



# Bulletin

INTERNATIONAL ASSOCIATION OF EMERGENCY MANAGERS

## SPECIAL FOCUS ISSUE

### Lessons Learned: EM Research The Current Status of Academic and Research Journals in Disaster and Emergency Management

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Academic journals are one of the most fundamental mediums for publishing research results in every field, including that of disaster and emergency management (DEM). The emergence, evolution, quantity and quality of academic journals reflect the growth, capacity, maturity and depth of a field. Despite DEM being a relatively new profession and discipline compared to many other fields, there has been a significant growth in the number and quality of DEM journals in the past two decades.

This article provides a quick review of the current status of DEM academic journals. In doing so, we have searched the Ulrich's periodical database for a time period of 1900 to 2012. This search includes the journals that are published in English. The key findings are presented here.

#### Key Findings

■ **Core Disaster and Emergency Management Journals.** Using a number of built-in filters in the database and some important keywords (such as hazard, risk, disaster, crisis and emergency), more than 500 relevant journals were identified. Although the majority of these journals are related to the broad concept of EM, only a limited number of them are dedicated specifically to the emerging field of disaster and emergency management.

For example, there are many journals in the health, safety and

security areas. These journals publish disaster and emergency management research articles. Despite their relevance and importance to DEM, they cannot be considered as core DEM journals. By applying a careful review process, we narrowed down the total to 125 core DEM academic journals.

■ **From Hazard Science to Disaster and Emergency Management.** Core DEM journals can be classified into these categories: risk and risk management (37.6%); disaster and emergency management (28.8%); hazard science and mitigation (28%); and business continuity (5.6%).

■ **Status and Format.** Of the 125 core EM journals, 106 journals are currently active. About 21 journals are published online only, and about 104 journals appear in print editions only or are published in both print and online formats. The first online only DEM journals appeared in 1997, with an increasing number emerging in recent years.

■ **Publishers and Country of Publication.** About 80 publishers from 189 countries are involved in the publication of the core DEM journals. However, as with any other discipline, major publishers, such as Rutledge, Inderscience Publishers, I.G.I. Global, Emerald Group Publishing Ltd., Elsevier Ltd., and Wiley-Blackwell Publishing Ltd., publish the majority of EM journals. Most such journals are published in the United Kingdom (45), the United States

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**IAEM Bulletin Call for  
Articles: "Students in EM"  
Deadline: July 10, 2013  
Details on Page 22**

## PART 2: IIGR AND IAEM: A NEW INITIATIVE

## A Pebble Has a Ripple Effect Across the Oceans: Japanese Resilience Initiative Grows out of 3/11 Catastrophe

By Kathleen Henning, CEM, IAEM-USA Region 3 President

An idea can start as small as a pebble dropped onto the water, with a ripple effect that is felt across the oceans. In this case, the idea was based on the universality of the *Principles of Emergency Management* and the importance of nurturing an EM education program for Japan. The idea was that the *Principles* could be applied to planning for and responding to catastrophic events in a nation that did not have a National Response Framework similar to that in the United States.

The greater goal and hope was that interaction among emergency managers and their stakeholders would foster the vision of the *Principles* and promote greater Japanese resiliency to disasters. That vision “seeks to promote safer, less vulnerable communities with the capacity to cope with hazards and disasters.”<sup>1</sup>

### IAEM-IIGR Partnership

The idea was initially sponsored by the non-profit S&R Foundation under Dr. Sachiko Kuno, and nurtured by the formation of a dedicated partnership between IAEM and IIGR (International Institute of Global Resistance), a division of the S&R Foundation. IAEM and IIGR, building on a previous partnership with FEMA’s Emergency Management Institute, reached out to Japanese students by sharing U.S. training and educational tools via the Internet.

See Dr. Maki Fukami’s article on Page 1 of the April 2013 *IAEM Bulletin* for additional background

on the initiative. This article highlights ongoing outreach efforts to Japanese critical infrastructure and healthcare industries, colleges and universities, and the partnership with FEMA.

### Remembering the Catastrophe on Mar. 11, 2011

The Fukushima Daiichi Nuclear Disaster occurred after a 9.0 magnitude Tohoku earthquake and subsequent tsunami struck Japan on Mar. 11, 2011. The after action reports and official white paper on the disaster noted that the death toll reached 15,835 with 3,664 missing; evacuees were estimated at over 470,000; and households affected by the power outages were over 8 million.<sup>2</sup> The long-term effects of the released radiation on people, crops and the environment are still under evaluation. Far greater than the impacts of the 1995 Kobe earthquake, this event was a catastrophe on an unprecedented scale.

The IAEM-IIGR initiative has grown out of the educational needs identified following the disaster.

■ **Webinar.** IIGR initially hosted two webinars on Mar. 1-2, 2013. The program was the first of what we hope will be a broader offering to facilitate instruction for Japanese responders who would follow through by taking FEMA online courses and other training programs.

■ **Non-U.S. Certifications.** As part of a collaborative effort with the Emergency Management Institute (EMI), IAEM can offer sponsorship to its non-U.S. mem-

bers that will allow them to receive credit for U.S. EMI online independent study courses. This is available thanks to the initial work done by the author and Lyn Gross, CEM, IAEM liaisons to EMI, and by EMI’s Deputy Superintendent Vilma Mimoe and EM Professional Program Director J. Thomas Gilboy, CEM. The process involves IAEM providing official letters of sponsorship for non-U.S. IAEM members who meet certain criteria. Additional details about the program are available by contacting Certification Administrator Kate Walker at [kwalker@iaem.com](mailto:kwalker@iaem.com).

■ **Other Outreach.** Later in 2013, Leo Bosner, IIGR Fellow and former FEMA specialist, will return to Japan to offer presentations to several colleges and universities. IAEM will continue to offer its expertise in training and education programs, while IIGR offers its funding, understanding of Japanese culture, and contacts with higher education, hospital and healthcare facilities, and governmental and non-governmental organizations within Japan.

### Next Steps

Together with colleagues in Japan, IAEM and IIGR hope to promote greater Japanese disaster resilience by advancing the *Principles of Emergency Management* and the concepts of the incident command system as part of a toolkit for Japanese first responders and emergency managers. Through continuing dialogue, we hope to collaborate with additional higher educational organizations, hospital and healthcare facilities, and governmental and non-governmental organizations within Japan.

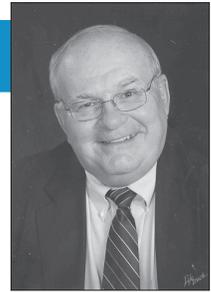
<sup>1</sup> IAEM, *Principles of Emergency Management*, retrieved Apr. 1, 2013, <http://www.iaem.com/documents/EMPrinciples091107.pdf>, 2007.

<sup>2</sup> Statistics from Japanese National Police Agency 2011, Cabinet Office White Paper on Disaster Management 2011, power outages estimated by Japanese Ministry of Economy.

# From the IAEM-USA President

## National Planning System Planning Lexicon

By Jeff Walker, CEM, IAEM-USA President



In the homeland security and emergency management community, according to a FEMA definition, a planner creates plans. Those plans are a scheme, a design and a representation, and they include drawings or word pictures at times. This type of planner arranges methods, schemes, make plans, draws layouts for actions, and looks ahead to anticipate what may be needed. This definition of a planner involves more than these characteristics for purposes of planning preparedness in the sense described in Presidential Policy Directive 8 (PPD-8). PPD-8 states that preparedness is “aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to our nation.”

Other words that define this type of planner are: problem solver, risk manager, analyst, synthesizer, creative thinker, critical thinker, visionary, researcher, interpreter, process follower, team player, capability builder, gap finder, decision supporter, fact finder, evaluator, explorer of thoughts and opinions, opportunity seeker, designer, presenter, author, teacher, facilitator, practitioner, and controller of actions. These activities are completed on a routine basis by this type of planner.

### Developing the National Planning System

During the past year, IAEM-USA First Vice President Bruce Lockwood, CEM, and I have participated with other agency and group representatives, FEMA, and a contractor to develop the National Planning System, a component of the National Preparedness System. The aim of the National Planning System is to build and

sustain the nation’s planning capability for all EM personnel from the federal to the local level. The outcome will be a planned multi-tiered training program. We have completed the layout for Tier One in draft form and will be completing the remaining tiers this year. Course material comes from EMI courses and other agency courses. This 10-member group meets weekly by phone conference to research, review, and develop the tier levels of the training program.

A key element for this program is the planning lexicon. The lexicon will provide a common set of terms and definitions: (1) to improve the planner’s ability to work across organizational and jurisdictional affiliations; (2) and to strengthen collaboration and communication during the planning process.

### Sub-Group to Develop National Planning Lexicon

A sub-group has been formed to review planning-related terms in existing reference materials, such as the American Planning Association’s *A Planner’s Dictionary*, FEMA’s *National Incident Management System Glossary*, and the U.S. Dept. of Defense’s *Joint Operational Planning-Joint Publication 5-0 Glossary*, for possible inclusion in the lexicon. During the initial research and analysis phase, the sub-group will:

#### ■ Step 1: Initial Research and Analysis.

- ◆ Gather and review existing relevant planning terminology materials.

- ◆ Create a compendium to compile and track terms, definitions and sources. The compendium also will cross-reference the different terms and identify the source documents.

- ◆ Categorize terms by their relationship and relevance to planning, according to the defined scope of the planning lexicon.

- ◆ Socialize draft documents across sub-group members’ organizations and networks to ensure that the whole community is involved during the development process.

■ **Step 2: Development and Outreach.** The sub-group will analyze the compendium of terms to develop a draft planning lexicon. This will include term assessment and sending the draft to individuals and organizations for review and comment.

■ **Step 3: Review.** A 30-day period for feedback will be scheduled. During the review period, comments and suggestions will be received. After adjudication and a technical edit, the document will be finalized.

■ **Step 4: Publication.** The sub-group will develop a method to distribute the final version effectively to federal partners. The final version of the lexicon will be added to the National Planning Resource Center. Also, the final version will be shared with a broad set of planning stakeholders from the identified mission areas: federal agencies; state, local, and tribal agencies; non-governmental agencies; the private sector; and academia.

### Conclusion

When completed, the National Planning System will provide emergency managers from all areas of the public and private sectors with a strong, well-developed training program to enhance their planning abilities.



## CEM® CORNER

### Certification Essay – Finalizing the Outline

By Daryl Lee Spiewak, CEM, TEM, Lead Trainer for the CEM® Commission

Last month we further refined our outline by expanding some of the sections with simple narratives and adding the last two design elements. However, we have one more step before we begin writing. So this month we will expand the necessary actions section of our outline, ensuring that we provide details for as many Knowledge, Skills and Abilities (KSAs) and Design Elements as possible.

In our modified outline last month, the Necessary Actions section looked like this:

**Necessary Actions** (to achieve the objectives and solve the problem).

- a. Prevention activities – safety, information sharing.
- b. Preparedness activities – hazard analysis, plans, training, HSEEP.
- c. Response activities – EOC, ICS, command and control.
- d. Recovery activities – short-term (shelters & debris); long-term (recovery support functions).
- e. Mitigation activities – THIRA and new plan.
- f. Integrate codes, legislation, policies, etc.

Now we need to incorporate details that support our objectives and solve the problem we identified earlier. Recall that we identified our problem as an ineffective emergency management program and an out-of-date plan lacking an effective command and control structure. Our intended outcome was to have “an effective emergency management program that builds upon existing plans and structure, meets state and federal standards, and fixes the command and control structure.” Finally, we developed four objectives to achieve our intended outcome: (1) an updated integrated and compre-

hensive emergency management plan; (2) a tested command structure; (3) an HSEEP-compliant exercise program; and (4) a new mitigation plan.

#### Incorporating EM Standards

In the USA and Canada, NFPA 1600 provides the standards for an effective emergency management program, so we want our program to model those requirements. The Emergency Management Accreditation Program (EMAP) can help too. In addition, CPG-101 v.2 “provides Federal Emergency Management Agency (FEMA) guidance on the fundamentals of planning and developing emergency operations plans (EOP). CPG 101 shows that EOPs are connected to planning efforts in the areas of prevention, protection, response, recovery, and mitigation.”

We also want to include provisions of the Stafford Act, at least for disaster declarations and FEMA reimbursements. The Homeland Security Act of 2002, various national and homeland security Presidential directives, National Response Framework, National Disaster Recovery Framework, state disaster acts, and local ordinances are applicable too. Incorporating these codes, legislation and policies ensures that our plan meets state and federal standards, as well as establishing the foundation of our effective emergency management program. In our narrative, we will expand on the concepts and connect them.

#### Command and Control

Next, we must fix our command and control structure. According to NIMS, an Incident Command System (ICS), Multiagency Coordination Systems (MACS), and Public Information are the

fundamental elements of incident management.

Our plan will establish ICS as the standard to enable effective and efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. We will train all executives, managers, and responders in NIMS/ICS and integrate NIMS and ICS principles into everyday response. Then to achieve our objectives of a “tested command and control structure,” it will be a top priority of our multi-year improvement plan under HSEEP.

#### Creating New Mitigation Plan

A new mitigation plan is our next step. After establishing our planning team, we need to conduct threat hazard identification and risk assessment (THIRA). Using the THIRA in public meetings, the team will draft the mitigation action plan according to FEMA’s Local Mitigation Planning Handbook. Once FEMA approves the plan, we can apply for pre-hazard mitigation and hazard mitigation planning grants.

The last step we must address are the material and financial resources necessary to achieve our objectives and desired outcome. Many of the activities discussed above will be managed by the office of emergency management and paid for through the annual budget. We will also seek volunteers to provide needed manpower and to build a bigger sense of community commitment, which should help improve resiliency. We will seek additional funding through various government grants as well as various foundations and the

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## Tom Greenlee Announces Candidacy for Reelection as IAEM-USA Treasurer

By Colonel N. Thomas Greenlee, USAF, MSC, CEM

Colonel N. Thomas “Tom” Greenlee, USAF, MSC, CEM, is announcing his candidacy for re-election as IAEM-USA Treasurer. He is currently completing his first term as the USA Treasurer. Prior to serving as the USA Treasurer, he served six years as a CEM® Commissioner to include being elected as the 2011 Chair of the U.S. CEM® Commission, and Commissioner, Global CEM® Commission. He also has served as the 2010 Vice Chair, Global CEM® Commission, and was the 2000 European Representative to the IAEM-USA Uniformed Services Caucus.

