the immediate aftermath of the World Trade Center attacks on 9/11 and has had disaster management leadership experience internationally and nationally. Recently published reports include results of extensive analysis of post 9/11 mental health consequences for children and families.

Contact information: Ir2110@columbia.edu

Ülkümen Rodoplu, MD

Vice President, European Society of Emergency Medicine
MD Chairman, Emergency Medicine Association of Turkey

Dr. Rodoplu is a family and emergency physician and has served as the head of the Emergency Department at Alsancak State Hospital in Izmir since September 1992.

He is the Vice President for the European Society of Emergency Medicine and the Immediate Past President for the Emergency Medicine Association of Turkey (EMAT). Dr. Rodoplu is an Advisory Board Member for Rallye Rejviz – The World Ambulance Rallye and served as an Executive Committee

Member and Scientific Committee Member of the first, second and third Mediterranean Emergency Medicine Congress, organized by the American Academy of Emergency Medicine (AAEM) and the European Society for Emergency Medicine (EuSEM).

He was co-chairman of The First Multinational Middle Eastern Conference on Emergency Medicine, October 2001, in Istanbul, Turkey and a participant for the NATO Advanced Research Workshop on Mass Casualty Situations 10-15 April 2005 in Haifa, Israel. Dr. Rodoplu has also served as instructor for the Basic Disaster Life Support (BDLS) and Advanced Disaster Life Support (ADLS) Course organized by Yale New Haven Health System and supported by the American Medical Association.

Dr. Rodoplu has published and presented extensively including three books published about first-aid, 35 papers published in medical journals about emergency medicine, first-aid, disaster medicine and family medicine and as a speaker at more than 350 national and international congresses, symposiums and conferences.

Contact information: ulkumenrodoplu@yahoo.com

David J. Schonfeld, MD

Thelma and Jack Rubinstein Chair and Director
Division of Developmental Disabilities,
Cincinnati Children's Hospital Medical Center

Dr. Schonfeld is a developmental-behavioral pediatrician, the Thelma and Jack Rubinstein Professor of Pediatrics and Director, Division of Developmental Disabilities at Cincinnati Children's Hospital Medical Center. He is also Professor Adjunct of Pediatrics, Yale University School of Medicine. Dr. Schonfeld served on the American Academy of Pediatrics (AAP) Task Force on Terrorism from 2001-2004 and is a co-editor of the Pediatric Terrorism and Disaster Preparedness Resource now under development by the AAP. From 2003-2005, he coordinated the mental health response planning for the Yale New Haven Health System's terrorism preparedness activities. Dr. Schonfeld also established the School Crisis Response Initiative in 1991, which provided training to tens of thousands of school-related personnel in school systems throughout the country and abroad and has provided technical assistance in hundreds of school crisis events.

Contact information: david.schonfeld@cchmc.org

Roslyne Schulman, MHA, MBA

Senior Associate Director, Policy Development
American Hospital Association

Roslyne Schulman has been a Senior Associate Director for Policy Development at the American Hospital Association (AHA) since January 1999. In this capacity, she is responsible for policy development related to hospital preparedness for mass casualty events. Ms. Schulman is the chair of the AHA's staff team for hospital readiness and is a leader in AHA's effort to develop a strategic plan in the area of disaster readiness. She is also principal investigator for a federal contract that AHA has with the Health Resources and Services Administration (HRSA) on hospital implementation issues and solutions on Emergency Systems for Advance Registration for Volunteer Health Professionals (ESAR-VHP). From 1992-1999, she worked for the American College of Emergency Physicians as Regulatory Representative, and from 1990-1992, she was a Legislative Assistant with the American Group Practice Association.

Ms. Schulman came to Washington, DC in 1989 as the David A. Winston Health Policy Fellow. She received her Masters of Health Administration and Masters of Business Administration from the University of Pittsburgh in 1989. Ms. Schulman received her Bachelors of Science from the University of Pennsylvania in 1984.

Contact information: rschulman@aha.org

Knut Ole Sundnes MD

Past President, World Association for Disaster and Emergency Medicine (WADEM)
Task Force on Quality Control of Disaster Management (TFQCDM), Norway
Norwegian Defence Forces Medical Division, N-2058 Sessvollmoen

Dr. Sundnes graduated in medicine in 1972 in Switzerland, becoming licensed in Norway in 1974 and Specialist in Anaesthesia and Intensive Care in 1981. He is a graduate of the National Defense College of Norway (1986), United Nations Staff Officers Course (Sweden 1994), International Support Staff Officers Course (1999) and holds a Diploma of Public Health from the Nordic School of Public Health (completed 1999). He served 10 years with the Norwegian Air Ambulance on rotary wing and fixed wing medical evacuation in addition to a clinical appointment as consultant in anaesthesia at the National Hospital of Norway and later Baerum

County Hospital. Since October 1999, he has been Head of the Office for War Surgery and Emergency Medicine of the Norwegian Defense Forces.

