A publication of e.Republic

EMERGENCY MANAGEMENT

STRATEGY & LEADERSHIP IN CRITICAL TIMES

September/October 2010

inside:

UP IN SMOKE

DID POLITICS, IGNORANCE DOOM NIMS/ICS IN THE GULF?

Issue 5 — Vol. 5

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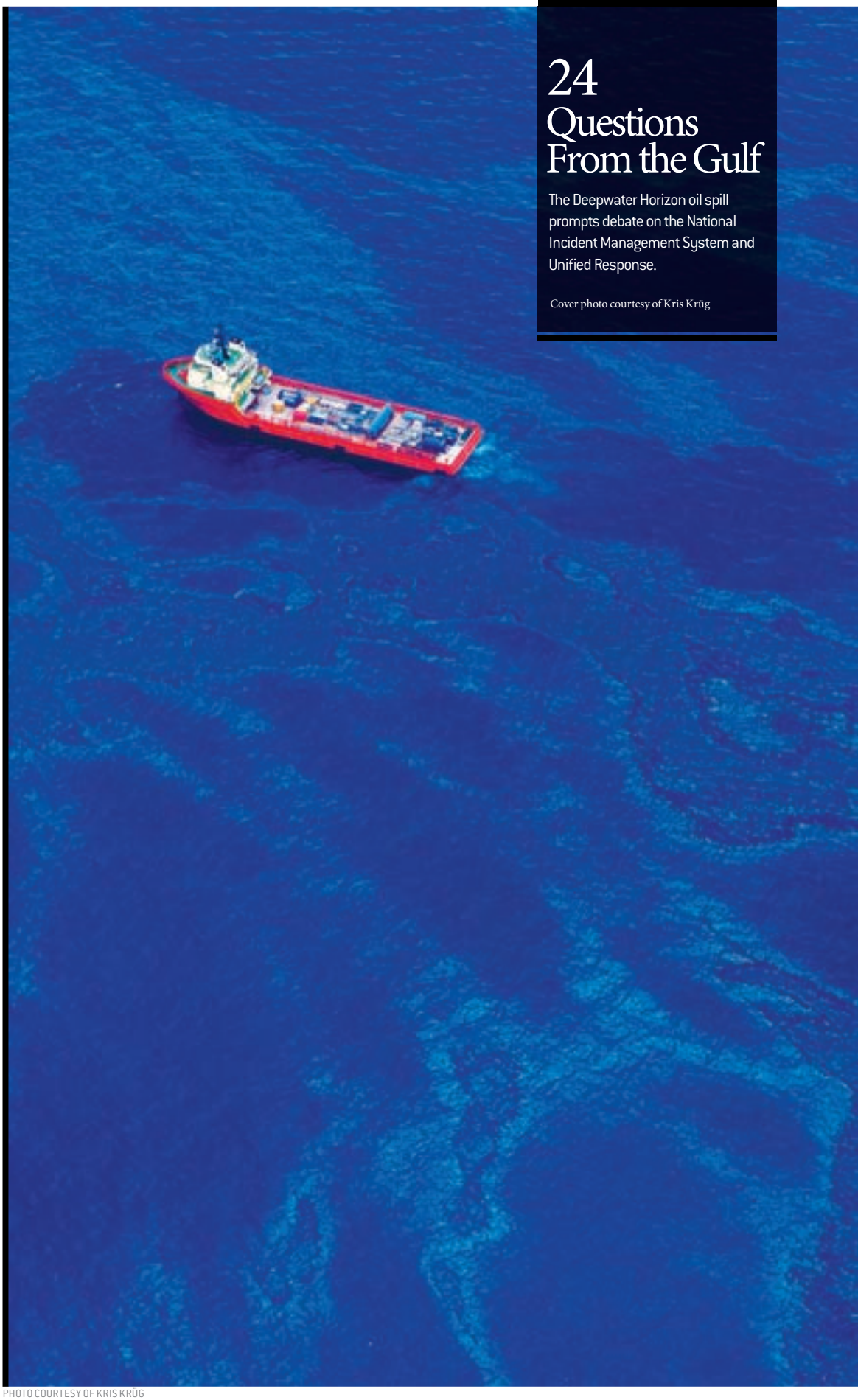
ON THE COVER

24 Questions From the Gulf
The Deepwater Horizon oil spill prompts debate on the National Incident Management System and Unified Response.

Cover photo courtesy of Kris Krüg



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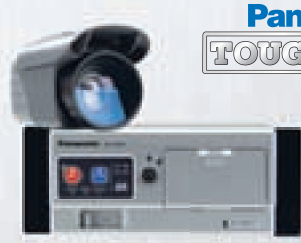

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Reader Feedback

Effective Public-Private Coordination

Although I receive a dozen magazines and newsletters for the emergency management field each month, I find that your publication is without a doubt head and shoulders above the others. Your choice of topics is insightful and very generous to the reader in both critical detail and graphical content.

The recent article by David Raths, *Working Together* (May/June), was of particular value, for I have found that many places in the U.S. are struggling to make public-private partnerships work effectively and consistently. Let me add that I've worked in the California emergency management arena since the early 1980s, and I know the struggles they've had making these relationships work. In fact, I asked some of the major California coordinators, like Peter Ohtaki, to discuss the California successes on my national award-winning radio show, *The Road to Ready*, in 2009. I believe Mr. Raths did an excellent job in summarizing the challenges, but he did not note all of the key players by name in the California success story. Although hundreds of people have contributed to California's private-public coordination, two must be recognized, in all fairness, and they are Don Boland, the executive director of the California Utilities Emergency Association, and Sonny Fong of the California Department of Water Resources. Peter Ohtaki and Jill Rulon are important participants in the successes in California, as stated by Mr. Raths, but Mr. Boland and Mr. Fong should also have been specifically named in the article because of their outstanding efforts to make these partnerships work.

— Rick Tobin
President/CEO, TAO Emergency Management Consulting

Personal Preparedness

In response to the *Point of View* column, *Simplifying the Message*, in the May/June issue, online readers posted other Web-based tools that help with disaster preparedness, as well as issues to consider when creating them:

"Great article. Great tools. Another tool to consider is http://do1thing.us. While it does not facilitate plan development, it does assist the user in creating a list of actionable items, one step at a time (per month)."

— Mark Lewack

"Baltimore County, Md., has had a preparedness planner that breaks down the creation of a disaster bag into several weeks to offset the hit to a family's budget. www.baltimorecountymd.gov/Agencies/emergency_prep/caringpreparing.html"

— Michelle Smith

"The tools you refer to are good, but what about people who don't have computers or are not proficient in using them? The cost issue is also critical. I have often thought the people who most need to be prepared are those who can least afford it. Local jurisdictions need a plan to deal with that but not another welfare program."

— Conrad Cooper

Your opinions matter to us. Send letters to the editor at **editorial@govtech.com**. Please list your telephone number for confirmation. Publication is solely at the discretion of the editors. *Emergency Management* reserves the right to edit submissions for length.

Emergency Management Events

5 October

PUBLIC SAFETY/ HOMELAND SECURITY SYMPOSIUM
New York City

These symposiums coalesce local law enforcement leaders and industry specialists to exchange expertise, best practices and explore state-of-the-art technologies around crime-fighting and homeland security challenges.

Contact: Marty Pastula at 916/932-1497 for more information.

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21 October

ALL-HAZARDS/ALL-STAKEHOLDERS SUMMIT
Los Angeles

The All-Hazards/ All-Stakeholders Summit will address man-made and natural hazards — fires, floods, earthquakes, terror events — facing the Los Angeles area and address best practices in preparing for and mitigating these crises.

Contact: Liese Brunner at 800/940-6039 ext. 1355 for registration information, and Scott Fackert at 916/932-1416 for sponsorship information.

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23-27 October

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29-4 Oct./Nov.

INTERNATIONAL ASSOCIATION OF EMERGENCY MANAGERS ANNUAL CONFERENCE
San Antonio
Indiana Government Hilton Palacio del Rio & Henry B. Gonzalez Convention Center

The conference provides a forum for current trends and topics, information about the latest tools and technology in emergency management and homeland security, and advances IAEM committee work.

WWW.IAEM.COM/EVENTS/ANNUAL/INTRO.HTM

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ALL-HAZARDS/ALL-STAKEHOLDERS SUMMIT
Boston

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Passionate Reader Response

A primary mission of *Emergency Management* is to facilitate discussion on topics confronting the emergency management community, some of which elicit passionate discourse. As we build our readership, both online and in print, we take pleasure in the discussions born from our articles.

In the magazine's July/August edition, the story *Armed and Dangerous* explored what might happen if college students were allowed to carry handguns on campus, and whether this would deter a potential massacre like the 2007 Virginia Tech shooting. If several students had been armed, could one have stopped Seung-Hui Cho before he caused so much damage?

The July/August edition *Point of View* column, *Ignorance Threatens NIMS/ICS*, by Gerald Baron expressed concern about whether the National Incident Management System (NIMS) and Joint Information Center were compromised during the Gulf Coast oil spill because of politics and ignorance.

Baron fears that the way incident command was handled during the event could jeopardize the future of NIMS/ICS when it comes to public-private collaboration. "The important question is: What effect will this event have on how major events are managed in the future?" he asked. "Will they be characterized by mistrust and pre-emptive political messaging?" Baron questioned whether the damage to our national interests would exceed that of the economic and environmental damage in the Gulf.

A primary mission of *Emergency Management* is to facilitate discussion on topics confronting the emergency management community, some of which elicit passionate discourse.

The feedback came in online almost immediately and it was heated. Retired California Highway Patrol Officer wrote: "This is faulty logic. Having armed civilian students will only create more potentially fatal, 'student-on-student' violence. Science has shown that the amygdala in the brain that plays a role in judgment does not fully develop until age 23 or 24 — after college for most of us."

Earl Bolls wrote: "There is no doubt that a student who is 21 or older and has passed a background check and completed a prescribed course of training would be an asset on the ground in a school shooting."

The cover story, *On the Horizon*, analyzed some of the avenues emergency managers are taking to prepare for and possibly mitigate the effects of a warming climate. The article makes no claim that climate change is scientific fact, but discusses emergency planning related to increased flooding, drought and record-breaking heat — all part of today's world and probably on the rise.

We received the predictable responses on the issue, but not as many as we anticipated. Perhaps that's because the emergency management community has embraced the idea of preparing for the worst-case scenario, which it should.

The column produced a healthy dose of discussion among our readers, including this response from Natan Mandelbaum: "I am highly doubtful that this incident will have much impact on NIMS/ICS as much as it would on the people who made bad decisions. NIMS/ICS is simply a framework in which to operate which enhanced efficiency, it does not stop bad leadership or decision-making."

And this one from Joel Hendelman: "I have to take exception to the comments to date that little or [no] impact will be suffered by the NIMS/ICS process based on the Gulf oil spill. As a NIMS compliance officer by profession, I have been in direct contact with federal personnel who clearly indicate that 'significant changes' are in the winds."

We thought the topic warranted further discussion, thus this issue's cover story, *Questions From the Gulf*, in which we enlist experts to discuss NIMS and ICS as it happened during the Deepwater Horizon event and the implications for the future.

Like our recent articles, we hope this and the rest of this issue's topics generate more healthy discussions for the benefit of the emergency management community and beyond.

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911 App Informs Citizens

WHEN THERE'S AN INCIDENT, residents in California's San Ramon Valley want information fast. Richard Price, chief of the San Ramon Valley Fire Protection District, knows this because visitors always flood the live dispatch section of the district's website, FireDepartment.org.

"Traffic to our website really spikes," he said. "We know there is interest in what's causing the smoke or where the sirens are coming from. We wanted to take that information and put it in the field."

Now mobile technology gives residents a glimpse into the district's 911 dispatch center. Touted as the first of its kind, the FireDepartment.org iPhone app went live in July as a tool for users to gain real-time access to emergency and disaster information in their community.

Users can view active incidents and pinpoint locations on an interactive map, as well as access a log of recent incidents and a photo gallery of significant events. The app is customizable, so users can get incident notifications by category, or listen to live emergency radio communications using their handheld devices.

Read more at: www.emergencymgmt.com/911app

Tsunami Proofing

CANNON BEACH, ORE., hopes to create the nation's first tsunami-resistant building by designing a raised City Hall that would also be earthquake-resistant. Cannon Beach is located along the Cascadia Subduction Zone — a fault that stretches from Northern California to mid-Vancouver Island that seismologists say can produce a magnitude 9.0 earthquake or greater. The new City Hall would be surrounded by two low walls and elevated about 15 feet above ground by stilts, which would let tsunami waves pass underneath it. The building also would be a vertical evacuation site for about 1,500 people.

The building's estimated cost is $4 million, but the city hopes to obtain a federal grant to cover half of the amount. Oregon State University researchers are testing a prototype of the building in the O.H. Hinsdale Wave Research Laboratory's wave tank. "They've taken a 900-foot-wide by 3,000-foot-wide slice of Cannon Beach where the City Hall project would be located and are modeling how the tsunami would come through there, and they're testing the forces along the building," said Jay Raskin, an architect and former Cannon Beach mayor.

Read more at: www.emergencymgmt.com/cityhall

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Statewide System Tracks California's Volunteers

IN JUNE, CALIFORNIA GOV. Arnold Schwarzenegger announced the formation of Disaster Corps, a group of highly trained and vetted volunteers tied closely to the state's mutual-aid system. The corps provides a network of volunteers ready to respond to emergencies.

The Disaster Volunteer Resource Inventory (DVRI), a new statewide Web-based database will house about 1,000 volunteers' contact and training information and affiliations to facilitate their utilization during disasters. Background checks will be conducted for each volunteer, and they will be certified in Red Cross CPR and first aid. Volunteers will be categorized by capabilities, and the corps will initially be fed by programs in San Francisco, Los Angeles, San Bernardino, Riverside and San Diego counties.

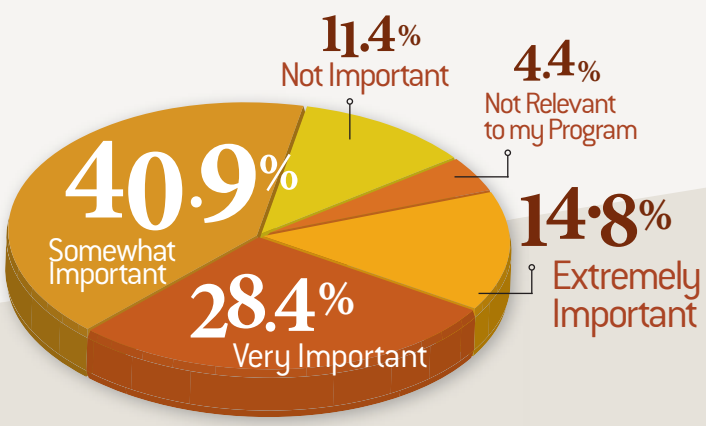
Volunteers aren't always included in emergency managers' responses to disasters, and a mutual-aid mechanism for the use of volunteers outside their sponsoring jurisdiction didn't exist in California before the establishment of Disaster Corps, according to the state's Cabinet Secretary for Service and Volunteering Karen Baker.

The DVRI is available to all emergency managers, volunteer coordinators, nonprofits and faith-based organizations that want to provide disaster assistance in the state.

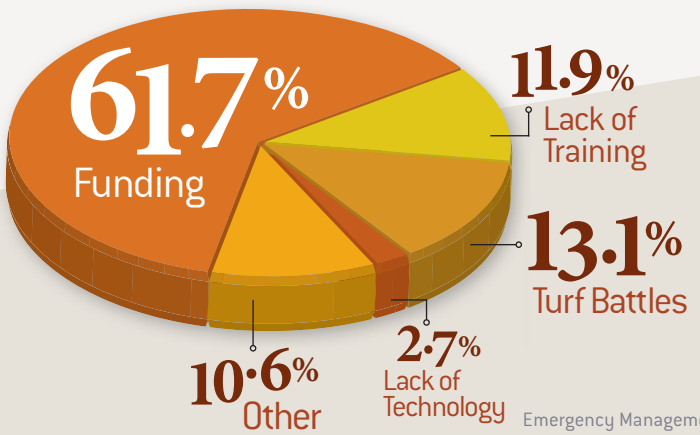
Read more at www.emergencymgmt.com/disastercorps

A survey of *Emergency Management's* readers showed insight into hurdles faced by their peers and the importance of social media to their organizations.

How important is the emerging use of social media in emergency management to you?
770 responses



What is the biggest hurdle you face in carrying out your mission as it relates to emergency management?
865 responses



Bypassing Bureaucracy to Aid Communications

PLACING WIRELESS ANTENNAS AND towers throughout a city can be a bureaucratic nightmare. Few citizens want 60- to 70-foot structures planted in front of their homes.

Some cities like Seattle are finding ways to altogether avoid this common "not-in-my-backyard" conundrum. Seattle Chief Technology Officer Bill Schrier struck a deal with the Seattle Housing Authority (SHA) to install Long Term Evolution (LTE) wireless antennas atop the SHA's public housing, many of which are apartment buildings. Fire stations in some parts of the city will also be outfitted with antennas. The 38-antenna network will power 1,500 wireless modems in police cars, fire engines, public utility trucks and devices used by building inspectors in the field. The antennas will use a slice of the 700 MHz spectrum the FCC recently released to 21 municipalities.

In exchange for building space, the city will extend the new fiber installations for the antennas to individual housing units within the SHA buildings. A third-party vendor will sell service subscriptions using those connections.

For blanket connectivity, LTE antennas must be placed in every neighborhood. Schrier said the city might need to erect a few antenna towers where there aren't any SHA buildings or fire stations in order to complete the network. Those would involve the normal bureaucracy of neighborhood approvals, Schrier explained. "I think we'll need only three or four additional cell towers," Schrier said. "Most neighborhoods have some sort of Seattle Housing Authority building."

LTE networks enable law enforcement to give traffic priority to certain types of communications, like video and voice, over others like Web browsing and e-mail. Law enforcement and public safety are often stuck using commercial networks for video and smartphones, which keeps them at the same level as commercial users. That becomes a problem during emergencies when networks reach capacity, and consequently responders get poor connectivity.

Schrier said another advantage of the LTE standard is that it could enable governments to buy cheaper communications equipment because the standard works with commercial devices. Law enforcement networks typically use a standard called Project 25, which isn't compatible with cheaper commercial devices.

"The typical radio you see a cop or firefighter using is at least $2,500 for that one device, and it could be as much as $5,000," Schrier said. "Compare that to your BlackBerry, which might be $200." These more expensive devices offer ruggedized features.

