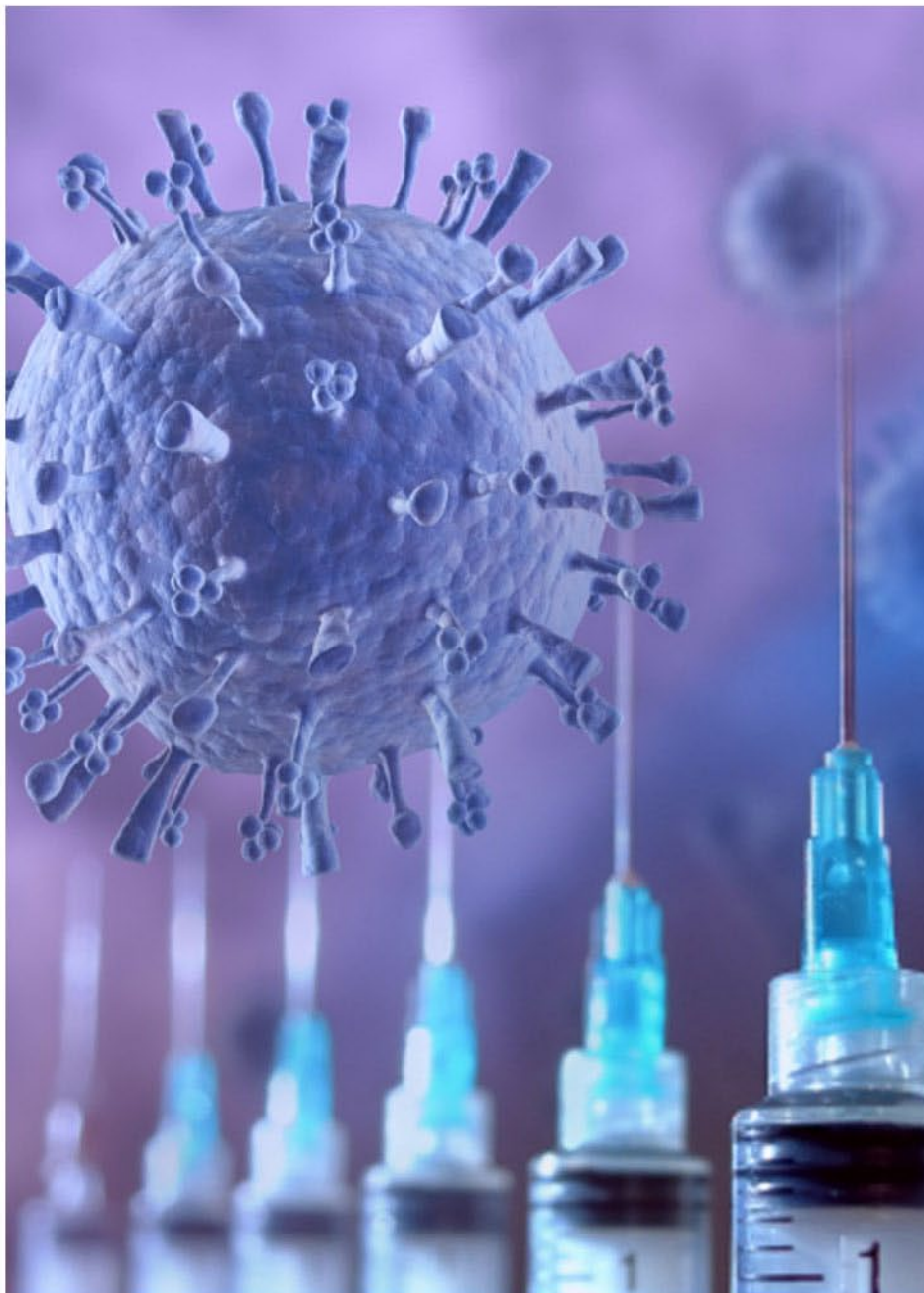


# Pandemic

## Preparedness and Response



**H1N1: Learning from a Less-Than-Worst-Case Scenario**  
By Craig DeAtley, Public Health

**Using Regulations to Neutralize Red Tape**  
By Joseph Cahill, EMS

**H1N1: A Lesson For Healthcare Preparedness**  
By Theodore (Ted) Tully, Public Health

**Pandemics Are In The Air**  
By Diana Hopkins, Standards

**DomPrep Survey**  
**Your Thoughts Compared with DomPrep40's National Experts on... Pandemic Preparedness & Response**  
Prepared by Dr. Paul Jarris, Executive Director, ASTHO  
Summarized by John F. Morton, DP40

**Using NHSS "To Minimize the Risks"**  
By Raphael M. Barishansky, Public Health

**Law Enforcement Pandemic Resilience: Time to Recalibrate**  
By Joseph Trindal, Law Enforcement

**A Mall Setting in Georgia for The H1N1 Vaccination Program**  
By Elizabeth Hausauer & Connie Russell  
Public Health

**Pandemic Preparedness: Advance Planning Is Mandatory**  
By JL Smither, Public Health

**Maine, California, Colorado, and Mississippi**  
By Adam McLaughlin  
State Homeland News

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## Editor's Notes

By James D. Hessman, Editor in Chief



The medical sciences have come a long way in recent years. There have been major improvements in preventive medicine, in treatment of the sick and injured, in drugs, pharmaceuticals, and medical equipment, in medical education, in sanitation, and in nutrition. The result has been a parallel improvement in the general health and well-being of almost all individual citizens and a steady – and continuing – increase in overall life expectancy.

All of these gains – which are, and should be, considered as progress – have a downside, though. The advances in communications over the past century, astounding as they are, have been paralleled by equally astounding advances in human travel – which means it is now possible for attendees at an international convention – in Washington, D.C., for example -- to inhale an invisible airborne disease and, a day or so later, take it home with them to Mumbai or Singapore or Barcelona. After that, the spread of the disease will be unstoppable.

What is even more frightening is that the medical laboratories of the early 21st century that have created so many new miracle drugs can also be used to manufacture both chemical and biological weapons and even some totally new diseases for which there is no known cure. Many emergency managers and military planners say, in fact, that biological weapons could be more lethal than nuclear weapons, for a longer period of time, and over a much greater area.

Several articles in this month's printable issue of DPJ take a close look at what might be called "the pandemic that never was" – i.e., the 2009-10 H1N1 influenza that was prudently, albeit inaccurately, categorized by the World Health Organization as a "global pandemic." Craig DeAtley and Theodore Tully view the pandemic as both a political warning and an "educational moment," pointing out that the next time around – and, let there be no mistake about this, there will definitely be a next time – the plans, preparations, and pharmaceuticals all must be in place well in advance. "After it starts" will be much too late, and the cost will be paid not only in dollars but also in the probable loss of millions of human lives.

Diana Hopkins follows up with an article focused on the mandate to improve – again, before the next pandemic – medical standards and medical gear and equipment, particularly personal protective equipment such as outer clothing, face masks, and respirators. Raphael Barishansky analyzes the recently published National Health Security Strategy and its implications for coping with future mass-casualty events. Joseph Trindal looks at pandemic preparedness from a "departmental" point of view; his bill of particulars and "lessons learned" recommendations for law-enforcement agencies apply with equal validity to the nation's healthcare, emergency management, and emergency medical services communities. JL Smither also analyzes the lessons learned, particularly their implications for the management and use of Strategic National Stockpile stores of medicines, medical equipment, and similar vital assets likely to be needed in future emergencies.