Tom believes that the IAEM-USA Board has made great progress in advancing IAEM-USA financial and business practices over the past year-and-a-half. With the ongoing fiscal constraints at the local, state and federal levels, it is extremely important that we have experienced fiscal leadership on the USA Board of Directors. He would like to continue to provide this leadership and contribute to the overall mission of the International Association of Emergency Managers. He would appreciate your vote this fall.

Tom is currently the Command Surgeon’s Director of Staff and Chief, Medical Plans, Operations and Strategic Health Engagement Division for the United States Pacific Command. He is responsible for military medical responses in an area covering more than 51% of the Earth’s surface and 50% of its population. Tom has been actively involved as a medical emergency manager in multiple humanitarian assistance and disaster response missions throughout the Asia-Pacific region, including the 2011 response to Japan’s Great Eastern Earthquake, tsunami and Fukushima Daiichi nuclear power plant disasters. He also has served as the U.S. Northern Command’s medical representative to the New Orleans Emergency Operations Center for Hurricane Katrina.

Prior to his current assignment, Tom held multiple headquarters and command positions, where he was responsible for Air Force Medical Homeland Security, counter-chemical, biological, radiological, nuclear and high-yield explosive programs, National Disaster Medical System (NDMS), and Defense Support to Civil Authorities. In these positions, he was responsible for budgets ranging from \$15 million, and oversight of 3,200 personnel and \$92.5 million in wartime and disaster response assets across the region.

In addition to his IAEM and military service, Tom was elected and served two years as his homeowner’s association treasurer in northern Virginia. He is currently in his second term on the Pearl Harbor Memorial Chapel’s Council and is an Assistant Scoutmaster with the Boy Scouts of America. Tom and his wife Kim are originally from Kentucky, and have been stationed throughout the United States and in Germany. They have three children, Ryan, Logan and Rachel.



Tom Greenlee, CEM

### CANDIDATE’S CONTACT INFORMATION:

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### CEM® Corner

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businesses associated with the Local Emergency Planning Committee.

We now have a plethora of ideas and supporting details, but they are not our essay. We must expand upon this information in narrative form to create our first draft. Notice that I said “first draft” and not “final product.” Know that the editing process almost always takes longer than it does to write the first draft. So next month, I will post our first draft on the CEM® Corner web page at [www.iaem.com/page.cfm?p=](http://www.iaem.com/page.cfm?p=)

certification/resource-center/ce-corner&lvl=2. In the next CEM® Corner article, we will edit the first draft.



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## Social Media in Emergency Management: Lessons for the Future

By Eben Kaplan, Analyst, Homeland Security Studies & Analysis Institute, DHS

As Hurricane Sandy battered New York, the influx of emergency calls overwhelmed the city's 911 call center. Unable to get through, some residents sent appeals for help to the @FDNY Twitter handle, which had been providing updates on response activities during the storm's approach. Although there was no protocol to do so, the fire department's social media manager passed those requests directly to dispatchers. She then tweeted to reassure residents that their pleas had been heard.

In the days following the storm, the Civil Air Patrol launched a website displaying high-resolution aerial photographs of storm-hit areas. It encouraged members of the public to tag images of damaged buildings, flooding or debris, in order to more rapidly identify areas in need of assistance. Meanwhile, on Staten Island, volunteers used Twitter and Facebook to organize their own community-led recovery effort.

### Evidence of a Larger Trend

These stories are evidence of a larger trend: social media has become intertwined with many aspects of emergency management. While it is still unusual for dispatchers to respond to help calls from Twitter – or even text messages, for that matter – it is not uncommon for a local fire department to promote emergency preparedness or fire safety on social media sites. Social media is becoming a tool in the actual response as well, as officials use social sites to gather information or engage volunteers.

Early adopters of social media in emergency management have already begun to learn what works, what doesn't work, and what could improve. A recent report from the Homeland Security Studies and

Analysis Institute examines lessons from three types of social media use in emergency management situations. At the simplest end of the spectrum, responders use social media outlets as public address channels. More sophisticated strategies involve collecting information from social media in order to develop a clearer operating picture. The most advanced tactics involve "crowdsourcing," using social channels to identify and organize volunteers to augment the response.

### Report Conclusions

The report arrives at the following conclusions:

#### ■ Social media training can lead to a better response.

Emergency response is inherently unpredictable, and responders with experience and training are more likely to adapt to meet the needs of the situation. This is nothing new, but responders using social media need slightly different skills. Training on aggregation and filtering tools can prepare them to handle large streams of information. Training on how to manage digital volunteers can lead to more successful crowdsourcing efforts.

■ **Social media strategies should assume a mobile audience.** Social media users increasingly rely on smartphones. In a power outage, smartphones may be one of the few remaining communication channels. Emergency managers should plan accordingly, tailoring social content to mobile platforms and perhaps providing phone-charging stations to ensure that people remain able to communicate.

■ **Requests for assistance over social networks are inevitable.** Public officials may instruct the public to call 911 in an emergency, but not everyone will. Changing public attitudes and norms of communication suggest

that emergency managers should anticipate receiving and responding to emergency requests via unconventional means.

■ **Public engagement strategies should leverage multiple modes of communication.** The audience, circumstances and nature of the information should inform an emergency manager's decision about what communication channels to use. Sometimes a mix of channels is required. The response to the Haitian earthquake in 2009 used radio announcements to instruct survivors to request help via text message. The Haitian earthquake response also demonstrated that even when a major disaster takes an entire area offline, social networks may still be an effective means for organizing response activities away from the affected area.

■ **Different response organizations will use social media differently.** Regional and national organizations are well-positioned to marshal large numbers of volunteers. Local organizations are better suited to provide relevant information to their own communities, such as street closures or the location of supplies. These different roles require different communication strategies.

■ **Emergency managers should anticipate private response efforts outside any official chain of command.** Just as social media can facilitate official response efforts, it can also facilitate unofficial responses. Unofficial, grassroots responses can be quite helpful, but they can also be a hindrance when not effectively coordinated with official response efforts. Anticipating and monitoring such grassroots efforts can help maximize their contributions, while minimizing any impediments to officials.

## Gender and Disaster Research: The Cliff Notes

By Elaine Enarson, Co-founder of the Gender and Disaster Network  
and Founder of the U.S. Gender and Disaster Resilience Alliance

All areas of concern to emergency managers have now been studied by gender scholars writing with many different gender “lenses” in this international field.<sup>1</sup> Below, I offer some observations about this work, and then highlight ways to move from (gender) knowledge to (gender-responsive) action, thinking for the moment of highly developed nations.<sup>2</sup>

The U.S. Gender and Disaster Resilience Alliance student paper competition recognized studies of men’s and women’s experiences in Hurricane Katrina (Reid, 2010), the challenges of displaced single mothers (Tobin-Gurley, 2011), and gender differences in hydro-fracking occupations and health effects (Sydoriak, 2013), demonstrating the concerns of young scholars.<sup>3</sup>

Some climate change researchers now engage in disaster studies (and vice versa), and this work is increasingly written from countries quite unlike the United States. Masculinity now draws attention, along with the strengths and vulnerabilities of sexual minorities. Other researchers come to the subfield from critical race studies and environmental justice, or flesh

out connections between gendered risk and unsustainable development.

Finally, women’s subjectivity and choices, as well as their diversity, are coming into sharper focus. We are teasing apart the effects of sex, sexuality, gender, parenting status, and gender ideology/norms. This is all to the good, for challenging received wisdom is the sign of vital and meaningful work.

### Inclusiveness Adds Value

This body of knowledge has informed the development, if not the implementation, of mainstreaming resources demonstrating how inclusive and gender-focused emergency management adds value.

■ **Community Risk Assessments.** For example, among their many core tasks, community risk assessments can incorporate sex- and age-specific data to help identify areas of concern. These could include where low-income female-headed households are concentrated, or areas with high concentrations of women, the frail, and the elderly. Especially in combination, these factors are shown to increase vulnerability.

■ **Risk Communication.** Case studies demonstrate that women’s dense social networks and low tolerance for risk can prompt action. Therefore, risk communication becomes more effective by targeting not only women and the social media they use, but also men directly as persons likely to delay preparation and evacuation. Male-focused safety messaging may help men survive the odds against them here, for example in flood and heat deaths.

■ **Community Partnerships.** Community partnerships involving “the usual suspects” are stronger if more inclusive, adding women- and men-specific groups, organizations, and networks active at the local level. Women’s networks often arise to help address gender violence and reproductive health, especially of highly marginalized women below the radar. Promoting partnerships with men’s groups also helps emergency management messaging reach men and boys, whose coping styles are found to be quite distinct.

■ **Mitigation and Preparedness Campaigns.** Due to the gender division of labor at home and in the community, women are the majority of active volunteers in most mitigation and preparedness campaigns, and also voice more support for household and government steps to reduce risk. The critical social infrastructure of affected communities is supported in large part by women’s unseen voluntary work and by female-dominated social and human service agencies, so specific outreach to encourage and support their organizational preparedness is warranted.

■ **Disaster Recovery.** Like vulnerability, disaster recovery reflects the fault lines of society, including gender-based

<sup>1</sup> For overviews, see Enarson, E. & Meyreles, L. (2004), International perspectives on gender and disaster, *International Journal of Sociology and Social Policy* 14 (10); Tobin-Gurley, J. & Enarson, E. (2013), Gender, in Thomas, D. et al. (Eds.) *Social vulnerability to disaster*; Enarson, E. (2012), *Women confronting natural disaster: From vulnerability to resilience*; Fothergill, A. (1996), *Gender, risk and disaster*, *IJMED* 14 (1).

<sup>2</sup> Foundational work is referenced in the 2005 GDN bibliography on the GDRA website, and see: Alston, M. & Whittenbury, K. (Eds.), (2013), *Research, action and policy: Addressing the gendered aspects of climate change*; Bradshaw, S. (2013), *Gender, development, and disaster*; David, E. & Enarson, E. (Eds.) (2012), *Women of Katrina: How Gender, Race and Class Matter in an American Disaster*; Enarson, E. & Chakrabarti, P.G. D. (Eds.) (2009), *Women, gender and disaster: Global issues and initiatives*; Fothergill, A. (2004), *Heads above water: Gender, class and family in the Grand Forks flood*; Pacholok, S. (in press) *Out of the ashes: Fire, crisis, and gender rescue*; and Phillips, B. & Morrow, B.H. (Eds.) (2009), *Women and disaster: From theory to practice*. Many young scholars are producing dissertations which may soon be added to this core list.

<sup>3</sup> See <http://usgdra.org/take-action/graduate-student-paper-competition>.

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## The Disaster Research Agenda: Overlapping EM Questions

By Luis Tapia, CEM, Adjunct Assistant Professor, University of Maryland University College;  
Ph.D. Student, Oklahoma State University

In many fields, practitioners and scholars acknowledge the benefits of working together. However, in emergency management, the relationship between these two groups would benefit from additional collaboration. Through these efforts, there are opportunities to increase our understanding of disasters and improve program management.

Beginning in 2012, emergency managers forged a public-private partnership that brought advance radar systems to the Dallas, Texas area. The first two host sites for the Collaborative Adaptive Sensing of the Atmosphere (CASA) radar units were public research universities. Both the University of Texas at Arlington and the University of North Texas recognized the research opportunities in this partnership. In addition to the practical benefits of faster and more accurate severe weather warnings, CASA brings research prospects to academic departments, such as engineering, sociology, and public administration.

Complex case studies, like the CASA radar network in Dallas, do not have to be the norm. Simple cooperative efforts may show that the potential exists to bridge information gaps through disaster research. The following research concepts are advantageous to both practitioners and scholars in the pursuit of understanding disaster phenomena.

### Business and Marketing

Emergency managers are promoters of preparedness and are engaged in a wide range of marketing activities. Yet most practitioners have experienced the difficulty in explaining what emergency management is and what they do, and articulating the value of preparedness. The lack of consensus on what to call the

discipline is well documented (e.g. disaster management and contingency planning). The body of knowledge in the discipline of marketing is significant, with much attention given to identity, branding, value, and social influence. Further study in the marketing of emergency management may produce new ways in which practitioners pitch preparedness and form a solid identity.

### Public Administration

The study of policy implementation and public management contributes a great deal to emergency management. However, one of the missing links is the translation of performance measurement to emergency management. The discipline has suffered from the inability to accurately measure the state of readiness. Unfortunately, a commonly used measure is the number of plans developed or updated to indicate the performance of an office of emergency management and the state of readiness.

Emergency management produces many outputs, such as number of plans updated, training hours, siren activations, or exercises. Yet sound outcome measures, or changes in the environment, continue to elude us. Emergency managers need better performance measures to enhance program management. Public administration scholars may extract new knowledge by applying performance measurement models to emergency management.

### Media and Journalism

Once a disaster occurs, some of the challenges that quickly emerge include the various disaster myths reported by the media. These myths include widespread looting, panic flight, and anarchy. Disaster scholars have empirically dispelled many of these myths, yet these

reported myths continue to influence public safety decision making as well as the perception of those watching events unfold on television. Additional exploration of media and disasters may show us how to limit or eliminate the spread of disaster myths and properly inform the public.

### Social Sciences

Predicting and understanding public behavior is a challenging task in a non-disaster setting and is complicated further when hazards and vulnerabilities are in play. For example, during a pandemic, it may be difficult for emergency planners to gauge community member attitudes toward the public health threat and make the appropriate public health decisions.

Social scientists armed with survey research instruments may contribute to the understanding of how residents are reacting to a pandemic. Residents may be asked about the precautions they are taking, their intent to take a vaccine, or their risk perception of a pandemic threat. This sample data could be extrapolated across the community's population to gain a better understanding of behavior changes during a pandemic.