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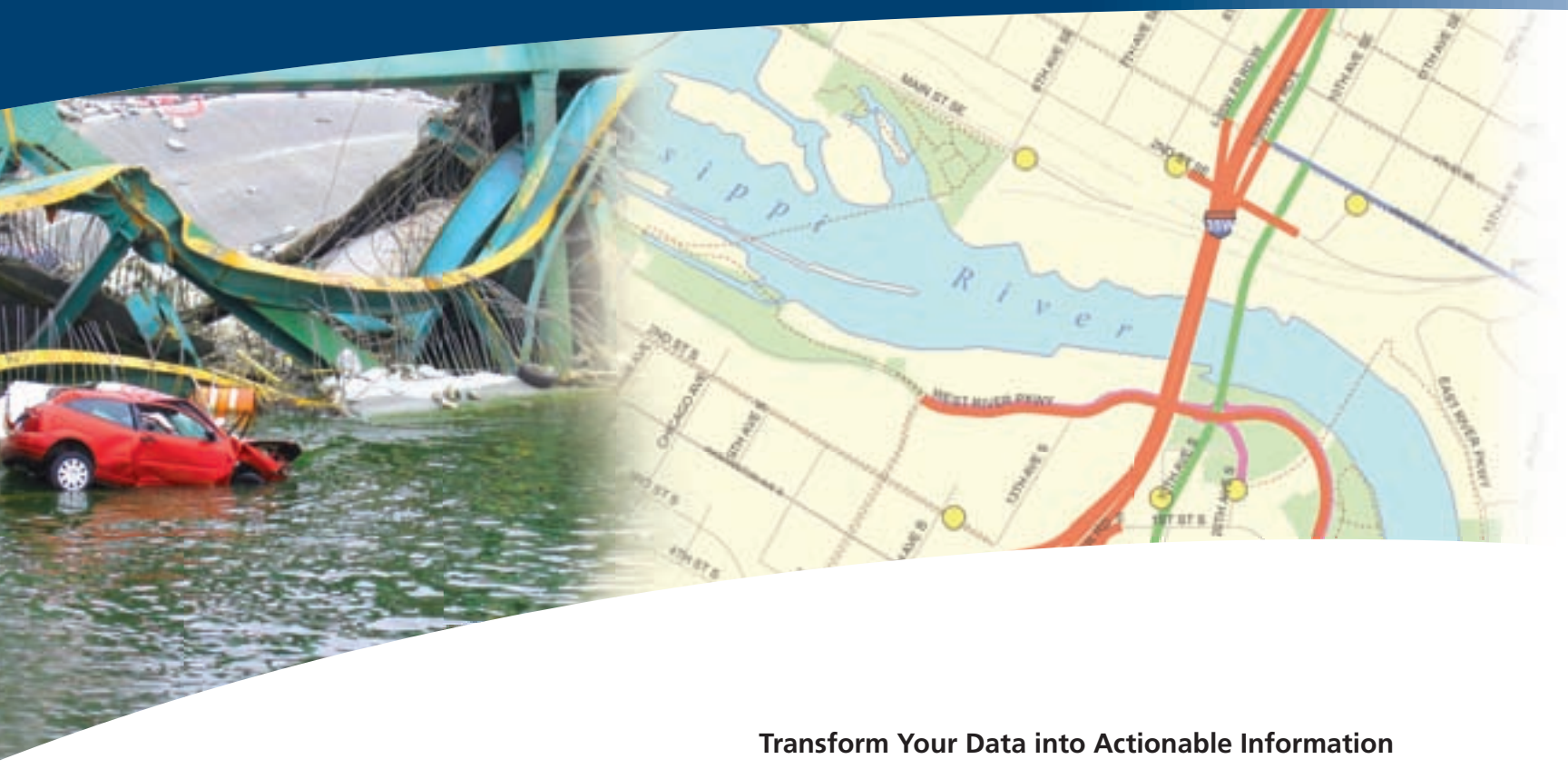

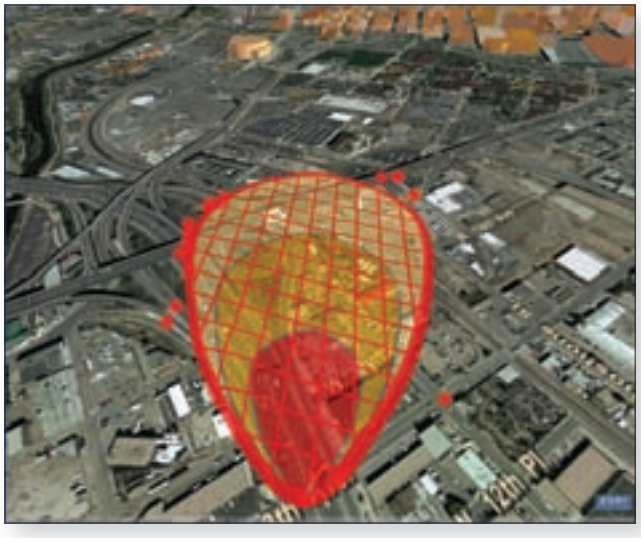

GIS is used to model the spread and intensity of a chemical spill. Real-time weather data is used to determine the plume's spread, direction, and speed.

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Indiana Department of Homeland Security Implements Advanced Response System

Case Study

Large-scale emergencies—floods, earthquakes, hurricanes, wildfires, terrorist attacks—are multifaceted events that impact tens of thousands of lives. Response to these major incidents involves multiple agencies. The key to a successful response—to get people, equipment, and supplies where they are needed as quickly as possible—is establishing a communication network that provides a complete picture of what's happening in real time. It also requires bringing together all necessary parties, from private entities to city, county, and federal agencies, to share information and resources and work in an effective, integrated fashion.

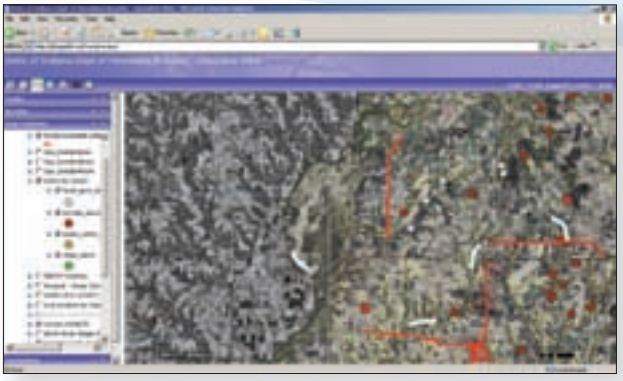
The Indiana Department of Homeland Security (IDHS) embarked on an ambitious campaign that provides just such a communication network based on server, desktop, and Web geographic information system (GIS) technologies. It provides a two-way stream of information flow among local, county, state, and federal agencies that is vital to disaster response.

"We wanted to leverage resources already in place with other state agencies and in the universities across the state," says Roger Koelpin, GIS/critical infrastructure planner, IDHS. "We are able to work with those partners as resources for our internal disaster recovery strategy and continuity of operations planning. Ultimately, we hope to turn this into a viable process for bottom-up reporting of data to meet federal data calls and keep our federal partners informed as part of our routine, authoritative, common operating picture."

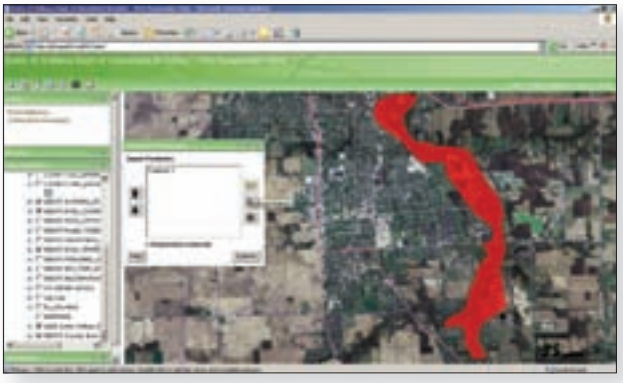
A Common Operating Picture Using Web-Based GIS Services

The enterprise disaster response system provides several functions. First, it can be used for mitigation, with state agencies identifying high-risk populations, infrastructure, natural resources, and other assets. Second, it can provide instant response capabilities. When a disaster strikes, real-time situational awareness can be achieved. Using GIS, commanders can make quick decisions on where to send law enforcement, fire personnel, emergency medical services staff, and other responders. They can instantly see available resources, prioritize activities, and monitor events in real time. This capability also helps with long-term recovery.

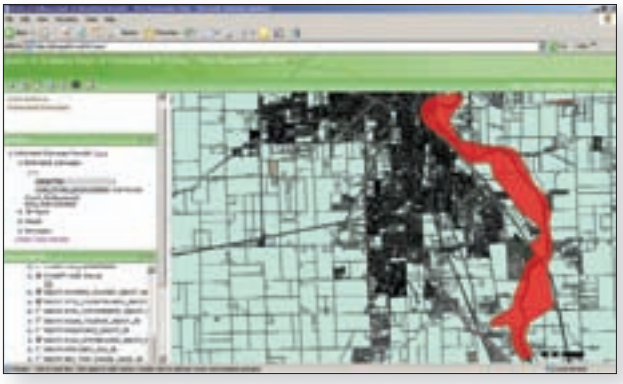
A major component of the system comes from Indiana University partners, who are already using GIS and related technologies to publish IndianaMap, a singular, statewide geospatial resource for Indiana that includes a wide variety of information in a format accessible to both expert GIS users and the general public. The strategy of working with universities allows IDHS to leverage the databases and tools these academic institutions use in their individual GIS work. It also provides a decentralized information network that can supply data and applications should state government information systems be disrupted or become inaccessible.



The Executive View service can consume disparate data sources. This service was tailored for use during response to and recovery from past floods.



A screen shot from the Emergency Operations Center depicts a quick assessment of total possible damages. The extents of the affected area are shown in red.



Parcel information is brought into the map with the damages overlaid to determine property damage.

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By Jim McKay

PHOTO COURTESY OF FEMA

Michael Byrne

Leader, National Incident Management Assistance Team

Michael Byrne is a National Incident Management Assistance Team (IMAT) leader for FEMA. Byrne is a veteran of the New York City Fire Department and served as director of the New York City Office of Emergency Management.

Byrne has been senior vice president of ICF International; justice and public safety director for Microsoft; and senior director of preparedness, response and recovery for the U.S. Department of Homeland Security.

This spring, he took time out from a speaking engagement at the Resilient Communications for Emergency Response conference to talk with *Emergency Management* magazine about his deployment to Haiti.

Can you explain what IMATs are and how many of them there are?

Each region has a regional IMAT, but there are two national teams. The national teams handle what we refer to as "Type 1 level events." So Type 1 events are the largest types of disasters that we can handle, and that's what we're in place for.

You were deployed to Haiti a couple of weeks after being sworn in. Can you tell me about that experience and put that into perspective for us?

There's nothing better than to start a job and actually get thrown into what you dream about doing. Haiti was, I think, the largest humanitarian disaster of our lifetimes in the Western Hemisphere. It's faded from the headlines, but we can't forget that more than 220,000 lost their lives. We still have people living under pieces of plastic sheeting; more than 1.2 million people are still living like that. It's still an ongoing event and still requires a lot of focus and assistance from the international community.

> "Haiti was, I think, the largest humanitarian disaster of our lifetimes in the Western Hemisphere."

Can you expand on the difficulties the Haitian people faced when the quake hit?

First of all, it's got to be said that Haitian people are incredibly strong and resilient. I was impressed every day in the three months I was there. Haitian people are definitely survivors and they really have done as best as could be done because it's a really difficult disaster. You had a combination of events: You had underlying poverty that is very severe. You had construction that was unreinforced masonry for the majority with concrete roofs, which in an earthquake scenario is one of the worst possible combinations. And then add to that the congestion within Port au Prince, which was designed, from what the Haitian government has told me, for about 350,000 people. There are more than 2 million people living there.

PHOTO COURTESY OF MARCO DORMINO/WIKIPEDIA.COM


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What lessons could we take away from the Haiti situation that would apply to the United States?

We can learn from it in terms of how to do really basic, down-and-dirty kinds of assistance. Start looking at Maslow's hierarchy of needs. Get people water, and maybe it's not bottled water all the time. Maybe it's large five-gallon pails of water, which is what we distributed; basic shelter using plastic sheeting. I'm not saying we want people to stay in those conditions for long, but for the emergency part, to stop the loss of life, there are rapid things we can do. On the preparedness side, looking at our building codes. If there was ever an example of how not to build in the earthquake-prone zone, this is one of them.

What were the biggest problems in coordinating aid to Haiti?

International disasters are run differently because you have the United Nations lead, you have a large number of nongovernmental organizations; and by large number I mean an excessive 400 to 500 of these organizations. They're the resource providers. And then the internationals like the United States, and in this case, Canada and the European Union, Japan and a lot of the nations are the donors bringing funding. Trying to coordinate all those moving parts is obviously more complicated than doing it domestically where we have very clear-cut, local, state and federal responsibilities under the Stafford Act.

I'm going to switch gears a little bit to state and local government. How can officials here make your job easier and facilitate a working relationship with the federal government?

I have to refer back to Haiti just for a second. At the end of the day, this is about relationships. We don't stop being human beings because we have a disaster and because we're doing a certain process. Really the best thing we could do is get to know each other, come to events where we communicate and talk about our issues. Because by having those relationships ahead of time, our structures and our processes are good, they're solid. But without the relationships, they would still fall apart, just like anything else.

How does FEMA prepare for a local emergency before one is declared? Is building a relationship a part of preparation?

One of the other things that current FEMA leadership is doing is developing a foundational doctrine. What is it that we focus on? We've established relationships; now we get together; how do we come to decisions together?

I mean simple things: life safety first; basic needs and shelter first — those kinds of things and how we'll sort of work through these issues, how we'll channel them in terms of who's responsible.

Do the relationships develop over time?

We develop an affinity with people we go to battle with that we work big disasters with. We gain each others' trust, and right now, the country has some extraordinary leaders at the federal level, state and local levels.

This is where I'd say that the post-9/11 grant programs are starting to have an impact. Of course it's not taking care of everybody's needs, but the grant programs are having an impact as we're seeing a lot more dedicated resources, professionalism and unity of effort around structures like the National Incident Management System for one, that is making us a stronger emergency management community in the United States.


PHOTO COURTESY OF WIKIPEDIA.COM

Immediately after being sworn in as FEMA National Incident Management Assistant Team leader, Michael Byrne was deployed to Haiti. The unreinforced masonry buildings with concrete roofs, the extreme level of poverty and the congestion within Port au Prince created a dire situation that left more than 220,000 dead and more than 1 million homeless.

Byrne said Haiti can be a learning experience for the United States in terms of evaluating our building codes and understanding "how to do the down-and-dirty kinds of assistance," such as providing basic shelter and water.

In the News

The United States wasn't the only country grappling with cleaning up an oil spill this summer. In China, one worker died and others toiled with rubber gloves and chopsticks, for lack of better equipment as an oil spill covering roughly 180 square miles threatened sea life and water quality in the Yellow Sea off the beaches of Dalian, according to the *Beijing Youth Daily*.

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* In the News

This photo demonstrates the lack of equipment for oil spill cleanup in China and the extent to which residents off the beaches of Dalian went to clean up after a summer oil spill.

In Nigeria, oil spills are and have been a part of the landscape for 50 years with little cleanup. The impoverished Niger Delta has an oil spill equivalent to the 1989 Exxon Valdez spill (more than 10 million gallons of oil spilled) every year. There, oil pours out on a weekly basis, rendering swamps lifeless, according to a *New York Times* report.

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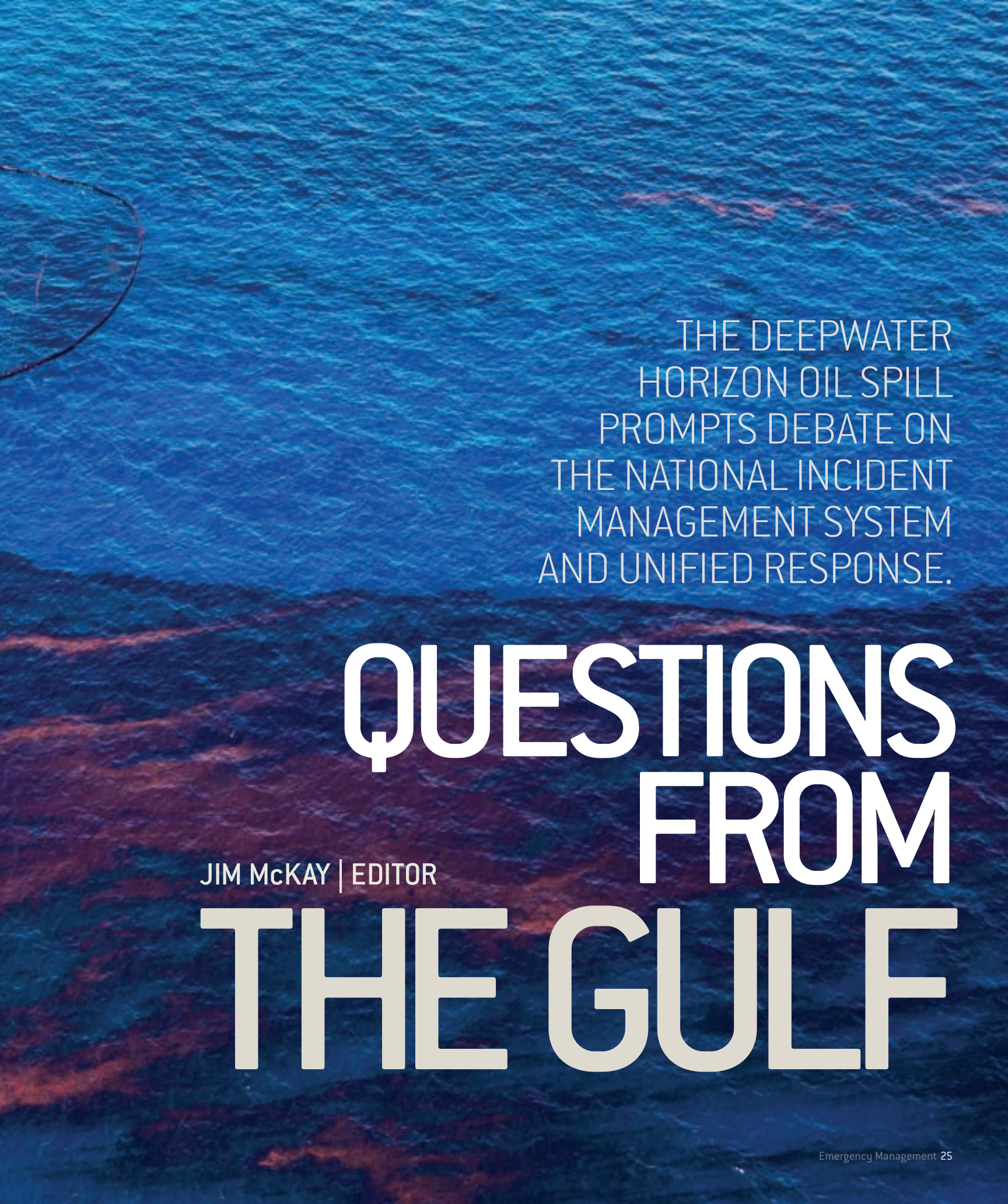

THE DEEPWATER HORIZON OIL SPILL PROMPTS DEBATE ON THE NATIONAL INCIDENT MANAGEMENT SYSTEM AND UNIFIED RESPONSE.