Rounding out the issue are closely related articles by: (1) Joseph Cahill (who analyzes the need for what is called the EUA (Emergency Use Authorization) rule, which provides a valid way to bypass the Food and Drug Administration's evaluation process in times of need); and (2) Elizabeth Hausauer and Connie Russell, who report on the innovative approach used by Georgia health departments to encourage and facilitate the H1N1 vaccination program for as many state residents as possible. The final words, as always, come from Adam McLaughlin, whose "States of Preparedness" section includes reports on recent homeland-security activities in California (a "practice" tsunami), Colorado (the 2010 Atlantic hurricane predictions), Maine (a simulated oil spill in Portland Harbor), and Mississippi (how to respond to a terrorist attack on a crowded sports stadium).

*About the Cover: Collage, by Susan Collins, of two iStockphoto subjects, one depicting a "Macro image" of H1N1 (Swine Flu) influenza virus cells; and one showing a flu vaccination. Both topics – the viruses and the vaccinations – are covered in detail in this month's issue of DPJ.*

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# H1N1: Learning from a Less-Than-Worst-Case Scenario

By Craig DeAtley PA-C, Public Health



Millions of people throughout the world became ill during the H1N1 (“Swine Flu”) global pandemic, and tens of thousands of them eventually died. Appalling as those numbers might be, they are well below the worst-case predictions of both the World Health Organization (WHO) and the U.S. Centers for Disease Control and Prevention (CDC). As might be expected, therefore, there already has been some criticism not only of how the pandemic was handled but also of the high cost of developing and producing millions of vaccine doses that, in hindsight, turned out not to have been used.

The criticism would be much greater, of course, if the worst-case predictions had been accurate and the vaccine doses had been produced in more limited quantities.

Hospitals and other healthcare facilities throughout the United States and overseas have in any case learned several valuable lessons that can be applied to future infectious-disease outbreaks (as well as, not incidentally, to various types of mass-casualty incidents). Following is a brief summary of *some* – but by no means all – of the more important lessons learned from the H1N1 pandemic by the District of Columbia Emergency Healthcare Coalition (DCEHC), an organization composed of private-sector and government members of the healthcare community in Washington, D.C.

## Personal Protective Practices Must be Effectively Addressed

To maintain a fully functioning hospital, skilled nursing facility (SNF), or medical clinic it is vitally important to protect the staff from contagious risks incurred by caring for those who are ill. The mainstays of healthcare-facility protection from H1N1 included the receipt of FDA-approved vaccinations and the use of respiratory protective masks. In the District of Columbia lessons on both the vaccinations and the protective masks were provided.

Initial concerns about the safety of the vaccinations, caused some staff members to ask themselves if they really wanted such protection; those concerns had to be, and were, addressed by trusted facility leaders. However, the supply of vaccine initially available was insufficient to administer to all at-risk staff members; that problem resulted in the need for each facility to establish its own priority administration plan. The inability to vaccinate everyone, immediately, raised understandable concerns among those who were *not* among the first to receive the vaccination. Patient-care staffing assignments also had to take that same risk into account.

The staff use of protective masks also provided several important lessons learned. The official CDC stance on use of the N95 mask most frequently used resulted in a very large number of masks being required and led to shortfalls when vendors were unable to keep up with the demand – leaving hospitals to “make do” with whatever improvised solutions they could develop on their own. The DCEHC helped to facilitate resource-

sharing – of both vaccine and masks – among the hospitals and other healthcare facilities. The District of Columbia Department of Health (DCDOH) also was very helpful – by, for example, using its warehouse supply to augment the supplies of those facilities in need of masks. Compounding these logistical issues were: (a) staff hoarding; and (b) the use of N95 masks even when not required, despite several administrative and educational messages to the contrary.

### **Sharing Resources – Written Mutual-Aid Agreements Mandatory**

The importance of having a mutual-aid agreement in place that addresses resource sharing was reinforced by the H1N1 outbreak. Fortunately, a standing agreement among hospitals in the D.C. area was already in place and used; a more comprehensive Coalition MOU (Memorandum of Understanding) that included the clinics and SNFs had been recently crafted but had not yet completed the approval process. The sharing of resources that did occur highlighted the fact that an effective agreement should include information on how items can be requested and delivered to the requestor; and how usage costs are to be met.

### **Public Education and Risk Communication Messages Are Vital**

The H1N1 experience also reinforced the importance of effective public messaging and risk communication to lessen the possibility of overwhelming medical community resources. Although complete data is not yet available, initial indications strongly suggest that a number of emergency departments across the city saw large numbers of patients with signs and symptoms of the flu – but who did *not* absolutely have to be seen. Information messages on when to be seen vs. when to stay at home were not available early in the outbreak nor routinely played on TV or radio stations. Also contributing to the number of unnecessary emergency department visits was the fact that a high percentage of the local population not only did not have a private physician to consult but also did not use an available published non-emergency number (311) to call for medical advice.

Whether for an infectious disease outbreak or for transportation – or even because of a terrorism-related mass-casualty event – public messaging must be started early, then repeated often, and effectively.

### **The Department of Health Must Lead Effectively**

During a public health emergency the local Department of Health will be responsible for providing leadership and staffing involving a number of activities – including but not limited to epidemiology investigations, laboratory testing, public messaging, and citizen vaccination campaigns. In addition to effectively focusing on these responsibilities, the DCDOH routinely shared vital information via teleconferences, face-to-face meetings, and use of the coalition’s web-based information sharing system (also known as HIS). DCDOH officials also regularly consulted with the coalition’s duty officer and other healthcare community leaders to collaboratively identify and resolve various response issues.

### **Care of the Homeless Sick Is an Urgent Priority**

Many homeless people were among those who were (or thought themselves to be) ill with the flu and were seen in the emergency departments. The discharge of homeless patients who did not require admission was slowed, though, by having to find a suitable place for them to go. One option, sending them back to the street, was simply not acceptable in many cases. Thanks to the assistance of the DCDOH, two shelters (one male and one female) with limited patient-care capability were found that were willing to accept the homeless sick. (Finding transportation to take them to the shelters was another issue that also needed some creative thinking; hospital-provided cab passes, combined with private transportation – usually arranged by the DCDOH – became the answers most often employed.)

In short, the H1N1 outbreak provided medical communities nationwide not only a major challenge but also a real-life opportunity to exercise their emergency plans. The District of Columbia Emergency HealthCare Coalition learned, from experience, the value and importance of prior integration, collaboration, and communication as the coalition members responded to the numerous challenges associated with the outbreak of an infectious disease.

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# Using Regulations to Neutralize Red Tape

By Joseph Cahill, EMS



One of the principal responsibilities of the U.S. Food and Drug Administration (FDA) is to keep the public safe from untested medical devices and medications. The FDA does this by, among other things, requiring rigorous testing to prove

the efficacy and safety of those devices and medications; this important process sometimes takes years to complete, though, and there are some situations when such an extended period of time is simply not available.

When the nation is faced, for example, with an imminent disaster, such as a rapidly spreading disease of unknown origin, the last thing the public will accept is a “cure” being withheld because of what is often described (inaccurately) as “bureaucratic red tape.” This is the basic concept behind what is called the Emergency Use Authorization (EUA) rule.

The EUA rule can be used to cope with a specific threat from a specific agent – biological, chemical, radiological, or nuclear. The threat need not evolve into reality for the EUA order to be issued, because the rule postulates that an order can be issued if there is a significant *potential* of a lethal threat becoming a reality.

The determination that a threat or future threat from a specific agent rises to the level needed for use of the EUA rule is made by the secretary of any one of three major federal departments: Defense (DOD); Health and Human Services (HHS), or Homeland Security (DHS).

The goal of the EUA rule is to save lives during a national crisis by allowing the use of a product that has not yet received final FDA approval. There are two important conditions attached, though: the known and potential benefits of the product must, insofar as can be determined, outweigh the known risks; and there must be no approved alternative already available. In addition, the FDA commissioner must establish the essential criteria and circumstances under which the new product can be used.