### Conclusion

The intent of this article is to propose ways in which practitioners and scholars can begin working together to overcome real world disaster challenges. It is not intended to direct scholars on what they should explore, but rather to suggest that both communities may have overlapping questions. As public budgets face economic hardships and realities, collaboration might be one answer to enhance our understanding of disasters and improve program management.

## Research Seeks to Make Emergency Alerts on Mobile Devices More Relevant and Effective

By John Verrico, Chief of Media Relations,  
Science & Technology Directorate, U.S. Department of Homeland Security

**E**mergency managers have a new tool for their alerting toolbox. Since mid-2012, people in the United States have begun seeing emergency alerts, such as severe weather warnings, delivered to their mobile devices thanks to a new emergency notification system: Wireless Emergency Alerts (WEA). Formerly known as the Commercial Mobile Alert Service (CMAS), WEA was developed in partnership between the U.S. Department of Homeland Security's Science & Technology Directorate (DHS S&T), the Federal Emergency Management Agency (FEMA), the Federal Communications Commission, and wireless carriers.

The system allows emergency managers to send geographically-targeted emergency alerts to mobile phones based on their location at a given point in time. WEA has been rolling out nationwide. As of January 2013, the system has delivered nearly 3,000 potentially life-saving messages to the American public in a new and more personalized way.

### Research and Development of Enhancements of WEA

As the deployment of this new system continues and its usage grows, DHS S&T is looking to the future, researching enhancements to the system that could make it even more effective at delivering critical information to those in harm's way. As mandated by the Warning, Alert, and Response Network (WARN) Act of 2006, DHS S&T is currently investing in research and development in two areas:

- **Improving the geo-targeting of mobile alerts and warnings**, which will enhance the ability of WEA to target more precise geographic areas, therefore providing more relevant information to the recipient.

- **Understanding and improving public response to mobile alerts and warnings**, which will increase our knowledge about how the public responds to emergency information, so that emergency managers can craft and send more effective messages.

### Increasing Effectiveness and Relevance of WEA Messages

To achieve these goals, DHS S&T created the WEA Research, Development, Testing, and Evaluation (RDT&E) program, and is funding research projects at the National Consortium for the Study of Terrorism and Responses to Terrorism, the National Academy of Sciences National Research Council, and the University of Southern Mississippi. These projects will explore how to make WEA messages more relevant and effective by:

- Determining the optimal content and language to motivate the public to take appropriate protective actions.

- Identifying the best possible platform, format, and content for conveying emergency information to diverse populations.

- Examining the opportunities and challenges presented by current and emerging technologies for delivering WEA alerts with greater geographical precision.

The program is also evaluating proposals for geo-targeting and public response from other research organizations, private companies, and universities.

### Conclusion

DHS S&T expects to round out the WEA research portfolio in 2013, by selecting final proposals and continuing research efforts already underway. Once completed, the results of these research projects will influence enhancements to the WEA system's use and support its ability over time to deliver more relevant and effective life-saving information to the public.

## Gender and Disaster Research

*(continued from page 7)*

employment patterns, women's extensive care work, and the acute poverty and exclusion some experience. Among them are migrant workers and the undocumented; homeless women and children; indigenous, non-English speaking women; and members of LGBTQ and disability groups. Recovery planning that includes awareness of the barriers faced by all women, often including their

own mental health, delayed return to employment, and extensive family care work, can promote the recovery of children and other dependents, too. The barriers that female-dominated sectors of the local economy will face if women are unable to return to work can be addressed, for example, by building capacity for business/service continuity in dependent care facilities and working with employers and unions to put families first and plan ahead for gender-fair recovery.

Applying these hard-won lessons in policy and practice is the essential next step.

## Upcoming CEM® Prep Courses

The following CEM®/AEM<sup>SM</sup> Preparatory Courses and Exam offerings have been scheduled. There must be a minimum of 10 people enrolled for each prep course. Register online at [www.iaem.com/CEM](http://www.iaem.com/CEM), and check for the latest list of available dates/locations.

- Disaster Forum, Banff, Alberta, Canada – May 16, 2013 (CEM® exam only)
- CFED West Conference & Expo, Palm Springs, CA – May 21, 2013 (CEM® exam only)
- Gulf States Hurricane Conference, New Orleans, LA – June 10, 2013
- World Conference on Disaster Management (WCDM 2013), Toronto, ON, Canada – June 23, 2013

## Status of EM Journals

*(continued from page 1)*

(37), Germany (8), the Netherlands (8), Australia (5), and India (5).

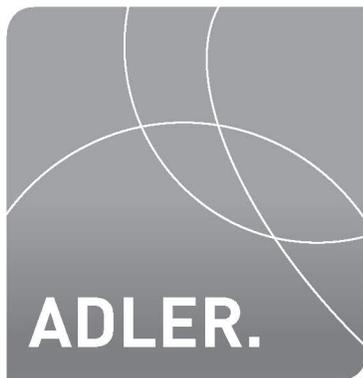
■ **Growth and Change.** The first DEM-related journals started in 1957, with the publication of a risk-related journal called the *Journal of Risk and Insurance*. This trend continued with the publication of a hazard-related journal in 1964.

According to our research, there was an exponential growth in the number of core disaster and emergency management journals during the 1990s extending into the first decade of the 21st century. It is expected that this number will increase even further in the current decade. Further analysis of the data shows that *disaster and emergency* and *risk* journals have had the largest growth in the past two decades, while there has been a decline in *hazard-specific* journals.

## Conclusion

While disaster and emergency management research results continue to be published in many different journals, the rise of research in disaster and emergency management, along with the creation of DEM programs in universities and colleges throughout the world, has increased the need for dedicated DEM journals. The current trend not only reflects these demands, but also shows that the DEM field is establishing itself even further as an academic and professional field. In the future, we probably will see the emergence of academic journals for specific emergency management functions, such as emergency evacuation, emergency social services, emergency health services, emergency shelter, and recovery and reconstruction.

The complete list of the 125 core DEM journals discussed in this article can be obtained from Dr. Asgary at [asgary@yorku.ca](mailto:asgary@yorku.ca).



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## Case Study Methodology for EM Research

By Dr. Steven G. King, Assistant Professor and DHS Chair, National Defense University, Dwight D. Eisenhower School for National Security and Resource Strategy, Washington, D.C.

In 2012, I concluded a two-year research study that examined how geographic information systems (GIS) impact emergency management decision making. A 2010 article in the *International Journal of Applied Geospatial Research* found that more than 60% of disaster management practitioners are currently using geospatial technology, and 70% plan to use it in a future disaster management activity (Westlund, 2010).

My personal experience suggests that these numbers are low. These days, it seems that no Emergency Operations Center is complete without a large map hanging on the wall. This map is GIS at its most basic. I wanted to know if and how GIS affects the decisions made by emergency managers. Now, I hope others will use the research methods that worked for me in their emergency management studies.

### Mixed Methods Approach

I used both quantitative and qualitative research methods, which is frequently called a mixed methods approach. The quantitative assessment tool came from Andrew M. Parker, et al (2009), of the RAND Corporation, which developed the Emergency Response Decision-Making Assessment Tool to measure crisis decision making for public health emergencies.

■ My first lesson learned was the value of building on other people's research. After contacting Dr. Parker to confirm that I could apply his assessment tool to my study, I was convinced that this validated tool was exactly what I needed. I urge other researchers not to reinvent the wheel if it's not necessary.

■ The best lesson I learned was the value of using the case study

methodology to answer emergency management related research questions. In my study, I used a qualitative case study method to examine decision making during a large full-scale natural disaster exercise.

### Expected and Unexpected Results

Some of the results were not surprising. For example, GIS provided emergency managers with an outstanding context for information that would otherwise be challenging to understand, especially through the integration of multiple data sources and dynamic three-dimensional interactive maps.

Other findings were more surprising. For example, decision making was hampered by the mixture of models and predictions with actual event data, which confused emergency managers who were quickly assessing the disaster. I also found a surprising lack of understanding of the capabilities of GIS beyond cartography, which is simply making maps.

### Putting Research into Practice

A significant value of conducting research arises when meaningful recommendations can be implemented by practitioners, thus putting research into practice. In my study, I recommended specific steps for geospatial analysts, emergency managers, and other decision makers who use GIS to improve decision making that uses GIS.

■ The first was to annotate every geospatial product used for emergency management with a statement clearly stating the geospatial analyst's degree of confidence in the accuracy of the data contained on the map.

■ Another recommendation was for GIS professionals to make greater efforts to show decision makers the vast capabilities that geospatial tools and analysis can offer to solve decision makers' greatest challenges.

These recommendations have been implemented in the organization I studied, and I hope others will consider them as well.

### Case Study Methodology

The case study methodology fit perfectly in the emergency management organization I studied. Robert K. Yin is arguably the father of the case study method for research. His many books, presentations, and articles are readily available online. In his book, *Case Study Research: Design and Methods*, Dr. Yin lists six sources of data that researchers can use to conduct their research and three principles to guide the researcher's study.

One reason I found the case study method to be so effective for emergency management research is that it avoids some of the challenges posed by more common research methods. As Yin (2003, p. xiii) aptly stated, "U.S. federal agencies have made surveys and questionnaires a bureaucratically hazardous affair due to the clearance procedures required. Case studies therefore have become a preferred method."

While other research methods have a longer history of use in academia, the case study method was one of the few that could have been used to study the emergency management organization I examined. This benefit also can be seen as a cure, because academics tend to skew newer researcher methods. Yin (2003, p. xiii) warns against this kind of bias when he

(continued on page 18)

# The Exposure of Emergency Service Personnel to Asbestos

By Darryl J. Dixon, IAEM International Council Member,  
Australian Graduate School of Policing, Charles Sturt University

**A**s part of working toward a master's degree in emergency management, I am undertaking research into the exposure of emergency service personnel to asbestos in Australia. The aim is to compare current Australian emergency services training, policies and procedures when the likelihood of exposure to asbestos is suspected or confirmed, ensuring that they comply with Australian Standards and current Australian best practice policies. This is the first known research of its kind to be undertaken in Australia.

## What Is Asbestos?

Asbestos is the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos), tremolite, or any mixture containing one or more of the mineral silicates belonging to the serpentine and amphibole groups.

It is lethal and is listed as a known carcinogen, causing health effects if fibres are breathed into the lungs, such as asbestosis, lung cancer, mesothelioma and benign pleural disease.

Asbestos has been widely used due to its fire retardant properties, strength and low cost in approximately 3,000 products from insulation, roofing and cladding to wall sheeting and fencing.

With as many as one in three Australian homes containing asbestos (Asbestos Education Committee, 2011) and no safe level of exposure to asbestos fibres (ibid.), the risk of emergency service personnel attending to an incident where asbestos is present is extremely high. During the past three years alone, there has been considerable media interest in

potential asbestos exposure after natural disasters such as Cyclone Yasi, the Brisbane Floods, Cyclone Carlos, and the Victoria Bushfires, to name a few.

## What Is the Risk?

The Cancer Institute of NSW (2011) reports that survival of mesothelioma is poor, with 40% of people surviving one year after diagnosis and 4.5% surviving after five years. To place the issue of asbestos exposure and associated detrimental effects in real human terms, the incidence rate in 1982 of new cases of mesothelioma was 1.2 per 100,000 population, compared to the 2006 rate of mesothelioma being 2.7 per 100,000 population.

Australia was one of the largest producers of asbestos until 1987, with the highest per capita use in the world for several decades. To offer one example of the cost, all residents were relocated from the town of Wittenoom in Western Australia, where blue asbestos was mined for 30 years. Wittenoom was later degazetted, and is now officially a ghost town due to the extent of asbestos contamination.

All forms of asbestos manufacturing, mining and importing, as well as the use of asbestos-containing materials, were banned by Australian federal legislation as of Dec. 31, 2003. Australia is one of only 60 nations that have completely banned the use of asbestos, with many nations still using the cheap, yet fatal, product.

## The Research

The need to encourage transformational change, and undertake a proactive risk management approach in regard to how emergency service agencies deal with incidents where asbestos is present, is becoming paramount.

Increasing the situational awareness of asbestos and the potential contamination of emergency service personnel will greatly reduce their risk of asbestos exposure.

## Media Attention

The issue of asbestos contamination at disasters has gained considerable media attention.

- The Black Saturday 2009 Bushfires brought the topic to the forefront.

- In January 2013, 31 of 36 homes tested as positive for asbestos contamination after being destroyed by a large bushfire in January at Coonabarabran (NSW).

- More recently, a storm through the southern coast town of Kiama in New South Wales resulted in the creation of a special exclusion zone. Residents were relocated from 16 dwellings, due to asbestos contamination from asbestos-containing material that spread across the area.

## Final Product

The final product of the research due to be completed in June of this year will support the recommendations of the 2012 Australian Governments Asbestos Management Review by consisting of three stages:

- Publication of a full report based on the research undertaken.

- Development of an "Asbestos Awareness Workshop" that can be used by any emergency service or organisation to provide an introduction on how to work with asbestos in the workplace or at incident scenes.

- Publication of a journal article for a peer-reviewed publication.

# The Need for Translational Research in Emergency Management

By Roger Glick, MS, MBA, CEM, FACHE, Senior Emergency Management Consultant, Carilion Clinic, and Instructor, Departments of Basic Science and Pediatrics, Virginia Tech Carilion School of Medicine, and Lindsey Anthony, MPA, CEM, Chief of Disaster & Hospital Emergency Management, Georgia Regents University

Systems (e.g. governments, businesses, universities) have increasingly recognized the value of competent emergency managers. The stakes for emergency managers have markedly increased over time, as they are being tasked with greater responsibility over lives and real assets. The consequences of failure for these individuals are stark. Their populations depend on them for the preservation of life, property and value, as emergency managers themselves also work to protect their careers. They must accomplish this by displaying a careful and critical stewardship of resources for hazard identification, mitigation and preparation, as funds are limited.

## Need for Quality Education

The enormity and complexity of the task requires more than on-the-job training. The need for quality and meaningful education is increasingly apparent. In this context, education refers to collegiate coursework, professional certifications, and the acquisition of specific knowledge that enables the emergency manager to do his/her job better. The education must be evidence-based and scientifically validated; the simple reporting of experiences, successful or not, is no longer adequate.