QUESTIONS FROM THE GULF

JIM McKAY | EDITOR

BELOW: Rear Adm. James Watson, right, is touring U.S. Coast Guard assets throughout the Gulf assessing the efforts of the ongoing BP Deepwater Horizon response.
RIGHT: A controlled burn on June 9 by Deepwater response.

PHOTOS COURTESY OF PETTY OFFICER 3RD CLASS COLIN WHITE

Aside from the flood of obvious concerns involving the environmental and financial impacts of the Deepwater Horizon oil spill in the Gulf of Mexico is a frustration among some in the emergency management arena that the way Unified Command unfolded in the Gulf will affect the way public-private partnerships and Unified Command are handled in the future.

Most of the controversy stems from either ignorance of the National Incident Management System (NIMS) and Unified Command, or the disregard for them because of a desire to frame the message. Others suggest the incident illustrates that NIMS and the Incident Command System (ICS) are flawed in an event of this magnitude.

The Oil Pollution Act of 1990 (OPA 90), which followed the Exxon Valdez oil spill in Alaska, mandated collaboration between the government and company involved, the "responsible party." Also mandated were the ICS and the Joint Information Center (JIC) — meaning the government agencies and private entities involved, including the responsible party — would work in concert to provide a unified response.

The efficacy of NIMS/ICS and Unified Command in response to the BP oil spill is being debated, with some saying it worked at times and others saying it was compromised from the beginning because of ignorance, indifference and politics. The oil response has raised questions about NIMS' sustainability and the future of public-private partnerships in terms of a response to a similar event.

QUESTIONING UNIFIED COMMAND

After the blast on April 20 and the subsequent oil flow, it was apparent that the fix may not come quickly and impatience among the media and public began to set in. The government could, under OPA 90, step in and take over, but perhaps recognized that the responsible party, BP, was better equipped to plug the hole.

But that didn't stop the White House, according to Gerald Baron, from trying to frame the issue into a rebuking of BP. Baron, the creator of the PIER System, a Web-based communications system being used by the JIC, wrote in a *Point of View* published in July/August *Emergency Management* that by politicizing the event, the White House tainted the public message and perhaps compromised the collaboration and trust necessary for Unified Command in future disasters involving the public and private sectors.

Baron said for 20 years, since OPA 90 was born, federal, state and local government agencies practiced a partnership that worked fine with oil companies — until 2010 when the oil spill was politicized by the White House and misrepresented by the media

"This is potentially deadly to the future of NIMS and JIC," Baron wrote, "because other responsible parties, emergency managers and elected officials are observing this. Response effectiveness suffers when trust is lost.

"The ideal of a 'single voice' of the JIC representing all participants in Unified Command was set aside in favor of a clear division between BP as the responsible party and the government agencies involved."

Baron said the division was more perception created by the media than reality, and that BP worked through Unified Command as required by law.

But questions are being raised about NIMS' viability with an event as large as the oil spill and whether Unified Command works with a participant whose objective isn't shared by all. "When

LOUISIANA MANAGES OIL SPILL QUERIES WITH COTWEET

Following the Deepwater Horizon oil spill in the Gulf of Mexico, the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) employed Twitter to inform and answer constituents' questions.

The agency used Twitter's management tool CoTweet to reply and see responses to tweets, as well as archive its tweets, according to Christina Stephens, director of GOHSEP's Joint Information Center.

Stephens wrote and scheduled tweets to appear in advance in CoTweet, which also showed GOHSEP who retweeted the agency's information.

GOHSEP used Twitter to disseminate information to fishermen about decision-making and fishing closures in the area. For example, a Louisiana man thought taxpayers' funds were being used to clean up the oil spill, so he asked GOHSEP. Stephens found a letter from the governor stating otherwise and provided a link to it in about 15 minutes.

"In that situation, what would have happened if we didn't have Twitter is this blogger would have gotten routed to a PR person — who may or may not have responded," she said. "They wouldn't have very easily been able to get the information."

By Corey McKenna, Staff Writer

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A Coast Guard communications team inside a transportable command trailer at the Mobile Incident Command Post serves a pivotal role in the oil spill cleanup in Mississippi, Alabama and Florida coastal areas.

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a private-sector entity creates the disaster, I think it makes Unified Command, JIC and everything else just a little bit more dicey," said George Haddow of the disaster management consulting firm Bullock & Haddow. "I'm not sure anybody who created NIMS envisioned this scenario. Someone is going to have to take a look at it."

'A REAL DISCONNECT'

Devon Humphrey teaches NIMS at the National Spill Control School at Texas A&M University and previously worked for the Texas General Land Office aggregating GIS data for oil spill response. He was asked to do the same at Deepwater, along with several "smokejumpers," GIS experts from around the country.

Humphrey said all of the GIS experts brought in were familiar with NIMS and Unified Command, but many of the people at the Incident Command Post (ICP) in Houma, La., were not.

"I saw a real disconnect among some of the players on NIMS and that became a constant battle in GIS because the people we brought in to work in the GIS lab were familiar and experienced with NIMS, and a lot of the people working for BP or as BP contractors were not," he said. "We were constantly educating people on basic concepts like unity of command."

Humphrey and the GIS people set up an ArcGIS server that served up spill data in multiple ways. The server was located at a contractor's site, but the technology was also needed at the ICP. "BP treated it more like a corporate security issue than a NIMS information-sharing issue," he said. "They threw up all sorts of roadblocks relating to firewalls and security and said, 'Let's manage the data from Houston.' Things like booms, and wildlife samples and water samples — that was all proprietary in that it was behind their firewall and they weren't necessarily sharing."

Frank Veale, a professor at the Massachusetts Maritime Academy and formerly counsel to Texas Instruments, suggested that although it was appropriate for BP to be the responsible party, concerns about a Justice Department investigation could motivate a private company to filter information. "There may have been some cost concerns initially that caused this incident," he said. "I'm sure there are concerns with the criminal and liability aspects associated with that. Any company spokesman or executive has an obligation to protect his company."

Eventually Humphrey was asked to leave. "We were fighting this NIMS battle and I was called by this contractor who placed me there and he told me the BP folks would rather not have me back in the GIS lab," he said. "They were tired of dealing with all these security issues and NIMS issues, I guess."

Humphrey said NIMS isn't taken seriously enough around the country in both the government and private sector, including the oil industry. "There are a few very well done drills, but many of the ones that are required under OPA 90 just get glossed over as a compliance thing," he said. "I think that needs to be stronger. What people have to catch onto in industry is that these concepts were developed for a reason and they work."

When planning a drill for a city, participants review the incident action plan beforehand and Humphrey asks if they need NIMS/ICS training. "People will say, 'Oh no, we've done all that stuff. We know ICS.' And then you get there and start the drill and it's very obvious they don't," he said.

A BP representative from Houma said the company had no comment, but Jeff Schwanke, a contractor who teaches orientation and briefs people entering Incident Command, spoke from the ICP. "I don't know that one group has more understanding than any other," he said. "They all seem to have an understanding of ICS."

Baron said BP, the Coast Guard and prime contractors who deal with oil spills on a regular basis are cognizant of NIMS protocol. "But it appears that other responders and response leaders from a variety of government organizations involved did not share the same level of knowledge and commitment to NIMS," he said in an e-mail. "And this has no doubt impacted how some of the structure has been used and evolved during the response."

Continued on p.32

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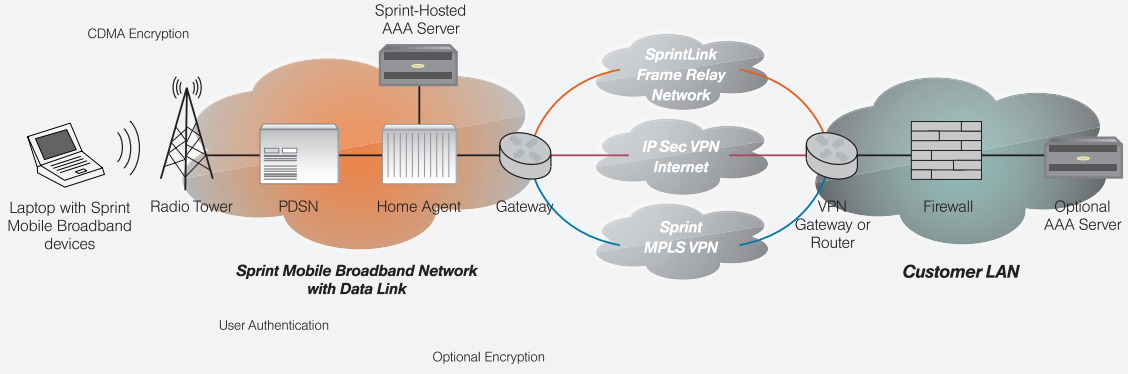

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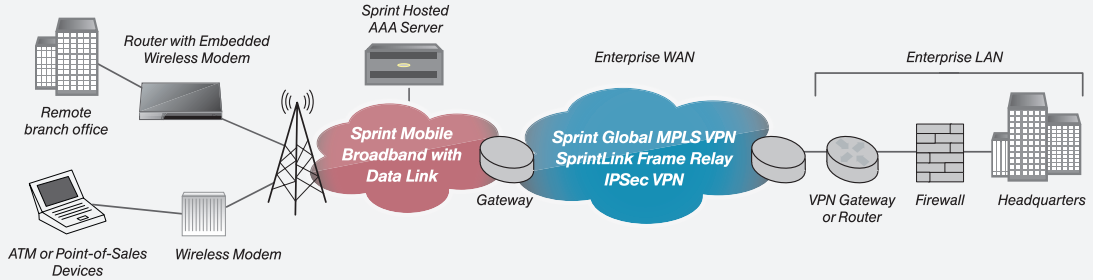

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TOP: The BP command center in Houston. *Photo courtesy of the Department of Energy*. **BELOW:** The Vessels of Opportunity program and the U.S. Coast Guard are working together to contain and prevent oil from hitting the marshes. *Photo courtesy of Petty Officer 3rd Class Ann Marie Gorden.*

Continued from p.28

Humphrey said some of the local parishes chose to remain in their emergency operations centers (EOC). "Local government was a little disconnected," he said. "You didn't see many local government folks represented in the ICP. If a parish or city is holed up in the EOC and you've got an ICP someplace, that's got to make things hard."

POLITICS ALWAYS IN PLAY

David Neal, director of the Center for the Study of Disasters and Extreme Events at Oklahoma State University, isn't surprised about the alleged issues emerging with Unified Command in the Gulf, including Incident Command being used as a "federal tool" for the federal government rather than its intended purpose.

"You're going to have politics like that whether you're using NIMS or not, whether you have a JIC or not," Neal said. "There is always going to be a political dimension like that."

It's also not surprising, he said, to hear that some at the ICP weren't well versed with NIMS and Unified Command. "A lot of organizations either don't know how to use NIMS or they don't want to use it," Neal said. "Fire services and organizations dealing with medical issues are really strong proponents of NIMS and Incident Command and use it every day, but a lot of other organizations take the required training and never use it."

Neal said the key to an effective response to a disaster like the Deepwater Horizon oil spill may lie more in training, drilling and collaboration rather than using NIMS/ICS. "To me, the more important factor isn't using NIMS or Incident Command, but having the players interact beforehand so they know each other and what each is supposed to do."

Neal wondered whether the Deepwater Horizon incident is just too large for NIMS to handle. "One of the underlying ideas behind NIMS and Incident Command is scalability," he said. "But the way it's set up to where you just keep adding to it and your span of control continues to be four levels of organization and so forth, I do think there's a breaking point."

Baron said problems at Deepwater arose not because of a lack of NIMS' scalability, but because NIMS wasn't fully implemented.

Brennan Matherne, public information officer with Lafourche Parish, La., said from his perspective, NIMS and Unified Command worked as they should have. "I feel it worked from the beginning, probably because it was all on the local level."

He said the local agencies — the Sheriff's Office, the Harbor Police, fire, emergency medical services and the Coast Guard — are well versed with NIMS and Unified Command because of the practice they get responding to hurricanes. "That's basically our hurricane lineup."

Matherne said BP was the one variable that made Unified Command different. "That being said, the BP people for the most part were just trying to do their job; you don't have people trying to infiltrate the system," he said.

Matherne said Lafourche Parish was visited by representatives of other parishes who were frustrated with their communications with BP. "I don't think we would accept that here," he said. "We would refuse to let them keep information from us like that. That's essential to this operation."

The one difficulty they had in Lafourche, Matherne said, was an understanding of who was really in charge of the overall event. "From the beginning of this, the president is coming out and saying one thing and BP is saying another — even locally, different things are being said. From the beginning it was difficult — not that we necessarily needed to know who's in charge — but even to this day [mid-July] that still is to some degree vague."

The conclusion for many is that the event was just far more than anyone had prepared for. "What this is really reflecting," Neal said, "is that we have really not considered realistically, an event like this taking place and how we were going to handle it."

A fire crew attempts to extinguish remnants of the oil rig explosion.

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EYES AFTER THE STORM

THE IMMERSIVE VISUALIZATION CENTER PRODUCES 3-D MAPS THAT DRAMATICALLY EXPAND RESPONDERS' KNOWLEDGE IN A DISASTER'S AFTERMATH.

SAN DIEGO STATE UNIVERSITY'S Immersive Visualization Center, popularly known as the Viz Lab, has transformed how responders navigate disasters. Founder Eric Frost spent years using his geographic visualization skills to help fuel companies find oil. In 2000, he began applying the techniques he developed to disaster response. Frost, a geographer, secured space at the university, computer hardware grants and a team of like-minded experts to create the Viz Lab. Soon after, he and the team began negotiating the declassification of data from various government agencies within the U.S. Department of Defense (DoD) and others.

The results were animated maps showing damage locations, hospitals, refugee camps and other data rarely available to responders as quickly in the past. This enabled humanitarian operations to target limited resources where need was most critical. As the Viz Lab's credibility rose within the disaster response field, the U.S. Navy took notice and began paying the group to assist the Navy's humanitarian efforts.

The collaboration gave Frost and other Viz Lab staff even more clout to use data from other agencies. With the imagery declassified, the Viz Lab and Navy created InRelief.org to display it for anyone interested. The group was viewed as essential during the Gulf of Mexico oil leak, 2010's earthquakes in Haiti and Mexicali, Mexico, and San Diego's 2007 wildfires. Emergency responders routinely visit the Viz Lab for recommendations on equipment purchases and methods for receiving data in remote areas. Although the Navy funds the lab, it operates independently, and its advice is seen as free of monetary bias. A look at the group's founder and team of experts might spur more ideas among emergency managers about how they can collaborate with an essential organization functioning mostly behind the curtain.

INSUFFICIENCY OF WORDS

Almost anyone can relate to the difficulty of interpreting situations and instructions purely through verbal communication. A key purpose of the Viz Lab is to convey more of what a field professional processes in his or her mind. Think about all of the variables and connections people process instantly in their minds based on what they see. In disaster response, what a person sees in the field can be vastly different from what someone in a remote command center perceives from radio and written descriptions.

Before the Viz Lab was established, instant messenger-style chat and voice were the primary communication channels available to these decision-makers. With the lab's geographic imagery, disaster response participants often communicate simply by passing around pictures unaccompanied by e-mail text, according to Alex Hatoum, director of Latin America for the Viz Lab. He described an incident after the 2010 earthquake in Mexicali. Hatoum came across a damaged aqueduct, photographed it with a GIS-enabled camera, sent it to the Viz Lab, and got back a map depicting where that aqueduct was in relation to the land above where the earthquake originated.

ERIC FROST,
FOUNDER, VIZ LAB

InRelief.org hosts interactive maps that use data aggregated from various government sources.

"I didn't even have to send an e-mail. We took the picture, and we sent just the picture with our GPS location. That's it," Hatoum said. "We didn't have to say, 'Look at the aqueduct.' It was apparent from the picture. They knew exactly where we were because it was geo-tagged, and that was all that was needed to explain what was needed and what was in front of us."

Viz Lab maps are also 3-D, which helps participants less experienced with maps understand a situation more vividly, in Frost's view. He pointed to wildfires as an example.

"Fire is so topographically driven many times, and with three-dimensional maps, you can then see where the people are and say, 'Oh, these people can't see the fire because they're down in this canyon,'" Frost said, later adding, "You can manipulate it — turn it sideways, and up and down. You can look at how high [or low] something is, where the smoke is and put the weather on top of that. You can actually see complexity that even a firefighter who's really good at [two-dimensional maps] can't do."

The Viz Lab's maps also help military officers demonstrate strategy and predictions about enemy patterns more quickly, Hatoum said. He pointed to military operations in Iraq and Afghanistan that used the lab's maps. Lab staff plotted the locations of various improvised explosive device attacks in both countries. The map revealed that insurgents were correctly predicting movements of U.S. troops and other allied forces.

"If you stretched the time scale out for weeks at a time, months at a time, and then even years at a time," Hatoum said, "you could really see the pattern — how they knew what routes we were taking — the fact that they would concentrate on different sectors based on what was going on that week."

He said the speed at which officials could understand the point based on visual aid was the key to rethinking strategy. "Unless you visually represented it on a map and added the points, there was no other way you could have determined that from just having a text of all the dates and locations," Hatoum said.

The **Viz Lab** creates 3-D maps like this one that shows the size of the Gulf Coast oil spill.

TRANSFORMATIVE ALLIANCE

Before a responder hits the ground of a disaster site, in many cases he or she already has myriad pieces of information that weren't available prior to the lab's founding. The responder knows the whereabouts of damaged buildings, road obstructions, places to which crowds are fleeing and potentially better places to evacuate them. Making that possible is the Viz Lab's relationship with the Navy and its access to aerial photographs taken from Navy P-3 Orion planes. In the past, only the Navy could view that imagery.

Frost and other Viz Lab staff established a negotiating process for making the data public. Navy officials desired to share the data in pre-Viz Lab years, but the agency's laws about what was and wasn't classified information made that cumbersome. Anything photographed by the P-3 planes was considered classified — even if it was something people could reasonably expect to see on their own like a military gas facility viewable from San Diego's Qualcomm Stadium.

"The military has imagery of this facility, and they consider that top secret, but you and I can go on Google Earth and find the same imagery — maybe not to the same resolution, but it's essentially the same imagery," Hatoum said.

The Viz Lab served as a mechanism for identifying similarly benign subject matter that the Navy could photograph and declassify for disaster responders. In some cases, negotiations consisted of crafting ways for the military to release images without revealing legitimately classified data. For example, footage frequently showed annotation from the military cameras used for the photography — data the military wanted to remain a secret. During the 2010 Haiti earthquake response, negotiations with the lab resulted in the Navy scrubbing that annotation and releasing the footage.

Once the photography is declassified for the Viz Lab's use, it's posted on InRelief.org. "The moment that it was sent off the airplane, it was uploaded to our site and we put it out on the Internet for anyone to use," said Dan Engle, an adviser to the Viz Lab on naval matters. "No DoD asset has ever done that before — to release imagery like that on the Internet. Once the negotiation process was established with the Navy, other government and nongovernmental agencies began making requests for P-3 photographs through the Viz Lab."

