



# Biorecurity And Food Safety



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## Editor's Notes

By James D. Hessman, Editor in Chief



Japan's long-running series of earthquake/aftershock/tsunami disasters, this week's tornadoes in the southeastern United States – a grim preliminary to the 2011 "hurricane season" – American farmers, and ten outstanding writers pooled their individual and collective resources to bring DPJ readers this month's full and varied platter of articles, commentaries, and how-to recommendations on a broad spectrum of topics not only related to current headline news but of continuing relevance for the foreseeable future.

First in the batting order is Diana Hopkins, who discusses the increasingly important role played by U.S. pharmacists in the nation's healthcare system. In the past, these multitasking men and women in white filled prescriptions, and that was about it. Today, in many states, they play key roles in the administration of medicines and vaccines, particularly when mass inoculations are mandated. Their duties and responsibilities will continue to expand, moreover, particularly in the field of emergency medicine -- where their pharmaceutical expertise may well be the life-or-death difference needed to save scores of their fellow citizens.

Next up is Sophia Paros, who discusses the rapidly emerging threat known as "biosecurity" – particularly its relevance to the nation's highly susceptible food-supply chain, the lessons already learned in that area, and the massive vulnerabilities that still exist. Complementing her analysis is a fascinating case study, by Shari Shea, of the step-by-step detective work carried out by epidemiologists in five adjacent mid-Atlantic states to isolate, identify, and then bring to an abrupt halt the start of a new E. coli outbreak caused by a dangerously tainted case of Lebanon bologna.

Joseph Cahill shifts the focus to another type of danger facing, and in at least some cases caused by, political jurisdictions in almost every state, county, and city throughout the country, and by the federal government itself: inadequate funding for emergency preparedness. He does not point the finger of blame at any individual, or political party, but simply states the dollars-and-sense facts: When the funding runs out, medical care will be diminished in both quality and quantity, people will suffer, and many will die. Appropriately enough, Lou Banks follows up with some insightful particulars related to "the anatomy" of a bioterrorist attack, and the points he makes are equally disturbing: (1) The capabilities of international terrorists to launch a biowarfare attack against the United States (and/or U.S. allies) have been growing exponentially in recent years; (2) The FBI and other U.S. agencies predict that such an attack is now likely in less than two years; (3) Such an attack might well take many more lives than would be lost in a nuclear attack.

What can or should be done to prevent such an attack? Raphael Barishansky and Audrey Mazurek don't say specifically, but they make a persuasive case that the essential starting point of a response-and-recovery plan should and must be a thorough, comprehensive, and frequently updated hazard/risk vulnerability assessment, or HRVA. A major step forward in the policy process has already been taken, Catherine Feinman points out, with the signing (last month) by President Obama of a new National Preparedness Directive that updates, consolidates, and/or supersedes several previous guidelines in this increasingly important area of government.

Mitch Saruwatari, batting ninth, provides an imaginative – and timely – comparison of the separate but surprisingly similar missions of major-league baseball teams on the one hand and, on the other, emergency-response teams. One team has more fans, of course, and gets a lot more "ink" in the national press. The other team merely saves lives – and maybe the nation. There is also a rather large difference in salaries – but that is another story. As usual, Adam McLaughlin finishes up with an eclectic selection of interesting news items from various jurisdictions throughout the country – this month featuring the great states of Florida, Kentucky, New York, and North Carolina.

*About the Cover: "Meanwhile, back on the farm ... " So begins what might be the next chapter in the continuing terrorist war against the United States. The target: the nation's food supply; beginning with farm animals (none of which were harmed in the preparation of this issue), grains, fruits and vegetables, and a broad spectrum of other potables and consumables. Food processing plants, warehouses, supermarkets, and even bars and restaurants in cities and small towns alike are among the other "agrobusiness" outlets in the supply chain that might be directly affected. (Bucolic image by iStockphoto.)*

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# Dispensing a Higher Health Care Role to Pharmacists

By Diana Hopkins, Standards



The community pharmacist is no longer the person who merely stands behind a counter dispensing medications that doctors have prescribed. Because of recent pandemics and other natural disasters – e.g., the devastation caused by Hurricane Katrina – as well as the threat posed by bioterrorism, along with rapidly increasing health care costs, pharmacists have been playing a more important role in the U.S. health care system, and now represent the average citizen’s most accessible health care provider.

Delegating certain medical powers to non-physician health care providers is one way to increase access to health care services. All states now permit, to at least some degree, the delegation of certain medical-practice responsibilities to pharmacists. Since 2009, pharmacists have been allowed to administer immunizations in all 50 states – but most states require pharmacists to receive training of some type in both immunization administration and CPR. That training could and often does include education in state-specific courses and/or certificate programs in immunization administration.

Some states also require ongoing continuing education, with specific completion deadlines included. Each state approaches immunization in its own unique way, and according to its own needs. Some limit the types of immunizations that can be administered, for example, while others focus more on the age of the patients receiving the immunization, and still others put greater emphasis on the “route” (e.g, subcutaneous injection, oral, or nasal) used to administer the immunization. In addition, some states also require that patients provide a prescription from an M.D. before pharmacists administer an immunization, but others allow administration pursuant to a general protocol or standing order.

## Recognized Expertise And a Heavier Workload

Fortunately, pharmacists are usually now considered the “vaccine experts” in their home communities, and that recognition could be an important factor in dealing with a bioterrorism attack. Because of the increase in bioterrorism threats, in fact, there has been a renewed focus both on immunization and on the greater potential for a major and rapid increase in vaccinations. Because pharmacists are usually the most easily accessible health care professionals in their home communities, they: (a) can use their specialized knowledge not only to recognize the diseases that might be used in a bioterror attack but also to take appropriate actions needed in response to such an attack; (b) can also be deployed to help administer vaccines, including those for smallpox and anthrax, in times of sudden emergency; and (c) can assume an even greater role by joining a National Logistics Response Assistance Team (LRAT).

In 2010, the National Disaster Medical System (NDMS) returned to the U.S. Department of Human Health Services (HHS) after four years within the Federal Emergency Management Agency (FEMA), a major branch of the U.S. Department of

Homeland Security (DHS). Now the LRAT has transitioned to a new program, the National Pharmacy Logistics Team in the HHS Office of Preparedness and Emergency Operations. This new program will help the government better prepare for and respond to natural or man-made disasters in which pharmacists could be deployed to assist in distributing and administering chemoprophylaxis and vaccines to perhaps hundreds of thousands of Americans.

To shorten the lead time required for an effective disaster response, the National Logistics Response Assistance Team “pre-stages” pharmaceutical caches (each of which is stocked with 300-350 different kinds of products needed for disaster response) and kits of ready-to-assemble pharmacies in areas of the country considered to be at a higher risk for disasters. Pharmacists and pharmacy technicians manage the caches and kits both before and during a disaster; meanwhile, the pharmacy personnel of the Disaster Medical Assistance Team: (a) dispense and administer pharmaceuticals from a cache; (b) monitor usage and report; (c) identify pharmaceuticals in short supply; and (d) as the drug resource called on in the event of a supply shortage, establish treatment regimens for the Team to use.

Pharmacist-provided immunizations serve as an excellent example of the added value pharmacists can provide both to individual patients and to public health in general. According to the American Pharmacists Association, more than 147,000 pharmacists already have been trained to administer immunizations. Moreover, the experiences of millions of consumers during the last global flu pandemic have put pharmacists in a whole new light.