Because the EUA ruling is made only in response to a life-threatening emergency, the decision to allow the use of a product that has not yet received final FDA approval is obviously not without risk. That risk is covered by the Public Readiness and Emergency Preparedness Act of 2005, which covers care providers as long as they follow the recommended-use guidelines provided by the FDA.

## A Timely Example: N-95 & the WHO-Declared Pandemic

The threat posed by the 2009 H1N1 strain of influenza provides a useful example of how the rule can be implemented. The H1N1 strain threatened in its early stages to be the next deadly strain of influenza and was, in fact, declared by the World Health Organization to be a “global pandemic.” Fortunately, the U.S. public health and medical communities had been preparing for a number of years to meet such a challenge – when (but not if) it became a reality.

One of the most effective weapons used to contain the H1N1 virus was a new face mask, the N-95 respirator, which had not yet received final approval from the FDA. An N-95 respirator is able to filter out very small particles – including particles on the scale of many viruses. It has been authorized, under the EUA rule, for use in medical and emergency services settings to prevent staff-to-patient and patient-to-patient transmission of respiratory-borne diseases.

Section I of the FDA’s letter of authorization spelled out the entire justification for the EUA: 1. the H1N1 2009 virus is potentially life threatening; 2. the totality of available evidence indicates that the potential benefits of using an N-95 mask outweigh the risks; and 3. there is no available and fully authorized alternative.

The FDA used that rationale, as spelled out by law, to authorize the distribution of N-95 respirators, with accompanying fact sheets, to the healthcare community and the general public; included in the EUA rule was information about possible distribution from the supply of N-95 masks stored in the Strategic National Stockpile.

Use of the EUA meets the needs and expectations of the general public, while at the same time respecting and maintaining the rule of law. The latter may seem to some to be a relatively small consideration when the nation is staring into the abyss. However, there is always a day of reckoning, and those who act in good faith to protect their fellow citizens should be protected by that same rule of law – whether their decisions affect, and protect, the nation as a whole, or just the individual patient.

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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.*

# H1N1: A Lesson for Healthcare Preparedness

By Theodore (Ted) Tully, Public Health



Since the early part of this decade U.S. healthcare agencies have been wondering not if but when the next major pandemic will hit. The concerns raised by the 2002-03 SARS (Severe Acute Respiratory Syndrome) virus, and by several avian flu outbreaks, resulted in billions of dollars being spent, in the United States alone, to improve the nation's preparedness to cope with infectious diseases. Although several models to cope with such pandemics have been proposed, the reality of how hospitals, patients, and society at large will react – when such outbreaks occur – has been, to date, mostly educated guesses.

Related discussions – of how today's hospital staff would react, for example, to the possibility of bringing such viruses home with them, and/or how healthcare institutions would be able to supply services if a high percentage of the medical staff is ill – cannot truly be known until those events actually occur. Among the many other pandemic unknowns are how hospitals will be able to remain operational if their supply chains are disrupted for an extended period of time, or if essential resources (ventilators, for example) are in such great demand that they must be rationed out to viable patients.

Emergency healthcare planners at the local, state, and federal levels of government have engaged in countless hours of debate on such pandemic-related topics over the past few years. Nonetheless, there are few if any certain answers to any of these or other “unknown” issues. Most of the contingency plans that have been developed to date are still based, therefore, on how citizens in Canada, China, and/or other nations reacted to the previously mentioned SARS and/or avian flu outbreaks. Many assumptions in the U.S. pandemic planning literature, in fact, are little better than educated guesses – based in large part, moreover, from the so-called Spanish Flu global pandemic in 1918, which lasted two years and killed anywhere from 50 million to 100 million people throughout the world. (Its exact origins and the

number of victims worldwide, and other relevant information, are still unknown.)

## H1N1: An “Educational Moment” In Preparedness?

The long-running uncertainties about the latest global pandemic could change very rapidly, though – starting now. By closely studying the current H1N1 (“Swine Flu”) outbreak the United States could use it as a more recent, and much more precise, example of how the nation's healthcare institutions are likely to be affected by another pandemic more virulent in its intensity than the H1N1 outbreak

– which, although officially declared by the World Health Organization (WHO) to be a global pandemic, did not kill nearly as many people as the Spanish Flu did. The H1N1 virus did, though, involve a number of ancillary issues that other recent flu outbreaks had not fully addressed – but that are definitely worth studying.

To begin with, the H1N1 virus was, from the beginning, a *news* event that resulted in many major U.S. cities closely monitoring local flu outbreaks on an almost hourly basis. It also: (a) produced surges of hundreds of patients – many of whom were somewhat dismissively categorized as “the worried well” – who presented themselves to emergency rooms throughout the country in unprecedented numbers; and (b) tested the ability of the nation's pharmaceutical

industry to isolate the H1N1 virus, develop a viable vaccine to counter it, and produce and distribute millions of doses of that vaccine – all within a very tight time frame.

Most important of all, perhaps, particularly in the United States, is that the H1N1 outbreak also revealed weaknesses in the plans that had been developed to distribute the limited quantities of vaccine initially available to specially targeted groups – e.g., children, pregnant women, healthcare workers themselves, and other first responders. The problems inherent in the *national* U.S. system of

*There are few if any certain answers to any of the “unknown” issues; most contingency plans that have been developed to date are still based, therefore, on how citizens in Canada, China, and/or other nations reacted to the previous SARS and avian flu outbreaks*



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distribution and tracking of vaccines resulted in turn – largely because of the limited supply – in creation of a new plan that differed, sometimes significantly, from one state to another. The evidence is not yet complete, of course, but at present it seems likely that the system’s inconsistencies were at least partly the result of the federal government’s reliance on state health departments to distribute and track the potentially harmful side effects (of the outbreak, and of the vaccine).

## **Mistakes, Misunderstandings And Miscalculations**

By the WHO’s definition, the United States is still struggling its way through the two-year 2009-2010 flu season. After the H1N1 outbreak is “officially” over, though, and a more complete, as well as more accurate, assessment of the national and global response efforts has been developed, many valuable lessons will undoubtedly come to light. The most important of those lessons, it seems likely, will be how well (or how poorly) the national healthcare system, and the system’s regulators, handled the pandemic. If decision makers at all levels of government learn those lessons, and revise – i.e., improve – the nation’s healthcare system accordingly, the mistakes, misunderstandings, and/or miscalculations evident during the 2009-2010 outbreak will not be repeated before and during the next pandemic.

In other words, the mistakes, large and small, made in dealing with the H1N1 virus could and should be clearly understood by healthcare planners – and by political decision makers – as *warnings* that, if heeded, could save countless lives during future pandemics.

One obvious example of such warnings involved the allocation of limited tools – e.g., anti-viral medications and vaccines – to fight the pandemic. If the pandemic had been deadlier – and/or if it had spread in a different way – the political and public pressures for the vaccine would have been much more intense. Some states – New York, for example – required their healthcare workers to be vaccinated, but other states did not (partly, it seems evident, because of the political pressure exerted by labor unions). If nothing else, this inconsistency showed what could and probably would happen in the United States, during future pandemics, if the federal government tries to require its healthcare workers to be vaccinated.

## **Isolation Problems & Contingency Plans**

Another issue that must be resolved well ahead of time is that the patient surge into some hospital emergency rooms, generated by H1N1 fears, created significant “isolation” problems. There was a unique challenge to hospitals experiencing such surges on how to segregate the “real” flu patients from the “worried well” and other patients presenting themselves with non-flu symptoms. Most of the hospitals confronted with flu surges were not fully ready to cope with such a sudden influx of additional patients; even those hospitals with a well planned flu-response policy were overwhelmed at times.