"On an ad hoc basis, we would forward those [requests] to the Navy and ask on a 'not-to-interfere' basis — assuming they were in that area — if they could just look," Engle said.

Many organizations have access to P-3 aerial photography, thanks to this process.

Hatoum said it made more sense for the Viz Lab to make the maps instead of the Navy because the federal Posse Comitatus Act of 1878 stringently prohibits military agencies from storing data about U.S. citizens, businesses and other entities.

"For example, if you drove a boat personally from Mexico to New York with drugs, and the military had that information, they would have to hand it over to a law enforcement agency within 60 days," Hatoum said.

A university, by contrast, has much more freedom with information than a military or other governmental organization because of different regulations.

RICH VISUALIZATION FOR POOR NETWORKS

The potential uses for innovative responder communication devices are limitless with robust broadband, but responders usually can't get strong broadband connections. Infrastructure is frequently either damaged or clogged with panicked cell phone users.

"Everybody is getting conditioned to think they're always going to have these fast speeds to their phones," said Steven Birch, a senior scientist for the Viz Lab. "As long as you're not in overpopulated areas, it will work fine. Imagine you were in the stadium in New Orleans [during Hurricane Katrina] when everybody was being crammed in there — your high-speed connection would probably fall to pieces."

In such environments, responders need data and applications that travel smoothly with dial-up speeds, Birch said. Oftentimes, the GIS maps that governments give responders are PDFs bloated with irrelevant data. During a wildfire, firefighters might receive a map that includes boundary lines identifying local, state and federal land ownership. That's useful information once the fire is extinguished because it helps all the agencies involved determine who to bill for what parts of the response. However, firefighters don't care about such details while they're extinguishing the fire, Frost said. The Viz Lab spends a lot of time talking to disaster responders about data that's practical during the heat of the moment. This enables Frost's staff to send smaller files containing only that information. The lab also advises fire departments, military agencies and others on technologies they should buy to work in conjunction with those files.

"We are not tech vendors. We don't have an agenda to push. We are tech users," Birch said.

The lab recommends, for example, that responders be able to receive files that have been run through software called GeoFusion, which alters the data into a format that traverses smaller networks more efficiently.

The Viz Lab also advises responders on maximizing network capacity. For example, the lab recommends a less traffic-intensive way of using Google Earth, which usually involves a bandwidth-hungry live stream. Thanks to Viz Lab's recommendations, responders use an offline version of Google Earth. They receive piecemeal data sets and get exactly what they need, often via dial-up speeds.

"Think of it as data triage, which allows the end-users to have the information they need," Birch said.

Watch *Emergency Management's* interview with geographer Eric Frost about how San Diego State University's Immersive Visualization Center aids disaster response with geographic imagery at **www.emergencymgmt.com/vizlab**.

VIRTUAL INTELLIGENCE

AGENCIES TURN TO SIMULATION-BASED TRAINING FOR COST-EFFECTIVENESS AND FLEXIBILITY.

BY ELAINE PITTMAN | ASSOCIATE EDITOR

Although training is invaluable, first responder and emergency management agencies nationwide are finding their budgets tighter than ever, and it's becoming increasingly difficult to conduct large-scale training exercises. The federal government is considering scaling back 2011's National Level Exercise, which was envisioned as a five-day drill in response to a magnitude 7.7 earthquake in the Midwest. And live drills also are becoming harder to produce on the state and local level, as funding is difficult to come by. Simulation-based training has become a popular and cost-effective method of training personnel, and agencies nationwide are employing software and tools to aid their education efforts.

"Simulation is a valuable tool for emergency response and can be used for vulnerability assessment, planning, training and decision support," wrote Dale Hall, former director of the National Institute of Standards and Technology's Manufacturing Engineering Laboratory, in the report *Modeling and Simulation for Emergency Response*. "It was identified as the only feasible approach when it is difficult to do real-life experiments, as is the case for homeland security applications."

Simulation-based training is as diverse as the events the nation's responders face; it can be used to drill on emergencies related to public health, hazardous materials, natural disasters, homeland security issues, and to test incident command and emergency operations centers. Training also can range from simulating emergency events for a single user to a multiuser, multiagency environment.

Here is a look at how four simulation systems are used to educate and train some of the nation's emergency managers and first responders.

PHOTO COURTESY OF ENVIRONMENTAL TECTONICS CORP.

City Simulation

The New York City Office of Emergency Management (OEM) drills its first responders and partner agencies in a 3-D virtual replica of the city. City blocks are scaled to size, citizens roam the streets and Macy's sits prominently on 34th Street, as officials conduct a disaster simulation to test the agency's unified command. The OEM worked with Environmental Tectonics Corp. to create the virtual environment that runs on the company's Advanced Disaster Management Simulator (ADMS) training system.

"The main goal of our simulations is to test the command element, to put them in situations to test their ability to implement what we call the citywide incident management system, which is additional information added to ICS [the Incident Command System] that we put in place to help organize how we manage emergencies," said Jacob Cooper, the OEM's deputy commissioner for agency development and coordination.

The OEM has seven simulations that it runs with representatives from various city agencies and other partners. Cooper said participants are briefed about the emergency situation that's being simulated and then brought into the simulator room where they can view the scene. "They're able to talk about different decision points, what they're going to do next, set some objectives, think about what they're going to say to the press, things of that nature, and then they do an after-action report," Cooper said.

When participating in a simulation, the trainees use a joystick to explore the virtual environment and radios to communicate and determine their needs. A facilitator runs the simulation and makes things appear onscreen as requested by the trainees. "If someone asked for six fire trucks and four police officers to perimeter off an area, the next thing he or she knows, it's appearing onscreen as it would in the real world," said Karen Delos Santos, Environmental Tectonics Corp.'s business development manager. "What makes ADMS most unique is that although it's virtual training, it's unscripted scenarios."

ADMS uses artificial intelligence and a physics-based engine, according to Santos. When simulating a terrorist attack, people automatically run and hide, and in firefighting situations, the fires propagate the way they would in real life. "There's nobody who has to say, 'OK, fire you need to spread to the east because the wind direction changed,'" she said. "That's the artificial intelligence coupled with the physics engine that are the brains. It's a bunch of algorithms that are driving the things that happen within the scenario, coupled with what the trainee does or doesn't do."

The New York City Office of Emergency Management had parts of the city replicated virtually to add realism to its simulation-based training.

PHOTO COURTESY OF ENVIRONMENTAL TECTONICS CORP.

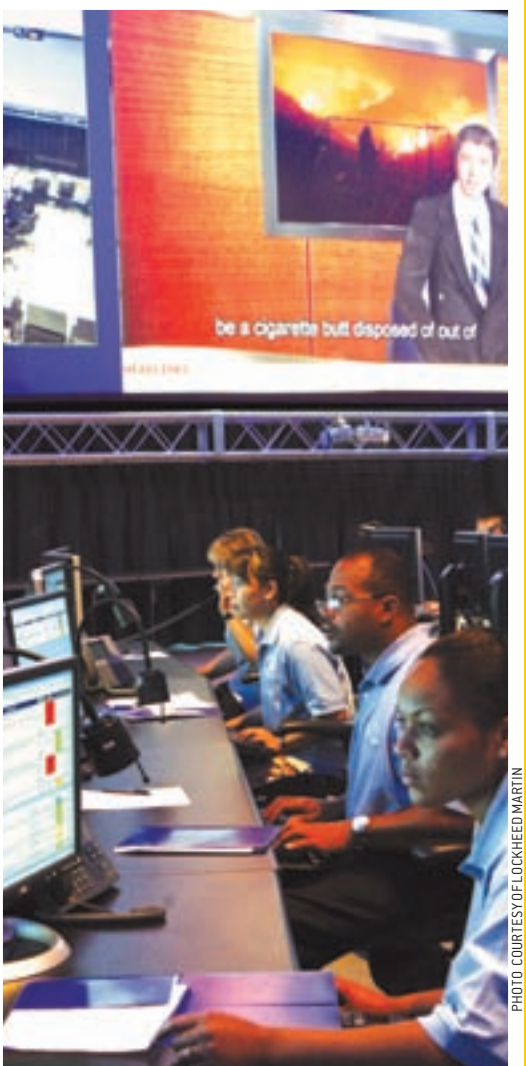


PHOTO COURTESY OF LOCKHEED MARTIN

Public Health Preparedness

One system that promotes the flexibility and cost-effectiveness of virtual training is Lockheed Martin's Incident-Management Simulator (LMIS), which can be used to test plans, identify potential impacts of real-world events and train for a variety of disasters. The LMIS is based on military technology and was enhanced to communicate with emergency operations center equipment, according to Angelo Prevete, a program manager with Lockheed Martin. "If an emergency operations center wanted to dispatch 30 trucks and deliver materials and fly airplanes, instead of doing that in real life, they would be talking to the simulation and the simulation would do it," he said.

The company developed simulations based on Hazus, FEMA's methodology for estimating losses from a disaster, and situations dealing with weapons of mass destruction, but agencies' models can be incorporated into the system. Lockheed Martin worked with the Centers for Disease Control and Prevention (CDC) to create the Stockpile in Motion Across the Nation (SIMAN) training program — an adaptation of LMIS — that replicates the distribution and receiving of medical supplies to state governments.

Ed Avery, an emergency management specialist with the CDC, said SIMAN is only used in-house and is being augmented. "Our big objective for this project is to establish a simulation capability that portrays very realistic, real-time actions that are directed by our response staff to conduct preparedness activities with more frequency and fewer resources to allow us to meet our objectives," he said.

The CDC has been including its internal organizations in the project to ensure that processes are accurately reproduced. During a recent drill, SIMAN was used to simulate an anthrax release during a three-day exercise. Prevete said 107 participants were in the drill, including representatives from various government agencies, warehouses, the media, FedEx and the U.S. Marshals Service.

The simulations can be stopped, fast-forwarded or replayed in case participants want to rethink decisions or aren't engaged in the exercise. The LMIS also can model real-world events to help agencies determine critical information. "If you have a hurricane coming down on you and it's six hours out, you can use it to model the effects so that you know six hours before landfall where the key crisis points are going to be," said Jay McDevitt, an exercise conductor with Lockheed Martin.

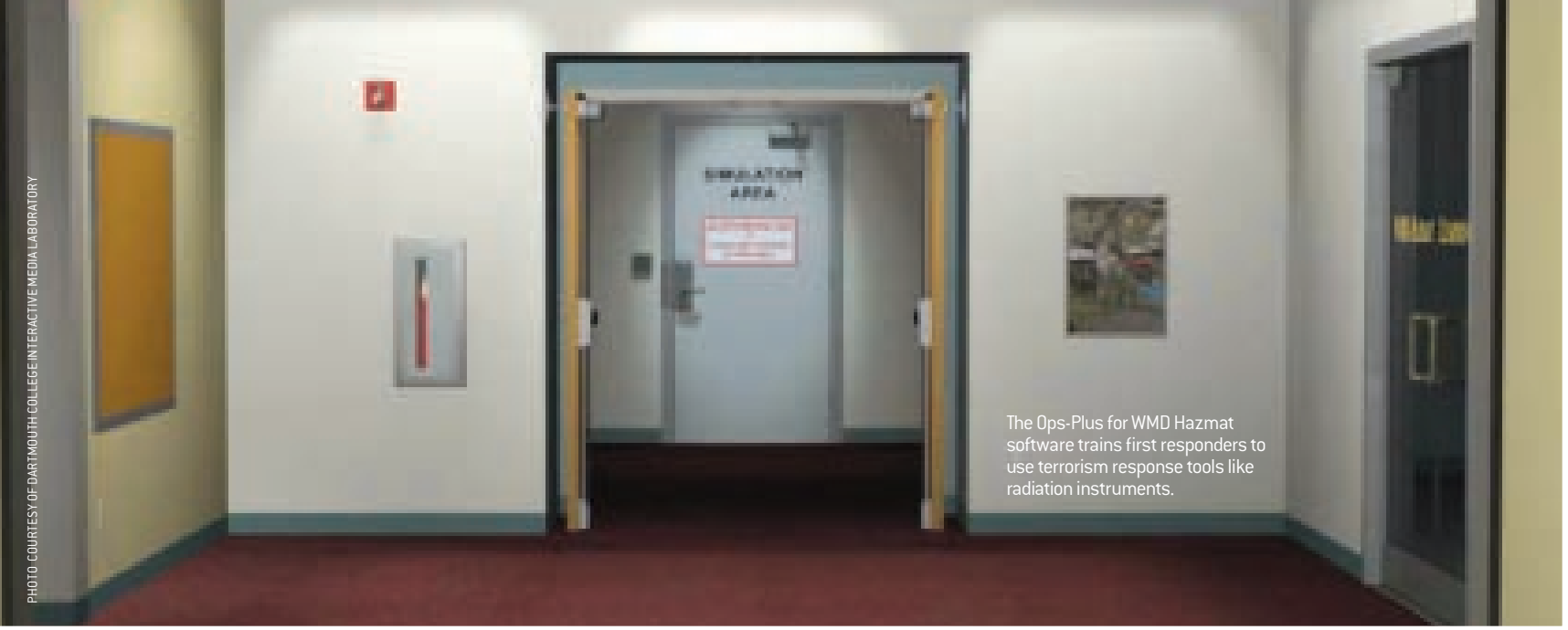


PHOTO COURTESY OF DARTMOUTH COLLEGE INTERACTIVE MEDIA LABORATORY

The Ops-Plus for WMD Hazmat software trains first responders to use terrorism response tools like radiation instruments.

Hazardous Instruction

After 9/11 Dartmouth College's Interactive Media Laboratory worked with the college's Institute for Security Technology Studies to create a product that would help first responders in terrorism response. The college created the Ops-Plus for WMD Hazmat program to apply the technologies and educational models that were created, according to Lab Director Joseph Henderson.

By working with the HAZMAT community, the developers found that many people were trained at the operations level, but additional education was needed because communities were procuring tools like radiation instruments that required specialization. Instead of requiring them to become technician-level responders, the Ops-Plus software provides simulated HAZMAT instruments, risk assessments and responses training.

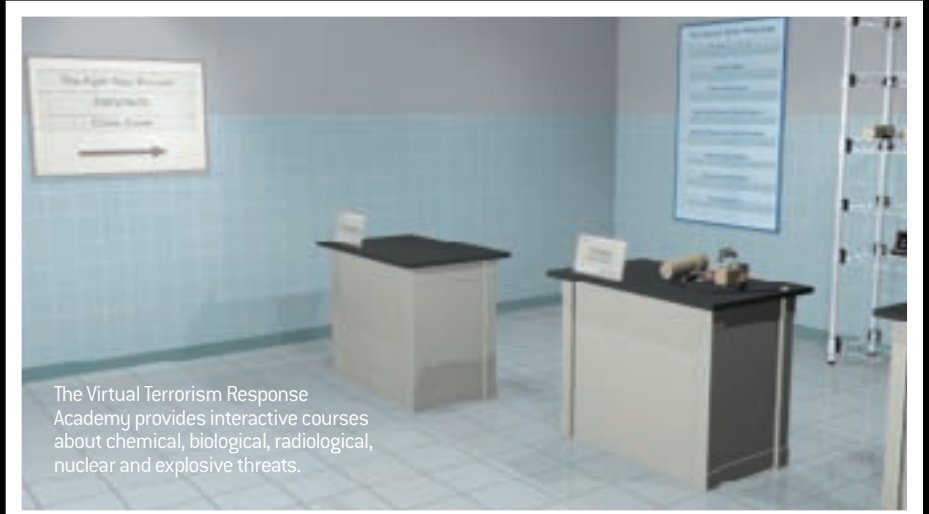
Ops-Plus is part of the laboratory's Virtual Terrorism Response Academy and provides more than 18 hours of interactive training about chemical, biological, radiological, nuclear and explosive threats. "There are big scenario simulations that occur in an immersive 3-D environment, some people call it a 'first-person shooter environment,' and then there are other simulations in other parts of this Virtual Terrorism Response Academy that allow people to play with pieces of concepts," Henderson said. "For example, working with simulated instruments and little games that allow them to play with the concepts before they have to put it all together in the larger scenarios."

One simulation exercise is a report of a possible dirty bomb laboratory and the trainee must interpret instruments' results and determine the risk to the community. An onscreen mentor guides the trainee through the simulations and asks questions like, "What do you think's going on here?" and "Do you think we need to go in to learn more?"

"It's one thing to have a simulated instrument, it's one thing to have a simulated target to shoot at, and it's another thing to have a mentor with knowledge take you through a scenario that feels reasonably realistic and you must use the simulated instruments and deal with very complex questions of risk, benefit, personal safety and team safety in the context of dealing with a potential terrorist attack," Henderson said.

Mike Callan uses Ops-Plus in multiple ways as a part of the chemical response training he provides for the public and private sectors. The former captain of the Wallingford, Conn., Fire Department, Callan also is an onscreen mentor who provided his expertise to help develop the program. He often leaves a copy of the software with the company or first responder agency he's training. "The ability to be able to use multiple people on one bit of software is very powerful for the fire service; it's economical," he said.

Callan also uses it to demonstrate certain points in his lectures because it provides consistent, well illustrated information. "If the message is repeated multiple ways at different levels, that's how learning sticks," he said. "That's why it's such a powerful tool."



The Virtual Terrorism Response Academy provides interactive courses about chemical, biological, radiological, nuclear and explosive threats.

PHOTO COURTESY OF DARTMOUTH COLLEGE'S INTERACTIVE MEDIA LABORATORY

REAL-WORLD TRAINING REIGNS KING

Agencies at all levels of government are implementing simulated training scenarios to support their education and planning efforts, but real-world drills will always be the most beneficial, say those who work in the field. "This will never replace actual exercises, but it will allow us to cost-effectively exercise more often and to scale and tailor things to different needs within the division and the agency," said Ed Avery, an emergency management specialist with the Centers for Disease Control and Prevention.

The New York City Office of Emergency Management echoed the sentiment. The agency began using simulation-based training to exercise its citywide incident management system, but it won't replace full-scale exercises. "We're still going to do those, but [simulation] is a way we can do it in a more controlled environment and not impact the public," said Jacob Cooper, a deputy commissioner for the agency.

PHOTO COURTESY OF THE LOS ANGELES POLICE DEPARTMENT

Hydra Goes Stateside

The Los Angeles Police Department (LAPD) deployed the first Hydra simulation system — named after the seven-headed beast from Greek lore — in the United States to promote critical incident training for command-level officers. The department's former chief, Bill Bratton, visited New Scotland Yard in London, participated in a Hydra exercise and became enamored with the system, said Sgt. Timothy Kalkus, the LAPD's officer in charge of Hydra Operations. Three and a half years later, the LAPD's Hydra center went live in March.

Hydra is an immersive simulation training system that uses video feeds to monitor real-time decision-making during critical incidents. During simulations, trainees are divided into groups and each group is in a different room that's monitored via closed-circuit television and boundary microphones.