In his ground-breaking work, *The Importance of Evidence-Based Disaster Planning*, Auf der Heide listed seven common

assumptions related to hospital emergency management and then debunked each.<sup>1</sup> The significance of those findings, that there were at least seven commonly accepted notions that affected hospitals during a disaster, and yet evidence showed that all of them were false, is staggering. It raises the question of how many other assumptions regarding emergency response are being acted upon and would be found lacking if they were subjected to vigorous scientific scrutiny.

## Need for Scientifically Based Disaster Responses

The consequences of non-scientific based responses in a disaster, no matter how well-intentioned, are severe. In March 2012, the Institute of Medicine released a report finding that most U.S. health systems are unprepared for significant disasters.<sup>2</sup> Yet most emergency managers are not well-trained researchers, and in fact, many do not like participating in scientific research. Special knowledge, expertise and equipment are required to produce scientifically valid and meaningful research.

Therefore, it is critical for emergency managers to form coalitions, not only with other responders but also with scientists and academicians. Each brings valuable assets to the table. Emergency managers bring real-world challenges and experiences;

scientists use research and technology to develop emergency response tools and address troublesome issues; and academicians create strategies to share the newfound knowledge with those who use it, both currently and in the future.

## Translating Research into Practice

In the basic sciences, this type of science is known as translational research. Translational research is about translating research into practice.<sup>3</sup> Dr. Zerhouni, Director of the National Institutes of Health, wrote "...at no other time has the need for a robust, bi-directional information flow between basic and translational scientists been so necessary" in order to create truly innovative solutions to complex questions.<sup>4</sup> Working together, emergency managers, scientists, and academicians, become a powerful engine of creativity.

Carilion Clinic has built these coalitions. Emergency managers and physicians at Carilion Clinic have partnered with medical students at the Virginia Tech Carilion School of Medicine and with faculty and graduate students at the Virginia Tech Grado Department of Industrial Engineering to address some of the most pressing and complex issues in hospital emergency management. These topics include hospital evacuation planning, surge management, and the management of specialty populations, particularly pediatric victims, in a disaster.

The results of that work are shared with colleagues through conference presentations and through structured certification coursework, such as the Georgia

(continued on page 18)

<sup>1</sup> Auf der Heide, Erik. "The Importance of Evidence-Based Disaster Planning." *Annals of Emergency Medicine*. January 2006.

<sup>2</sup> "Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response." Institute of Medicine. March 2012.

<sup>3</sup> Woolf, SH. "The Meaning of Translational Research and Why It Matters." *Journal of the American Medical Association*. January 2008.

<sup>4</sup> Zerhouni, EA "Translational and Clinical Science – Time for a New Vision." *The New England Journal of Medicine*. October 13, 2005.

# U.S. Disaster Management: Keeping Pace with Change?

By Dr. Marla R. Kendig, DHA, CEM, CIH

**T**he face of America continues to evolve, but are disaster management practices evolving in light of the increasing severity and frequency of natural disasters?

## Population

The U.S. population has become more socioeconomically diverse with more low socioeconomic status (SES) populations. Americans living under the poverty level are at 14.3%, and more than 15% of those over 25 years of age do not have a high school diploma. Youth (under 19 years) comprise nearly 30%, while persons over 65 constitute 14%. Combined, these account for approximately 44% of America (U.S. Census, 2010), with the over 65-cohort expected to double in the next 20 years. Minorities make up 35%, with the Hispanic-American/Latino community numbering as the largest minority and expected to exceed 40% of the total U.S. population by 2050. In addition, federal research provided evidence of the effects of: (1) environmental alterations and zoning, with rising population density in coastal areas; and (2) increased urbanization, with nearly 80% of the U.S. population residing in urban areas.

## Natural Disaster Trends

A total of 90% of the world's natural disasters have occurred since 1952, and major disaster declarations nearly doubled in the United States since 1953. Between 1953 and 2011, 2,048 disasters were declared, averaging 35 annually, but the last 15-year average was nearly 60 (FEMA, 2011). Approximately 3,000 earthquakes occur in the United States each year, along with 10,000 severe storms, including an average of six hurricanes and 800 tornadoes (NOAA, 2009). In 2011,

nearly 500 tornadoes caused more than 450 fatalities within several weeks in the Midwest (NOAA, 2011). The focus of emergency management shifted from natural disasters to terrorism, prompting the formation of DHS in 2004, but has preparedness for natural disasters been diminished?

## National Reports

■ FEMA's 2008 report, *Interim Emergency Management Planning Guide for Special Needs Populations: Comprehensive Preparedness Guide 301*, found: "Throughout the history of emergency management planning, considerations for special needs populations have often been inadequate" (p.1).

■ The 2009 Save the Children report (*The Disaster Decade: Lessons Unlearned for the United States*) delineated specific inactions by the U.S. government through "benign neglect," which placed unnecessary risk on those with the least capabilities to protect themselves. DHS's Nationwide Plan Review (NPR) in 2010 highlighted improvements since the 2006 NPR, which reported that no state had sufficiently addressed low SES populations in disaster management.

## Research Findings

From a 2012 doctoral research study (*Disaster Management for Socioeconomic Status Challenged Populations in the United States*), five predominant, emerging themes arose based upon triangulation of qualitative data from advocates for low SES populations, governmental disaster officials (GDOs) and nongovernmental disaster relief agencies (NGDRAs), and literature:

■ **Insufficient Planning for Low SES Populations.** Lack of uniformity and integration of all

stakeholders in planning hindered effective response, and planning was found to be generalized instead of specifically designed to cope with unique hazards or populations.

■ **Inequalities and Discrimination by Disaster Officials and Response Agencies.** Inequalities in planning and response were highlighted by advocates of low SES populations, but not by GDOs or NGDRAs.

■ **Native American Disaster Management.** Disrespect toward Native American and tribal reservation sovereignty was noteworthy, as GDOs and advocates relayed similar concerns about the ability of tribes to survive and recover from disasters based on relationships with state and federal governments. These concerns prompted the 2011 Rahall H.R. 1953 bill. In 2013, President Obama signed legislation to support nation-to-nation disaster assistance.

■ **Disaster Preparedness Education for Children.** FEMA's first 2012 *Think-Tank* noted that disaster preparedness curriculum was absent in schools, which could provide consistent information and empower children to educate their parents.

■ **Importance of Local Responders.** One premise of disaster management is *disasters happen and are handled locally*, including following the local incident command structure, but not all responders have complied. In addition, community-based responders were knowledgeable of the population and could tailor communications and supplies to fit the local population's needs.

## Research Challenge

To enhance collaboration and comprehension, qualitative,

(continued on page 18)

## Post-Incident Trauma Interventions: Reevaluating the Use of Critical Incident Stress Debriefing

By Brian Crisan, IAEM Student Member, University of Akron

**R**ecent concern over the rise in military suicides has sparked increased interest in discussing the psychological effects of responding to disasters. In particular, it is widely recognized that first responders and military personnel are at a greater risk for exposure to traumatic events, which makes them potential candidates for the development of Post Traumatic Stress Disorder (PTSD).

In this article, it is argued that emergency management professionals and others engaged in responding to disasters should reevaluate the use of Critical Incident Stress Debriefing (CISD) after critical incidents. There is a growing body of research that calls the efficacy of CISD into question. There is even some research that suggests that CISD may cause long-term harm to those who suffer from PTSD. Some of this research is presented below.

### What is CISD?

CISD is a therapeutic intervention that is popular with first responders. It is an intervention that seeks to prevent the emergence of psychopathology in high-risk occupational groups in group settings or, less commonly, in individual settings within one or two sessions (Becker, Meyer, Price, Graham, Arseno, et al., 2009).

Sessions usually last about three to four hours and occur within 24 to 72 hours of a traumatic event. Therapists who utilize CISD encourage group members to process negative emotions, discuss PTSD symptoms that may emerge (Lilienfeld, 2007), and normalize reactions to trauma, while educating clients on adaptive coping strategies (Litz, Gray, Bryant, & Adler, 2002).

### Problems with CISD

Despite its popularity, recent research suggests that empirical support for CISD is limited and that supporting research suffers from methodological problems (Becker et al., 2009). Several controlled studies have shown CISD to be ineffective at reducing symptoms of PTSD in trauma-exposed individuals.

A couple of randomized controlled trials indicate that CISD may even have harmful effects. One of these harmful effects may be that CISD interferes with a participant's natural recovery processes (Lilienfeld, 2007). Some evidence also exists that CISD may aggravate PTSD symptoms (Litz, et al., 2002). A recent meta-analysis of single-session debriefing has found that CISD might not give victims of trauma enough time for habituation, which may result in making victims more sensitive to trauma-related stimuli (van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002).

Although normalization is a goal of CISD, this goal may have the unintended consequence of suggesting that normal reactions to trauma require professional care (van Emmerik, et al., 2002). Invitations to participate in CISD sessions are typically given to all personnel involved in a critical incident without regard for the degree of their symptoms or functional impairment.

The operative assumption behind this strategy is the notion that all trauma-exposed individuals are at risk for the development of PTSD. Epidemiological research has shown that this is not the case. Furthermore, the peer support aspect of CISD may seem like an attractive benefit, but in practice this may cause a number of problems. For example, the

inclusion of one's peers may create group expectations, which could pressure individuals to conform to the group and limit the sharing of particularly significant experiences (Litz, et al., 2002).

It is interesting to note that most recipients of CISD believe that the intervention they experienced has been helpful. This belief persists despite research that has objectively demonstrated that CISD had no effect. Lilienfeld (2007) offers a potential explanation for this mistaken belief: CISD recipients are probably improving on their own (just as most individuals do) and are instead misattributing their improvement to CISD.

### Suggestions for Future Post-Incident Intervention

Future research should explore the use of evidence-based treatment. Psychological first aid may be an appropriate initial intervention, but it is not a therapeutic intervention. Cognitive behavioral therapy (CBT) is a form of therapy indicated for people who are at risk for PTSD (Litz, et al., 2002). Greater scrutiny should be placed on strategies that have weak empirical support.

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## FROM THE IAEM-USA EMERGING TECHNOLOGY CAUCUS

**Recommended Reading: Response and Recovery Made Better**

By G.S. Cleere, U.S. Department of Homeland Security, Science and Technology Directorate

**Note:** In its effort to identify evidence-based best practices, the IAEM-USA Emerging Technology Caucus would like to recommend the following article for your review.

**O**n the morning of Dec. 6, 1917, in the port of Halifax, Nova Scotia, near the U.S. border in Maine, the *Mont Blanc*, a French ship filled with military explosives, collided with another vessel. Twenty minutes later, a fire set off the *Mont Blanc's* volatile cargo and caused a catastrophic explosion – killing thousands and destroying an entire section of the nearby city. Rescue efforts were dispatched immediately from the Canadian mainland as well as the United States, but confusion and lack of immediate information delayed some of the rescue efforts for hours.

**Canada-U.S. Enhance Resiliency Experiment**

A recent joint experiment held in Maine and New Brunswick (NB) proved that, even across borders, any immediate confusion or lack of information following an incident like the *Mont Blanc* may not greatly affect overall rescue efforts. Included in the experiment were officials from the Maine Emergency Management Agency (MEMA), the Province of New Brunswick Emergency Measures Organization, Department of Homeland Security's (DHS) Science and Technology Directorate (S&T), Federal Emergency Management Agency (FEMA), the Defence Research and Development Canada's Centre for Security Science of the Canadian Depart-

ment of National Defence, and Public Safety Canada.

First responders and international officials on both sides of the U.S.-Canadian border had been preparing since last fall for the Canada-U.S. Enhance Resiliency Experiment (CAUSE). The purpose of this exercise was to demonstrate the ability to exchange information between local, state, provincial and national systems, and software applications, including Virtual Maine, the Mutual Aid Support System and Mission Ready Package Tools (MASS MRP), Canada's Multi Agency Situational Awareness System (MASAS) and the United States' Integrated Public Alert and Warning System (IPAWS), as well as the U.S.'s Virtual USA® (vUSA).

The vUSA library and widget, developed by DHS S&T and made available to all cooperating agencies and jurisdictions, allowed each agency or jurisdiction to make their unique data available to other participants. When incident specific information, alerts or warnings are needed across jurisdictional lines, or indeed across international borders, vUSA enables that information to be found and used in near real time.

**Two Scenarios Test Bi-national First Response**

During the CAUSE, two scenarios were used: a massive oil refinery fire in Saint John, NB, and the explosion of a compressed natural gas truck near the Calais, Maine, border crossing. In each case, first responders required an information exchange for response efforts from all neighboring jurisdictions on both sides of the border (bi-national first response)

in near real time, including incident reports, evacuation routes, road closures, hospital status/locations, weather issues, availability of hazmat teams, incident response assets, fire and rescue units, triage locations, availability and location of needed resources, and virtually anything else first responders might need.

At the Command Posts, first responders in Saint John and Calais created incident reports, generated requests for mutual aid, and issued alerts. Through the integration of Virtual Maine, vUSA, MASS MRP, MASAS and IPAWS, first responders were able to see, communicate, and use the critical information being provided to them through the five systems.

**Results of CAUSE Exercises**

"In every exercise of CAUSE," noted S&T's lead, Dr. David Boyd, "It worked more effectively and rapidly than we had hoped. This is a tremendous milestone in tearing down the technological Tower of Babel along national borders."

"When we get calls from first responders in Calais and Washington County," noted MEMA's Deputy Director Bruce Fitzgerald, "our role is to provide support and help so that we can save lives and property. In this experiment, we requested international mutual aid, including ambulances and hospital resources from New Brunswick. We also requested an available helicopter medivac unit from the New Hampshire National Guard to support the operation.

"Responders at the incident scene in Calais, at the State Emergency Operations Center (EOC) in Augusta, and our partners in New Brunswick were all able to visualize these resource

<sup>1</sup> This article was provided and peer-reviewed by the IAEM-USA Emerging Technology Caucus.

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# WELCOME TO DISASTER HERO



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This game is now available to play free of charge at [www.disasterhero.com](http://www.disasterhero.com). Friend us on Facebook at [www.facebook.com/DisasterHero](http://www.facebook.com/DisasterHero).