Fortunately, a few creative ways were developed to address all aspects of the pandemic – from the screening and rapid triage of patients to the use of non-emergency spaces – but concerns about EMTALA (Emergency Medical Treatment And Labor Act) issues, as well as the demands for flu testing, were nonetheless intense at these facilities. The lessons these hospitals and other healthcare facilities lived through should be closely studied, therefore, and workable systems developed to cope with similar “surge” events in the future.

The H1N1 virus may return as early as the next flu season, perhaps – or a more virulent and deadly pandemic may take its place. Again, the question is not “if” but “when.” Most public health emergency planners believe that the United States is long overdue for a truly major outbreak of some type of infectious disease. Until that happens, though, U.S. hospitals and other healthcare facilities would be well advised to take very seriously the warnings issued and lessons learned from the past/current flu season – starting, perhaps, with ventilators, vaccine supplies, and staff shortages – and apply them to their future planning initiatives as soon as possible so that they will not only serve as an effective model for the United States but an example to the rest of the world as well.

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# Pandemics Are In The Air

By Diana Hopkins, Standards



A pandemic event is one in which disease quickly causes death or illness in a great number of people throughout a fairly large area of the world.

A primary action recommended in pre-tested pandemic emergency response preparedness and response plans is that responders ensure they are themselves vaccinated early, and that they have both the training and the equipment needed to control infection and protect the public as well as themselves.

In the United States, 30-50 million people are affected by flu viruses between November and March each year, and influenza epidemics result in about 35,000 deaths per year. Normally, flu viruses undergo some genetic modification each year, which means that some people are resistant or immune to infection, but others are not. The number of people affected increases dramatically when influenza A-type viruses undergo *major* genetic change; an obvious example is the current swine influenza-A (H1N1), which is a virulent mix of swine, human, and avian influenza viruses. Such viruses cause pandemics because most humans have little or no immunity to this novel virus, so the viruses pose a threat to those who are immuno-compromised as well as to those with healthy immune systems.

Because of the highly contagious nature of influenza viruses, first responders must be equipped with response and equipment training as well as appropriate respiratory protection. In fact, this is required under the respiratory protection standards mandated by both OSHA (the Occupational Safety and Health Administration) and NIOSH (the National Institute of Occupational Safety and Health).

## Droplets, Particles, and Magenta Markings

Influenza is spread primarily through contact with respiratory secretions from the coughing and sneezing of an infected person. The viruses are initially airborne, but then settle in

as droplets on the surfaces of the upper respiratory tracts of persons in the vicinity. When properly fitted, an appropriate respirator can protect emergency responders from the inhalation of infectious airborne droplets.

What is called the “P-100” respirator provides the highest level of aerosol protection, compared with other particulate (i.e., aerosol) respirators. This type of respirator is known as an air-purifying respirator, because it protects the responder by filtering particles out of the air as he/she

breathes. However, these respirators protect the wearer only against particles such as airborne biological agents – e.g., bacteria and viruses – but not against gases or vapors.

The “100” in the respirator’s name indicates that, when tested, the respirator filtered out at least 99.97 percent of the airborne particles present. The “P” in the name indicates that the respirator is strongly resistant to oil – i.e., it is “oil proof,” which is recommended because emergency responders often operate in rugged and unknown environments that may possibly contain filter-destroying oils. At a minimum, therefore, responders in the field should wear P-100 disposable respirators for respiratory protection from influenza. Or they can use a respirator with an even higher level of respiratory protection, including full- or half-facepiece air-purifying respirators (APRs) or powered

air purifying respirators (PAPRs) fitted with a HEPA (high-efficiency particulate-absorbing) filter/canister.

These respirators are consistent with the NIOSH and OSHA standards. In addition, they also must be marked with the manufacturer’s name, the part number, and, most important of all, a NIOSH marking. It also is important to note that the rubber/elastic components that seal the respirator to the wearer’s face must be equipped with two or more adjustable

*The number of people affected increases dramatically when influenza A-type viruses undergo major genetic change; an obvious example is the current swine influenza-A (H1N1), which is a virulent mix of swine, human, and avian influenza viruses – such viruses cause pandemics because most humans have little or no immunity to this novel virus*

suspension straps – lacking those, it would be impossible for the responder to maintain a protective respirator seal in what are sometimes rugged and/or unknown environments. To make the P-100 respirator easily recognizable in the field, NIOSH has designated only that respirator type with magenta color coding and markings.

There are two important points to keep in mind with regard to using respirators during a pandemic. The first is to understand and appreciate that there is never a guarantee of complete protection. With appropriate training, though, along with proper gloves and eye protection, the emergency responder can be reasonably confident that a high level of protection is likely when he/she is wearing the proper equipment. Nonetheless, emergency responders must continue to practice other preventive measures, such as being vaccinated each year, and giving proper attention to respiratory hygiene. Both measures can significantly reduce the influenza death rate among not only first responders but also the people they are helping.

The second point for responders to keep in mind is that the need for disposable respirators during a pandemic may well surpass the supply available. As part of the planning process, therefore, measures must be taken early first to predict the number of respirators needed for a worst-case situation and then to stock up on the quantities likely to be required.

Note: A list of manufacturers/suppliers and model numbers of P-100 disposable respirators is maintained by NIOSH at [http://www.cdc.gov/niosh/npptl/topics/respirators/disp\\_part/p100list1.html](http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/p100list1.html).

*Diana Hopkins' consulting firm, "Solutions for Standards," [www.solutionsforstandards.com](http://www.solutionsforstandards.com), focuses on helping businesses navigate the complex standards development process. Hopkins is a 12-year veteran of AOAC INTERNATIONAL and former senior director of AOAC Standards Development. Most of her work since the 11 September 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 both technical administration and governance as well as in process development and improvement.*

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## DomPrep Survey

# Your Thoughts Compared with DomPrep40's National Experts on...Pandemic Preparedness & Response

Prepared by Dr. Paul E. Jarris, ASTHO Executive Director; Summarized by John F. Morton, DP40



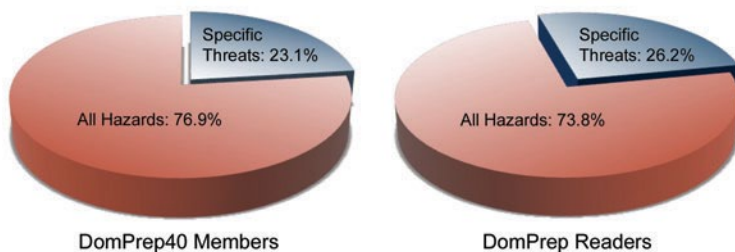
This DomPrep40 survey on pandemic preparedness and response, prepared by the Association of State and Territorial Health Officials (ASTHO) and its executive director, Paul E. Jarris, MD, MBA, indicates there is a possible fault line in current pandemic planning assumptions that may have to be addressed.

**Key Findings:** Both groups – the DomPrep40 and DomesticPreparedness readers – are in a three-way split over which level of government has the primary responsibility for pandemic flu planning and response. But nine out of ten respondents in both groups strongly believe that state and local levels lack the resources to respond to emerging infections.

### Here are the full survey results:

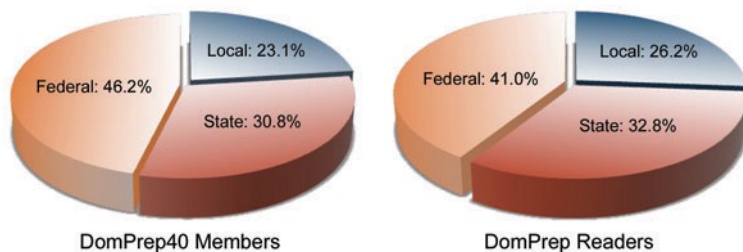
Plus-or-minus 75 percent of both the DomPrep40 and the DomesticPreparedness readers favor federal funding going beyond preparedness for specific pandemic threats to cover all hazards.