Continued on p.70

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Park University	Disaster and Emergency Management Concentration within the Master of Public Affairs Degree	Laurie N. DiPadova-Stocks	(816) 421-1125	ldipadovastocks@park.edu
Saint Leo University	Criminal Justice	Rande Matteson	(352) 588-8848	rande.matteson@saintleo.edu
Saint Louis University	Master of Science in Biosecurity and Disaster Preparedness	Larry Bommarito	(314) 977-8135	bommarlg@slu.edu
Saint Xavier University	Graduate Certificate in Disaster Preparedness and Management	James C. Hagen	(708) 802-6220	hagen@sxu.edu
Texas A&M University	Graduate Certificate in Environmental Hazard Management	Michael K. Lindell	(979) 862-3969	mlindell@archone.tamu.edu
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University of Colorado at Denver	Emergency Management and Homeland Security	Lloyd Burton	(303) 315-2482	lloyd.burton@cudenver.edu
University of Connecticut	Master of Professional Studies In Homeland Security	Donna Lee Campbell	(860) 486-0184	donna.campbell@uconn.edu
University of Delaware	Master of Environmental and Energy Policy and Ph.D. in Environmental and Energy Policy	Young-Doo Wang	(302) 831-8405	youngdoo@udel.edu
University of Florida	Master of Science in Fire and Emergency Services	Barbara Klingensmith	(352) 369-2800	klingensmithb@dfs.state.fl.us
University of Maryland University College	MS in management, specialization in emergency management MS in technology management, specialization in emergency management MS in information technology, specialization in homeland security MS in management, specialization in homeland security MS in technology, specialization in homeland security		(800) 888-UMUC	enroll@umuc.edu
University of Nevada at Las Vegas	Executive Master of Science in Crisis and Emergency Management Program	Christine G. Springer	(702) 895-4835	christine.springer@unlv.edu
University of New Orleans	Master of Public Administration with Hazard Policy Track	John J. Kiefer	(504) 280-6457	jkiefer@uno.edu
University of North Carolina at Chapel Hill	Master of Science in Disaster Management	Jim Porto	(919) 966-7354	jim_porto@unc.edu
University of North Carolina at Charlotte	Master of Public Administration with Emergency Management Concentration	James W. Douglas	(704) 687-4532	jwdougla@uncc.edu
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University of North Texas	Master of Public Administration with Specialization in Emergency Administration and Planning	Bob Bland	(940) 565-2165	mpa@unt.edu
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HILTON COLLINS | STAFF WRITER

The Need to Fe

When Hurricane Katrina tore through the United States' Gulf Coast in August 2005, the people of New Orleans experienced devastation for which few were prepared. Mayor Ray Nagin ordered an evacuation on Aug. 28, but when the storm made landfall in Louisiana two days later, those who remained had to deal with chaos. Within days, 80 percent of New Orleans was underwater and thousands of people sought shelter in the Louisiana Superdome. After Katrina passed, the Louisiana Department of Health and Hospitals estimated that **1,464 lives were lost.**

Insulated food storage containers called "Cambros" are lined up for loading onto Red Cross emergency response vehicles and Salvation Army canteens, which distributed them throughout Galveston, Texas. More than 30,000 meals were delivered daily during Hurrican Ike. *Photo courtesy of Greg Henshall/FEMA*

ed

Emergency managers collaborate on new strategies for mass feeding during disasters.

The Texas-based Salvation Army volunteer unit set up a feeding station to provide sandwiches and other prepared foods to individuals picking up water, ice and food. The new feeding template should help streamline these efforts.
Photo courtesy of Win Henderson/FEMA

But the tragedy didn't lie just with the storm — it was also the failure of emergency management forces to adequately feed the survivors.

According to a U.S. House of Representatives report, most shelters and hospitals lacked adequate food or potable water for days after the hurricane's landfall. The mayor called the Superdome a "refuge of last resort," not intended to house and provide food and water for thousands of people over several days. Other evacuation points, like the Ernest N. Morial Convention Center, lacked food or water. A September 2005 *USA Today* editorial claimed that "every level of government that was supposed to prepare for the storm and its aftermath failed miserably."

And the disasters kept coming. CNN reported that in 2008 — the year of hurricanes Ike and Gustav — there was a major hurricane every month from July to November in the North Atlantic.

"In 2008, when Ike and Gustav hit Louisiana and Texas, there were multiple problems in the delivery of feeding," said Michael Whitehead, the state mass care officer for the Florida Department of Business and Professional Regulation. "The food was getting to the people, but the process was very ugly, and there was a lot of unnecessary pain and suffering by the emergency managers."

So he and some colleagues got to thinking — what if there were a way for disaster responders to coordinate feeding efforts whenever crises occur that are too big for one organization to handle? They convened following the 2008 hurricane season and after a lengthy brainstorming process, composed the Multi-Agency Feeding Plan Template, a document designed to make mass feeding across jurisdictions easier.

"Past disasters like Hurricane Ike and earlier mass feeding efforts have taught us that a comprehensive plan that includes our federal, state and local partners, including the private sector, is vital to making sure that people are fed during and in the aftermath of a disaster," said Peggy Mott, a specialist in mass care at FEMA.

Meeting of the Minds

Mott was one of several emergency management professionals who worked to get the correct words down on paper. She said a work group started with five volunteer organizations that met for a daylong strategy session, followed by biweekly webinars. This expanded to 50 participants from the private sector and all levels of government. The feeding plan template has undergone multiple iterations, and a recent version was released in spring 2010.

But some people came to the planning table with feeding mishaps not related to hurricanes. Kevin Smith, state disaster services director of the Salvation Army, recalled problems people had with the 2008 Iowa flood.

"For 10 days, they expected around 100,000 or more people to be without resources for food because of the flood taking out all of Cedar Rapids at the time," he said. "No one had enough resources to deal with that quantity of people for that sustained amount of time, so we started trying to pull pieces from everywhere to try to pull it together."

FEMA facilitated this collaboration, which Whitehead was a part of along with groups including the Salvation Army, Southern Baptist Disaster Relief and the American Red Cross.

The template is a 50-plus-page, how-to guide instructing regional emergency management forces on how to work with the federal government to feed a public that's in chaos. It's customizable, so any group can adapt it to their need and region. An earthquake in California, for example, might involve different feeding players than a hurricane on the Gulf Coast or a tornado in Kansas.

Continued on p.78

Organized mass feeding stations, such as this one during the Hurricane Katrina aftermath, were too few along the Gulf Coast.
Photo courtesy of Win Henderson /FEMA

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Beyond the Beat

In the post-9/11 world, local law enforcement officials and firefighters across the country join forces in the fight against terrorism.

By Russell Nichols | Staff Writer

In the heart of New York City on a lively Saturday night, an abandoned SUV, its engine running and hazard lights flashing, started to smoke.

The vehicle caught a nearby street vendor's eye and in no time, the New York City Fire Department (FDNY) flooded the scene. But something was wrong. First, the smoke was white, but blazes burn black. Second, with a thermal imaging camera, firefighters realized the smoke wasn't coming from the engine like it would in a normal car fire. Then they heard popping noises and saw flashes inside.

So instead of using hoses, Engine 54 and Ladder 4 firefighters used their heads: They called the Bomb Squad and blocked off the area.

"We put together pieces of the puzzle and said, 'Let's stand back until we get more information,'" said Ladder 4 Lt. John Kazan in a statement from the city. "Everything was a little clue saying something wasn't right."

On May 1 in Times Square, the crude car bomb was ignited but failed to explode, and it was disarmed before it caused any damage. Two days later, federal agents caught the culprit — 30-year-old Faisal Shahzad, who reportedly trained at a Pakistani terrorist training camp.

To help prevent such terrorist acts from happening on American soil, local law enforcement officials and emergency responders are going through training of their own. Indeed, for local police and fire departments, counterterrorism is new territory.

In decades past, this was a matter left to federal agencies such as the FBI and CIA. But in the wake of 9/11, public safety officials from New York City to Los Angeles have launched initiatives to train first responders to recognize, analyze and neutralize potential terrorist threats.

In fact, the firefighters who helped stop the car bomb from blowing up in Times Square credit their counterterrorism training for knowing how to respond.

"We know that New York does remain a target for those who feel threatened by a free and open society and all that it represents," said Mayor Michael Bloomberg on May 3, "and that's why over the past eight years, our agencies have trained constantly and rigorously on how to respond to possible terrorist incidents."

New York City firefighters race to help victims during a simulated bus bombing.
Photos courtesy of Sgt. Randall A. Clinton/ Official Marine Corps

First Preventers

Bringing first responders into the federal fold to fight terrorism didn't happen overnight. In many ways, the process is still in progress.

That's because realizing the full counterterrorist potential of local public safety officials requires a philosophical shift, according to *Policing Terrorism*, a 2006 research paper published by the Manhattan Institute for Policy Research.

"Local law enforcement officers are primarily viewed as 'first responders' to incidents rather than as potential 'first preventers' of terrorism," wrote the authors William J. Bratton and George Kelling. "As a result, the United States remains far more vulnerable than it should be."

Let the record show that Bratton, one of America's premier police chiefs, believed in the power and potential of a united police force long before planes hijacked by terrorists crashed into the Twin Towers. At the New York City Police Department, Bratton led the implementation of the revolutionary command accountability system called CompStat. Now in use by police departments nationwide, the system employs real-time intelligence and innovative tactics to help law enforcement officials connect and stop crimes before they happen.

For decades, Bratton re-engineered police departments, fighting crime in creative ways. For instance, when he was chief of the New York City Transit Police, Bratton implemented what Kelling, a criminologist, called the "broken-windows theory," creating a hostile environment for criminals by focusing on minor offenses and community disorder.

In the post-9/11 world, Bratton saw these same strategies as viable homeland security solutions.

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An FDNY firefighter sprays water on simulated victims of a chemical attack in the subway.

As chief of the Los Angeles Police Department (LAPD), he helped build the LAPD's regional fusion operations center as part of a joint project between the U.S. Department of Homeland Security and the U.S. Justice Department's Office of Justice Programs between 2003 and 2007.

With more than 70 fusion centers across the country using the latest crime analysis, information sharing and intelligence technologies to fight terrorism, the times have indeed changed. Before 9/11, police departments most likely would have been left out of the counterterrorism equation, said Bratton, now the chairman of Altegrity Risk International, a global risk consulting and information services company.

"After 9/11, it became quite clear that the first responders were going to have to be equipped better and trained better to be coordinated in our response," he said. "While it took a while for the federal government to understand that we need to be a part of the intelligence community, they've started to come around. We're not where we need to be, but we're a lot further along than we once were."

Power in Numbers

In 2008, the LAPD launched a five-month pilot called the National Counter-Terrorism Academy, which brought in 30 local agencies for training on the nature of terrorist threats.

Here's a glimpse of the syllabus: the evolution of *al-Qaida*; religious extremism; homegrown terror groups; reading assignments from Lawrence Wright's *The Looming Tower*; a comprehensive study of the events leading up to 9/11; and the breakdown of American intelligence.

That was just phase one.

This spring, the department wrapped up an expanded version of the program with 100 agencies in Los Angeles and San Francisco. In the next few months, five cities across the country will participate in a 30-month program funded by a $2.4 million FEMA grant. The course will train 3,300 mid-level managers in classrooms and online on intelligence-based prevention strategies, according to Deputy Chief Michael Downing, head of the LAPD's counterterrorism unit.

"We're not too much involved in response and recovery," Downing said. "If we're responding and trying to recover, we've failed in preventing it. We want to stay to the left of the boom."

The solution comes from basic math. With only 13,000 FBI employees and 700 locations, the federal agency can't see everything. But backed by 750,000 state and local officers on the ground, Downing said, terrorists will have more trouble finding places to hide.

"We have a very decentralized law enforcement structure in the U.S.," he said. "If we're not leveraging cops and firefighters, we're not taking advantage of those resources."

Local police on the streets probe citizen tips, patrol neighborhoods and have beat connections that federal agents lack. The program aims to produce a web of local public safety teams that can recognize terrorist cells, and collect, analyze and share data in a robust intelligence network.

After 9/11, Kelling, as a criminal justice professor at Rutgers University, helped spearhead a project to connect the heads of counterterrorism units from all departments along Interstate 95. To this day, public safety officials from Maine to Miami meet three times a year, he said, comparing notes and networking.

"Police managers at their own level have to protect themselves and develop their own intelligence," Kelling said. "We're a far cry from the point where cities can put down their guard and say, 'We can rely on the FBI.'"


A New York City firefighter helps a victim during a simulated bus bombing.

Call of Duty

It was April 22, a sunny day on Randall's Island in New York, when about 200 city firefighters and U.S. Marines responded to a bus bombing. On the scene, mangled bodies littered the streets; first responders worked to remove victims from the danger area and cut open cars with people trapped inside.

But that strike was just the beginning. Public safety officers received word of a subway chemical attack, followed by two improvised explosive device detonations and two building collapses.

These incidents, however, were only parts of a drill — a mock terrorist attack for emergency personnel. The large-scale simulation culminated a weeklong training program at the FDNY Fire Academy for firefighters and the Marine Corps' Chemical Biological Incident Response Force. Exercises during the week included finding and rescuing people in a fallen structure, rappelling down buildings, and extracting victims from vehicles.

For the final drill, they put all that training to the test in a joint response mission, collaborating in terrible conditions to rescue passengers and provide medical care and decontamination on-site.

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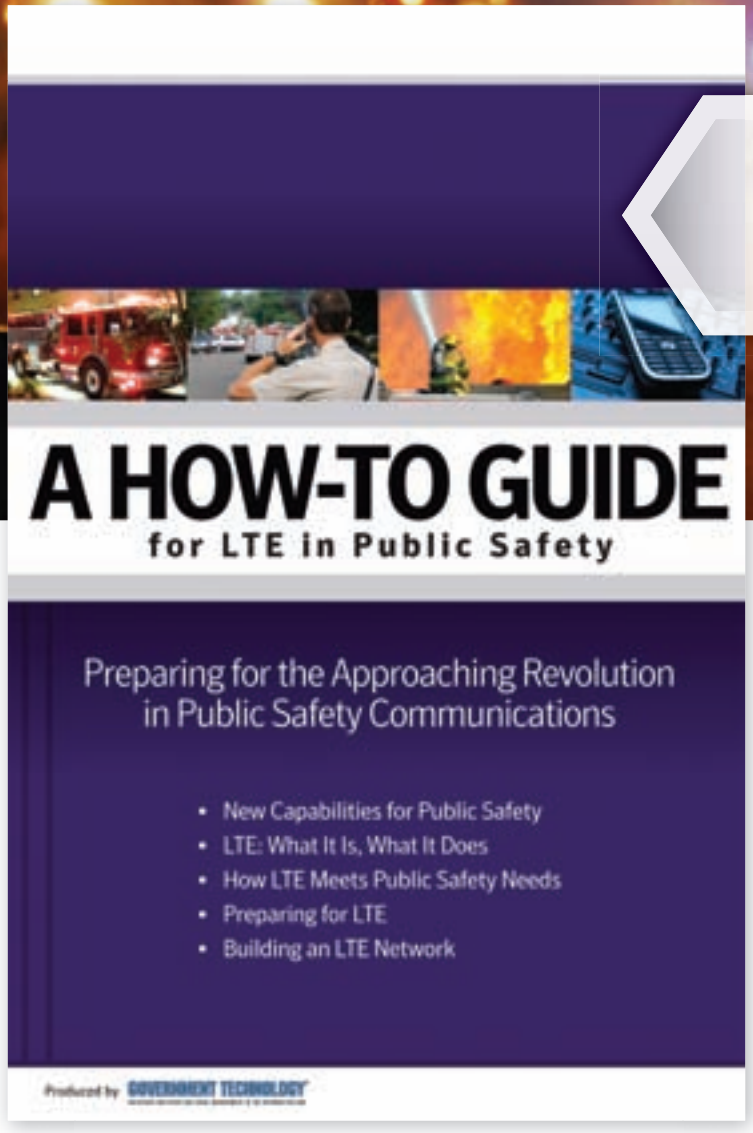

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Avoiding the ER Surge

Maryland's County Hospital Alert Tracking System provides real-time assessments of emergency room backlogs.

By Adam Stone | Contributing Writer

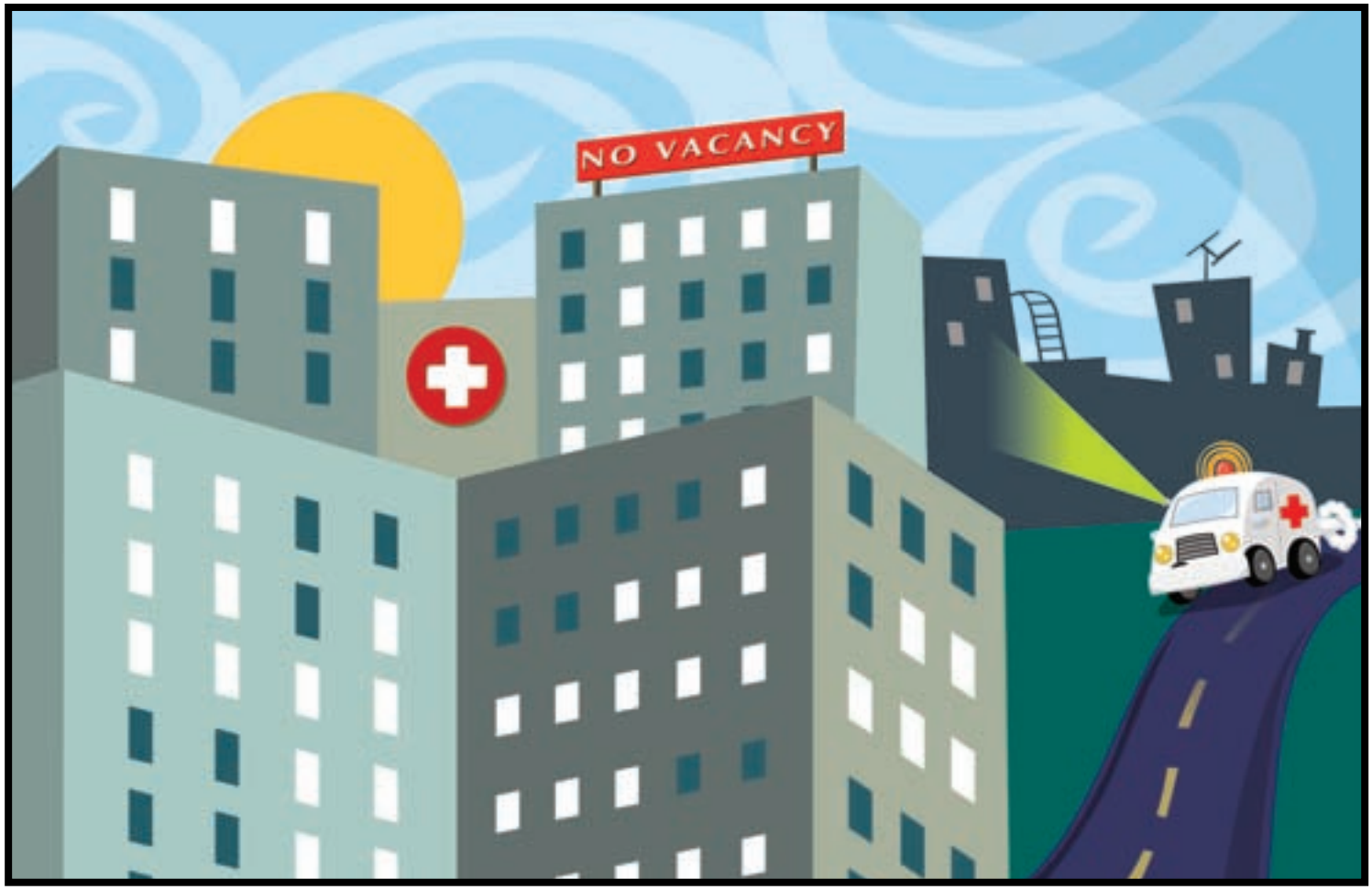


ILLUSTRATION BY TOM McKEITH

All it takes is a single major incident, or just a run of bad luck, for emergency responders in Baltimore to find themselves in a holding pattern.