## **Reimbursement Problems: Will New Legislation Help?**

Some problems remain, though. For one thing, although immunization has repeatedly been shown to be the most cost-effective practice in medicine, third-party reimbursement policies often do not provide coverage for recommended vaccines despite the abundant evidence available. As a result, most American adults are inadequately vaccinated, and tens of thousands of adults in the United States die each year from preventable diseases such as influenza, pneumococcal disease, and hepatitis B. Moreover, infants and toddlers often do not receive their primary immunizations when they should – but much later, usually when they enter school, because such immunizations are required then for admission.

Medicare Part B does cover immunization services for its participants; it also recognizes and compensates pharmacists as mass immunization providers. Increasingly, though, doctors are opting *not* to provide these vaccines because the reimbursement from private insurance, and/or from Medicare, is often inadequate. Pharmacist-provided immunizations remove such barriers to vaccination, significantly increase the number of providers available to administer vaccinations, and reduce the overall cost of treatment by eliminating the need for a doctor visit.

There is more. Because the improper use of medications is estimated – by the New England Health Institute (an independent nonprofit headquartered in Cambridge, Mass.) – to cost \$290 billion a year, medication therapy management (MTM) seems likely to be the next step in further elevating the role of pharmacists as health care providers. MTM enables pharmacists to work directly with patients to review and monitor their medications – and the effectiveness of those medications – while also avoiding improper medication “usage issues” that drive up healthcare costs.

Additional help may be on the way. Congress has been asked to support the MTM Empowerment Act of 2011 (S.274) and the MTM Benefits Act of 2011 (H.R. 819) to increase community access to additional vital clinical services that can be carried out by pharmacists. It is clear that delegating medical powers to pharmacists to administer immunizations has been key to their expanded role as health care providers. It seems equally clear that the important medical role performed by pharmacists is not only still growing but is likely to continue on an upward trajectory for the foreseeable future.

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For additional information about the newly formed LRAT, contact NDMS at [ndms@hhs.gov](mailto:ndms@hhs.gov).)

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*Diana Hopkins is the creator of the consulting firm “Solutions for Standards” ([www.solutionsforstandards.com](http://www.solutionsforstandards.com)). She is a 12-year veteran of AOAC INTERNATIONAL and former senior director of AOAC Standards Development. Most of her work since the 2001 terrorist attacks has focused on standards development in the fields of homeland security and emergency management. In addition to being an advocate of ethics and quality in standards development, Hopkins is also a certified first responder and a recognized expert in technical administration, governance, and process development and improvement.*

# Lessons Learned: Biosecurity and Food Safety

By Sophia Paros, Viewpoint

According to the U.S. Department of Agriculture and the U.S. Food and Drug Administration (an agency of the U.S. Department of Health & Human Services), the food and agriculture sector of the nation's economy continues to be an attractive terrorist target – primarily because of its potential for an attack that not only would cause panic but also hurt the economy and endanger public health throughout the United States.

Today, the possibility of terrorist attacks against the nation's agricultural and food industries remains a continuing concern in the overall effort to bolster U.S. homeland security in general. Contamination of the nation's food supply also poses a major danger that has prompted homeland security experts to devise methodologies aimed at assessing risk to this specific sector of the nation's critical infrastructure. One focus in particular has been the food-service systems involving U.S. schools.

Homeland Security Presidential Directive HSPD-9, issued on 30 January 2004, established a national policy to defend the nation's agriculture and food systems against terrorist attacks, major weather disasters, and other emergencies. In accordance with this directive, a vulnerability assessment focused on the USDA's National School Lunch Program – which has its roots in the Great Depression of the 1930s but has been expanded and updated several times since – was carried out. That assessment: (a) resulted in the identification of several potential security concerns; and (b) led to the development and implementation of the mitigation strategies needed to help keep the U.S. food supply safe from terrorism. The Department of Agriculture's Food and Nutrition Service (FNS) later published *A Biosecurity Checklist for School Foodservice Programs: Developing a Biosecurity Management Plan* (available on [LLIS.gov](http://LLIS.gov)), that provides guidelines and

suggestions on how to: (a) form a school food-service biosecurity management team; and (b) use the checklist to properly prioritize the measures recommended to strengthen biosecurity.

## A Seven-Step Priority List to Meet a Still Growing Threat

In an effort to mitigate bioterrorism in schools, an effective biosecurity management plan should describe strategies

for preventing threats, such as product tampering and food contamination. In addition, if a bioterrorism incident does occur, thorough plans would also indicate the appropriate response actions that should be taken by key personnel. Although schools are neither required nor mandated by federal law to develop a food-service biosecurity management plan, the FNS strongly urges schools to develop such plans by adhering to the following steps (listed in the *Biosecurity Checklist* mentioned above):

1. Establish a school food-service biosecurity management team;
2. Establish a checklist with the "prioritized levels" of measurements needed;
3. Add the security measures unique to each school;
4. Determine which security measures will be part of the plan;
5. Assign tasks and develop a schedule of target dates for each task;
6. Track the progress made; and
7. Continue to maintain and update the biosecurity plan.

The National School Lunch Program, though, is only a small segment of the food sector of the U.S. economy. In

*Contamination of the nation's food supply poses a major danger that has prompted homeland security experts to devise methodologies aimed at assessing risk to this specific sector of the nation's critical infrastructure; one focus in particular has been the food-service systems in U.S. schools*

2009, the Society for Risk Analysis (SRA) conducted a risk analysis on the United States as a whole and reported its findings in *Risk Analysis of Chemical, Biological, or Radionuclear Threats: Implications for Food Security* (also available on [LLIS.gov](http://LLIS.gov)). At that time, the probability of “an event leading to 5,000 casualties (fatalities and injuries)” was estimated to be “between 0.1 and 0.3.” Although the likelihood of a chemical, biological, radiological, and/or nuclear (CBRN) event is low, if a bioterrorist attack does in fact occur, according to the SRA, “the probability that it involves CBRN agents increases with the number of casualties” that the terrorists want to inflict.

Supporting-data models and statistics from the SRA’s risk analysis also predict, though, that by the year 2025 attacks leading to 5,000 casualties or more could potentially occur every 20 months or so, and possibly more frequently, in both the public sector and the nation’s private-sector food industry.

In short, protecting the U.S. agriculture and food infrastructure and resources is an important responsibility shared by federal, state, and local governments as well as the private industries involved. A bioterrorist attack could have a devastating impact on the nation’s public health and the U.S. economy. Proper planning, however – whether for private industry, state or local jurisdictions, or the nation as a whole – could not only help ensure a speedier response and recovery but also mitigate the worst consequences of such an attack.

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For additional information and other biosecurity and food safety documents, log into [LLIS.gov](http://LLIS.gov) at [www.llis.dhs.gov](http://www.llis.dhs.gov).

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*Sophia Paros is the outreach lead for Lessons Learned Information Sharing (LLIS.gov), the U.S. Department of Homeland Security/ Federal Emergency Management Agency’s national online network of lessons learned, best practices, and innovative ideas for the nation’s homeland-security and emergency-management communities. She received a dual bachelor’s degree in Computer Information Systems and Business from the College of Notre Dame of Maryland and is currently working on an M.S. in Information Security from The George Washington University.*

## A Quick Return on Investments in Food Safety

By Shari Shea, Public Health



There is no such thing as a *good* food-borne disease outbreak. But the *E. coli* O157:H7 outbreak centered in Pennsylvania in early 2011 was at least *instructive*, showing just how well the U.S. food-safety system can work when all of the players involved work together.

The outbreak – linked to Lebanon bologna, a cold-smoked, fermented sausage – first came to light on 5 March 2011. Just over two weeks later, the U.S. Department of Agriculture (USDA) announced a voluntary recall of 23,000 pounds of potentially contaminated product. In between, a host of laboratory, epidemiology, and regulatory responders worked hand-in-glove to unravel what began as a mystery.