Should the federal government continue to fund specific threats, such as pandemic influenza, or broaden its public health funding to cover "all-hazards"?



Both the readers and the DP40 registered a mixed result – i.e., reached no consensus – as to whether the federal, state, or local government should have the primary responsibility for pandemic flu planning and response. On balance, though, both groups tilted to assigning that responsibility to the federal level.

Who do you believe should have primary responsibility for pandemic flu planning and response?



### The DomPrep40

The DomPrep40 is an interactive advisory board of insider practitioners and opinion leaders who have been asked to offer advice and recommendations on pertinent issues of the day. Focusing primarily on all-hazard preparedness as well as response and recovery operations, they will be challenged to provide quantifiable feedback that will be shared with the DomPrep audience.

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*Strategic Advisor*

#### James Augustine

*Chair, EMS & Emergency Department Physician*

#### William Austin

*Chief, West Hartford Fire Department (West Hartford, CT)*

#### Ann Beauchesne

*Vice President, National Security & Emergency Preparedness Department, U.S. Chamber of Commerce*

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*Senior Vice President, Disaster Services, American Red Cross*

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*Public Health Preparedness Director, Texas Department of State Health Services*

#### John Contestabile

*Former Director, Engineering & Emergency Services, Maryland Department of Transportation*

#### Craig DeAtley

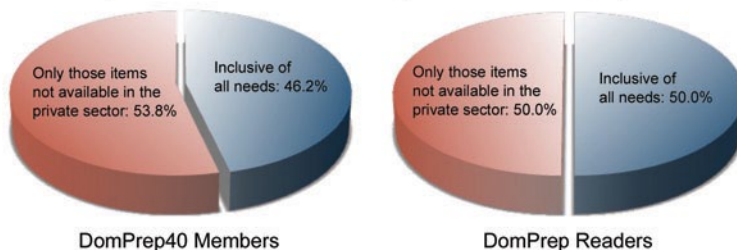
*Director for Institute for Public Health Emergency Readiness*

The table below represents the DomPrep40 responses to additional questions asked in the survey. Several conclusions, based on the answers indicated in the table, become evident, including the following: (1) on the whole, readers were less convinced than the DP40 were that the H1N1 vaccine campaign affords important lessons learned for future seasonal-flu vaccination efforts; (2) although seven out of ten DP40 members believe that the federal government should provide more guidance for state pandemic planning and response, somewhat fewer readers – six out of ten – share that opinion; and (3) roughly nine out of ten members of both groups members voiced their opinion that most if not all states and/or local communities lack the resources needed to mount an effective response to an emerging infection.

	Yes		No	
	DomPrep40 Members	DomPrep Readers	DomPrep40 Members	DomPrep Readers
Will the successes and lessons learned from the recent H1N1 vaccine campaign have a long-term impact on future seasonal influenza vaccination efforts?	84.6%	61.7%	15.4%	38.3%
Should the federal government provide more standardized prescriptive guidance to states for their pandemic planning and response?	69.2%	62.3%	30.8%	37.7%
The H1N1 pandemic demonstrated the responsibilities that each level of government has in a response to an emerging infection. Do state and local governments currently have sufficient resources to carry out their tasks?	7.7%	10.0%	92.3%	90.0%

It was a near-even split among the DomPrep40 over whether the Strategic National Stockpile should cover all needs required for an effective pandemic-influenza response, or those needs not met by the private sector. Among readers, the split was exactly 50-50.

Should the Strategic National Stockpile be inclusive of all the needs of a response to pandemic influenza or concentrate only on those items not easily accessible and abundant through the commercial supply chain?



## DomPrep40 Members

### Nancy Dragani

Former President, National Emergency Management Agency (NEMA), Executive Director, Ohio Emergency Management Agency

### Warren Edwards

Major General USA (Ret.), Director, Community & Regional Resilience Institute (CARRI)

### Katherine Fuchs

Deputy Chief FDNY Emergency Medical Services Command

### Ellen Gordon

Member, Homeland Security Advisory Council and Naval Postgraduate School Center for Homeland Defense Security

### Kay Goss

Former Associate Director, National Preparedness Training & Exercises, FEMA

### Steven Grainer

Chief, IMS Programs, Virginia Department of Fire Programs

### Jack Herrmann

Senior Advisor, Public Health Preparedness, NACCHO

### Cathlene Hockert

Continuity of Government Planning Director, State of Minnesota

### James Hull

Vice Admiral USCG (Ret.), former Commander, Atlantic Area

### Harvey Johnson, Jr.

Vice Admiral USCG (Ret.), former Deputy Administrator & Chief Operating Officer, FEMA

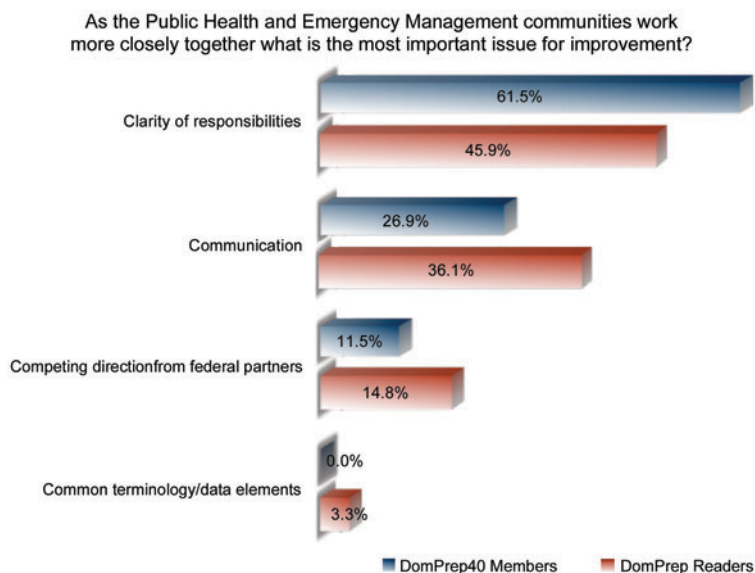
### Dennis Jones, RN, BSN

Executive Consultant, Collaborative Fusion Inc.

### Robert Kadlec

Former Special Assistant to the President for Homeland Security and Senior Director for Biological Defense Policy

Just under two-thirds of the DomPrep40 registered a belief that clarification of responsibilities between public health and emergency management is the most important issue needing improvement. A little over a quarter said the most important issue is communication. Slightly less than half of the readers agreed that responsibilities need to be clarified – but 36.1 percent pinged on communication.



To summarize: The DomPrep40 and DomesticPreparedness readers have registered a lack of consensus over what level of government should have the lead in pandemic planning and response. This absence of agreement among representative homeland security professionals suggests that all levels need to come together to reconsider both the topic and the strategy – especially in view of the group’s near-unanimous agreement on deficiencies in the state and local resources available for response.

The survey suggests that pandemic planning may have to assume more of an all-hazards cast – which would be a definite capacity challenge. Of equal importance, it seems, is that a policy approach that proposes to build out from individual household preparedness and into a YOYO (“You’re on your own”) alternative may have to be revisited. By default, should we conclude that it is the federal government that has primary responsibility for pandemic planning and response? We are left with one conclusion: This question begs further study as the administration moves forward with its biopreparedness plans.