"Even with 15 hospitals in the immediate area, it's not hard at all for us to flood a single hospital," said Capt. Jim Matz, an infection control officer in the Baltimore City Fire Department. "When that happens, our people end in a holding pattern, and with only 24 units to handle 180,000 calls a year, we can't afford to get hung up."

Fortunately for Matz and other first responders throughout Maryland, the state offers an easy-to-access, real-time system called CHATS, the County Hospital Alert Tracking System, which lets emergency departments give notice when they temporarily can't accept ambulance-transported patients because of hospital overload.

Giving Notice

Emergency room overcrowding can be a serious issue. Each year, half a million ambulances are diverted from full emergency rooms to hospitals farther afield, according to the Centers for Disease Control and Prevention. In Maryland, some hospitals' emergency rooms diverted ambulances at least 15 percent of the time in 2008, according to a *Washington Post* analysis.

The CHATS solution covers 48 acute care hospitals statewide. There's no cost to users, and the system is managed by the Maryland Institute for Emergency Medical Services Systems (MIEMSS). Online since 1993 and updated repeatedly since

then, the system replaced a two-decades'-old method of phone calls and whiteboards.

Hospitals self-report their status to a Web-based application that's available to emergency personnel through any browser. By putting up a color-coded alert, "the hospitals are asking ambulances: Can you go someplace else because we are kind of busy right now?" said MIEMSS Director of Field Operations John Donohue.

"Busy" can take multiple forms: Yellow indicates overly hectic conditions and a red alert means there are no critical care beds available. Ambulance personnel also can enter a "reroute" signal, letting other emergency responders know that ambulances are starting to pile up at the door. "It's for when you know the ambulances are going to get stuck big time," Donohue said.

Emergency department staff typically post an alert to CHATS as directed by the nurse or doctor in charge. However, whatever the alert code may be, critical patients still go to the closest facility.

Most recently, CHATS' functionality was wrapped into the commercial software package HC Standard from vendor Global Emergency Resources. A dashboard application for tracking health-care operations, HC Standard brings enhanced scalability and reliability to CHATS' original homegrown capabilities.

"For people who are doing planning and policy development, you never want to be looking at just one data point. CHATS can give you a picture of how things have changed and evolved."

Pam Barclay, director, Center for Hospital Services, Maryland Health Care Commission

The application also incorporates the functionality of the state's Facility Resource Emergency Database, a tool for communicating succinct information in the face of large-scale mass casualty incidents.

Before implementing HC Standard, "we were filling up their screens, we were giving them too much input," Donohue said. "Now it's all under one roof."

Easing the Pressure

At the 270-bed Washington County Hospital, CHATS has helped keep the switchboard clear, freeing up hands for work other than dialing.

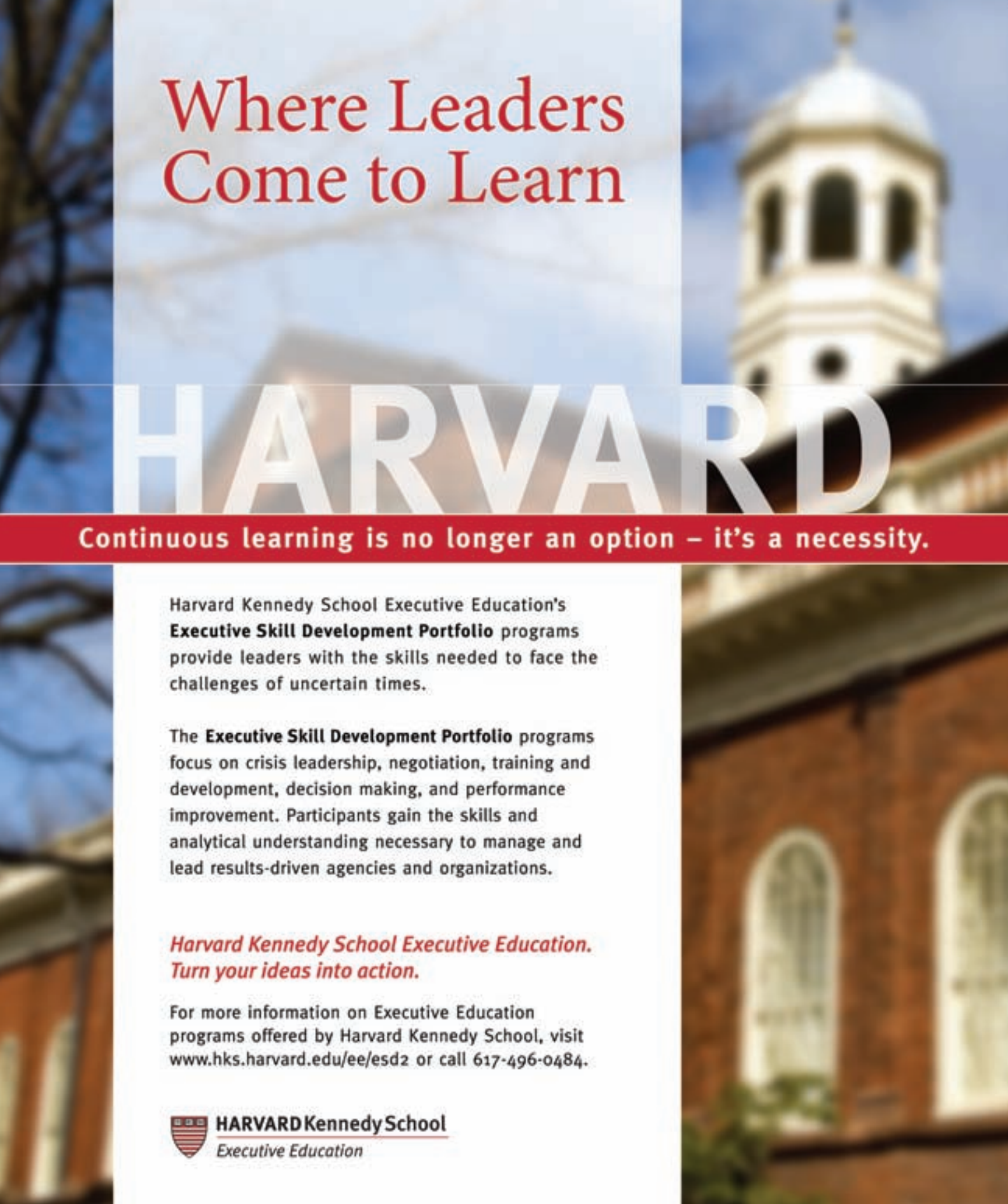
"It used to be when we went on alert, we had to make a lot of phone calls to hospitals and to the 911 dispatch," said Susie Burleson, trauma emergency medical services manager of the hospital. "You can have other calls coming in, you can take up multiple lines, all while you are busy trying to deal with all the craziness. CHATS takes away five or six phone calls. That is a big help."

As with any emergency room, Washington County Hospital has seen its share of backlog. "We've gotten five ambulances in the back door with a two- or three-hour wait, with 30 people waiting," Burleson said. "In the winter it might be the flu or in the summer it might be respiratory cases, but there is no rhyme or reason for the day or the time."

As the only hospital in its county, Washington County doesn't always have the luxury of redirecting

The Washington County Hospital is the only medical facility in its county. A new hospital is being constructed to accommodate the more than 70,000 patients it cares for. The hospital sometimes experiences two- to three-hour waits for ambulances at its back door.

PHOTO COURTESY OF THE WASHINGTON COUNTY HOSPITAL



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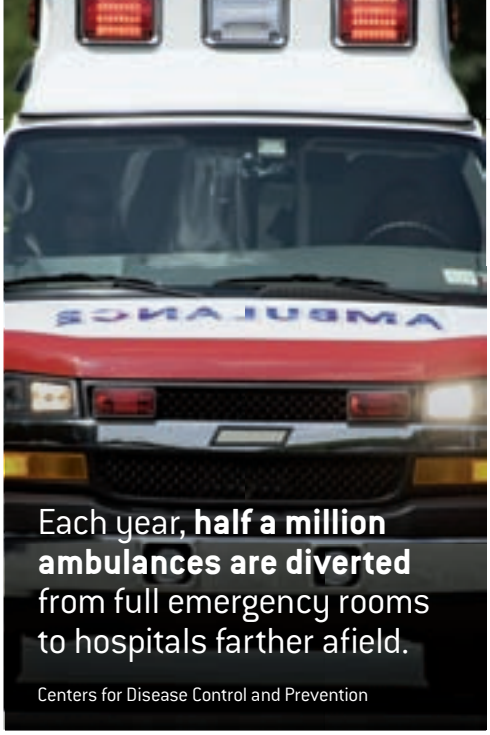
incoming traffic. What CHATS can do that's equally important is help hospital administrators allot their resources when an alert goes off in an adjacent county. "It gives us a chance to prepare for extra patients, to see how our bed situation is, to make sure we have all our supplies," Burleson said. "If you know you're going to get a couple of extra people, you want your staff to be prepared for that."

First responders say the system gives them a clear look into traffic conditions at local emergency rooms, which helps guide their decisions.

Take for instance Prince George's County Fire/Emergency Medical Services Department. With six hospitals in the county, it can be hard to know where to turn when conditions extend beyond the ordinary, said Paramedic Capt. Roland Berg. "If I have a mass casualty incident and need to determine where I am going to dispatch these patients, CHATS will give me real-time situational awareness to show me which hospitals I can send these people to," he said.

The information is clear, concise and color-coded, which helps in making quick decisions. Perhaps most significant is the technology platform MIEMSS chose for the system: the Web. "Anywhere I can get an Internet connection, I can get this information," Berg said. "I have sat on the scene, looked at my BlackBerry and brought up that Web page in real time to see what that hospital's status is."



Each year, **half a million ambulances are diverted** from full emergency rooms to hospitals farther afield.

Centers for Disease Control and Prevention

Although CHATS can provide a snapshot, Berg said the system has limitations. In his experience, yellow and red alerts don't always deliver the kind of granularity he needs when making fine-point decisions. In cases where more detail is needed, Berg said, it can help to augment the system's data with more traditional in-person contacts.

"I can say to the charge nurse, 'When do you expect to have a bed for these four units?'" he said. "Then I can make an assessment based on that information and based on looking at the patient loads, so that I can say, 'Let's go ahead and shut this hospital down completely; let's put it on reroute.'"

As an infection control officer, Matz said he saw just what CHATS could do during last winter's H1N1 outbreak. "You get somebody who gets the sniffles and they hear about swine flu and they run in to get checked," he said. "A lot of those people will use an ER almost like a primary-care physician."

The statewide system helps balance patient loads to prevent overwhelming one hospital. "If only 10 people hit one ER that's already taxed to the limit, that can be all it takes to flood the ER," he said. "When that happens, CHATS is a huge tool to help us balance the load around the 15 surrounding hospitals in our jurisdiction. It gets the right patient to the right hospital with the least amount of friction and the least amount of waiting time."

"In health care, we are pretty good at competing, but we're not that good at collaborating. That's something that ought to change."

Ricardo Martinez, president, Division East, the Schumacher Group

Long-Term Planning

Over time, CHATS has proven to be a powerful tool in more than just the daily routing of emergency room traffic. For planners at the state level, data from the system has helped shape big-picture decisions about the availability of health care.

Over the past five to eight years, the state has seen a big push to expand or renovate emergency room facilities, said Pam Barclay, director of the Center for Hospital Services in the Maryland Health Care Commission. "These tend to be large capital projects where hospitals are expanding or renovating major parts of their facilities and they are coming to the state for approval," she said.

In making those decisions, Barclay's office looks for any patterns of crowding that can be seen in CHATS' data. "It's not the only thing you look at, but it is an indicator," she said. CHATS only reports on ambulances, and emergency room walk-ins can skew the figures, but Barclay added that CHATS tells important data about the availability of emergency room resources.

CHATS' long-term view is especially valuable to Barclay. "It gives you the ability to look at data over time," she said. "For people who are doing planning and policy development, you never want to be looking at just one data point. CHATS can give you a picture of how things have changed and evolved."

Playing Politics

CHATS isn't the only system of its kind in use today. Georgia relies on the off-the-shelf platform LiveProcess to report bed availability, keep tabs on patient surges and monitor supplies. New Jersey achieves situational awareness through its Hippocrates system, a high-level architecture for data collection, display and analysis.

New York state's Health Emergency Response Data System provides real-time data on factors like inpatient bed capacity, available ventilators, isolation room capacity, staff resources and the availability of drugs and supplies.

Yet advocates of such systems say the prospect of emergency room resource reporting is by no means welcome in every case. "The politics against them have been fairly strong, because hospitals have not always been very open about how full they are," said Ricardo Martinez, Division East president for the Schumacher Group, an emergency medicine practice management company, and a professor of emergency medicine at Emory University.

Too often, he said, hospitals will declare themselves overcrowded to keep beds open for scheduled surgeries. In case of emergencies, "many places will go on diversion, and you always are wondering whether everyone is doing their fair share," he said.

A little more openness of the sort CHATS provides would serve both patients and emergency responders, Martinez said. "In health care, we are pretty good at competing, but we're not that good at collaborating. That's something that ought to change."

Adam Stone writes on business and technology from Annapolis, Md. He also contributes to *Government Technology* magazine.

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This training is available nationwide with registration information at http://www.tinyurl.com/acep-cdp. There will be live Q&A sessions for each state, featuring a panel of subject matter experts from within each state who will address state-specific implementation of general ideas presented.

For questions, contact Linda Becker at lbecker@acep.org.

Building Collaborative Disaster Planning Processes Between Hospitals and Emergency Management

This program is supported by Cooperative Agreement Number 2007-GT-T7-K020, 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.

thought leadership profile

4G Transforms 4CI

The next revolution in situational awareness.

In public safety, situational awareness is everything. Decisions must be made quickly — and they should be based on real-time information from a variety of sources. Communications must flow instantly, in all directions, for commanders and responders to truly have the complete picture. Information must be there at the right time — not six seconds later — because that can be the difference between life and death.

Fourth-generation (4G) communication networks and devices will transform situational awareness. Responders will have a common operating picture like never before. With 4G, everyone will be on the same page immediately because 4G is vastly superior to 3G in three key areas: upload and download speeds, bandwidth and latency.

That means faster sharing of information in any direction, on any number of devices — from firefighter to command, from dispatcher to squad car, from officer to officer. The lower latency and higher bandwidth will make video more useful than ever before. With 4G, streaming real-time video will be much higher quality. Delay, jitter and low-resolution images will be replaced by stable, sharp, high-definition video that arrives almost instantly. And it can be easily sent to one or many, so everyone who needs to know what's happening can actually see it.

4CI and Public Safety

4CI is a well known military doctrine, used by public safety agencies in emergency response and other activities. It's often equated with situational awareness. 4CI consists of:

NUMEROUS FUNDING SOURCES FOR PUBLIC SAFETY COMMUNICATIONS

Public safety agencies can find funding in a number of places for end-user devices, communications vehicles and other equipment that will help agencies make the most of 4G technologies. Michael Paddock is CEO of Grants Office, a Rochester, N.Y.-based company that helps grant seekers with fundability analysis, research, grant writing and more.

He cited three key sources of funds: 1) Security grants for specific sectors such as critical infrastructure, educational institutions or agriculture. Funds can come from the U.S. Department of Homeland Security, but also from sources like the Department of Education, the Department of Agriculture and others. Some of these funds can be used for communications. 2) General types of security funding, which could support things like training, preparedness exercises and communications. 3) Funds meant specifically for public safety communications.

"My recommendation to any public safety agency is to take a balanced approach," said Paddock. "Look at all three types of funding rather than focusing just on those grants that are specifically for public safety communications, because that's only a small piece of the overall landscape." When applying for grants, public safety agencies should omit terms such as LTE and WiMAX to allow for a more competitive environment.

While grants specifically for communications aren't increasing in number, there is still reason for optimism. "There has been growth in the number of funding sources that will support communications as part of a larger project," Paddock said. "The most important thing is that people apply for grant opportunities wherever they find them."

For more information, visit **www.grantsoffice.com**.

Command: The authority and responsibility for effectively using available resources, and for organizing, directing, coordinating and controlling personnel and equipment to fulfill a mission.

Control: The ability to issue orders or directions, with the result that those directions are carried out.

Communications: The most essential element. Communications between responders on the ground and command staff are critical to ensure that both groups have a common operating picture of the situation.

Computers: They process, display and transport information needed by commanders, analysts and responders. Today this increasingly includes mobile devices, such as laptops and smartphones.

Intelligence: The product of the collection, processing, integration, analysis, evaluation and interpretation of all available relevant information.

4G Makes a Big Difference

Until now, 4CI depended on 2G or 3G technology. The inherent limitations prevented optimum situational awareness. Command and control weren't as effective, as there was often a disconnect between what was seen in the field and the information received at the command center. Communications weren't as strong because although radios are good for voice, they're not as effective as everyone seeing the same images and data simultaneously. Computers are more mobile now, and 4G optimizes their usefulness with rich-media applications such as video.

Intelligence gathering, too, is simply better now with 4G. Information flows much faster. Sending high-resolution mug shots or other large files, or sharing real-time surveillance video, is now much more practical. In addition to more speed, 4G also brings more reliability and better security.

"4G has great bandwidth, and we have a tremendous amount of spectrum," said Danny Bowman, president of Sprint's Integrated Solutions Group. "That means we'll have lots of speed, and the bandwidth needed to run some of the most critical applications, such as real-time video for situational awareness. It will make people safer, officers included. And it will mean better efficiency in any type of investigation."

With 4G, a firefighter can download detailed maps using a mobile device. A dispatcher can send high-resolution photos or streaming video to an officer in a patrol car. Police officers on surveillance can see everything a suspect is doing, without gaps in the signal that would commonly occur with 3G video. Even services requiring lower bandwidth — such as voice or data from license-plate recognition systems — will be higher quality with 4G.

4G will bring unprecedented accuracy to situational awareness, making 4CI much more effective. It will allow commanders to make better use of resources, and it will help save lives. And it's an affordable solution, leveraging systems and devices already in use.