David Sweat, foodborne-disease epidemiologist with the North Carolina Division of Public Health, involved in the multi-state investigation, commented that the American people “wonder about the federal response to food safety issues – whether we’re spending tax dollars wisely. Well, those investments do pay off,” he continued. “I think that’s the real story here; we can see the return on those investments.”

The story actually begins in the Pennsylvania Department of Health’s Bureau of Laboratories, where Carol Sandt (supervisor of the Molecular Microbiology Section of the bureau’s Division of Clinical Microbiology) oversees work related to molecular biology. “I routinely monitor our databases for clusters [of cases involving the same pathogen]. This one happened to involve a type of *E. coli* O157:H7 that we had seen before in Pennsylvania,” she noted.

### A Timely Alert and a Genetic Fingerprint

In fact, the laboratory had confirmed eight cases of infection with the bug between 2007 and 2010, but almost all of those cases were widely separated in time. However, Sandt now had seen five cases in two sequential months. “Given that history,” she said, “I alerted our epidemiologists.” On April 7, Sandt posted the bacterium’s PFGE (pulsed-field gel electrophoresis) pattern – a genetic “fingerprint” of the pathogen – onto the national PulseNet database, which stores all PFGE patterns of



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all the bacteria associated with laboratory-confirmed food-borne illnesses in the United States. The PulseNet network is coordinated by the Atlanta-based U.S. Centers for Disease Control and Prevention (CDC) in collaboration with the Association of Public Health Laboratories (APHL).

CDC officials requested samples of the *E. Coli* O157:H7 isolates and performed a second type of DNA (deoxyribonucleic acid) fingerprinting: MLVA (Multiple-Locus Variable Number Tandem Repeat Analysis) – which, like the PFGE testing, showed that all five of the patients being treated had been infected with an identical strain of *E. coli* O157:H7.

In the meantime, Dr. Andre Weltman, an epidemiologist with the Pennsylvania Department of Health, was taking Sandt’s “heads-up” very seriously. “We decided to do hypothesis-generating interviews” with the cluster patients, he said, to determine what food items might be implicated in the outbreak. Lebanon bologna was an early suspect.

Weltman also learned, via PulseNet, that certain nearby states, including North Carolina, had apparently seen some similar cases. “What is critical for these investigations,” he said, “are the outliers. North Carolina was an outlier [with just one case].

To me, sometimes the exception proves the rule.”

## Protocols and Procedures: The Keys to a Rapid Response

On March 9, Weltman contacted Sweat at the North Carolina public health agency. As it happens, North Carolina is funded through APHL as one of seven CDC OutbreakNet “Sentinel Sites” – all of which share a standard patient interview protocol and other strategies to investigate enteric disease outbreaks. North Carolina also is one of nine states that has fielded a food-protection Rapid Response Team (RRT – funded through the FDA).

Sweat said that all state epidemiologists and RRT members are “drilled and trained and have standard operating procedures worked out in advance, so when we get a trigger it’s pretty easy to get a well-coordinated response.”

An interview with the one North Carolina outbreak suspect revealed that that patient is originally from Pennsylvania and regularly purchases Lebanon bologna from a warehouse buying club. Although the presumably tainted product had already been eaten, North Carolina officials collected electronic shopper card data from the patient; that data helped USDA officials: (a) to determine the specific brand of Lebanon bologna that had been sold; and (b) working with shipment dates provided by the manufacturer, to hone in on a few specific lots. The Pennsylvania manufacturer agreed to a voluntary recall.

Without such a rapid response, Sweat said, “certainly more people could have consumed this and suffered kidney damage or death. Any number of things could have gone wrong.” Instead, confirmed cases were limited to 14 in a five-state area (Pennsylvania, Ohio, New Jersey, Maryland, and North Carolina). Case closed: Textbook collaboration among all of the responders involved had cracked the investigation in record time.

For additional information on the *E. coli* outbreak described above and/or the various agencies involved, [http://www.cdc.gov/ecoli/2011/O157\\_0311/](http://www.cdc.gov/ecoli/2011/O157_0311/)

*Shari Shea is director of Food Safety Programs at the Association of Public Health Laboratories (APHL), and prior to assuming that position was the association’s PulseNet program manager. She previously served as an Emerging Infectious Diseases training fellow at the Massachusetts State Laboratory Institute.*

## Special Event Planning Report & Webinar

DomPrep40 member Bob Stephan, Former Assistant Secretary of Homeland Security for Infrastructure Protection and Managing Director of Dutko Global Risk Management, led the discussion on Special Event Planning. The meeting focused on the importance of training and preparing for a large-scale disaster during a special event.

### Speakers:

**Bob Stephan**, Former Assistant Secretary of Homeland Security for Infrastructure Protection, Managing Director of Dutko Global Risk Management

**James E. Ammons**, Unit Chief of the FBI’s Critical Incident Response Group, Special Events Management Unit

**Charles Burns III**, Director of Security, IZOD Indy Car Series

**Lou Marciani**, Director, The University Southern Mississippi, The National Center Spectator Sports Safety and Security

**Erik Gaull**, Lieutenant, DC Metropolitan Police Department

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A New Five-Part White Paper Series by

# Dr. Craig Vanderwagen

M.D., RADM, USPHS (Retired)

## Implementing the National Health Security Strategy

The *Implementing the National Health Security Strategy* white paper series, written by the first Assistant Secretary for Preparedness and Response, Dr. Craig Vanderwagen, explores issues that affect the success of the public health practitioner in meeting the needs of the public's health, and by doing so, increasing the resilience of communities and the Nation.

The series takes as its guiding framework, the National Health Security Strategy (NHSS) developed and released by the U.S. Department of Health and Human Services (HHS) in December 2009. The development and public release of this strategic document was directed by Congress as part of the Pandemic and All Hazards Preparedness Act of December 2006. The document is the product of a wide variety of stakeholder discussions and an examination of the real threat issues confronting the Nation. It is a national

document, not just a federal document.

The NHSS has 10 stated strategic goals. This series explores the practical applications of tools that will be major elements in the successful achievement of at least four of them (Integrated/Scalable Health Care Systems; Effective Countermeasure Enterprise; Post Incident Recovery; and Situational Awareness) and add materially to the achievement of at least two others (Science, Evaluation, and Quality Assurance Improvements and Timely and Effective Communications). By bringing focus and effort to these practical considerations the public health practitioner can indeed contribute to the implementation and success of the NHSS which is a portion of our overall national security enterprise.



"The public health mission to protect the health of the public and prevent disease is dependent upon effective and useful logistical systems designed specifically for the purposes of the public health practitioner."

From August 2006 until July 2009, **Dr. Vanderwagen** was the founding Assistant Secretary for Preparedness and Response (ASPR), U.S. Department of Health and Human Services.

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# Dollars and Sense: Budgeting for Emergency Services

By Joseph Cahill, EMS



In the current environment of not only decreasing revenues but also, in most U.S. political jurisdictions, increasing costs, governments are looking for any way to prop up their budgets. However, although some agencies are working diligently to vilify public workers, others have directed their energies toward changing the revenue side of the equation. Currently, the only emergency service that routinely bills for its services is EMS (Emergency Medical Services).

Charging for services is a mixed blessing, though, because it often subjects the service to the rules of Medicaid/Medicare and other insurance providers. Moreover, most insurance programs are based on, among other things, an anachronistic view of EMS as solely a transportation provider. However, EMS can in fact bill, at different rates, for either a BLS (basic life support) or an ALS (advanced life support) trip to the hospital.

The problem here is that the patient must actually be transported in order to bill for services. Unfortunately, though, many non-transport calls are still high-cost calls – a cardiac arrest, to use one prominent example, is the most resource-intensive, single-patient incident encountered by EMS agencies throughout the entire nation. Unfortunately, many cardiac patients are not transported anywhere by an EMS vehicle because the paramedics eventually declared them

dead on the scene. Moreover, even if EMS does transport the patient, only the unit that actually carries the body can bill for the response.