This program was supported by Cooperative Agreement Number 2008-GT-T8-K028, administered by the U.S. Department of Homeland Security/FEMA. Points of view or opinions in this program are those of the author(s) and do not represent the position or policies of the U.S. Department of Homeland Security/FEMA.

## PLAY FOR FREE AT [WWW.DISASTERHERO.COM](http://WWW.DISASTERHERO.COM)

## Case Study Methodology

(continued from page 11)

says: “Do case studies, but do them with the understanding that your methods will be challenged from rational (and irrational) perspectives and that the insights resulting from your case study may be underappreciated.”

### Conclusion

Emergency management research is important. I hope other researchers will build on the work of others, as I did with Dr. Parker’s assessment tool, and consider using a case study methodology.

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## USA Keeping Pace with Change?

(continued from page 14)

research studies need to be designed to allow the voices of *all* stakeholders to be heard, instead of just GDOs. However, systems may first need to be in place to allow immediate reporting of issues (e.g., hotlines) instead of anecdotal data in journals, which has limited value. Due to the paucity of literature for many minority groups, future research should be specific to each low SES group on a local or regional basis.

Increased disaster research involving the collective knowledge of advocates for low socio-economic status (SES) populations and disaster officials could develop into robust guidance and a collaborative leadership model to be replicated and enhanced for the benefit of all Americans.

## Need for Translational Research in EM

(continued from page 13)

Regent’s University’s Certified Hospital Emergency Coordinator course. Emergency managers who have attended these presentations have consistently been given high rankings on learning this new information on post-workshop surveys.

The development of interdisciplinary coalitions to do translational research – and to present the findings to students and colleagues, who use the information immediately in practical settings – leads us to conclude that there is real need and value for translational research in emergency management.

## Emerging Technology: Recommended Reading

(continued from page 16)

deployments using their respective situational awareness tools, Virtual Maine and MASAS. Sharing incident data in a common operation picture has been a long-standing goal in both Maine and New Brunswick. We are very pleased to have achieved that through the CAUSE experiment.”

CAUSE is a direct result of the joint U.S.-Canada *Beyond the Border Initiative* signed by U.S. President Obama and Canada’s Prime Minister Harper in February 2011, to further enhance the economic and national security of both nations. The CAUSE demonstration represents an important milestone for the *Beyond the Border Action Plan for Perimeter Security and Economic Competitiveness*.

## Post-Incident Trauma Interventions

(continued from page 15)

■ Litz, B. T., Gray, M. J., Bryant, R. A., & Adler, A. B. (2002). Early Intervention for Trauma: Current Status and Future Directions. *Clinical Psychology: Science and Practice*, 9 (2), 112-134.

■ Van Emmerik, A. A.P., Kamphuis, J. H., Hulsbosch, A. M., & Emmelkamp, P. M.G. (2002). Single session debriefing after psychological trauma: a meta-analysis. *The Lancet*, 360 (9335), 766-771.

## Help Wanted: Oceania-Asia CEM® Commission

The Oceania-Asia CEM® Commission is looking for candidates to fill several commissioner openings for the Class of 2016, serving on the panel from Jan. 1, 2014 to Dec. 31, 2016. The Oceania-Asia CEM® Commission discusses policy and procedure changes regarding the certification program, and reviews applicant packages for the Certified Emergency Manager (CEM®) and Associate Emergency Manager (AEM<sup>SM</sup>) credentials. Commissioners who are emergency management practitioners must be a current CEM®. The Oceania-Asia CEM® Commission conducts the reviews for Europa Council candidates and will accept commissioner application from the Europa Council as well.

### Nominations Must Include These Items

Candidates interested in serving on the Oceania-Asia CEM® Commission should submit the following items to Kate Walker, [kwalker@iaem.com](mailto:kwalker@iaem.com), by **July 1, 2013**:

■ **Letter of intent expressing desire to serve** as an Oceania-Asia CEM® Commissioner as well as willingness to devote the necessary time and travel to attend Oceania-Asia CEM® Commission meetings.

■ **Personal commissioner qualities** – a short narrative (maximum of two pages) describing the qualities the applicant will bring to the commission.

Include the date of CEM® initial certification and recertification(s), as appropriate.

■ **Qualification(s) to serve** – up to a one-page description of the candidate's qualifications for the category(ies) of participation to be considered. Categories include: uniformed services, EM practitioners, EM consultants, academia, etc.

### ■ Current resume.

Upon receipt, candidate will receive confirmation that information was received by IAEM HQ. Late submissions may be held over for the following year.



### Nominations Must Include These Items

The Oceania-Asia CEM® Commission meets on an as-needed basis, and most reviews are conducted electronically. Candidates are expected to make every effort to attend all Oceania-Asia CEM® Commission meetings and participate in conference calls. Candidates should be aware that online application reviews *may* be enacted during the commissioner's term.

For additional information, please contact Certification Administrator Kate Walker, [kwalker@iaem.com](mailto:kwalker@iaem.com).

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## Help Wanted: USA CEM® Commission

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### Nominations Must Include These Items

Candidates interested in serving on the USA CEM® Commission should submit the following items to Kate Walker at [kwalker@iaem.com](mailto:kwalker@iaem.com) by **July 1, 2013**:

- **Letter of intent expressing desire to serve** as a USA CEM® Commissioner as well as willingness to devote the necessary time and travel to attend USA CEM® Commission meetings.

- **Personal commissioner qualities** – a short narrative (maximum of two pages) describing the qualities the applicant will bring to the commission. Include the date of CEM® initial certification and recertification(s), as appropriate.

- **Qualification(s) to serve** – Up to a one-page description of the qualifications for the category(ies) of participation to be considered as described in the chart below.

- **Current resume.**

Upon receipt, candidate will receive confirmation that information was received by IAEM HQ. Late submissions may be held over for the following year.



### Responsibilities of CEM® Commissioners

The USA CEM® Commission meets about three times a year, with each review meeting lasting four to five days, along with periodic conference calls. Candidates are expected to make every effort to attend all USA CEM® Commission meetings and conference calls. Candidates should be aware that online application reviews *may* be enacted during the commissioner's term. To look at the typical credential review schedule, see [www.iaem.com/page.cfm?p=certification/application/credential-review-dates&lvl=2](http://www.iaem.com/page.cfm?p=certification/application/credential-review-dates&lvl=2). For additional information, please contact Certification Administrator Kate Walker at [kwalker@iaem.com](mailto:kwalker@iaem.com).

## Commission Categories of the USA CEM® Commission

### VOTING MEMBERS

EM Practitioners	EM professionals working as emergency managers in federal, state, tribal, or local government, private sector, uniformed services, not-for-profit, or academia.
EM Consultants	Private Sector, provides EM services to clients but not serving directly in an EM position for their company or organization.
Uniformed Services	All branches, provides EM services to their respective branches. Uniformed services includes: Army, Marine Corps, Navy, Air Force, Coast Guard, NOAA, and Public Health Service.
Not-for-profit	Must be recognized affiliate of IAEM, provides EM services to their respective organizations but not serving directly in an emergency management position for their organization.
Academia	Representatives of institutions of higher learning in emergency or disaster management; provides EM services or serves as faculty for EM-affiliated programs.

#### Council Representatives for USA CEM Commission:

Canadian Council Representative – appointed by Canada Council President.

International Council Representative – appointed by International Council President.

Student Council Representative – appointed by Student Council President.

**NOTE: Council Representatives are not part of the USA Board selection process, but are appointed directly by their respective Council President.**

### SPECIAL APPOINTMENT: NON-VOTING MEMBERS

AEM <sup>SM</sup>	representative from any category who has earned the AEM <sup>SM</sup> but not the CEM®.
FEMA	appointed by FEMA Administrator
NEMA	appointed by NEMA President
CEM® Lead Instructor	retained by subcontract

Additional specific appointments, subject matter experts, and up to two federal, national, state or provincial EM representatives may be appointed as non-voting members of the commission for a one-year term.

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## Call for Nominations: IAEM-USA Second Vice President and Treasurer

**Deadline: Friday, Aug. 16, 2013, 5:00 p.m. ET**

IAEM-USA will elect new officers at the IAEM 61st Annual Conference & EMEX 2013, set for Oct. 25-30, in Reno, Nevada. Candidates for IAEM-USA Second Vice President and IAEM-USA Treasurer must submit credentials by **5:00 p.m. Eastern time, Friday, Aug. 16, 2013**, to IAEM Headquarters.

**To be placed on the ballot, candidates must submit:**

- a letter stating candidacy;
- a letter of permission from the candidate's immediate supervisor supporting the time and travel necessary to fulfill duties of office;
- a brief resume; and
- confirmation of membership of at least three years immediately prior to seeking office.

Individual members are eligible to hold national office, provided they have been a member for at least three consecutive years, and

have served as a regional or national officer, national committee chair, or active national committee member for two consecutive years.

For more information, see the IAEM-USA Administrative Policies & Procedures at [www.iaem.com/members/APP-IAEM-USA01Nov2012.pdf](http://www.iaem.com/members/APP-IAEM-USA01Nov2012.pdf) or e-mail IAEM Membership Manager Sharon Kelly at [info@iaem.com](mailto:info@iaem.com).



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## Entry Deadline for IAEM Awards Competition: May 31

**T**ime is running out! The 2013 IAEM Awards Competition ends on **May 31, 2013, at 5:00 p.m. Eastern Time**. Rocky Lopes, Chair of the IAEM-Global Awards Group and IAEM-USA Awards Committee, on behalf of all committee members, encourages you to enter the 2013 IAEM Awards Competition. Submit your entry, including all supporting material and entry forms to Karen Thompson at [Thompson@iaem.com](mailto:Thompson@iaem.com). There will be no extensions to the entry deadline.

Everything that you will need to enter the IAEM Awards Competition is posted at [www.iaem.com/Awards](http://www.iaem.com/Awards). Read about the various 2013 award categories, and take the time to review the posted entries of last year's winners. You may be inspired to enter your innovative project, which in turn may provide the perfect solution to a challenge facing some of your EM professional colleagues.

Whether you are submitting an entry for the Public Awareness Award, Technology & Innovation Award, or Partners in Preparedness Award – or whether you are nominating someone for the Clayton R. Christopher Award or a Uniformed Services or Student Award – the IAEM Judges welcome your entries. **Visit [www.iaem.com/Awards](http://www.iaem.com/Awards) today** to learn how to enter the 2013 IAEM Awards Competition.

## Application Period for 2013 IAEM Scholarships Now Open

**T**he application period for 2013 IAEM Scholarships is open until **May 15, 2013, 12:00 a.m. (midnight) U.S. Eastern time**.

IAEM scholarships are awarded through a competitive process to full-time students pursuing an associate or baccalaureate diploma or a graduate degree in emergency management, disaster management, or a closely related field. Beginning in 2013, the application process has been divided; undergraduate and graduate students will no longer apply using the same application.

**Go to [www.iaem.com/Scholarships](http://www.iaem.com/Scholarships)**, and click on *Application* to download the undergraduate or graduate 2013 IAEM Scholarship Application Form.

IAEM established the IAEM Scholarship Program to nurture, promote and develop disaster preparedness and resistance by furthering the education of students studying the field of emergency management, disaster management or a related program.

The purpose of the program is to assist the profession by identifying and developing students with the intellect and technical skills that can advance and enhance emergency or disaster management. The program is sustained through donations from individuals and corporations. To donate or learn more, visit [www.iaem.com/Scholarships](http://www.iaem.com/Scholarships).

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## IAEM Bulletin Call for Articles: Students in Emergency Management Deadline for Submissions: July 10, 2013

**T**he IAEM Editorial Work Group seeks articles for the third special focus issue of 2013, which will be built around the theme of “Students in Emergency Management.”

Possible articles might include: what you are looking for as an emergency management student; what you expect to get out of your EM-related degree work; how you are finding the job market as a recent graduate; how your degree prepared you for your first job as an emergency manager; or why you “went back to school” (whether you’re an emergency manager going for a degree or a non-emergency manager hoping to change careers).

Please keep your article to no more than 750 words, and read the *IAEM Bulletin* Author’s Guidelines at [www.iaem.com/Bulletin](http://www.iaem.com/Bulletin) before submitting your article to *IAEM Bulletin* Editor Karen Thompson at [Thompson@iaem.com](mailto:Thompson@iaem.com) **no later than July 10, 2013**.

If you are interested in advertising in the *IAEM Bulletin*, visit [www.iaem.com/Bulletin](http://www.iaem.com/Bulletin) to download the 2013 Advertising Guidelines. Note: IAEM members and EMEX exhibitors receive discounts on ad rates.

## EM Calendar

Visit [www.iaem.com/calendar](http://www.iaem.com/calendar) for details on these and other events.

May 3-4	Children's Disaster Assistance Workshop, Litchfield, CT.
May 21-22	Aid & International Development Forum, Washington, DC, <b>supported by IAEM.</b>
May 28-30	Australia and New Zealand Disaster and EM Conference, "Earth: Fire and Rain," Brisbane, Australia.
May 29	Disaster Readiness Conference 2013, "Preparing for the Unexpected IV: Learning from Response, Planning for Recovery, Wenatchee, WA.
June 3-6	FEMA 16th Annual Emergency Management Higher Education Symposium, EMI, Emmitsburg, MD.
June 13-14	2013 Ontario Association of Emergency Managers Annual Meeting, Mono, ON, Canada.
June 23-26	2013 World Conference on Disaster Management, "The Power of Global Networking," Toronto, ON, Canada, <a href="http://www.wcdm.org">www.wcdm.org</a> , <b>15% off a full conference pass for IAEM members, supported by IAEM.</b>
June 23	WCDM Workshop: "Forbes-Kay Charrette: Can Disease Actually Improve Resilience?" Toronto, ON, Canada, <a href="http://www.calamityprevention.com/training/FK-Charrette-2013-WCDM.html">www.calamityprevention.com/training/FK-Charrette-2013-WCDM.html</a> .
July 19-22	2013 NACo Annual Conference, Fort Worth, TX.
Sept. 9-13	NEMA 2013 Annual EM Policy & Leadership Forum, Anchorage, AK.
Sept. 16-18	Beijing International Emergency Rescue Expo (ERE), Beijing, China, <b>supported by IAEM-Asia, which will hold its annual conference at ERE.</b>
Oct. 25-30	<b>IAEM 61st Annual Conference &amp; EMEX 2013</b> , "Emergency Management in a Changing World," Silver Legacy Hotel and Reno Events Center, Reno, NV.