"You're now going to be able to create a convergence around all device types,"

> "We'll have lots of speed, and the bandwidth needed to run some of the most critical applications, such as real-time video for situational awareness. It will make people safer, officers included."
>
> **Danny Bowman ,** president, Sprint Integrated Solutions Group

PARTNER PROFILE: FEENEY WIRELESS

Wireless company sees strong future for 4G.

Much is happening in the world of 4G communications. Sprint partner Feeney Wireless, provider of wireless/mobile broadband solutions, has witnessed firsthand the evolution from 2G to 3G, and is now working with 4G as it delivers solutions to a wide variety of governments and industries.

Feeney Wireless works exclusively with Sprint for wireless telecommunications. Bob Ralston, president of Feeney, sees 4G bringing great opportunities for public safety. Whether it's more robust sharing of video, better remote control of security cameras or more effective digital signage, Feeney Wireless knows 4G delivers superior performance.

Ralston praised 4G's ability to bring real-time video to numerous types of devices. "Streaming video can now be sent down into that small form factor, the handheld device — and simultaneously to a larger computer display inside a police cruiser or fire engine," Ralston said.

The higher bandwidth and lower latency of 4G improve public safety in several ways. For example, operators can control surveillance cameras much more effectively with 4G. "One of the things end-users really need is the ability to control these devices fluently," said Ralston. "4G will provide that experience, where we couldn't do that before. It's a huge shift in the user experience." 3G often brought delays, so a suspect moving through the frame might never be seen by the time the camera was panned, tilted or zoomed. With 4G, an officer in a squad car can control a camera remotely, in real time, while others watch the video at headquarters. It gives officers a better sense of being on the scene.

That's just one of many ways 4G improves communications. 4G even enhances digital signage, making it practical now for digital signs to carry more rich media and high-definition content.

Feeney has seen a strong contrast between user acceptance for 4G and 3G. With 4G, users are much more enthusiastic and are driving the development of new applications, and companies such as Feeney are giving them what they need to capitalize on 4G's many benefits.

Bowman said. "You create a much more efficient capability with multiple types of devices, whether it's the device in the vehicle, the one you're carrying with you or potentially a device that is wearable. All of those pieces are going to come together in a very collaborative, converged way with 4G."

In fact, the ability to share information quickly across various devices with a large number of users could revolutionize the current concept of situational awareness, adding "collaboration" to the traditional 4 Cs of 4CI. That's because 4G allows for much greater information sharing than 3G. 4G's greater bandwidth lets more people look at the same surveillance video, for example, greatly enhancing the common operating picture. It will enable greater collaboration and interoperability among different agencies as well.

Sprint was the first commercial provider to offer 4G, thanks to years of research and development. As the industry leader in 4G, Sprint is able to offer its network to public safety agencies as a cost-effective alternative to building their own systems. With Sprint responsible for creation and maintenance of the network, public safety agencies can stay focused on their core missions.

Bright Future

4G is already here in many markets, and its availability continues to increase. 4G is the future, along with more mobile devices. Smartphones have already become vital mobile computers. 4G will enable more of that.

Sprint is working on many improvements for the future of public safety, including smarter vehicles with more embedded technologies. "I like to call it the connected vehicle," Bowman said. "Think of the police car, fire engine or ambulance. We're spending a lot of time on making that vehicle, and the people in the vehicle, much more effective. So bringing the multiple technologies together to convert the vehicle into a mobile hot spot, making sure the data is secure, collecting information about the vehicle for fleet management — we want to put all that together. We believe the connected vehicle will be a big part of the future."

Bowman said it's also about what people can take away from the vehicle — the different types of mobile devices responders can carry with them. With 4G, a lot of new methods will become possible. It points toward an expansive future. "It's going to create lots of innovation and creativity for situational awareness," said Bowman. "4G will really improve the safety of citizens."

PARTNER PROFILE: CRIME POINT

Former police officer creates mobile video surveillance technologies for 4G.

Dan McLeod, founder and CEO of Crime Point, is a former police officer. His insight into the real workings of police departments helped him create his company, which offers surveillance equipment and vehicles.

"Crime Point grew out of my frustration for law enforcement with the equipment that was available," said McLeod, who started the company 10 years ago. Today better technologies are available, including 4G. "We're migrating to 4G, which amplifies the opportunity significantly over what 3G offered. With 4G, you can process a lot more information," he said.

Crime Point works closely with police agencies to provide equipment and customer support to fit their specific needs. That can include mobile and fixed surveillance cameras, surveillance vehicles and other tools.

McLeod said Sprint 4G combined with Crime Point surveillance solutions provides better situational awareness. An officer watching an undercover operation on camera in a van, for example, can quickly disseminate images to officers waiting nearby to make an arrest so they can see the situation before they approach, rather than entering a potentially dangerous situation with only a verbal description of the scene. Before going in, officers simply access the Internet from a smartphone to see real-time images of a location or suspect — images they never could have seen before.

With 4G, security cameras can send better quality video that's much closer to real time. Five second delays that were common with 3G are reduced to one second with 4G so security cameras can follow moving suspects more effectively. "The huge advantage though, is that multiple people can watch simultaneously with 4G," McLeod said. "There is just not enough bandwidth available to have multiple users on 3G." Now more officers, commanders and others can follow a scene visually, rather than having to wait for an e-mail or hear about it over the radio.

And because the network is built by Sprint, 4G capabilities are available wherever Sprint's 4G networks are available — not just within the local jurisdiction — which can be beneficial in a wide range of public safety situations. "When there's a fire, you go to where the fire is," McLeod said. "The fire doesn't come to your ideal location, where you have communications already in place."

CASE STUDY

Fast Forward

4G helps a major county improve situational awareness.

DeKalb County is the third largest county in Georgia. It includes a portion of Atlanta and several other communities, for a total of more than 700,000 residents. The DeKalb County Police Department's narcotics unit has been using a video surveillance system provided by Crime Point with 4G capabilities, while the county CIO has been using the solution for other county business. Both parties have been extremely impressed with 4G.

"The improved ability to multi task, I think, is the No. 1 differentiator," said Darrell T. Black, CIO of DeKalb County. "And of course the speed of the video — that is truly outstanding."

Tim Donahue, a narcotics detective with the county police, also likes 4G. "The amount of bandwidth that these 4G systems have is just incredible," he said. "With 4G video, you see greater detail. You can see what kind of necklace the suspect is wearing, what kind of shoes, what the type on his shirt says. You get all that detail with the 4G versus the 3G. And you can allow multiple users because you've got so much bandwidth."

Donahue gave an example of how 4G can really improve situational awareness. "I observed on our camera system some suspicious activity. I was a good 10 miles away, but I was able to call a sergeant I know working in the area, and relay to him in real time where the vehicle was, the description, the tag. And because of the high image quality and high frame rate with 4G, you're getting 15 to 20 frames per second of good, quality video. So I was able to call out exactly what the suspect was doing, where he was, and constantly update the sergeant before he got there." Donahue also used the camera system to keep an eye on the sergeant once the sergeant arrived on scene, making sure his fellow officer was safe until backup arrived.

"That gives you a whole new level of safety," Black said. "There's a huge difference from 3G to 4G, and I'm glad we're in the 4G world now." Black also appreciates the day-to-day business applications of 4G. He uses the video-conferencing feature from his cell phone to have face-to-face meetings with his network manager when they're in different locations.

Making a Difference

But public safety is where 4G really makes a difference. "A picture is worth a thousand words, and I guess a video is worth about 10,000," said Black. "It gives you an abundance of information to analyze a situation."

The county created a partnership with Sprint in 2008 and began testing various wireless products. Initial testing was done with the Department of Watershed Management and included routing of telemetry traffic (meter, water and sewer-level reading) through a previous generation Sprint wireless network. Then the county put wireless 4G cards in the Public Safety division, along with a mobile virtual private network client, giving Public Safety access to real-time data from the county.

Prior to that, it took officers about 30 seconds to run a tag query and receive the data back from the Georgia Crime Information Center. Now, with the 4G broadband cards, it often takes around five seconds.

The technology also creates opportunities for more solutions to help Public Safety become more efficient and effective. It's also helping to create a mobile work force — which will allow Public Safety officers to remain in the field for longer periods, increasing their presence in communities.

With 3G, Detective Donahue had been getting two or three frames per second with the video surveillance system, compared to the 15 to 20 he now gets with 4G. The result is a more stable picture with much more detail. "It's a more accurate view of what's going on in real time," said Donahue. The low frame rate with 3G brought "stuttering" images and gaps in the action. "With 3G you have to wonder, what are you missing in those gaps in coverage? Did he shove a gun down his pants? Did he hide drugs? Did he just throw drugs on the ground before you got there? With 4G you're not getting those gaps in coverage," noted Donahue.

It's just one of many benefits. "4G brings not only much faster speed, but also more reliability, improved security and improved cost-effectiveness," said Black.

4G also helps because it's wireless. Officers no longer need to work with service providers to set up an Internet connection for a surveillance camera — a process that consumes valuable time. With the Sprint 4G system, Donahue can set up a camera just about anywhere — the side of a building, for example — and be up and running with it very quickly.

And once it's up, it sends that crystal-clear, highly detailed video Donahue needs to do his job. "The image quality that you're getting is just phenomenal," he said. "It's almost like you're watching the evening news in real time with the 4G."

Sprint

For additional information, visit **www.sprint.com/slg**.

Sprint

Powering Up 911

California's 911 plan will develop a next-generation response system, integrating text, video and photo services.

By Russell Nichols | Staff Writer

ILLUSTRATION BY TOM McKEITH

Decades ago, answering 911 calls was a fairly straightforward process: Citizens who were in trouble dialed the emergency number from land line phones, and local police, fire and medical teams responded. That's what 911 systems were created for.

But these analog systems — some built half a century ago — have been left behind by technology advances, such as text, video and photo. But those new technologies aren't easily integrated into 911. For instance, calls from mobile phones take longer than land lines to route because it's hard for 911 call centers to pinpoint the locations of wireless and IP-based phones. And in an emergency, every minute matters.

As the push to upgrade these systems remains a priority for many local and state governments, California's Office of the State Chief Information Officer (OCIO) has released its strategic plan, a road map to the development of the state's next generation of 911 services.

"The strategic plan sets the stage to ensure the 911 program moves forward," said Karen Wong, deputy director of OCIO's Public Safety Communications Division. "There's a lot to be worked out."

Despite the economic climate, numerous local and state agencies across the country have implemented strategies to improve 911 systems, such as aerial images to locate callers who need help and unified paging alerts to keep dispatchers and emergency responders connected. Last year, the National Highway Traffic Safety Administration and U.S. Department of Commerce's National Telecommunications and Information Administration announced a $40 million grant to help 911 call centers route calls from wireless and IP-based phones more quickly and efficiently. Virginia, as another example, is in the process of a multimillion-dollar program to purchase new equipment and services to enhance its 911 centers and improve services over an IP network.

Established 40 years ago, California's legacy system is strictly voice only, Wong said. But in the past decade, technological developments have expanded the way people communicate, and state officials seek to integrate those methods to enhance emergency response services.

According to state officials, this network will make it possible to pinpoint callers based on geographic coordinates and enhance the delivery of information to emergency responders via texting, instant messaging, and picture and video delivery, to name a few. For public safety answering points (PSAP) — the centers that handle 911 calls — more information means better service faster.

"When there's a disaster in California, we'll be able to easily move calls from one PSAP to another," Wong said. "It also provides the public with additional ways to access emergency assistance."

The next phase, she said, requires working with stakeholders to determine the best approach for the 911 network. It's too soon to determine a timeline. Given the state's large size and geographic diversity, Wong said, officials still have to determine whether it will be a statewide or regional implementation.

"We have a lot of rural areas in California," Wong said. "It's a consistent challenge to public safety communications as a whole."

In April, California deployed the Emergency Call Tracking System, a solution that could cut the time it takes to gather the state's 911 call data from months to a matter of minutes. The secure, Web-based management tool can report on all 911 PSAPs in a county, jurisdiction or state, giving clients quick access to key stats including: call volume, frequency, type and geographical trends. The strategic plan represents the next step in guiding the state's 911 call centers into the 21st century.

"While the existing 911 network and system remains a success story, it has been stretched to its limit because of relentless technology advances," wrote California CIO Teri Takai. "And so it's time now to support the exciting new technologies with a new, state-of-the-art 911 network for California."

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Brian White

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Continued from p.41

The rooms are outfitted with the equipment the participants would need in a real-life event.

The LAPD's setup consists of six rooms: a control room that runs the events and houses the communications and subject-matter expert stations; a plenary room that acts as the debriefing center; three syndicate rooms that are the breakout centers and contain a Hydra computer, conference table and whiteboards; and a role-play room.

Officials control the exercise and feed information to the trainees that can consist of newscasts, intelligence briefings, and police and fire radio traffic. "It's all very immersive, and they get all this intelligence thrown at them and then we will send them a task to work on," Kalkus said. "For example, we could send in something basic like to do a risk analysis of five events that are going to occur in the city over the next week and where we should put resources, to something more sophisticated like, 'This is an unfolding event right now. We want you to write an operational order that covers all the planning aspects from intelligence to logistics to resources to funding.'"

PHOTO COURTESY OF THE LOS ANGELES POLICE DEPARTMENT

The LAPD hopes to fill a training gap for command-level officers because, Kalkus said, once a police officer makes the rank of captain, his or her training usually gets curtailed because of increased duties and responsibilities. Hydra can be used for operational and investigative training, and exercises can be designed to cover natural disasters, counterterrorism and large-scale investigations.

Although L.A. is the first U.S. city to house a Hydra system, 60 centers operate in Europe and Canada, and Australia and Ireland each have one, according to Jonathan Crego, the system's designer and the director of Hydra Operations for London's Metropolitan Police Service. He thinks it's been slow to spread to the U.S. because it's difficult to describe and takes time, space and training. "The methodology of Hydra is while there's lots of technology to make it happen, it's all about the interaction of the people who are actually making decisions," Crego said.

The LAPD's system cost about $500,000, which included hardware, infrastructure improvements, software and a $1 licensing fee. Crego said he sold L.A. the licensing fee for $1 because of the current credit crunch and to force it into a research collaboration with all of the centers. The department's Hydra center links to all of the others, which makes it possible to conduct multicenter exercises. "I truly believe it's going to be a sea change for command staff training in the U.S. law enforcement community," Kalkus said, "and you'll see it develop over the next five to 10 years where you're going to have the LAPD, [New York Police Department] and Chicago PD, all the major police departments, are going to have Hydra suites and we can connect them together and run a national exercise."

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Arson: The Overlooked Threat

More dramatic threats to homeland security exist, but they're harder to execute than arson.

By Robert A. Neale | Contributing Writer

Accidentally and intentionally set fires can significantly harm a community's infrastructure by destroying property and jobs.

PHOTO COURTESY OF GREG HENSHALL/FEMA

As the nation focuses on dramatic, novel or "niche" threats of chemical, biological, radiological, nuclear and explosive weapons of mass destruction, a big threat to homeland security occurs more than 80 times a day in our own neighborhoods: arson.

From 1999 to 2008, domestic arson accounted for more than 3,410 deaths, more than $7 billion in direct property loss and approximately 436,000 structure fire incidents, according to the National Fire Protection Association. This puts a strain on local, state and federal law enforcement, fire and court resources. Arson in motor vehicles, wildland and other "nonstructural" properties also add to the impact on public and private sectors.

Arson's Place in Homeland Security

The White House *National Security Strategy 2010* emphasizes threats that are of significant consequence, but occur less frequently:

"The gravest danger to the American people and global security continues to come from weapons of mass destruction, particularly nuclear weapons. The space and cyber-space capabilities that power our daily lives and military operations are vulnerable to disruption and attack."

While these threats may be real, the probability of success is suspect. According to the 2003 RAND report *Putting WMD Terrorism into Perspective*, the "technical capacity of groups to produce or acquire and effectively deliver unconventional weapons varies considerably" and "requires a considerable scale of operations."

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U.S. FEMA IPAWS (Integrated Public Alert and Warning System) uses EDXL-CAP to enable EAS and other systems to disseminate critical information such as AMBER Alerts to the public through radio and TV broadcasters. *Accurate communication saves lives.*

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Fire's spectacular appearance belies its destructive capacity. Arson accounts for 25 percent of America's fire losses.

PHOTO COURTESY OF LIZ ROLL/FEMA

To be successful, an arsonist needs only a match and a combustible target. Structural fires account for a large percentage of America's property losses, but intentionally set transportation, chemical plant or wildland fires as terrorist acts can't be ruled out.

A recent Congressional Research Service report states, "Pyro-terrorism is just one example of many alternative hypotheses that homeland security risk managers may wish to consider in order to avoid what was famously described in the *9/11 Commission Report* as 'a failure of imagination.'"

Detection and Prevention Strategies

Arson detection and prosecution remain a state and local responsibility, except where a federal statute has been violated. There isn't a national mandate for reporting arson, so the scope of the problem remains unclear. Many jurisdictions that rely only on fire services for suppression lack the technical expertise or training to perform thorough fire investigations to detect arson. Often, follow-up investigation is the sole purview of an insurance company that underwrote the risk and has no obligation to report the outcome. The decentralized and predominantly local nature of investigation, reporting and prosecution is a lost opportunity for an organized national effort. The inability or reluctance of agencies and individuals to share case information, identified trends or successful solutions exacerbates the problem. Prosecutors often are unwilling to tackle arson cases that are built predominantly on circumstantial evidence. Arson is not "on the radar screen" of nationally elected officials or policymakers because other than for highly publicized events, fires generally are seen as a local problem needing local solutions.

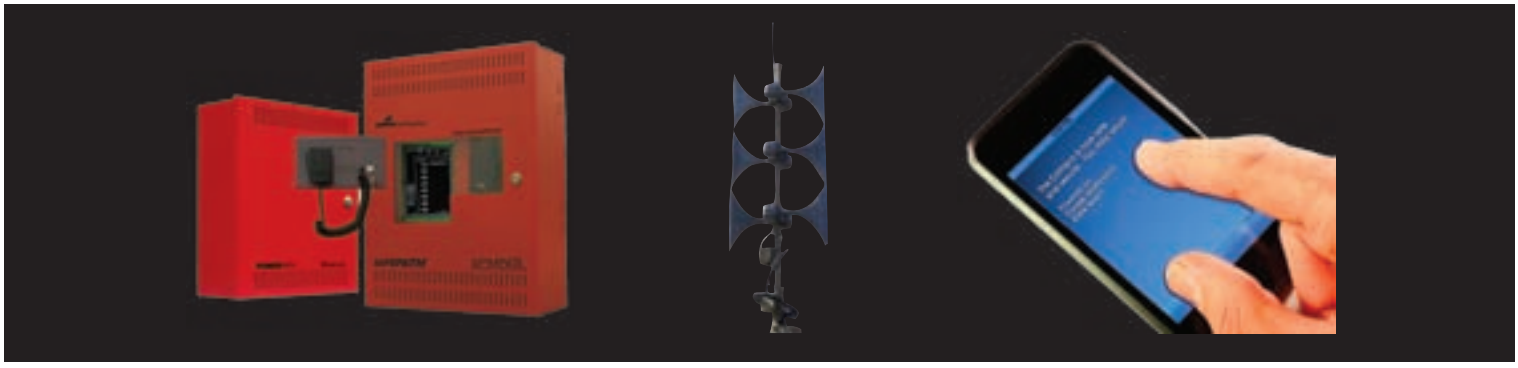
Arson fire investigation requires significant resource mobilization.