Partly for that reason, other emergency providers have been looking at the possibility of billing for their services. For many years, in fact, at least some agencies have been doing just that, but usually on a limited basis. For example, hazardous materials (hazmat) teams have billed for responses to chemical spills under various state laws. In addition, some fire departments, and some EMS agencies, have been billing for responses to alarms that turn out to have been false alarms deliberately set, or otherwise unfounded for one reason or another. Also, some rescue services in “extreme wilderness” areas – where many outdoor enthusiasts go for recreation – have billed victims for their rescues. The common thread here is that there is not only a certain degree of urgency involved but also at least some level of culpability on the part of the patient or organization being billed.

## Cost Recovery vs. Ethical Concerns

One of the main issues in developing a plan that permits government-related agencies – whether a municipal agency or a contracted private firm – to bill for their services is that the government is usually considered, by most taxpayers, to be providing services for the common good. One of the basic principles used in defining “common good,” though, is that the government is providing services that almost any citizen *might*

## The Role of Patient Tracking in Public Health Practice

*A Five-Part White Paper Series by Craig Vanderwagen, M.D., RADM, USPHS (Retired)*



In the second installment of Dr. Craig Vanderwagen’s groundbreaking five-part series “Implementing the National Health Security Strategy,” the founding Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services focuses on the challenges in tracking patients before, during, and after mass-casualty incidents and events.

Patient tracking remains immensely important to resiliency, because the health and well-being of the population – both in the immediate aftermath and in the recovery phase of an event – contribute significantly to the ability of a community to rebound from a challenge and return to a more normal state of affairs. The importance of this element in preparedness is reflected in the strategic objectives of the National Health Security Strategy not only in the goals related to situational awareness and scalable health-delivery systems but also in the overarching vision of maintaining a healthy population.

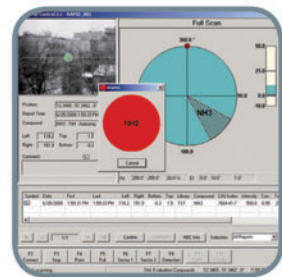
In this essay, Dr. Vanderwagen explores the immediate medical needs of those persons directly affected by an event along with several other facets of patient tracking – including but not limited to: (a) the health status and requirements of the evacuated population; (b) the size and immediate needs of the population being housed in shelters; (c) the health status of those who remain in the area directly affected; and (d) the tracking of medical countermeasures from the point of origin to treatment.

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# RAPID

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need at one time or another, but that probably would not always be immediately available, on the common market, to any and all citizens. Primarily for that reason, some local governments have been drafting legislation that would allow them to charge for certain emergency responses under the budgetary heading of “cost recovery.”

Ethical risks are another factor that must be considered in allowing emergency providers to bill for their services. In the 19th century, most U.S. fire departments routinely charged for their response services, either after the event or under some type of “subscription service” – much more common in that era than today. Here, an interesting bit of historical trivia may be worth noting: The cast-iron fire marks that are currently sold as decorations originally indicated that the houses displaying them had paid for their subscription services and were therefore entitled to a response from the local fire department. However, houses not showing the fire marks – because the owners either did not or could not pay – were allowed to burn to the ground.

Today, though, very few if any public officials and/or EMS planners would seriously consider refusing to respond to an emergency simply for lack of payment. Nonetheless, there is still an understandable temptation to prioritize responses – and, therefore, resource allocations – because of financial considerations. Further complicating this situation is that paying for the actual costs of a response to a house fire or similar incident could completely bankrupt a private citizen (or, for that matter, a relatively small private business).

Perhaps the most important point to remember from the preceding discussion, though, is that – until and unless common homeowner’s insurance pays for the cost of an emergency response – any plan that shifts the cost from the community to the individual must be viewed very, very carefully, with particular focus on what might be considered the “culpability” factor. There may in fact be no 100 percent perfect solution to what in many communities is an extremely difficult problem, but that does not mean there is no room for at least a reasonable common-sense compromise.

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*Joseph Cahill, a medicolegal investigator for the Massachusetts Office of the Chief Medical Examiner, previously served as exercise and training coordinator for the Massachusetts Department of Public Health, and prior to that was an emergency planner in the Westchester County (N.Y.) Office of Emergency Management. He also served for five years as the citywide advanced life support (ALS) coordinator for the FDNY - Bureau of EMS, and prior to that was the department’s Division 6 ALS coordinator, covering the South Bronx and Harlem.*

## Anatomy of A Bioterrorist Attack

*By Lou Banks, Viewpoint*



Few things elicit more fear than being attacked by something unseen or unknown. This is precisely why a Bioterrorist Attack is a scenario that requires some of the most advanced preparation.

A bioterrorist event is not a fictional scenario; it is, rather, a reality that has been carried out in the recent past with the anthrax attacks in the United States shortly after the 9/11 terrorist attacks of 2001 and the Aum Shinrikyo-orchestrated attacks against the Japanese subway system; the group is known to have unsuccessfully attempted to use biological agents.

The probability of such an attack increased with the passage of time. U.S. intelligence agencies have issued warnings, in fact, of a pending bioterrorism attack against the U.S. homeland within the next few years. Not only can a bioterrorist attack cause mass casualties as infected carriers unknowingly transmit the pathogen throughout the population, but it can also cause a widespread public panic that would overwhelm public resources as people become anxious over the potential of being exposed or having recently been exposed.

Moreover, the economic impact can be considerable from, among other things, lost productivity from employees calling in sick, the probable loss of tourism, and numerous facility closures and decontamination. One has only to look at the economic impact on Mexico (and the rest of the world) from the 2009 naturally occurring H1N1 Swine Flu Epidemic that, according to some estimates, cut the world GDP by \$2 trillion. Incidentally, the U.S. National Planning Scenario for an aerosolized anthrax attack estimates that such an attack on a U.S. metropolitan center would cost billions of dollars and could lead to a major economic downturn caused by the loss of consumer confidence.

Unlike a chemical, nuclear, or explosive event, there usually is no immediate and/or clear indication that a nation, or community, has been attacked by terrorists using a biological weapon. Even chemical weapons leave at least some traces – caused by obnoxious odors, burning sensations, or difficulty breathing. In contrast, a

biological attack, termed a “silent” attack, can be carried out by tampering with food – as was the case in the notorious 1984 Rajneeshee attacks on salad bars in The Dalles region of Oregon. Moreover, a biological attack can be perpetuated significantly by distributing pathogens in water, aerosolizing spores, or even via the U.S. mail system – all of which can be carried out without being detected. In the absence of a visual indicator, such as a powder accompanied by a credible threat, the detection of a biological attack can take days, weeks, months, or even years, and it can be very difficult if not impossible to catch the perpetrators.

### **An Important Question – Followed by a Very Slow Answer**

So the question arises: What would a “silent” biological attack look like? According to the National Planning Scenario for an aerosolized anthrax attack, it very probably would not be a dramatic event that could easily be pinpointed to a time of infection. What seems more likely is that sick people will begin presenting themselves to hospital emergency rooms (ERs) within about 36 hours post-release of the bioterrorism pathogen. Also most likely, the first victims will be misdiagnosed because the initial symptoms closely resemble flu symptoms. However, after a number of victims with advanced symptoms present themselves to ERs, epidemiologists will be able to declare a contagious disease emergency and activate the response network. In all likelihood, though, at least a week will have passed before detection.