## The IAEM Bulletin Online

The online edition of this issue includes additional material, available for members only at [www.iaem.com](http://www.iaem.com).

■ New IAEM Member Listing.

■ "An Overview of Job Seeking in the World of EM for Educators and Their Students," by Clinton Anderson, Emergency Preparedness Planner, Tri-County Health Department, Denver, CO, and Elizabeth Russell, Public Assistance Specialist, Austin, TX.

■ "National Thought Leadership Group Develops Complex and Mass Fatality Management Papers Including Key Prescriptives," by Cynthia Gavin and John Nesler, CEM, Batelle, Hampton, VA.

■ "Resilient Regions: EM and Regional Integration," by Peter Schalk, University of Victoria, Canada.

■ "Organisational Resilience," by Tracy Hatton, Erica Seville, John Vargo, and Suzanne Wilkinson, Resilient Organisations, New Zealand.

■ "Profiling School Shooters: Research Challenges Established Stereotypes," by Todd J. Jasper, Associate Director, Homeland Security and Emergency Management Division, MSA, Inc., and Jason Geneau, Deputy Director for Planning and Implementation, Disaster Management & Homeland Security Services Division, Tetra Tech, Inc.

■ "Opting In or Opting Out: Enhancing the Effectiveness of College Student Emergency Notification Systems," by Bernard J. McCarthy, Natalie Hanrion, Aida Hass and David Claborn, Missouri State University.

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■ "Issues in Disaster Science and Management," by Tony Subbio, CEM, Emergency Management Specialist, Tetra Tech, Inc., and Joseph E. Trainor, Ph.D., Assistant Professor, University of Delaware Disaster Research Center.

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# A Brief Overview of Job Seeking in the World of Emergency Management for Educators and Their Students

By Clinton Anderson, *Emergency Preparedness Planner, Tri-County Health Department, Denver, Colo.*, and Elizabeth Russell, *Public Assistance Specialist, Austin, Texas*

**Editor's Note:** A longer version of this article, with more details of the authors' research findings is available online as a [special PDF supplement to this issue in the IAEM Bulletin Archives](#).

As educators, one of the questions we most frequently encounter is, "What type of job can I get after getting this degree?" A similar variation is, "What does it take to be an emergency manager?" As practitioners, we know the answer is not necessarily that hard. However, it can be tough to define in a tangible, actionable manner.

As with any degree, the degree itself does not mean that an individual is ready to take on being an emergency manager – merely that an individual should have a solid understanding of the mechanics involved in the particular area in which the degree was earned. The acquiring of hands-on skills, after all, is exceptionally vital to success and a component that cannot be overlooked.

Additionally, while the value of this experience is vital to working in emergency management, Forbes states that 60% of college graduates cannot find work in their field – over half of all graduates – diminishing the feeling of return for students who recognize that their time may be spent on an unfruitful adventure.

In wanting to be able to provide clear, science-based requirements to our students and in recognizing that little reliable information was available, we decided to explore the issue by looking at what employers were seeking in prospective employees, nominally through the use of Internet job websites. Over the course of three months, we scoured six different Internet job websites on a daily

basis, specifically looking for emergency management jobs in our quest to create a picture of the ideal entry-level candidate. What we found was:

## Characteristics of Ideal Entry-Level EM Job Candidates

This individual:

- has a bachelor's in emergency management with a minor in business-related fields, or vice-versa;
- has one or more years in emergency management with an emphasis in planning or policy;
- must be willing to move to acquire a position – particularly to the East Coast;
- has experience with policies and procedures;
- has the ability to write professionally;
- is able to use computers independently and well;
- is a relationship-builder and coordinator;
- should value experience over certifications; and
- should expect a salary of \$40,000.

## Applications to the Field

So what does this mean? How can we translate this into actionable material for students and job seekers? While the study has its own limitations and drawbacks, the following can generally be derived from its findings.

■ **For the Average Job Seeker:** Generally speaking, a person looking to find jobs in the emergency management field will benefit from using job-posting aggregators, such as Indeed and SimplyHired, as well as those most directly related to the field, particularly the [IAEM Jobs Board](#).

Additionally, they may need to recognize the geographical limitations associated with these job searches. While many states may have had one or two openings per state, a majority of jobs were lumped into seven locations: Washington D.C., New York, Texas, Florida, California, Maryland, and Virginia. Seriousness about entrance into these jobs may thus require that job seekers be willing to relocate, depending on their current location.

■ **For Students:** Students should branch out beyond book and certificate-based learning. While education is certainly important, they should look for the opportunity to develop hands-on experience, not only in arenas that allow them to develop both subject-matter knowledge (such as that on planning), but also those that allow them to develop non-tangible skills, such as building relationships, making contacts, and developing writing and communication skills.

■ **For Educators:** Educators should take an active role in developing a student's understanding of the field of emergency management as a whole, including the availability of jobs and the building of successful resumes. Educators should also consider providing students with local industry connections and encourage the development of untaught but necessary life skills through their inclusion and execution of course objectives.

## Conclusion

While this study is simply a quick overview of jobs in emergency management, what the results demonstrate is that emergency management is a field of aggregates – rather than viewed as

(continued on page 28)

## National Thought Leadership Group Develops Complex and Mass Fatality Management Papers, Including Key Prescriptives

By Cynthia S. Gavin and John Nesler, CEM, Battelle, Hampton, Virginia

“For this field (CMFM) to get recognized, there must be a more scientific methodology developed and articles published, so that senior leaders may begin to recognize this is a serious disaster response field and, if not handled well, will have a severe negative impact.”

– Cynthia S. Gavin, *New York City International Conference for Mass Fatality Management*, Apr. 26, 2012

The importance of fatality management is painfully conspicuous when it fails. Recent history is replete with events in which a lack of effective fatality management resulted in significant negative ramifications for the public and for the local, state and federal responding entities. Lieutenant General Russel L. Honoré identified this response flaw during Hurricane Katrina, stating: “The people of America will not settle to see fellow Americans going to waste on the street. (Thus,) we must take the mission of mortuary affairs right behind saving lives, (and) its execution must be implemented concurrently.”

However, the complexity of mass fatality management permits no easy solutions. It confounds even experienced disaster response planners, nationally and internationally. Its complexity arises from the multitude of factors that combine to influence the outcome. These factors include public expectations, perceptions, and the extent to which responding agencies are capable of organizing a safe, respectful and timely response. Most entities are grossly unprepared to deal with the enormous number of agencies required to manage a mass fatality incident (MFI) successfully. The overwhelming impact of an MFI

illustrates the need to apply a more scientific approach to complex and mass fatality management (CMFM) preparedness planning, training and exercises.

### Applying Scientific Method to Gaps in CMFM

Battelle Memorial Institute has taken a first step in applying the scientific method to the significant gaps in CMFM by initiating an ambitious thought leadership effort. Battelle brought together a select group of distinguished fatality management experts to identify and explore concepts that may influence how entities view and manage mass fatality incidents through an applied and integrated science perspective. The members of this Mass Fatality Management (MFM) Thought Leadership Group are: Cynthia Gavin; Lee Green; Ray Collazo; Frank DePaolo; Sue Ann Derkach; Eric Emery; Don Kautz, Ph.D.; Elias Kontanis, Ph.D.; Mike Luke; Cameron Ritchie, Ph.D.; Rocky Shaw; Paul Sledzik; Kenneth Tabor; Cindy Taylor; Lisa Valentine; Jannine Wilmoth; and John Nesler, CEM.

The MFM Thought Leadership Group developed four perspective papers on CMFM through a series of nine facilitated teleconference calls. These papers focus less on providing solutions and more on identifying how science should be applied deliberately and empirically to the study of CMFM to ensure that emergency management decisions are evidence based. These papers contain key prescriptives and insights on their respective topics.

The intent of these papers was to transcend current thought on CMFM issues in order to identify new ways of thinking, approaching, and depicting the topic and associated issues. Each thought leader-

ship paper identifies how science can be used to study CMFM deliberately and empirically, to provide emergency managers with a foundation for evidence-based practice, rather than dependence on anecdotal experience.

The following four papers were developed:

- Complex Mass Fatality Management (CMFM) Thought Leadership Position Paper: “The Field of Fatality Management Requires Its Own Emergency Support Function (ESF) within the National Response Framework (NRF).”

- MFM Thought Leadership Position Paper: “Disasters Need to be Characterized in MFM Terms to Provide a Basis of Understanding During the Event and upon Scientific Investigation Post-event.”

- Thought Leadership Key Prescriptive: “The United States Must be Prepared to Safely Manage CBRN Contaminated Decedents.”

- MFM Thought Leadership Position: “Fatality Management Must be Redefined Appropriately with the Intent of Becoming a Scientific Field Housed within Academia.”

Upon development of the final drafts of the papers, a two-day CMFM Thought Leadership Symposium was held Oct. 18-19, 2012, at Battelle’s corporate headquarters in Columbus, Ohio. The symposium served as a forum to conduct an open participative review of the papers and their concepts.

A key revelation emerging from the ensuing discussion was that the field of CMFM was not adequately defined. To anchor the discussion, the authors focused on describing CMFM using 14 major components listed below:

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## National Thought Leadership Group

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- MFI site characterization.
- Near-, mid- and long-term family management.
- Decedent investigative recovery.
- Creation of a decedent manifest.
- Tracking of all ante- and postmortem data.
- MFM personnel health and safety.
- MFM communication and messaging.
- Decedent transportation.
- Expansion of morgue operations.
- Death certificate management
- Management of CBRNE-contaminated human remains.
- Short-, mid- and long-term temporary storage and interment.
- Final disposition community liaison.
- Staff care and staff family assistance.

Each paper presented background on the subject, discussion of critical issues, and a key prescriptive for addressing the challenges. The following paragraphs describe the key prescriptives from each of the four thought leadership papers. The full text of the papers can be found as special PDF supplements to this issue in the [IAEM Bulletin Archives](#). Each PDF is linked separately below to the title of each paper.

■ [Thought Leadership Key Prescriptive: The Field of Fatality Management Requires Its Own Emergency Support Function \(ESF\) within the National Response Framework \(NRF\)](#)

Fatality management is currently an element of ESF #8, along with all of the major medical response functions. This alignment of medical and fatality management under one ESF creates an organizational construct that

inadvertently subjugates the preparedness and operational readiness required to execute CMFM successfully. A case can be made that, by including so many critical functions within ESF #8, the NRF may have created an ESF that is so complex that all of the functions cannot be effectively accomplished – in essence, ESF #8 is “too big to succeed.”

The expansiveness of ESF #8, combined with the competing missions of life-saving and decedent management, has given rise to a myriad of gaps with regard to the scope of the services, management, knowledge/experience requirements, messaging, and preparedness at all levels of government. The aggregate of these challenges and the problematic organizational construct speaks to the need for an ESF change. Fatality management needs a separate ESF to eliminate the potentially false decision point of “medical over MFM” that originates from a faulty organizational design. In this way, caring for the deceased in a dignified manner would no longer be subject to compromise.

A separate ESF for a specific functional field or activity is not without precedent. ESF #9 – Search and Rescue offers a working model that has applicable benefits for CMFM as its own ESF. Search and Rescue has no competing mission or confusion regarding its federal coordination requirements. The supporting entities are able to fulfill their function of supporting the needs of the single mission identified without complication.

A fatality management ESF would enable all levels of government to organize, coordinate, and focus on the complex activities associated with this disaster functional response area. A separate ESF would address gaps across the spectrum, from processes to expertise. Fatality management as a separate ESF, by its very title, would establish new

language that addresses the scope and identifies the requirements that all levels of government must manage when executing CMFM.

■ [MFM Thought Leadership Position Paper: Disasters Need to be Characterized in MFM Terms to Provide a Basis of Understanding During the Event and Upon Scientific Investigation Post-event.](#)

The characterization of MFIs requires advanced development, so that in addition to describing the breadth and scope of an incident in CMFM terms, it also links to operational needs, public messaging needs, and scientific analysis. MFI characterization must be linked to the overarching disaster assessment conducted within the context of the incident management system (ICS) so that all entities are able to recognize that the incident is not over when all living casualties have been removed from the disaster site.

MFI characterization must be founded upon specified elements:

- ◆ Resource identification.
- ◆ Safety needs.
- ◆ Need for conducting specific planning.
- ◆ Involvement of external entities.

In essence, characterizing disasters in MFI terms requires knowledge and the ability to apply and integrate key findings to develop an operational management structure that effectively achieves the mission objectives associated with MFM.

■ [Thought Leadership Key Prescriptive: The United States Must be Prepared to Safely Manage CBRN-Contaminated Decedents](#)

To ensure that the nation has the capability to manage CBRN-contaminated decedents safely, a deliberate program dedicated to cross-leveling both the materiel and non-materiel aspects of this technical area must be established. No longer will an ad hoc approach suffice. The level of technical detail, scientific understanding, and

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programmatic tasks demands a dedicated program, with a comprehensive approach backed by appropriate senior leadership to cross functional lanes and develop consensus. In addition, a harmonious balance must be developed between a materiel development requirement and a deliberate acquisition process that accounts for the rapid cyclic changes in technologies and materials occurring every two to four years, which require new materials to be retested and applied. Such a program must also take into account the missions with which the Department of Defence (DoD), federal government, and local and state ME/Cs are tasked.

Of paramount concern is the conduct of scientific studies that will:

- ◆ Identify postmortem bio agent persistency for specific scenarios that mimic storage conditions and stages of decomposition.
- ◆ Identify postmortem chemical agent persistency for specific scenarios under various storage conditions and at different stages of decomposition.
- ◆ Test performance-oriented packaging for use with radiologically and biologically contaminated decedents or their simulants.
- ◆ Develop scientific methodologies that allow studies to be

conducted, leveraging existing methods that answer key operational concerns.