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*Chairman & CEO, Executive Action*

### James Loy

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### Adam McLaughlin

*Preparedness Manager, Port Authority of NY & NJ (PATH)*

### Vayl Oxford

*Former Director, Department of Homeland Security’s Domestic Nuclear Detection Office (DNDO)*

### Joseph Pennington

*Senior Police Officer, Houston Police Department*

### Stephen Reeves

*Major General USA (Ret.), former Joint Program Executive Officer for Chemical & Biological Defense, DOD*

### Richard Schoeberl

*Former Executive, Federal Bureau of Investigation & the National Counterterrorism Center*

### Dennis Schrader

*Former Deputy Administrator, National Preparedness Directorate (NPD), FEMA*

### Robert Stephan

*Former Assistant Secretary of Homeland Security for Infrastructure Protection*

### Joseph Trindal

*Former Director, National Capital Region, Federal Protective Service, Immigration & Customs Enforcement (ICE)*

### Theodore Tully

*Director, Trauma & Emergency Services, Westchester Medical Center (Westchester County NY)*

### Craig Vanderwagen

*Former Assistant Secretary for Preparedness & Response, U.S. Department of Health & Human Services*

# Using NHSS “To Minimize the Risks”

By Raphael M. Barishansky, Public Health



The recently released (January 2010) National Health Security Strategy (NHSS) is the first comprehensive policy document focusing specifically on the nation’s goals of protecting people’s health in times of emergency. The U.S. Department of Health and Human Services (HHS) states that the purpose of the NHSS is “to guide the nation’s efforts to minimize the risks associated with a wide range of potential large-scale incidents that put the health and well-being of the ... [American] people at risk.”

The strategy not only sets priorities for both government and non-government activities during the next four years, but also includes an interim implementation guide listing actions expected to be taken within the next nine months.

In moving the strategy forward, the guide lists 10 objectives to achieve what it terms health security. Each of those objectives is significant in itself, and the entire strategy should be reviewed by career professionals as well as senior decision makers. However, for planning and operational purposes, public health agencies and organizations should pay particular attention to the following four objectives as they continue to transform their traditionally social-service organizations into response agencies and entities:

(1) Objective: Ensuring situational awareness so that responders are aware of changes in emergency situations. A situational-awareness capability is of particular importance to public health agencies to ensure they are fully aware of what is in place now, prior to any potentially harmful incident or event, so that when an incident does occur they have the ability to respond appropriately. The process of achieving such awareness can be defined in four steps: (a) Being able to understand the current situational environment, as well as present and/or imminent dangers; (b) Understanding the potential hazards inherent in the present environment but perhaps not yet apparent; (c) Acting to protect victims from incidents, events,

or potential hazards described in either of the first two steps; and (d) Communicating relevant information about such hazards to appropriate decision-making authorities and/or to the general public.

(2) Objective: Developing and maintaining the workforce needed for national health security. Achievement of this objective is and will be critical for public health entities both now and for the foreseeable future. Moreover, there are both emergency and non-emergency facets involved. Among the more important emergency facets is the fact that public health entities will have to ensure that there is a health-security ready workforce in place that includes

all levels of providers, supervisors, managers, and other executives. In the non-emergency area, the strategy should include a full understanding of the fact that the public-health workforce – including public health, health care, homeland security, and emergency medical services providers (a workforce that clearly is at the center of national health security) – has been shrinking in recent years and may become even smaller in the foreseeable future. This objective has become even more critical because of the current economic problems facing not only the federal government but also most state and city governments as well.

(3) Objective: Fostering integrated healthcare delivery systems that can respond to disasters of any size or

complexity. The NHSS plan specifically refers to communities being protected by coordinated health care systems. Such coordination implicitly includes the situation of an agency actively coordinated with its mutual-aid partners and both county and regional resources as well as area hospitals and other ESF (Emergency Support Function) partners such as emergency medical services (EMS) agencies and medical examiners. Agencies also must be aware of what “outside” resources are likely to be available at the time of a large-scale incident, and what gaps exist in regard to emergency preparedness and response – as well as what is being done

*The NHSS not only sets priorities for both government and non-government activities during the next four years, but also includes an interim implementation guide listing actions expected to be taken within the next nine months*



to address those gaps. Here it should be recognized that these findings, if fully documented, may translate into an increase in the quantity, and quality, of the exercises (tabletop, functional, and full-scale) scheduled as well as leadership actions on the state and federal levels that not only can reduce “territorialism” but also, and at the same time, enhance rewards for cooperative behavior.

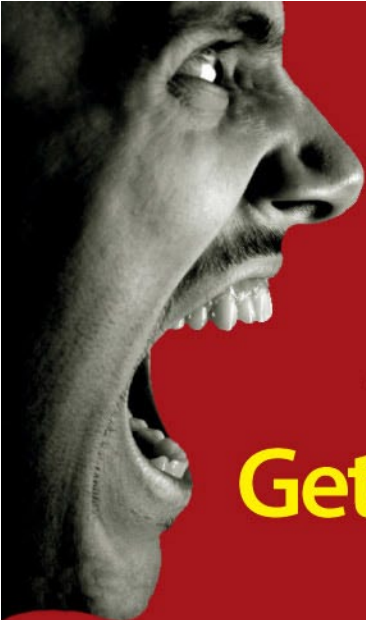
(4) Objective: Ensuring timely and effective communications. This is perhaps the most critical as well as most frequently criticized area of readiness (or the lack thereof), and many large-scale incidents are either “won” or “lost” because of effective communications (again, or the lack thereof). If nothing else, public health agencies at all levels of government should use a communications system that shares a common radio frequency, and – not matter what system is used – must have at least a few built-in redundancies. Those redundancies probably should include, but not necessarily be limited to, radio caches, 800 mghz radios, satellite phones, and amateur radio operators. In the last-named category there could and probably should be both ARES (Amateur Radio Emergency Service) and RACES (Radio Amateur Civil Emergency Service) units, both of which should be included in planning efforts and exercises.

As has been proved time and time again – most recently with the H1N1 pandemic and the Haitian earthquake, interaction with other healthcare partners might well spell the difference between failure and success in the handling of any major incident. In short, the NHSS probably should be considered as the federal government’s first (but by no means last) move in a continuing process to ensure that all healthcare agencies, at every level of government, are on the same page in terms of coping with large-scale public health emergencies. Those public health entities which are expected

to be at the tip of the spear in a health emergency should take notice – and whatever action is needed – based on recognition of that fact.

---


*Raphael M. Barishansky, MPH, is currently the Program Chief for Public Health Emergency Preparedness for the Prince George’s County (Md.) Department of Health. Prior to establishing himself in this position, he served as Executive Director of the Hudson Valley Regional EMS (Emergency Medical Services) Council, based in Newburgh, N.Y. A regular contributor to various journals, he can be reached at [rbarishansky@gmail.com](mailto:rbarishansky@gmail.com)*



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## Catastrophe Postponed – Temporarily

# Law Enforcement Pandemic Resilience: Time to Recalibrate

By Joseph Trindal, Law Enforcement



The World Health Organization (WHO) reports that cases of the 2009 swine flu – more formally known as the H1N1 global pandemic – have continued to decline in most areas of the world. Although initially compared to the Spanish Flu outbreak of 1918-20, which killed more than 50 million people in countries throughout the world, last year's outbreak was far less virulent than expected. In June 2009, WHO raised its pandemic warning evaluation to Phase Six, the highest level in over 40 years. Prompted by global criticism for overstating the severity, the WHO recently announced there would be a thorough review of the organization's handling of the H1N1 pandemic. Many public health agencies around the world also are re-examining their responses to the outbreak.

The H1N1 virus affected the operations of relatively few U.S. law enforcement agencies – but at least some of them developed plans for securing the Strategic National Stockpile of vaccine. On the other hand, the nation's healthcare community braced for a worst-case scenario, and several other agencies and organizations prepared and in some cases implemented proactive plans – for reducing social contacts at the workplace or in schools, for example, and arranging for vaccine distribution in anticipation of a more rapid spread of the pandemic.