Quicker detection is the key, therefore, to minimizing the impact of a bioterrorism attack and the saving of lives after such an attack occurs. Fortunately, there are a few quicker detection methods (less than two days) that can be employed. One method is to continually monitor air in strategic locations for the presence of biological particles. Once characterized biological particles have been detected, an automatic trigger initiates the collection of air samples

for identification, and a determination then can be made on the burning question of whether a bioterrorism pathogen has been released.

Current air-surveillance technologies have the capability to identify an attack in 1-2 days. Other methods are utilized to identify powders. Visible powdery substances – the so-called “white powder” threats – now can be identified with a high degree of certainty within just a few hours through the use of new and highly sensitive field instruments carried by well-trained first responders such as hazmat technicians, firemen, or policemen.

Biosurveillance and field assessments are obviously among the most valuable tools available for the early detection of a biological attack, largely because first responders will almost always not only be first on the scene but also will be responsible for managing the initial stages of the event. For practical purposes, this means that, while field teams are waiting for the Laboratory Response Network (LRN – managed by CDC and the Association of Public Health Laboratories) – to complete confirmatory testing, the first responders will be, and are, responsible for quarantining and decontaminating probable victims and organizing the potential response reactions based on the initial credibility of the threat.

For that reason alone, it is imperative that these responders always have the best tools currently available to properly manage the incident and save lives. Fortunately, the U.S. government continues to fund such programs so that response agencies in communities – local, state, and federal – throughout the nation can reach an adequate preparedness level.

*Not only can a bioterrorist attack cause mass casualties as infected carriers unknowingly transmit the pathogen throughout the population, but it can also cause a widespread panic that would overwhelm public resources as people become anxious over the potential of being exposed or having recently been exposed*

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*Lou Banks is the BioDefense Marketing Manager at Idaho Technology. Idaho Technology leads in the development of sensitive and reliable bioterrorism detection and identification instruments.*

# Public Health: Assessing the Hazards & Vulnerabilities

By Raphael M. Barishansky and Audrey Mazurek, *Public Health*



For any political jurisdiction to effectively and quickly recover from an emergency, a key element in planning is to first understand the potential hazards facing that jurisdiction.

Vulnerabilities of the current infrastructure and processes, as well as the resources available or needed in the community, are important to consider. Traditionally, this assessment of potential hazards and risks is conducted primarily by emergency management officials and often involves inter- and intra-jurisdictional partners. However, as the role of public health continues to expand as an integral part of the U.S. disaster-response program, the unique perspectives of public health professionals on planning processes and community involvement will ensure that future hazard assessments are more comprehensive and take into consideration the public health impacts involved.

## Understanding Multiple Terms and Definitions

There are numerous terms used to describe the process of identifying hazards and analyzing their direct or indirect effects on a specific jurisdiction. Often, these terms are interchangeable, and differ primarily because of traditions within sectors such as the specialized names used for specific tools and resources. The accompanying table provides a quick look at some of the more important terms/definitions and agencies involved.

For the purposes of this article, what might be described as a compound acronym, HRVA (*hazard, risk, and vulnerability assessment*), will be used, with *hazard* hereby defined as “an act or condition posing the threat of harm” and *risk* defined as “the expectation of loss.”

## Importance of an HRVA

The initial use of an HRVA can seem daunting, difficult, and not tied to any of the better known realities of public health

preparedness. However, this compound assessment could quickly serve as an integral approach to understanding the holistic needs of the entire community – including but not necessarily limited to emergency management, fire/EMS, public safety professionals, and hospitals as well as critical infrastructure and other key physical resources. Following the examples typical of other multi-agency planning processes, the HRVA would and should use collaborative and transparent methods to ensure that all stake-holding partners are involved in its preparation, analysis of findings, and development of mitigation techniques.

The HRVA is a foundational element of hazard mitigation that allows preparedness and emergency-management professionals to set goals based primarily on the public need for protection. Properly used, it also should enhance both public and private agency understanding and awareness and favorably influence the adoption of hazard-mitigation programs. Tradition-

Term	Agency	Definition
<i>hazard vulnerability analysis</i>	The Joint Commission (accreditation for hospitals)	"the identification of hazards and the direct and indirect effect these hazards may have on the hospital"
<i>risk analysis</i>	FEMA (Federal Emergency Management Agency), in its <i>Comprehensive Preparedness Guidance 101</i>	"a product or process that collects information and assigns values to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision making"
<i>Hazard Identification and Risk Assessment (HIRA)</i>	<i>National Response Framework</i>	"a process to identify hazards and associated risk to persons, property, and structure and to improve protection from natural and human-caused hazards"
<i>hazard analysis</i>	The Project Public Health Ready Program, administered through the National Association of County and City Health Officials (NACCHO)	"potential targets and hazards in a specific community"
<i>risk assessment</i>	UCLA Center for Public Health Preparedness	"a determination of the propensity of things to be damaged ( <i>vulnerability</i> ) and an assessment of community resources that will diminish impact"



ally, following the continuum used in emergency management, the findings revealed by the HRVA should serve as a basis for resilience and for the development and implementation of effective response and recovery programs throughout the political jurisdiction(s) directly involved.

Greater knowledge and improved understanding of the hazards within a jurisdiction, in neighboring jurisdictions, within the state, and throughout the region, are fundamental requirements for emergency planning. In essence, an HRVA provides a basis for determining the demands on emergency resources that could and probably would occur – preferably prior to the evolution of an incident to an actual crisis. HRVAs also can be used to assess the level of improvement needed for an effective response by any of the institutional entities involved. Although not all of the demands of a potential disaster situation are likely to be anticipated, being aware of the major facilities in a specific geographic area, and the number of persons that may be vulnerable to each type of potential hazard, will help planners: (a) explore the most effective preventive measures that should be taken; and (b) use that information to develop and implement a properly coordinated disaster response plan.

## Starting the Planning Process

Existing resources, such as the *Hazard Risk Assessment Instrument* developed by the UCLA Center for Public Health and Disasters, help guide public-health agencies and organizations to develop risk assessments appropriate for their own communities. It should be emphasized that the planning of the process should not start from scratch, but should be based on both current and previous research, the lessons learned from real events and exercises in the past, and prior hazard vulnerability assessments developed for each specific jurisdiction involved. Much if not all of this information is available at the local or state office of emergency management, a regional FEMA office, a state homeland security department or agency – and, surprisingly perhaps, one or more universities in the region that serve as a Homeland Security Center of Excellence or as a previous CDC (Centers for Disease Control and Prevention) Center for Public Health Preparedness. Effective planning also can reap major benefits by capitalizing on the cumulative knowledge and experience acquired by other public and private groups and organizations in the area.

One of the key factors involved in developing a comprehensive and effective HRVA is ensuring a buy-in, from all potential

partners within the jurisdiction. The rule is not to rely simply on receiving approval from agency leadership, but also to seek, and gain, the confidence and advice of an actual working group of professionals dedicated to the same common goal of community resilience. Creation of a working group will be particularly important during the development, analysis, and action-planning stages of the HRVA. Partners must fully commit to operationalizing the mitigation techniques based on the findings from the HRVA and agreed upon by the group.

## Understanding the Core Elements of an HRVA

The major components of an HRVA focus on three principal elements: (a) identifying specific hazards; (b) determining the impact that those hazards are likely to have both on the community and on neighboring jurisdictions; and (c) evaluating the possibility – and/or likelihood – of the hazard actually occurring within the community. Usually, but not always, these elements can be further divided into five major “task areas,” as follows:

*Commitment and Planning* – determine appropriate partners; secure the resources needed; organize an advisory committee; ensure commitment from all of the partner agencies and stakeholders involved; review previous HRVAs, lessons learned, known risks, historical data, and relevant statistics; communicate with neighboring jurisdictions and regions to determine additional partners and resources; and develop an effective work plan with the committee.