A comprehensive national level program is essential to national preparedness in this area. This entails civilian entities either joining existing DoD programs or establishing a new national program committed to addressing the mission needs of all entities. Local, state, federal and academic programs can no longer afford to leave this issue for the DoD to solve alone.

■ MFM Thought Leadership Position: Fatality Management Must be Redefined Appropriately with the Intent of Becoming a Scientific Field Housed within Academia

One way to address this challenging gap is to appropriately define fatality management (FM) as a science – namely, “Fatality Management, an Applied and Integrated Science.”

Housed appropriately within academia, a grassroots change could galvanize a synthesis of the scientific and non-scientific aspects of this field that require deliberate study. The goal must be to study the intricacies of the total field to avoid the myopic view/orientation that FM comprises only one or two components. A new name and defined scope opens the door for viewing the field with greater comprehension, as well as demonstrating the inter-relationships between forensic and non-forensic components.

The basis for establishing this key prescriptive is found in the history of emergency management

(EM) in the United States. In 1993, only a few academic programs in the nation considered disaster management an academic topic of interest; yet today, universities offer baccalaureate, master’s and doctoral programs in this field. Moreover, the field of emergency management, once fragmented, is now professionalized, requiring key personnel to obtain certification, such as the Certified Emergency Manager (CEM®) credential.

### Conclusion

Of additional interest is the observation that the field of emergency management is still defining itself. In this respect, fatality management is not much different than emergency management, except that academia has yet to amalgamate fatality management into a cohesive, comprehensive body of knowledge. Fatality management must deliberately move away from anecdotal reasoning and toward more evidence-based quantitative and qualitative scientific analysis that is strongly connected to operational management.

## Job Seeking in the World of EM

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a discipline – in which a myriad of skill sets and fields of study converge to meet the public’s ever-growing need for safety from all hazards, either natural or man-made. Additionally, it demonstrates a need for emphasis on non-response-oriented experience, in which the field acknowledges the need for dynamic policy, planning, and other managerial experience over specified training and certifications. In this way, emergency management educators and emergency management students bridge the gap between student qualifications and occupational expectations.

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## Resilient Regions: EM and Regional Integration

By Peter Schalk, University of Victoria, Toronto, ON, Canada

**E**mergency management has long predicated policies on the basis of administrative/jurisdictional borders and intergovernmental cooperation. In Canada, for instance, the delegated and different spheres of authority over aspects of emergency management are based on the borders of different orders of government: municipal, provincial and federal.

While this is an attractive method of arranging emergency management policy, it disregards the fact that disasters know no boundaries. Disasters can impact areas affecting multiple jurisdictional borders within a nation or multiple nations. The impact of hurricanes in the Americas, for example, can affect nations anywhere between Central American and the Caribbean as far north as Canada.

### Cooperation Between Nations

In response to this growing awareness of the impacts of disasters potentially affecting multiple nations, regional organizations – representing political and economic unions or facilitating cooperation between nations – have incorporated emergency management policy or programs within their purview.

■ The **European Union**, which arguably represents the most extensive example of regional integration, has undertaken a number of initiatives through the Community Mechanism for Civil Protection (CMCP). Since its founding in 2001, the CMCP has facilitated a number of activities related to emergency management, including increased monitoring for seismological activity in the Mediterranean; funding for mitigation, prevention, preparedness or response activities and exercises; and the creation of a single organization to coordinate assistance for a disaster, known as the Monitor-

ing Information Centre. While the European Union sets the benchmark for regional integration, including the development of European emergency management policies and programs, other regional organizations have also moved towards similar policies and/or programs.

■ The **Organization of American States**, the largest political union representing all 35 independent states of North and South America, has moved away from its founding and focus on regional security to facilitate opportunities for regional integration.

■ In relation to emergency management, the **Inter-American Committee on Natural Disaster Reduction** and the **Inter-American Network for Disaster Mitigation** have created forums for regional cooperation and response to disasters.

■ Likewise, the **African Union (AU)**, representing 54 African nations, continues to move towards implementing the African Regional Strategy and Programme of Action for Disaster Risk Reduction adopted at the Second Ministerial Conference on Disaster Risk Reduction, held in Nairobi in 2010. This strategy seeks to strengthen emergency management practices among AU member states.

The efforts of the European Union, Organization of American States and African Union are examples of a growing trend towards regional integration.

### Regional Integration Benefits

Regional integration has certainly reaped benefits for member states, including economic growth, ease of mobility, cultural and educational opportunities for youth, and the pooling of resources to (potentially) better deliver programs and services. Yet as regional integration deepens, there is the constant competing of national interests and the tension of enact-

ing policies, programs or services in member states with different degrees of wealth and development. Other disciplines, such as history and political science, have increasingly incorporated a regional lens, whether European or African, to better understand how regional integration has improved, altered or impacted certain activities of interest. Presently, research in this area has largely revolved around emergency management activities in the European Union. However, the field of emergency management should further research the impact of regional integration on activities in other organizations, including further research in the European Union.

### Questions of Interest

Undertaking research to study the impact, if any, of emergency management and regional integration presents an opportunity to answer the following questions of interest:

■ What is the political appetite to create or adopt regionally-based emergency management policies? How does this appetite differ in parts of the world?

■ What are the impacts or benefits (if any) of incorporating emergency management policy in regional organizations? What challenges in emergency management activities result from regional integration?

■ Does regional integration result in standardization of emergency management practices? Should this be a desired outcome of regional integration, or are nation-states best suited to manage such policy?

■ How effective is regional emergency management policy in addressing the differences between wealthy and poor member states within a regional organization? What benefits are reaped by wealthy and poor member states?

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## Organisational Resilience

By Tracy Hatton, Erica Seville, John Vargo, and Suzanne Wilkinson, Resilient Organisations, New Zealand

Since 2004, the Resilient Organisations research program in New Zealand has been researching what makes organisations able to survive a crisis and thrive in a world of uncertainty. In an increasingly volatile and uncertain world, one of the greatest assets an organisation can have is the agility to survive unexpected crisis and to find opportunity to thrive in the face of potentially terminal events. More resilient organisations lead to more resilient communities and provide the honed human capital to address some of our most intractable societal challenges.

Organisational Resilience consists of three interdependent attributes that build Business as Usual (BAU) effectiveness as well as robust and agile response and recovery from crises. Each attribute has a number of contributing indicators. See Figure 1.

Resilient Organisations is a multi-disciplinary collaboration between top New Zealand universities and is funded by the Natural Hazards platform. Activities and outputs of the group include informing and focusing debate in areas such as civil defence emergency management, post-disaster recovery, and the resilience of

critical infrastructure sectors, in addition to core activities in relation to organisation resilience capability building and benchmarking.

Resilient Organisations provide a number of practical tools for organisations, such as a benchmarking tool and Shut Happens guide. The resilience benchmarking tool allows any organisation to review and take suggested steps to improve their resilience, and the short 15-page booklet, Shut Happens, presents concise, action-orientated advice applicable to businesses with less than 20 employees.

### Current Projects

Current projects underway by Resilient Organisations' researchers include:

■ **Organisations facing crisis.** There is much we can learn from organisations that have faced crises, and either failed, survived or thrived in their aftermath. The Christchurch earthquake sequence occurring in 2010-11 provides much opportunity to explore the impacts of and recovery trajectories of organisations facing crisis. Current projects focus on: the recovery of organisations within central business districts (CBD) affected by the earthquake; how

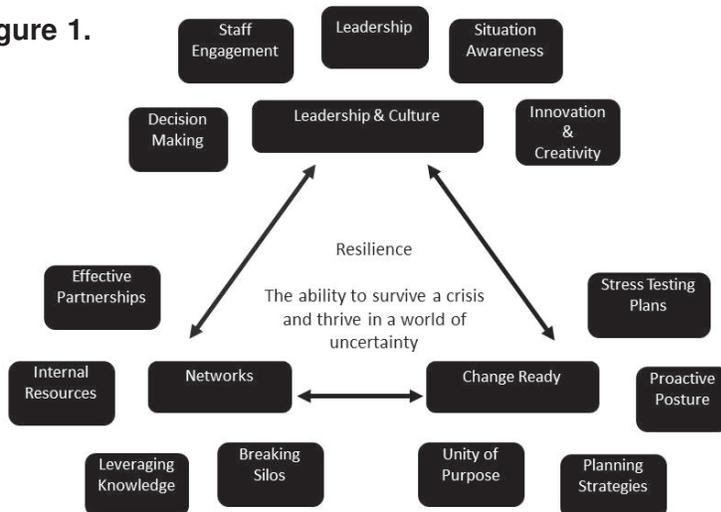
organisations in Canterbury are utilising collaborative approaches to support their recovery; the effects external aid has upon small- to medium-sized enterprises' resilience in both rural and urban settings in New Zealand; and how a systems approach can be used to investigate the key elements of recovery and resilience for organisations and industry sectors in the Canterbury region.

■ **Reconstruction following disaster.** Ongoing research focuses on the capability and capacity of the construction sector to rise to the challenge of a major reconstruction effort, including the key issues of resourcing, productivity, procurement and governance. A recent report considers the problems and complexities of temporary housing requirements and the potential solutions based on international experiences. Current research underway uses system thinking and a computer-based simulation to establish a resource management model for the Christchurch rebuild.

■ **Economics of resilient infrastructure.** Resilient Organisations is one of the team members involved in developing a new tool that will enable: (1) quantification of the economic implications of vulnerabilities to infrastructure failure from both natural hazards and infrastructure-only events; and (2) exploration of alternative post-disaster recovery strategies. This multi-year project will produce a high-resolution assessment across space and through time of the economic consequences of infrastructure failure, business response and recovery options.

■ **Resilience of organisations.** A recent project benchmarked the resilience of five Australian water companies, identifying both their strengths and opportunities to improve their

Figure 1.



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## Profiling School Shooters: Research Challenges Established Stereotypes

By Todd J. Jasper, Associate Director, Homeland Security and Emergency Management Division, MSA, Inc., and Jason Geneau, Deputy Director for Planning and Implementation, Disaster Management & Homeland Security Services Division, Tetra Tech, Inc.

For those of us in the emergency management and public safety fields, it is easy to put together a mental image of a school shooter. Most of us have been riveted to news coverage following mass shootings, and have seen enough television and movies that we could easily put together a list of telltale signs for a school shooter. We naturally assume that the profile of an active shooter is a male. But what other characteristics indicate a potential school shooter?

We assume that he has failing grades and poor academic performance. We give credence to interviews describing him as a “loner” with no friends. We also assume the shooter had a history of mental illness. How else could he be capable of such atrocities?

We commonly dwell on the parents and families of the school shooter and consider what type of environment could have produced a school shooter. Obviously, school shooters must come from broken families with absentee or abusive parents, don't they?

Furthermore, what makes a shooter act? Why today instead of yesterday? Why not tomorrow? We assume that school shooters just snap. If there was any forewarning, wouldn't someone have noticed? Surely parents, family or teachers would have noticed something and prevented him from carrying out his plot. Logically, we assume that the only way a school shooter could possibly plan his attack would be if he carried out his planning in secret.

All of these assumptions form what most of us have developed as the profile or stereotype of an active shooter in schools. But how accurate are our assumptions? How close to the mark have we gotten, and are we looking for the

wrong indicators? Shockingly, research by the U.S. Secret Service and the U.S. Department of Education contradicts the majority of the aforementioned assumptions.

### Astonishing Conclusions Refute Stereotypes

The U.S. Secret Service, which researched all incidents of school shootings between 1974 and 2000, reached some astonishing conclusions.

- For example, most school shooters have good grades. Research shows that only about 5% of school shooters receive failing grades. That means the vast majority of school shooters do well in school.

- Many news reports following a school shooting label the shooter as a loner who had no friends, but most of the interviews focus on people or other students who admittedly had little social interaction with the shooter. After the shooting at Columbine High School, news media explained that the shooters were loners – even though both shooters were very social, having a core group of friends and dates for prom.

The study by the Secret Service challenged the “loner” stereotype. Only one-third of school shooters could be identified as a “loner.” This means that two out of three school shooters appear to have and maintain typical social interactions.

- Additionally, less than 20% of school shooters have been diagnosed with a mental health or behavior disorder prior to the shooting. This statistic is one of the most troubling. Especially with the dark stigma surrounding mental illness, most of us assume school shooters have been problematic students with a history of mental illness.

According to research by the Council of School Attorneys after the shooting in Columbine, Colorado, “...approximately 18% of children and adolescents have a mental health disorder, and... approximately 5% are severely emotionally disturbed. The odds are, therefore, that every classroom in every school has at least one student with a mental health disorder.”

Given that the number of school shootings is far less than the number of students diagnosed with mental health issues and most school shooters are not diagnosed with an illness or disorder at the time of the attack, is the diagnosis of mental health issues an accurate indicator for predisposition as a school shooter? Conversely, and more importantly, does the absence of a diagnosed mental health disorder in an individual truly contraindicate the predilection for initiating a school shooting?

- Although much blame is associated with “broken” or dysfunctional families, the U.S. Secret Service discovered that most school shooters come from two-parent families.

- Perhaps most shocking, however, is the conclusion that school shooters do not simply “snap.” As the report concludes, 93% of school shooters planned their attacks. Even more shocking is that the vast majority of school shooters shared their plans with others prior to the attack. In more than 80% of school shootings, the attacker told at least one person. In close to 60% of school shootings, the attacker told *more than one* person! At one school shooting, at least 24 students knew about the attack before it occurred. Most important, however,

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## Opting in or Opting Out: Enhancing the Effectiveness of College Student Emergency Notification Systems

By Bernard J. McCarthy, Natalie Hanrion, Aida Hass and David Claborn, Missouri State University

Emergency notification is a critical issue for emergency managers in higher education. Federal law (the Higher Education Opportunity Act, also known as the Clery Act) requires that higher education institutions design and implement effective notification and timely warning systems for all post-secondary institutions receiving federal funds. Under the Clery Act, colleges and universities must issue timely warnings about any crimes that pose a serious or ongoing threat to students and employees. The act also directs that institutions provide timely warnings in a way that is likely to reach all members of the campus community. Another section of the Clery Act directs institutions that they are responsible for informing the campus community about a “significant emergency or dangerous situation involving an immediate threat to the health or safety of students or employees occurring on the campus.”