Dr. Sundnes served in South Lebanon with the Norwegian Medical Company in 1979 (UNIFIL) and for the International Committee of Red Cross (ICRC) on the Thailand-Cambodian border, on 3 missions to Kabul, Afghanistan and as Medical Coordinator for ICRC in Northern Ethiopia in 1991.

Dr. Sundnes served as a founding member and board member for 8 years of the Norwegian Association of Disaster Medicine (President 1993-1994) and the Nordic Society of Disaster Medicine (NSDM), for which he was President (1998-2002). He has also been a board member of WADEM since 1995 and was President from May 2001 until May 2005. He is a member of the Editorial Board for the journal Prehospital and Disaster Medicine. He is founder and chair of the Task Force on Quality Control of Disaster Management (co-sponsored by WADEM and NSDM) and co-editor and author of "Health Disaster Management. Evaluation and Research in the Utstein Style".

Contact information: knut.sundnes@sanr.mil.no

Stanley B. Supinski, PhD

Former Director, Homeland Security/Defense Education Consortium
The United States Northern Command (NORTHCOM)

Dr. Supinski is the founder and former Director of the Homeland Security/Defense Education Consortium. Dr. Supinski is a retired U.S. Air Force officer, having served as a professor of Russian at the U.S. Air Force Academy and as an intelligence officer in various locations worldwide. He has conducted research and published extensively in the areas of homeland defense and security, educational technology and language education. He is currently an independent consultant on homeland security education.

Contact information: sjsupin@adelphia.net

James "Skip" Thomas

Commissioner of the Department of Emergency Management and Homeland Security, State of Connecticut

James "Skip" Thomas is the Commissioner of the Department of Emergency Management and Homeland Security (DEMHS) for the State of Connecticut. He previously served as the Director

of Justice Planning for the State of Connecticut, Office of Policy and Management (OPM) overseeing the criminal justice related grants with some 525 grantees, with grants totaling \$71 million. Prior to his position with OPM, he was Chief of Police in Connecticut for both the Glastonbury and Vernon Police Departments. Chief Thomas has also served as President of both the Capitol Region Chiefs of Police and the Connecticut Police Chief's Association.

Commissioner Thomas holds a Bachelor of Arts degree in Political Science and Education from St. Louis University and a Master of Science Degree in Criminal Justice Administration from the University of New Haven. He is a graduate of the FBI National Academy and the FBI Law Enforcement Executive Development Program (LEEDA). Mr. Thomas has been a part-time faculty member at Holyoke Community College, Eastern Connecticut State University and the Connecticut Police Academy.

Ming-Che Tsai MD, MPH

Department of Emergency Medicine,
National Cheng Kung University Hospital

Dr. Tsai is currently an associate professor and the director of the Emergency Department in National Cheng Kung University Hospital in Taiwan. He has been in charge of the national Disaster Medical Assistance Team (DMAT) in South Taiwan since the 9/21 earthquake in 2000, and he led the team responding to tsunami relief in Aceh, Indonesia by his government early this year. Dr. Tsai is one of the major consultants to the government of Taiwan regarding EMS and disaster preparedness.

Contact information: terence40kimo@yahoo.com



Questions or comments about the congress:

**Yale New Haven Center for
Emergency Preparedness and Disaster Response**

One Church Street, 5th floor
New Haven, CT 06510

Ph: 203-688-3224

<http://yalenewhavenhealth.org/emergency>

Acknowledgements

Congress sponsors

Yale New Haven Health System

Marna P. Borgstrom, President & CEO-Elect

Yale University School of Medicine

Robert J. Alpern, MD, Dean and Ensign Professor of Medicine

Pan American Health Organization/World Health Organization

Joxel García, MD, MBA, Deputy Director

World Association for Disaster and Emergency Medicine

Marvin L. Birnbaum, MD, PhD, President

Congress hosts

Christopher M. Cannon, FACHE, Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

Jeffrey L. Arnold, MD, FACEP, Assistant Professor of Emergency Medicine, Yale University School of Medicine, and Medical Director, Yale New Haven Center for Emergency Preparedness and Disaster Response

Special thanks to the following individuals:

Gayle Capozzalo, Executive Vice President, Strategy and System Development, Yale New Haven Health System

Elaine K. Forte, BS, MT (ASCP), Program Development Manager, Yale New Haven Center for Emergency Preparedness and Disaster Response (CEPDR)

Elaine R. Chapman, MCP, Program Development Specialist, CEPDR

Joseph Albanese, PhD, Radiation Biodosimetrist, CEPDR

Eileen Blake, MPH, Training and Evaluation Specialist, CEPDR

Scott M. Dilley, Lt. Col. (Ret.) U.S. Army, CEPDR

Lynette Lines, MST, Instructor/Trainer, CEPDR

Congress support provided in part through funding from:

The Health Resources and Services Administration (HRSA) through a BTCDP grant T01HP01399; the Agency for Healthcare Research and Quality (AHRQ); Pfizer, Inc.; and the Northern New England Metropolitan Medical Response System and Dartmouth Hitchcock Medical Center.