Complacency may be one of the worst “end results” of the 2009 scare. Not only law enforcement agencies, but many other public-service sectors as well, may be inclined “the next time around” to downgrade the importance of pandemic planning and preparedness. Epidemiologists remain convinced, though, that the outbreak of a truly major pandemic outbreak is still only a question of time. In any case, with the potentially much greater impact of the 2009 flu still fresh in the public consciousness, now is probably the best time for law enforcement agencies (and other professional-preparedness communities) to create new plans, or at least re-examine and improve existing pandemic contingency plans. If nothing else, those plans, particularly in the law-enforcement field, should: (a) be realistic about their situational assessments and capabilities (and/or the lack thereof); and (b) consider the needs and concerns of other public-sector service agencies.

## **Teamwork, Cooperation, and Inclusiveness**

Logically, effective pandemic planning should start with assembling a strong team of knowledgeable, committed members and an examination of an agency's possible functional vulnerabilities during a pandemic event. Pandemics usually provide at least some advance warning as the disease spreads across a population area. However, the speed at which diseases spread is far greater today than it was in years past. The ease of global travel can spread a contagious disease from Asia to rural America in a matter of hours. Moreover, incubation and diagnostic “dwell times” make it possible for many if not quite all diseases to spread across several communities before the diseases are accurately diagnosed and typed.

Inclusion of the public health community in law enforcement pandemic planning can: (1) provide a more realistic understanding of pandemic conditions in the populations most likely to be affected; and (2) lead to a better inter-disciplinary appreciation of situational expectations and capabilities. Hospital and public health department plans are in most cases fairly robust, and usually will include a reasonable assessment of security expectations. The inclusion of schools and other relevant entities is almost equally important in the external planning process. A sheriff's department may and should prudently engage the local judiciary and prosecutor's office in its own pandemic planning. Judicial proceedings also are likely to be adversely affected by a pandemic event – there would be a need, for example, to isolate exposed defendants who are already in custody, and the jury pool probably would be much smaller.

Internally, functional vulnerability assessments should consider various branches in the departmental organization. Pandemic vulnerabilities in the sheriff's department differ considerably from those in the communications section. Both mission areas are vital to the organization; however, the risk of pandemic exposure is much greater in the detention setting. Each agency and internal branch or division will have unique vulnerabilities and priorities that must be addressed in a truly comprehensive pandemic contingency plan.

The individual law enforcement agency's overall Pandemic Plan should complement and mirror parallel public-health plans developed at the state, county, municipal, and/or tribal levels of government. For example, Florida's Pandemic Influenza Appendix reflects the Pandemic Severity Index (PSI) developed by the U.S. Centers for Disease Control & Prevention (CDC) as part of the state's own situational assessment; county law enforcement plans should therefore also include situational criteria mirroring those in the state plan. Keeping those plans as simple, consistent, and congruent as possible is another important guideline to emphasize.

Creating or improving the law enforcement-centric Pandemic Plan should reflect situational contingency elements relevant to each agency's individual vulnerabilities and priorities. These situational conditions are universal characteristics of a pandemic event. Situational conditions should include certain assumptions relevant to the agency. For example, it is generally assumed that a virulent pandemic event will degrade an organization's staffing by as much as 40 percent. Working under such a situational assumption will (or should) help frame the agency's preparedness and response actions.

### **Internal Factors, Resilience, And Logistical Considerations**

Internally, the law enforcement Pandemic Plan should cross-reference and ensure congruence with other related plans, such as the Continuity of Operations Plan (COOP), various crowd control/civil disturbance plans, and similar policy statements and policies. Fortunately, many of the internal and external consequences of a pandemic are similar to those encountered in other emergency situations. In addition, the congruence of plans greatly improves, and to some extent simplifies, the management of compounding or multi-modal events. It should be kept in mind, moreover, that a pandemic event in which public safety resources are already strained may provide an attractive opportunity for a terrorist attack that triggers civil anarchy and/or rioting by a fearful public.

*Epidemiologists remain convinced that the possibility of a truly major pandemic outbreak is still only a question of time – in any case, with the potentially much greater impact of the 2009 flu still fresh in the public consciousness, now is probably the best time for professional-preparedness communities to create new plans, or at least re-examine and improve existing pandemic contingency plans*

In the Pandemic Plan, as situational conditions hit closer to the locality, action items should reflect both mitigation requirements and heightened preparations. One example: If/when reports of pandemic infections are either national or regional, it might be prudent to consider the suspension of training and/or travel to and/or within the areas already infected. Moreover, as and when scenario-based staffing effects shift from possibility to reality, work-schedule changes as well as changes in leave policy may have to be considered.

The law enforcement agency's plan also should address the situational impact on assets critical to mission resilience. Human resources are almost always the most vital, and the hardest hit, during a pandemic. The Pandemic Plan therefore should address requirements for essential personnel and other staff members that may well mandate the ad hoc reassignment of at least some personnel to carry out essential functions. Some agencies already have some personnel cross-trained to perform communications functions in the event the staffing demand in communications centers requires immediate augmentation. The agency's human resources consideration also should include provisions for "social isolation" possibilities (to reduce the impact of contagion). Tele-commuting also may be a possibility – for at least some personnel. The prioritization and distribution of antiviral vaccines also should be factored into the preparedness plan. Pandemic flu situations frequently require adjustments to agency leave policies and administrative rules. To ensure consistency of command, the plan should clearly address the departmental line of succession – running deep into the ranks as and when necessary, and encompassing each critical functional unit. Fortunately, pandemic situational management is well suited to application of the federal government's own ICS (Incident Command System) policy guidelines and organizational structure.

Logistic considerations also must be factored into the plan. Law enforcement agencies should assign, to specific staff positions, logistical management responsibilities and actionable directions – both of which should be linked to certain situation-



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al triggers for the acquisition, distribution, and replenishment of essential items. Predictably, pandemic situations almost always increase the use and consumption of personal protective equipment (PPE) items – protective clothing in particular – that are likely to already be in short supply because of regionally high demands and/or disruptions in the supply chain. Fuel supplies also may be adversely affected. Recognizing that civil disturbances are always possible in times of a major disaster, law enforcement agencies also should consider the proactive distribution, in advance, of crowd-control equipment.

## **Communications – Including Facebook & Twitter**

The law enforcement Pandemic Plan should specifically address communications issues as well. Internally, communications considerations may include notification changes in the chain of command decision-making process. Changes in both situational reporting and decision-making may also change internally as well. One example: The frequency of reporting staff strength may increase dramatically. The same plan should address communications between the law enforcement agency and the community. In future pandemics, social networking tools such as Twitter and Facebook will undoubtedly play a greater role in keeping the public informed. Law enforcement agencies therefore should also consider how to best leverage social networking not only to improve their own situational awareness but also to serve as an effective tool for keeping the public informed. Interagency and interdisciplinary communications capabilities also are likely to be affected by situational contingencies, and therefore require updating and improving on a continuing basis.

The development and improvement of mutual-aid agreements between agencies and communities should be another high priority, as should be the sharing of resources – as and when possible. The severity of a pandemic usually varies considerably from one community to another within the same general geographic area. The Spanish Flu of 1918 hit Philadelphia much harder than it did Chicago, to cite but one example. Urban areas usually are hit harder by pandemics than rural areas are. Current mutual aid agreements should be re-examined, therefore, to determine if they are sufficient to address the full spectrum of pandemic realities likely to be encountered. Most mutual aid agreements already address the possible need of short-term situational resource augmentation; relatively few, though, focus equal attention on the longer term conditions likely in a major pandemic event. A comprehensive regional mutual aid plan that provides for both unified communications

and shared resources may resolve agency problems caused by depleted staffing levels. Similarly, inter-disciplinary pandemic provisional mutual aid agreements across police, fire, and EMS (emergency medical services) communities may be prudent for some and probably most jurisdictions. At present, few law enforcement Pandemic Plans factor the integration of state National Guard assets into the agency's mission areas.