As Sullivan (2012) and others have found, universities and colleges employ multiple methods of emergency notification on campuses throughout the nation. The use of social media for alerts sent directly by e-mail and text messaging is proving to be one of the most popular and economical ways of crisis communication. However, one issue confronting emergency managers in higher education is whether the alerts are effectively reaching members of the university community. Reports are suggesting many students are opting out of the emergency notification loop that use telephone, e-mail or text SMS alerts systems. This study investigates the reasons why college students voluntarily elect not to receive alert messages/warnings.

### The Research

As part of a larger study on emergency notification conducted at a large public university, a survey instrument was sent to all students enrolled at the university to determine their preferences in emergency notification. A surprising number indicated they did not know how to enroll. With the results in mind, the researchers contacted the communications office at the university to see if statistics were available regarding the number of campus subscribers to the service. To our surprise, we found out that 14, 472 members of the university community were signed up for the alerts. This was out of a student population of 20,472, plus another 4,000 staff and faculty. The results indicate that approximately 60% of the university community received

**Table 1. Percent of students signed up for emergency text message service.**

Response	Traditional student N=1233	Non-traditional student N=596
<b>Yes</b>		
Percent	57.3%	50.8%
Count	706	303
<b>No</b>		
Percent	33.8%	37.2%
Count	417	222
<b>Unsure</b>		
Percent	8.9%	11.9%
Count	110	71
Chi-square: 7.987 Degrees of Freedom: 2 P-value: 0.018		

**Table 2. Of those students who reported that they were not signed up to receive the emergency notification text message, the following reasons were provided.**

Response	Traditional student N=1243	Non-Traditional student N=615
Did not know it existed	7.6%	11.2%
Did not know how to sign up	8.1%	2.8%
Get charged for texts	3.3%	6.3%
Just have not done it	4.9%	2.3%
Spam/annoying/too many	0.9%	1.5%
New/transfer student	1.8%	0.2%
Other	5.2%	10.2%

emergency notifications, but approximately 40% did not. In surveying the student population, we found that 56% of the respondents reported that they received emergency texts, 34% said they were not signed up, and 10% were unsure.

This research identifies a major weakness in emergency notification systems using social media. It was assumed that use of social media was an effective way to reach students in the event of an emergency. However, a fairly large number of students did not subscribe to the service. *Table 1* summarizes student responses. Of those students who reported that they were not signed up to receive the emergency notification text message, the reasons given are shown in *Table 2*.

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## Issues in Disaster Science and Management

By Tony Subbio, CEM, Emergency Management Specialist, Tetra Tech, Inc., and Joseph E. Trainor, Ph.D., Assistant Professor, University of Delaware Disaster Research Center

For a long time, the emergency management community has complained about the gap between practitioners and scientists who focus on disasters. The Federal Emergency Management Agency (FEMA), through the Higher Education Program, has contracted with the University of Delaware's Disaster Research Center (DRC) to develop an open-access, digital textbook focused on narrowing this divide.

This textbook will focus on a set of contemporary issues in emergency management:

- Relationships among local, state and federal agencies.
- Volunteers and nonprofit agencies.
- Private sector integration.
- Persons with access and functional needs.
- Public health and emergency management.
- Planning and improvisation.
- The National Incident Management System (NIMS).
- Long-term recovery.
- After-action reporting.
- Social media.
- The evolution of emergency management.
- Neglected issues.

Contributors were recruited through an open call process, targeting both practitioners and academics. Solicitations were issued through e-mail forums, disaster research publications, postings on the DRC's website and direct contact with known experts. More than 100 individuals expressed an interest in contributing.

### Organization and Content

For each issue, representatives from academia and emergency management practitioners worked to describe what we "know" about each issue. Each chapter of the book will have three sections. The

first section will be authored by a practitioner who describes the state of practice related to the particular topic. Among other issues, these sections will address:

- the conventions in practice associated with the topic;
- important federal policies and/or industry standards related to the topic;
- impressions of the patterns and variations across the country related to the issue;
- trends and future directions; and
- what outstanding questions exist about the issue that research might be able to help explain.

The second section will be drafted by an academic contributor, who similarly will provide a written summary of the existing body of research on the topic, with special attention to summarizing the body in plain language. These sections will include:

- a primer on the major and minor theoretical approaches;
- a review of empirical research findings;
- discussion of patterns and variations in conclusions;
- trends and directions in the science related to that issue; and
- recommendations for integrating findings into practice.

From our perspective, the most important part of each chapter will be the third section, called "Bridging the Divide." In this section, the academic and practitioner contributors will work together to make sense of their ideas and identify next steps in addressing the issue. These steps may include necessary changes to laws, regulations or policy; changing planning assumptions; and identifying research questions to be answered.

In addition to the substantive chapters, the editors also plan to write a conclusion chapter focused on the nature of the academic/

practitioner divide in emergency management. This conclusion will draw on the editors' own experiences, and on the insights gained as observers of numerous exchanges between the academic/practitioner teams. It is our hope that these insights might help us to better appreciate the strengths and weaknesses of each other's insights and knowledge.

### Editorial and Peer Review

When complete, this text will be of the highest quality and will meet both practical and academic standards for quality. To help ensure this, each chapter is being reviewed not only by the editorial team, but also by external peer reviewers – one academic and one practitioner. To help introduce the ideas and to facilitate their use in classrooms, contributors are also producing a set of basic PowerPoint slides.

### Online Distribution

As this book is being produced through the FEMA Higher Education Program, it will be available electronically, for free, on the FEMA Higher Education Program website. Individual chapters will begin to be posted there this summer as they are completed, and the fully edited and formatted version should be available shortly thereafter.

This project will not solve the problem of fully integrating academia into the state of practice of emergency management or vice versa. However, by opening the dialogue between academia and practitioners on a range of issues, it will help us all take a strong step in the right direction towards improving emergency management in the United States.

## Profiling School Shooters

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is the statistic that more than 90% of school shooters exhibit warning signs prior to the shooting that either go ignored or underreported. While the stereotype seems to tell us that school shooters prepare for their attacks in secret, the facts support the conclusion that school

shooters share their plans and intent with others.

In essence, school shooters do not cleanly fit the stereotype many of us have developed for them. Based on their horrific actions, we assume that school shooters must severely differ from other students. In many ways, it is actually possible that our collective stereotype of a school shooter may actually work against us.

If we assume that school shooters are academic failures who plan in secret, have few friends, and come from broken homes, we are relying upon a flawed set of indicators. Unfortunately, even when other warning signs are evident, are we less likely to act or report those fears because the individual may fail to meet our perception of a school shooter? Surely they are just kidding, going through a phase, or acting out, aren't they?

### Conclusion

As emergency management and public safety professionals, it is more important than ever to be well-trained in identifying the actual characteristics of a school shooter, rather than relying on unfounded assumptions, stereotypes and Hollywood portrayals. While the data supplied by the Secret Service is informative, perhaps its biggest value is opening our eyes to the fact that school shooters defy traditional depictions and some of our own deeply held assumptions.

It is not enough to simply be familiar with the warning signs of a school shooter. We also must use this research to expand our sensitivities and awareness of potential school shooters to alter and improve the culture of preparedness in relation to society's most defenseless members: our schoolchildren.



## Opting In or Opting Out

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In examining this survey, it is apparent that the process of enrolling subscribers to the service needs to be reconsidered. The model used by this university, as well as many others across the country, was to have students, faculty and staff voluntarily enroll for the service. But this study found that a number of students were not aware of the service (ranging from 7.6% for students under 25 defined as traditional students to 11.2% for nontraditional students defined as over 25). It is apparent that during the registration process the students are not effectively receiving the message or the instructions for signing up for the service. Our research found approximately 15% of the sample either did not know it existed or did not know how to sign up.

### Opting In or Out

The implications of this research are fairly direct for emergency managers in higher education.

- First, continue to use multiple methods of emergency notification, since users have different preferences.

- Second, if the goal is to maximize enrollment and the potential reach of emergency alerts, consider changing the method of enrolling subscribers from voluntary enrollment to automatic enrollment, with a provision for subscribers to opt out of the service if they so desire.

### References

- The Higher Education Opportunity Act of 2008 or HEOA (Public Law 110-315).

- Dennis K. Sullivan. 2011 Higher Education Emergency Management Survey. University of Louisville. 2012.

## Organizational Resilience

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ability to adapt to future extreme climatic events. New Zealand infrastructure organisations are currently being studied as part of a multi-year project that aims to improve their resilience, so that they can provide greater security of services, with the best possible initial emergency responses and longer-term recovery and restoration. Development of the benchmark resilience tool is ongoing, with an online version to be released soon.

### Conclusion

We live in an increasingly complex world dealing with a broad spectrum of crises arising from both natural and man-made causes. Resilient organisations are those that are able to survive and thrive in this world of uncertainty.

For further information, visit our website at [www.resorgs.org.nz](http://www.resorgs.org.nz).

## Resilient Regions

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Further research within the field of emergency management is warranted to understand the complexities and impacts of incorporating emergency management policies and services in regional integration efforts.

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James A. Rawley  
Providence, RI

Kevin O. Shanley  
Boston, MA

#### IAEM-USA Region 3

Anthony Alexiou  
Gaithersburg, MD

Thomas H. Berry  
Waynesboro, VA

Michael Brandt  
Philadelphia, PA

Darrin M. Flick  
Stafford, VA

Reginald Jones  
Fairfax, VA

CDR Kevin Lynn  
Arlington, VA

Douglas K. McDaniel  
Frederick, MD

Gene Mellin  
Columbia, MD

James Metzger  
Philadelphia, PA

Christopher R. Murphy  
Alexandria, VA

Capt James L. Oliver  
Severna Park, MD

Dennis O'Reilly  
Woodbridge, VA

Peter L. Smith  
Gettysburg, PA

Jeffrey R. Stine  
Martinsburg, WV

#### IAEM-USA Region 4

John M. Brown  
Blythewood, SC

Oz Hill  
Atlanta, GA

Mark H. McCain, MEP  
St. Helena Island, SC

Thomas F. Rankin  
Dallas, NC

MAJ Steve Trisler  
Orlando, FL

Ted R. Williams Jr.  
Tampa, FL

Adam Williams  
Walhalla, SC

#### IAEM-USA Region 5

Michael Faragher  
West Bend, WI

Miriam I. Miller, MPH  
Chicago, IL

Suzanne M. Swab  
Hastings, MI

#### IAEM-USA Region 6

Jeanne E. Devlin  
Austin, TX

Brad Harrelson  
Mesquite, TX

Gregory M. Lee  
Rio Rancho, NM

Carol L. Manousos  
Houston, TX

Todd A. Smith  
Houston, TX

#### IAEM-USA Region 7

John Moyer  
Topeka, KS

Dianna L. Smith  
Kansas City, MO

William S. Steadman  
Webster Groves, MO

#### IAEM-USA Region 8

Dr. Misti Kill  
Fargo, ND

Mark Wilson, AEM  
Denver, CO

**Please join us in welcoming  
these new IAEM members.**

*(continued on page 36)*

**New Members***(continued from page 35)*

Chris Wolf Fort Collins, CO	<b>IAEM-USA Student Region</b> Warren J. Adair Goose Creek, SC	Adam G. Griffith Celebration, FL	Corey B. Royer Harpers Ferry, WV
<b>IAEM-USA Region 9</b> Megan E. D'Astolfo Reno, NV	Jeffery A. Anderson Elkridge, MD	Lisa Helman Robbins, NC	Brent M. Ruggles Fort Belvoir, VA
Jacob C. Heflin Long Beach, CA	MSG Luis Arroyo Jr. Piscataway, NJ	Nell Haley Johnson Santa Clara, CA	CDR Bernard J. Sandy Livermore, CA
Steve M. Kramer San Pedro, CA	Jimmy Bailey Russellville, AR	Derek W. Kitts Christiansburg, VA	Bryce J. Slinger New Orleans, LA
Lou Miranda Casa Grande, AZ	Rafael Bango Leicester, NC	Christopher G. Kundrock Chattanooga, TN	Eston D. Spain Jr. Arlington, VA
Dan E. Papp Valley Center, CA	Scott E. Bertoli Radcliff, KY	Jason P. Lionberger Lake Charles, LA	Brandon J. Stock Tustin, CA
Ian T.T. Santee Honolulu, HI	Amity Bishop Spokane Valley, WA	Erin I. McCarty Chapel Hill, NC	Mark A. Tallman Golden, CO
Sean M. Scott La Jolla, CA	Jairo Borja Union City, NJ	Robert D. McCord Macon, GA	Ricardo A. Trotman Brooklyn, NY
Stan Skipworth Corona, CA	David A. Boucher Lititz, PA	Adam Moret Chicago, IL	Shawn J. Van Diver, MS, CEM, CPP San Diego, CA
Jennie Tucker San Clemente, CA	Chris M. Buck Beavercreek, OH	Lee A. Mottern San Antonio, TX	Margaret B. Vanover Hampton, KY
Bruce H. Turner Palo Alto, CA	Nick Chocas Norfolk, VA	Michael P. Murphy El Cajon, CA	John Veal Newburyport, MA
<b>IAEM-USA Region 10</b> Jan Decker Sumner, WA	Ryan L. Cook Waterbury, CT	Hans P. Odegard Fairbanks, AK	Edith A. Waters Orlando, FL
Thomas C. Greene Monroe, WA	Kevin Denney IL	Christopher Ojugo Sr. Elizabeth, NJ	Katie P. York Springfield, MO
Steven K. Thomson Olympia, WA	Jeffery Dong Seattle, WA	Charles J. Ortolano II Richmond, VA	Paul D. Young Jr. Fairbanks, AK
	Robert Falcon Miramar, FL	Lisa M. Phelps Woodside, NY	John T. Zell Jr. Gastonia, NC
	Glenn P. Fisher Johnson City, TN	Nicole M. Picard Westfield, MA	
	William S. Gribble Arlington, TX	Sarah-Anne E. Roberts Cohoes, NY	
		Seth A. Roberts Little Elm, TX	



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