*Gathering of Risk Information* – develop a risk-information checklist (or use an existing template); assign individual committee members to gather information; and document the hazard and vulnerability information gathered.

*Identification of Hazards and Vulnerabilities* – develop a list of possible hazards and rank them based on probability of occurrence within the community (consider not only manmade but also technological/cyber, environmental, and terrorist hazards); determine the probable impact of those hazards in relation to the numerous vulnerabilities (human impact, interruption of healthcare services, community impact, and impact on the public health agency infrastructure) also likely to be involved; schedule a workshop with all of the stakeholders involved to review initial findings and discuss various incident scenarios; and map the location(s) of not only the hazards but also the vulnerabilities previously discussed.

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*Development of a Risk Analysis* – review the qualitative and quantitative risk-ranking measures used; schedule another committee meeting or workshop to review findings, alleviate discrepancies, and complete any missing risk profiles or priority goals; identify the risk-reduction measures needed to deal with high-risk hazards; discuss the public-health impact of all of the known hazards thus far identified; and consider asking the public and other stakeholders not previously involved to provide input on the final analysis.

*Action Planning* – using the HRVA, develop an action list with specific timelines established for each of the partner agencies involved to begin mitigation activities; review and update the county/state/regional emergency operations plans; determine a schedule for future committee meetings to discuss the progress made and any tasks or goals not yet accomplished; and develop a plan and start the preparations for a jurisdiction-wide exercise based on findings developed from the HRVA.

The HRVA must take into account, among other variables: (a) the jurisdiction’s geographic location; (b) the possibility of any specific event or incident affecting the community; (c) the potential risks involved in various types of such events and incidents; (d) any relevant historical data that might be available; and (e) the community’s proximity to local/regional high-risk locations (e.g., a chemical or nuclear plant, a major port or coastal area, popular tourist attractions, key government facilities, and the local population density).

The level of vulnerability to which jurisdictions and their populations may be exposed to a specific hazard or event – or combination of events – can be summarized as a function of: (a) the potential or real hazards (flood, fire, disease pandemic) on the “most likely” list; (b) the attributes (e.g., structural design, size, age, location) of the public/private critical infrastructure facilities in the area; (c) the staffing and various operational modes of those facilities; (d) the “likelihood” – i.e., the odds for or against, based on local and regional history – of a specific hazard endangering the community; and (e) the probable damage (measured in deaths, injuries, and economic losses) caused by each type of hazard.

Only after all of these step-by-step processes and procedures have been completed can appropriate and effective response, recovery, resilience, and overall mitigation and preparedness plans (for example, evacuation routes, the stockpiling of various goods and supplies, the call-up of reserve staff, and the development of various Memoranda of Understanding and/or Mutual-Aid Agreements) be completed.

To briefly summarize: During the past decade, most if not quite all U.S. public health agencies and organizations have evolved (and improved) significantly in their pre-

paredness and response capabilities and have now reached the point where they should always be included during the planning process along with the more traditional emergency-response agencies (emergency management, fire-service, EMS, law enforcement, and public safety). The various types of emergencies that health departments plan for and respond to run the gamut from disease outbreaks to a broad spectrum of natural disasters. It is in that context that a well-researched HRVA should be an integral component of a fully prepared health work force.

Conducting HRVAs (or elements of one) are now often requirements for businesses considered to be critical infrastructure/key resources. Bringing an understanding of all Emergency Support Function (ESF) #8 elements for Public Health and Medical Services to the HRVA is the responsibility of public health entities. By “coming to the table,” public health entities will help ensure that the HRVA is as comprehensive as possible.

*As the role of public health continues to expand as an integral part of the U.S. disaster-response program, the unique perspectives of public health professionals on planning processes and community involvement will ensure that future hazard assessments are more comprehensive and take into consideration the public health impacts involved*

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# Presidential Policy Directive-8 Signed by President Barack Obama

By Catherine Feinman, *Government Updates*



On 30 March 2011, President Barack Obama signed Presidential Policy Directive #8 (PPD-8), also known as the National Preparedness Directive. On 8 April 2011, Brian Kamoie, Senior Director for Preparedness Policy on the White House National Security Staff, held a press conference at the Homeland Security Policy Institute in Washington, D.C., to officially release and outline President Obama's plan to strengthen the security and resiliency of the nation and its people against acts of terrorism, pandemics, significant accidents, and natural disasters.

PPD-8 was developed in light of the Post-Katrina Emergency Management Reform Act of 2006 and replaces President George W. Bush's 2003 Homeland Security Presidential Directive (HSPD) #8 plus 2007 HSPD Annex 1. This new directive strives to streamline and simplify the preparedness process – prevention, protection, mitigation, response, and recovery – using a multi-discipline, multi-jurisdictional design. Acknowledging successful planning efforts from FEMA (Federal Emergency Management Agency), CDC (Centers for Disease Control and Prevention), and HHS (U.S. Department of Health and Human Services), PPD-8 is based on three key principles:

Use an “All of Nation” approach – Similar to Craig Fugate's, Administrator of FEMA, “Whole of Community” planning effort, PPD-8 stresses the importance of working

together to be better prepared. Integrating efforts across all levels of government, collaborating with private and non-profit sectors, and engaging families, individuals, and communities in the preparedness process will help secure the nation against 21st-century threats. Developing a national preparedness system will help guide the necessary activities and objectives.

Build capabilities to confront any challenge – As FEMA calls the “Maximum of Maximums,” planning should be done from the perspective of the worst-case scenario. In March 2011, the CDC released “Public Health Preparedness Capabilities: National Standards for State and Local Planning.” As with the 15 capabilities outlined in the CDC report, recognizing the capabilities of each entity involved in all-hazards efforts will make those efforts more integrated and flexible for any threat, hazard, or actual event.

Implement a more rigorous assessment system – By creating specific and measurable objectives, PPD-8 focuses on outcomes by measuring and tracking progress over time. Using this principle, FEMA and HHS are in the process of evaluating grant programs to align them with the desired outcomes.

Implementing a multi-discipline, multi-jurisdictional approach to national preparedness will help the United States reach its overarching national preparedness goal. PPD-8 addresses the fact that a one-size-fits-all approach to preparedness in a nation where each community has different needs based on different risks does not work. By pooling efforts, defining capabilities, and focusing on outcomes, the nation will be better prepared for any hazard. Kamoie sums up the objective of the National Preparedness Directive: “We aim to prevent what we can and respond rapidly to what we must.”



Brian Kamoie, the senior director for preparedness policy on the White House's national security staff, outlined the purpose of the directive during a Friday (8 April 2011) forum hosted by The George Washington University's Homeland Security Policy Institute.

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# Play Ball: Game Time for Emergency Preparedness

By Mitch Saruwatari, Viewpoint

*In theory there is no difference between theory and practice. In practice there is.*

—Yogi Berra (former American Major League Baseball catcher, outfielder, and manager)



Spring has sprung, which has a very important connotation – the Major League Baseball (MLB) season is already well underway. Every year, baseball fans across the United States eagerly anticipate and celebrate the opening of the season.

Perennially chock-full of high hopes and big dreams, the first practices of the season of America’s favorite pastime are usually focused on determining how well spring training is going to prepare players, and fans, for the year ahead. The same is true for the nation’s emergency managers, who are asking themselves many of the same questions baseball players and fan are asking: *Is this “the” year? How will the team perform? Will we be able to stand up to the pressure? Will these hard-fought practices pay off?*

The opening games of the MLB season are also, in many ways, a reasonably good test of just how effective spring training was for the players – renewing their skills, addressing challenges and problems remaining from the previous year, and integrating themselves into what is often a fairly new lineup. In short, the similarities between a professional team-oriented sport such as baseball and the field of emergency management are endless. More specifically, each and every year, baseball players and emergency management professionals alike: (a) review the fundamentals; (b) get to know their teammates; and (c) test their abilities.