PHOTO COURTESY OF WIKIPEDIA.COM

An advantage to the local approach is that investigators obtain intimate knowledge of their communities and can build close-knit organizational teams to combat the problem. State and local investigators rely on professionally derived relationships to share information on motives, techniques and individuals. However, those who use fire as a tool or weapon aren't constrained by jurisdictional boundaries, and networks of leaderless cells or "lone wolves" provide a challenge to detect, apprehend and prosecute. The federal Bureau of Alcohol, Tobacco, Firearms and Explosives is building a new Web-based intelligence-sharing database, which is still in its infancy and the bureau will require local organizations to populate it.

Recommended Strategies

Several strategic options exist to address arson including the following:



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Add "arson" or "fire" to the national vernacular. While politicians and policymakers continue to use the acronym CBRNE (chemical, biological, radiological, nuclear and explosives) for terror-related hazards, references to arson or fire aren't included. CBRNEA (CBRNE arson) or CBRNEF (CBRNE fire) may complicate the acronym, but would help bring these threats to the forefront of national discussion.

Create a national arson awareness and prevention strategy. For years fire departments and service organizations have advocated generic "fire prevention" strategies and techniques, but other than in juvenile fire-setting circumstances, rarely confronted the problem head on or arson's root cause. Many campaigns of sound bites (Rat on a Rat) and post-incident rewards address arson after the event, but few employ a preventive approach. Some of this may be attributed to a lack of resources, but it is likelier a dilemma of not having the socio-psychological research on hand to address arson's complexities.

The arson awareness and prevention strategy should include simple, standardized self-assessment tools for risk management so property owners and law enforcement officers can evaluate their risks against known or anticipated threats.

Recruit nontraditional partners in the arson awareness and prevention strategy. Although arson often is seen as a public safety issue, there are many organizations that can be employed in the fight at all government levels. This may include law enforcement, fire services, social service organizations, faith-based organizations and other nongovernmental organizations, the last three of which may see potential fire setters in noncontroversial and nonconfrontational settings. This approach comports with the United Kingdom's effort at community prevention programs.

Provide incentives for better data reporting and analysis. National fire incident data collection is a voluntary effort; the data is often unreliable for various reasons, including data entry errors, poor or nonexistent fire cause determinations, or simply that the local fire services elect not to report their incidents. Although the federal government can't mandate fire incident data reporting, it can encourage better reporting through grants, awards, incentives and other inducements.

Provide prompt data filtering, analysis and feedback. Currently national fire incident data collection is vetted by state organizations before it is submitted to the U.S. Fire Administration (USFA) Fire Data Center where it's collated and analyzed to identify trends. This can take up to two years following an event. Congress has mandated that the USFA develop a more real-time data collection method that should be operational within the next two years. Important to its success, however, will be the quality and quantity of data that's submitted.

The homeland security fusion centers that exist in nearly all states could provide a role in collecting and interpreting fire and arson data in a timely fashion. If fire incident data were scanned at these fusion centers, trained and qualified intelligence personnel could extrapolate emerging trends that need to be addressed, as well as find linkages among methods, motives or perpetrators. This strategy aligns with the Homeland Security Advisory Council's recommendation for a national intelligence estimate of pending threats.

Develop a national training standard for fire investigators and law enforcement. Several organizations have created national "certification" programs for fire investigation personnel, but there isn't a national standard that describes the skills needed to successfully investigate and prosecute criminal fires.

Enhance fire protection and anti-arson strategies in building codes to enhance resiliency. Fire-resistant construction and automatic sprinklers improve a building for life safety and property protection. Though unable to prevent all fires, this construction method mitigates the impacts of those that occur, including arson. Building codes also provide generous design latitude and don't require that all structures meet these rules.

Homeland security strategies should encompass an all-hazards approach. The current national discussion on CBRNE threats focuses on high-risk/low-frequency events, but doesn't address man-made threats that occur daily and aren't always on the front pages of the national news media. Total fire deaths from the last decade and property loss due to arson exceeds that of all domestic terrorist attacks combined and must be addressed as part of a national security strategy.

Robert A. Neale is deputy superintendent for the U.S. National Fire Academy in Emmitsburg, Md., and with its state partners trains more than 120,000 first responders each year. The fire academy is part of the FEMA component of the U.S. Department of Homeland Security.

Arson's devastating effects can destroy structures in a short period of time, but often need lengthy and complex investigations to solve.

PHOTO COURTESY OF GREG HENSHALL/FEMA

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FEMA

Continued from p.52

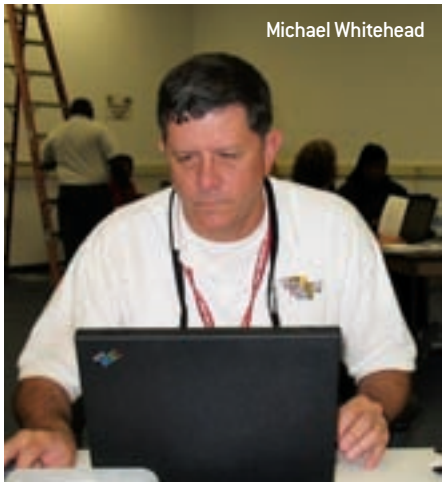
"I think it's absolutely significant, especially in those that are large municipalities when you think of Atlanta or New York," Smith said. "Anyone who has an emergency management function within a municipality should consider that plan."

The template is customizable and ready to go for any city, county or state group that's going to be in the field helping, since most feeding efforts will invariably involve more than one group with multiple, overlapping areas to service.

"It's a template for each agency to create a feeding plan," Whitehead said. He and co-workers in Florida took the national document, adapted it locally and tested it during a June 2009 hurricane exercise. Whitehead said Florida is encouraging other states to use its template to develop feeding plans.

Customized Disaster Relief

Once the feeding plan has been adapted for a specific region, the local feeding plan should call for the creation of a Feeding Task Force to coordinate the organizations that will supply food, water and action plans. The meals will come from a variety of forces, including contracts


Michael Whitehead

with commercial facilities, mobile kitchens, mobile delivery vehicles, churches, community organizations and local businesses.

Ideally the players in the task force and supporting organizations will have hammered out the plan details and established these relationships before a disaster occurs. The template is meant as a proactive guide, not a reactive one.

"I hope it will spur discussions at all levels, so that before a disaster happens, we have a good working relationship to make sure that the transitions and the delivery of necessary feeding to the affected communities happens seamlessly," said Scott Meyer, a mass care and feeding senior associate in the Disaster Services division of the American Red Cross. He said the template's goal is to keep things short and sweet — get everyone on the same page and working together smoothly.

"That's the point of it," he said. "We want to make sure that those who are involved with disaster feeding on any level are at the table and are working in concert with one another so that the people who are affected are getting what they need."

The template also specifies feeding phases that organizations need to identify — immediate, sustained and long term — to determine how the process will work.

Whitehead thinks officials in Florida would have a good handle on things. "Step No. 1 is, we're going to define how big this disaster is," he said. "Is this a 50,000-meal-a-day disaster, a 200,000-meal-a-day disaster or a 500,000-meal-a-day disaster?"

Whitehead and company are spreading the word about the template to other emergency management forces by giving presentations about it at conferences, and Whitehead introduced the multiagency feeding plan concept during training he's conducted. He and others behind the template's creation also have developed a Feeding Task Force document to help adopters create task forces to help implement the steps outlined in the Multi-Agency Feeding Plan Template.

"We expect that the documents will be updated as needed," Mott said. "New lessons learned will be incorporated as they arise to ensure that we are always meeting the needs of disaster survivors and communities in the event of an emergency."

They expect the documents to benefit emergency management in the future, but it's too soon to analyze a laundry list of disasters that have been handled by those who've adopted the teachings. Still, Whitehead and Smith said people have had the chance to modify it based on lessons learned from Hurricane Gustav, past floods and training like the hurricane exercise Whitehead spoke of in Florida.

Planning will come in handy with organizations that are new to the mass-feeding arena. "Challenges happen when other agencies that may not have been in disasters before step in and want to get involved," Meyer said. "And it's not that we don't want them involved. It's that they may not understand the mechanisms and intricacies of doing a disaster operation, and the demands that a disaster operation places on an entity to do sheltering, feeding or any aspect."

And even those organizations with disaster experience don't always see eye to eye.

"People aren't always talking to each other, and different agencies have different expectations of what other agencies are supposed to be doing," Whitehead said. "By doing the coordination required to develop the plan among all the stakeholders, you establish that communication you need in a disaster."

Download the Multi-Agency Feeding Plan Template at **www.nvoad.org/index.php/rl/mass-care.html**.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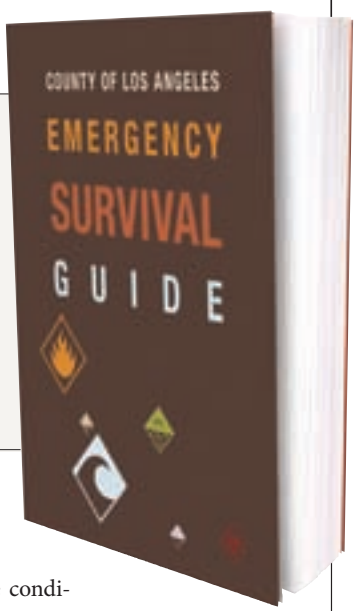
Advanced Alerts

Emergency notification systems have been gaining in popularity, and Twenty First Century Communications (TFCC) released a new version of its warning system, TFCC Alert, which works with multiple communications channels. The alert system allows officials to send targeted messages to select groups or geographic areas by land line, cell phone, VoIP phone, PDA, pager, text, e-mail, fax and TTY/TDD machines; it also integrates with Twitter. A weather module provides citizens with severe thunderstorm, flash flood and tornado warnings, and the sign-up page lets residents register up to five additional contacts under their account, such as parents and spouses. www.tfcci.com

Book Smarts

The Los Angeles County Office of Emergency Management published a comprehensive guide to emergency preparedness intended to help its residents better prepare for, respond to and recover from disasters. *The Emergency Survival Guide* contains 100 pages of helpful tips and information for residents to prepare for various emergencies that could affect the county. The guide also includes space to record household emergency plans including out-of-state contacts and family evacuation gathering points. The survival guide is available online in English and Spanish at http://lacounty.gov.



Mobile Medical ID

The TAC Drive is a digital dog tag for first responders. The device is a USB drive that's engineered to survive extreme conditions: It's waterproof, and shock and temperature resistant. Personalization is included, which allows the TAC Drive to be used as medical identification. The device securely carries sensitive data in the field with military-grade encryption software that works with most computer operating systems. A free online membership allows users to create and edit a medical profile that syncs with the flash drive to ensure that information is up to date. www.tacdrive.com

Covert Radio

Pryme Radio Products' PRYMEBLU Bluetooth adapters connect with two-way radios to provide a private, hands-free way to listen to radio traffic. The adapters work with Motorola radios, but Pryme is planning to expand the technology to other companies' devices. The adapters can be used in situations where police officers don't want their radio communications broadcast out loud or in place of a corded surveillance earpiece.

They also feature the Pryme Quick Disconnect that let users easily attach other devices to the Bluetooth adapter. For example, firefighters can attach a throat microphone, but once unplugged, the Bluetooth adapter automatically reverts to normal operation. www.pryme.com

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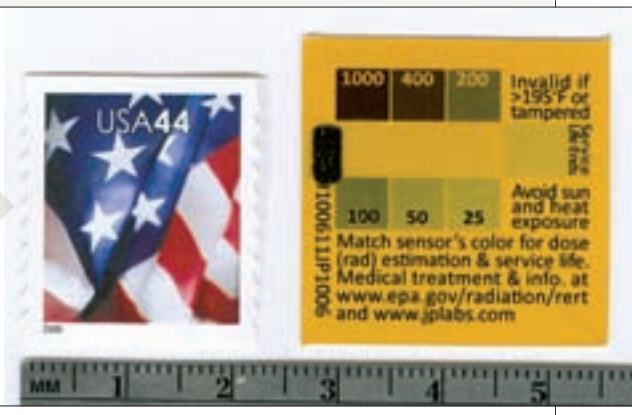
Marine Responders

Willard Marine's new responder boat group comprises three of the company's highly specialized designs and is capable of law enforcement, fire/emergency, rescue, patrol and security tasks. Targeted for municipal, county, state and federal police agencies, sheriffs' departments, homeland security, fire and lifeguard organizations, these boats offer high performance, reliability and versatility. The fleet includes: the Willard 60-foot Search & Rescue, which can be equipped as a fire boat; the Willard 44-foot Open Ocean Response Boat; and the Willard 27-foot 730 LE Fiberglass Hybrid Foam Collar Law Enforcement Boat. The boats are available in various power packages to match agencies' needs and requirements. www.willardmarine.com

Personal Protection

Personal radiation detection comes in a peel-and-stick, postage stamp-sized dosimeter in JP Laboratories Inc.'s RADSticker. The nonelectrical sticker determines radiation exposure instantly by using different shades of color to show the user his or her level of contact. Following events like a nuclear bomb explosion, nuclear power plant accident or mishandled radiation sources, individuals can find out if they've been exposed to a harmful high dose (25 rads). The technology was field tested by the U.S. Department of Homeland Security and is available through distributor Ki4U Inc. www.ki4u.com



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Meta-Leader: A Leader Sans Borders

I dislike the term "manager." You manage budgets, programs and schedules. If you're a leader, you lead people. You can make numbers on a spreadsheet do just about anything you want, but leadership isn't as simple. The people factor drastically complicates things.

Emergency managers are leaders. It makes no difference if you're just a one-person shop — you're still a leader when you're an emergency manager.

Most of the time, people think of leaders as being the top box in an organization chart with staff arrayed in boxes below the leader. To be an effective emergency manager, your influence must extend beyond the boundaries of your organization chart. If you support regional approaches to emergency management, you'll instantly recognize the challenges of forging relationships and teams that are different in function, style and history.

There's a relatively new term being used called "meta-leadership," which I think describes emergency managers' work. Wikipedia defines it as: "An overarching leadership framework for strategically linking the efforts of different organizations or organizational units to provide guidance, direction and momentum across organizational lines that develop into a shared course of action and commonality of purpose among people and agencies that are doing what may appear to be very different work."

While typical leadership brings a level of authority over the people one supervises, meta-leaders have no direct authority. To accomplish anything, the leader is required to develop circumstances to influence others to act in a certain way.

I'm a strong believer in building regional emergency management efforts that extend beyond the typical organizational and geographical boundaries that compose the modern geopolitical scene. Disasters don't respect these artificial, man-made boundaries.

In most cases, the person with the job title and job description of emergency manager must lead these efforts. Few others, if any, will be called upon to pull together the regional partnerships and coalitions of the future.

This requires an extremely high level of leadership. You can't impose your will on anyone. In my experience, joint planning is the best way to get people together. It provides a forum for discussing the tough issues of how resources are allocated, where the regional priorities might be and who determines them.

The low-hanging fruit of regional planning is to at least achieve regional situational awareness during disasters by finding ways to communicate better and share information between jurisdictions. Private-sector organizations are always hungry for situational awareness. If you can't get other government jurisdictions and agencies to play regional ball, invite nongovernmental organizations like power and transportation companies to the planning table.

You can see by the examples I've given that meta-leadership isn't dictatorial in nature. Rather, it is invitational in its very operational context. The concept of the emergency manager as a coordinator and facilitator fits the meta-leadership role to a T. Since the meta-leader has no official charge, you don't have to wait for someone to appoint you as regional meta-leader. You assume the meta-leader mantle simply by your actions.

You can begin now. Look at maps hanging in your emergency operations center. If they end at your jurisdictional boundary, you can start your journey of becoming a meta-leader by changing those maps to include your neighboring jurisdictions. Then you will have started on your journey of thinking beyond your single agency, city, county or state. It can be your first step in becoming a meta-leader.

by **Eric Holdeman**

Eric Holdeman is the former director of the King County, Wash., Office of Emergency Management. His blog is located at www.disaster-zone.com.

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Index *

Lessons From H1N1

The concern over the H1N1 pandemic may have subsided, but that doesn't mean what transpired should be forgotten. We can derive several lessons from the H1N1 pandemic, and I'll talk about four here.

All Response Is Local

We've all heard or said it: "All response is local." But during the 2009-2010 H1N1 pandemic, priorities, strategies and tactics were strongly influenced, and in some cases, mandated by national and state organizations. Even before most communities had cases, they were already mobilizing based on direction and resource allocations from state health departments and the Centers for Disease Control and Prevention.

None of this is new in emergency response. Leaning forward is a natural part of an emergency manager's job. And modifying tactics based on resource availability is one of the Incident Command System's (ICS) strengths. What's important is that we recognize how strongly the national and state priorities defined the response and assume that we'll have the same pressure in future incidents.

I believe that in future public health emergencies, strategies and priorities will again be pushed down to local jurisdictions. In most large-scale events, such as bioterrorism and outbreaks, decisions regarding appropriate therapies, treatment regimens and patient information won't be developed at the local level. We must be prepared to incorporate this reality into our ICS. At a practical level, this means ensuring that our systems are flexible to incorporate outside direction and that our self-esteem is strong enough to handle it.

Not Everyone Wants Our Help

Many in public health expected that an influenza pandemic would cause an overwhelming demand for vaccine. Although there was a lot of interest when the vaccine was first available, that surge passed quickly. In the end, our influenza vaccination rates were slightly better than we've seen in past years. And we have millions of unused doses of vaccine.

The lesson here is: Like most other emergencies, there will be people who don't want our help. There are always a few people who'll refuse to evacuate in a natural disaster, and in a disease outbreak, there will always be people who won't want the medications we offer.

This realization must be incorporated into our planning processes. We shouldn't assume that we'll need to provide treatment to the whole population. We should research what percentage of our population will accept the treatments we offer and build our response to match that demand.

It's Good To Have Friends

Actually we learned this before the H1N1 pandemic, but it's worth repeating: Having active, robust relationships with local people and organizations is invaluable. In an emergency, there's no substitute for picking up the phone and talking with a school nurse or clinic director you already know.

Public Health Can Do

Before the H1N1 pandemic, many weren't convinced that public health departments could successfully manage a large-scale public health emergency. Emergency response is a new role for public health, and we didn't have much experience with ICS (not because we didn't believe in it, but because we didn't have many opportunities to practice it).

But once H1N1 hit, those doubts were dashed. Public health agencies recognized that they had to respond and that the response had to be big. By any measure, our response was successful.

by **Kevin Bersell**

Kevin Bersell is an emergency preparedness specialist with Public Health Region 2 of the New Mexico Department of Health. His opinions are solely his and do not represent the views of the New Mexico Department of Health.

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