Spring is an excellent time for not only baseball teams, but also emergency command teams, to prepare for the year ahead. Here are three ways to get this year’s emergency-management “season” off to a productive start:

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**Review the Fundamentals:** Little League coaches spend the first few weeks having their teams go through a series of batting, fielding, and running exercises to evaluate the players' basic skills. After those skills have been identified, the team spends the next several weeks targeting weaknesses and measuring improvement. This concept is similar for emergency managers. At this time of year it is particularly important for emergency managers to review all after-action reports from the previous year as well as the associated improvement plans. The managers also need to review the notes from last year's disaster committee meetings to ensure that all areas identified as "in need of improvement" have been reviewed, addressed, and closed. In addition, any plans or policies affected by the changes mandated should be updated and listed as "objectives to test" during the 2011 exercise season.

**Know the Teammates:** Every year, baseball teams add or remove players from their rosters. The new players on the team are asked to fill gaps, learn plays, and understand how their own roles and capabilities are expected to contribute to the overall team success. For a command center, this approach may include ensuring that new members review response plans, job action sheets, and policies they may be asked to carry out during an activation of the emergency operations plan. They may also need to complete both educational – e.g., National Incident Management System (NIMS) – and practical training programs to introduce them more deeply, and more directly, to the response activities and nuances associated with the organization's plans, mission, and culture.

Another requirement is knowing where and how to reach each team member during an emergency. As most veteran responders know, disasters do not always happen during regular working hours. Therefore, having the ability to reach key staff at any time – day, night, and/or on both weekends and holidays – is critically important to the success of a response. Unfortunately, this requirement is easier said than done, because contact information changes frequently, and maintaining up-to-date information often is almost like a full-time job in itself.

**Test Abilities:** Just like on opening day of the baseball season, many responder organizations will not fully know that their team is fully prepared and ready until both individual and team skills have been tested under real or simulated

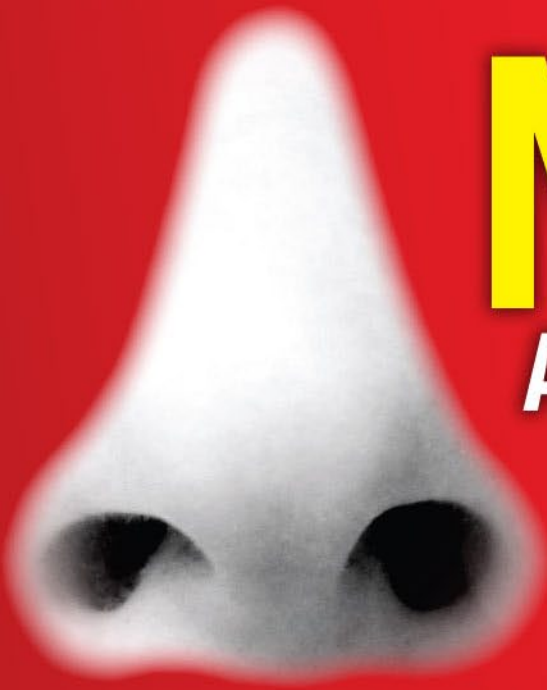
environments. Because emergency managers cannot always predict when the next "real" event will happen, exercises and drills are usually the most effective way not only to check individual and team competencies but also to hone new skills.

The use of brief tabletop exercises is a good way to start. In addition, short discussions (15-20 minutes) related to the lessons learned from last year will help responders see how the changes instituted then will improve their programs. One example: Many hospitals are struggling with the implementation of Incident Action Planning. During the next meeting of the disaster committee, emergency managers can provide a short scenario with 5-10 informational or action-oriented injects. Then they can ask the committee members to identify three overarching objectives they would want to address first. It is particularly helpful, in using this approach, to capture these objectives on an oversized ICS 202 (Incident Objectives) form that everyone can see, and then further discuss the tactical steps needed to ensure that each objective could be met within the first few hours of a response.

Within a few months, everyone should be able to differentiate between the division leaders and the so-called "basement dwellers" in the standings. Teams can always improve, though – one has only to look at the San Diego Padres last year as an example: They started out a little slow, then picked up momentum after the All-Star break and made a good run for the playoffs before losing to the eventual World Series Champion San Francisco Giants in the final games of the regular season. Similarly, there are many memorable "wins" possible in emergency management if the right training is conducted. As Hall of Famer Sandy Koufax (former pitcher for the Brooklyn/Los Angeles Dodgers) once said, "People who write about spring training not being necessary have never tried to throw a baseball."

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*Mitch Saruwatari is Vice President of Quality and Compliance at LiveProcess. Prior to joining LiveProcess, he held key positions at Kaiser Permanente. He has also served in various state and local disaster and safety positions, including such assignments as: Region I Disaster Medical and Health Specialist for the State of California; a member of the Los Angeles County CDC and HRSA Bioterrorism Advisory Committee; a founding member of the California Disaster Interest Group and co-lead for the development of the NIMS-compliant Hospital Incident Command System. In addition to the duties of his current position, he is an instructor at the Center for Domestic Preparedness, specializing in healthcare and public health courses. He holds a Master's degree in Public Health and is working toward a doctorate from UCLA.*



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## GAS & LIQUID CHEMICAL DETECTION

# Florida, New York, Kentucky, and North Carolina

By Adam McLaughlin, State Homeland News



## Florida **Miami-Dade Keeps Close Track of Employees for Disaster Responses**

A new employee locator system could help officials in Miami-Dade County, Fla., coordinate their responses faster and more efficiently in future times of disaster. One of the system's applications keeps close track – on a special map searchable by an employee's identification number, name, address, or ZIP code – of where the county's employees live and work. In addition to plotting these and other locations, the application provides other helpful information – on employee job titles, for example, the languages they speak, and any special skills they may have.

That information is provided by the employees themselves through updates to the county's "BlueBook" system, which stores employee profiles and contact information. The BlueBook information can be used by the county's Department of Emergency Management to assign the roles needed in responding to a disaster. (All employees not designated as essential to department operations and/or to the area's Emergency Operations Center are still required to help in the county's disaster responses.)

The employee locator was initially deployed four months ago (in December 2010), and pilot tests – by the Enterprise Technology Services Department (ETSD), the Department of Solid Waste, and the General Services Administration – started last month. Mary Fuentes, the ETSD's GIS (Geographic Information System) director, said she expects testing to be completed and the system fully deployed by the start of the 2011 hurricane season. Current development work is focused on matching the system's security level to that of the online payroll attendance record system used by about half the county.

Meanwhile, the new application is being released to department directors only. By using that application, department directors can now view the location of county facilities and the division in which an employee works; that information helps to determine whether a specific employee is essential to various operations. According to Fuentes, "If you are not department essential, for example, you can be assigned to go out in the field in a POD [point of distribution]."

The system can be accessed from Miami-Dade's intranet by using Active Directory, which authenticates anyone attempting to log on as a county employee. When the directory is fully operational, non-management employees will be able to access only their personal information. A second log-on screen will authenticate managers seeking to view employee information. The new employee locator has yet to be used during a disaster. To date, the agencies involved in the pilot program have been working through a number of implementation scenarios and fine-tuning the information presented. Tests of the new tool will continue with upcoming tabletop exercises scheduled prior to the start of this year's hurricane season.

## New York **Indian Point Evacuation Plan Reviewed in Wake of Japanese Disasters**

The safety of the Indian Point nuclear reactor, located only 35 miles north of New York City – the most heavily populated area in the United States – is being reviewed in the light of the continuing disasters at the nuclear power plants along Japan's northeastern coast, and some U.S. safety officials are questioning the wisdom of operating a plant so close to New York City.

At the height of the Japanese nuclear crisis at the Fukushima Daiichi nuclear plant, in fact, U.S. Nuclear Regulatory Commission (NRC) Chairman Gregory Jaczko declared that a 50-mile evacuation zone should be established for use if a similar incident were to occur in the United States. His remarks, and those of other senior officials, have resulted in greater scrutiny of nuclear plants located near major U.S. population centers, with particular focus on the Indian Point nuclear station.

A 50-mile evacuation of the area around the plant would affect nearly 20 million people, and at least some experts believe that the logistics involved in evacuating that many people on short notice would be a mission impossible. Daniel P. Aldrich, a political science professor at Purdue University, said, for example, that "Many scholars have already argued that any evacuation plans should not be called plans but, rather, 'fantasy documents.'"



Indian Point's current emergency plans consist primarily of evacuating roughly 300,000 people now working and/or living within a 10-mile radius of the plant. A 20-mile radius, like that imposed in Japan, would require evacuating almost a million people. A 50-mile radius evacuation plan simply does not exist, though, and there has been little if any public discussion about developing such a plan.

The NRC is currently conducting a thorough safety review of a number of U.S. nuclear plants, and the Indian Point reactor is one of 17 under the closest scrutiny. When asked if Indian Point should continue operating, U.S. Secretary of Energy Steven Chu said, "We are going to have to look at whether this reactor should remain [operational]. ... It is an NRC decision," he continued, "but the NRC will be looking at that, I am sure, based on the events [in Japan]." Chu said that the current Indian Point evacuation plans also are being reviewed.

In 2003, then-Governor George Pataki ordered a thorough safety investigation of the Indian Point reactor. The subsequent report concluded that, "current radiological response systems and capabilities are not adequate to overcome their combined weight and [to] protect the people from an unacceptable dose of radiation in the event of a release from Indian Point."

Current New York Governor Andrew Cuomo recently called for the plant to be shut down. "It should be closed," he asserted. "This plant, in this proximity to the city, was never a good risk." Cuomo also expressed concern over the fact that the Indian Point reactor is located near an earthquake fault line. "The suggestion is that, of all the power plants across the country ... the Indian Point power plant is [the one] most susceptible to an earthquake because Reactor No. 3 is on a fault."

Indian Point currently supplies an estimated 30 percent or so of New York City's electric power. As of early April, no plans have been announced on ways to replace the city's power supplies if the Indian Point plant were to be shut down.

## Kentucky KOHS Keeps Eyes and Ears Open on Suspicious Activity

Kentucky is not the first place one would expect to see suspicious behavior, but instances of domestic terrorism such as the Oklahoma City bombing are a reminder that criminal activities are not confined to high-profile cities.

With vigilance in mind, the Kentucky Office of Homeland Security (KOHS) released an iPhone application (app) in early April that mirrors the "Eyes and Ears on Kentucky" website for reporting "suspicious activity." The free app is designed to allow citizens to send tips to the KOHS – anonymously if they wish – on any activity that may be linked to a terrorist act.

"Instead of having to wait until they got home to the desktop computer or laptop computer in accessing our website and then linking to the reporting portal," said Shelby Lawson, the KOHS deputy executive director of operations and prevention, "they could bring up that app on their iPhone and basically enter the same information while they are standing there watching the activity or looking at whatever it is they might see."

Among the more likely examples of activity that could be reported to either the portal or the app are seeing someone showing an unusual interest in a building's security system – more specifically, asking questions about how security measures are ac-

complished and/or how many people are involved in ensuring the facility's security. The "suspicious activity" list, Lawson said, might also include someone sketching the location, using a global positioning system to pinpoint a facility's coordinates, and/or displaying "more than the casual curiosity that tourists or sightseers would take in."

Concerned citizens can also report the presence of suspicious-looking parcels, packages, or other objects. When a report is submitted through the app or portal, a KOHS analyst reviews the information that has been submitted, and other relevant data, to determine if there seems to be a pattern of some type – repeated reports in the same location, for example, or similar reports in similar

*Among the more likely examples of activity that could be reported are seeing someone showing an unusual interest in a building's security system – more specifically, asking questions about how security measures are accomplished and/or how many people are involved in ensuring the facility's security*

locations. If such an activity is believed to be related to terrorism, the information is then forwarded to the Joint Terrorism Task Force of the Federal Bureau of Investigation (FBI). Some reports have already been submitted to the KOHS since the app's launch, but Lawson said that, because the app is free, the KOHS has received some innocuous information from users who may be attempting to "pull pranks."

The KOHS worked with a team from Kentucky.gov – the state's official website – to launch the Eyes and Ears on Kentucky Web portal and app; funding for the portal was supplied by a \$10,000 state homeland security grant; the app was "built free."

Kentucky is not the first state/local government to launch an app for the reporting of suspicious activity. In 2010, Dallas launched a smartphone app called "iwatch Dallas" that gives the citizens of that city a quick and easy way to report crimes as well as suspicious behavior that might possibly be linked to terrorism.

## **North Carolina Aerial Photography to Improve Statewide Emergency Service**

North Carolina is using a \$12.3 million grant to fund a statewide aerial photography project that will give emergency responders a common operating picture. In 2009, the North Carolina 911 Board awarded the grant to the Durham Emergency Communications Center on behalf of all counties for the N.C. Statewide Orthoimagery 2010 project, which was initiated to provide aerial images to all but a handful of counties throughout the state.

The North Carolina Center for Geographic Information and Analysis gathered the aerial images during the first four months of 2010. The images will be delivered to the counties by the end of this month, according to NCOneMap, a geospatial data resource website closely associated with the project.

According to a state report, the grant included funds for, among other things, the "acquisition of high-resolution aerial photos from digital cameras, processing into images that fit the Earth with accurate distances between features, quality control, packaging for delivery to all 100 counties, and online public access." Orthoimagery – loosely defined as the rectifying or "correcting" of aerial photos to provide more accurate images – is used to help identify the reference points used for pinpointing the exact location of calls made to 911 centers. Although individual counties have previously obtained fund-

ing for orthoimagery, using this still relatively new capability statewide is an almost unprecedented occurrence, according to Timothy Johnson, director of the Center for Geographic Information and Analysis, which manages the project. "This was the first time that something of this magnitude was funded by the 911 Board to include the entire state," he said.

Using funds for a statewide project as opposed to creating, and paying for, an individual project for each county is expected to result in significant cost savings, Johnson also said. One example of how such savings are achieved: If two neighboring counties are working on separate projects, the potential for overlapping data collection increases at least slightly, because counties often fly over county lines to take the photographs needed. By funding an integrated project, most if not quite all data redundancy is eliminated, and both time and money are saved.

Before the project started, the orthoimagery carried out in North Carolina was both inconsistent and patchy. Some counties had more recent orthoimagery to work with than others, Johnson said. If a county with updated information was geographically "next door" to a county using out-of-date orthoimagery, those responding to 911 calls often were working in an at least somewhat disjointed environment.

Worse still was the fact that, in some cases, crucial aerial images were not available when emergency personnel responded to a 911 call. "We have heard of instances where a call was coming in from an address related to the fire, but there was no fire," Johnson commented. "There was no house showing up on the imagery where the fire was supposed to be occurring."

The images acquired for the project will help the state's 911 centers respond both more quickly and more effectively during future emergencies, said James Soukup, director of the Durham Emergency Communications Center. "Location is the most critical piece of information in a 911 call," he pointed out. "Consistent statewide data ensures that all North Carolina residents will be better served by this project."

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