The United States was fortunate that the 2009 flu outbreak had such a light impact. The law enforcement community was possibly the biggest beneficiary of the “failure” – if it can be called that – of last year's pandemic to live up to the worst-case expectations. Nonetheless, recognizing that the next true pandemic is only a matter of time, the current inter-pandemic period provides a window during which improved planning and preparations are and should be a very high priority. The nation's public health and medical communities already are applying lessons learned from the 2009 response to the pandemic; other disciplines should re-examine their response plans as well.

Law enforcement obviously plays a major role in *any* major event affecting the community. The next pandemic is likely to have a much greater impact on law enforcement than last year's H1N1 pandemic did. Improved preparations – through a combination of better and more comprehensive planning, training, functional drills, and interagency exercises – will be the best way to ensure the continued security and safety of the nation's communities, at all levels of government, against the next wave of microbial threats.

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*Note: The Spanish Flu (A/H1N1 strain) outbreak of 1918–20 claimed over 500,000 lives in the United States and, according to some authorities, anywhere from 50-100 million people worldwide. The Hong Kong Flu (A/H3N2) outbreak in 1968-69 claimed 34,000 lives in the United States and 1-4 million worldwide. The World Health Organization reported earlier this year that almost 18,000 deaths worldwide had been caused by the 2009 Swine Flu pandemic. Additional information on global flu pandemics is available in a report, *Influenza Pandemic Preparedness* (by K.F. Gensheimer, M.I. Meltzer, A.S. Postema, and R.A. Strakes) in the December 2003 issue of *Emerging Infectious Disease*. “<http://www.cdc.gov/ncidod/EID/vol9no12/03-0289.htm>”*

---

*Joseph Trindal is the Managing Director at KeyPoint Government Solutions Inc., and is in charge of the company's Infrastructure Protection Services. He also serves on the Board of Directors at InfraGard Nation's Capital Member Alliance. Trindal retired in 2008 from the U.S. Department of Homeland Security, where he had served as Director for the National Capital Region, Federal Protective Service, Immigration Customs Enforcement. In that post he was responsible for the physical security, law enforcement operations, emergency preparedness, and criminal investigations of almost 800 federal facilities in the District of Columbia, Northern Virginia, and suburban Maryland. He previously served, for 20 years, with the U.S. Marshals Service, attaining the position of Chief Deputy U.S. Marshal and Incident Commander of an Emergency Response Team.*

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# A Mall Setting in Georgia for H1N1 Vaccinations

By Elizabeth Hausauer & Connie Russell, Public Health



During the 2009 H1N1 pandemic, the county health departments serving Gwinnett, Newton, and Rockdale Counties – approximately one million people – leased store space at the Mall of Georgia in Buford to distribute free H1N1 vaccinations to the public over two weekends in the middle of December. The H1N1 vaccinations were available during normal business hours at local health centers, but the health departments wanted to target a portion of the population that might not normally visit a health department center.

The unique mall location was selected because it brought the vaccination effort out of the health centers and into a community setting where a large number of local residents were likely to be doing their holiday shopping. As District Health Director Dr. Lloyd Hofer pointed out, “We understand that people are busy trying to get their last-minute holiday shopping done and find it difficult to come to our clinics. We hope that by partnering with the Mall of Georgia we will make the vaccine easily available to those who are interested.”

At the beginning of the 2009 H1N1 vaccination efforts, a national vaccine shortage restricted vaccinations to certain high-risk target groups – defined by the U.S. Centers for Disease Control and Prevention (CDC). Working within the CDC guidelines, the Gwinnett, Newton, and Rockdale county health departments offered H1N1 vaccinations in the health centers during regular weekday business hours, on Saturdays in H1N1-only vaccination clinics, and at a large school-based community clinic.

As the national supply of vaccine increased, the health departments developed plans to maximize vaccination efforts by providing a clinic that would be open to all of those interested in being vaccinated. On 9 December, the Georgia Department of Community Health announced that the state would no longer place restrictions on H1N1 vaccination groups. At the same time, a short-term lease agreement was executed with Simon Malls by the county

health departments. Because planning was already underway to provide a vaccination clinic at the Mall of Georgia in mid-December, the health departments’ leadership felt that the clinic should be scheduled immediately to reach as many members of the community as possible before demand declined.

## Press Releases, Plus a Panda, Plus Pre-Loaded Syringes

To notify the community quickly of the free H1N1 vaccination clinic, the health departments’ Public Information Officer

sent a press release, targeted to reach the metropolitan Atlanta market, to the local internet, television, and newspaper media. The press release also was e-mailed to over 400 community partners, who were asked to share the information as widely as possible. Signs in the mall not only advertised the clinic location but also emphasized its most important selling point: “Free H1N1 Vaccinations Here.” A staff member dressed as “Panda McFlu” also attracted a lot of attention to the clinic and provided entertainment to clients who were either waiting in line or being vaccinated.

To organize clients and offer information about various vaccination options, greeters stood at the entrance to the line and distributed clipboards containing Vaccine Information Statements and consent forms (in both English and Spanish). Nurses and other staff members answered questions for clients in line. Allowing clients to complete the forms while in line prevented what might have been a long backup inside the store. Staff members verified that consent forms were completed correctly before the clients moved into the store space to be vaccinated; data entry into Georgia’s immunization registry was carried out later. Six nursing stations (a maximum of two nurses at each station) were set up inside the 1,400-square-foot store space. Stations also were set up to: (a) pre-load the clipboards with forms; (b) copy insurance information; and (c) pre-draw the vaccine into syringes.

*The mall location was selected because it brought the vaccination effort out of the health centers and into a community setting where a large number of local residents were likely to be for another reason entirely – doing their holiday shopping*



The clinic operated under ICS (Incident Command System) guidelines, using a Point of Dispensing (POD) manager and section leads for operations, planning, nursing, and logistics. Using approximately 25 people per shift, the staff and volunteers participating administered 5,900 H1N1 vaccinations over a total of 52 hours – but had the capacity to serve many more. The final statistics – based on time-tracked data and client self-reporting – showed that the wait from the end of the line through the vaccination process was never greater than 15 minutes, even when the line passed multiple stores. Connie Russell, District Program Director as well as 2009 H1N1 event Incident Commander [and co-author of this article] said that, “We learned that we could vaccinate a large number of people in a very small space with relatively few staff. This was very different from our large-scale clinic in a school setting that was heavily staffed and resource-intensive.”

### The Cost & Community-Service Equation

This type of dispensing setup worked very well for H1N1 vaccinations; however, the health departments’ leadership does not view the same type of setting as ideal for chargeable services – e.g., routine immunizations and seasonal influenza vaccinations. Exchanging money and providing several different types of vaccines not only would require additional supplies – cash registers and credit card readers, for example, as well as freezers and both computer and internet connectivity – but also would likely slow down the process that made the H1N1 clinic so successful. Moreover, the cost of leasing a store space could be prohibitive; however, the donation of the store space could be presented to mall management as a community service that would bring more potential customers into the mall.

“The use of private property in emergency situations requiring mass prophylaxis presents a unique set of challenges,” summarized Environmental Health Director Joseph Sternberg. “Many agents, such as anthrax, can cause persistent environmental contamination, rendering the property unusable. A prophylaxis campaign would likely result in lost revenue for the property owner ... [because] the stigma associated with the congregation of potentially contaminated individuals may dissuade clients from patronizing retail establishments on the property.”

The vaccination clinic at the Mall of Georgia was the largest individual vaccination clinic conducted by the Gwinnett,



A glimpse of the Mall of Georgia H1N1 vaccination store front space and nursing station set-up.

Photo courtesy of Gwinnett County Health Department

Newton, and Rockdale county health departments during the 2009 H1N1 influenza pandemic. Following the holidays, demand declined significantly and subsequent clinics had limited turnout. Nonetheless, the push-method distribution at the mall undoubtedly reached many members of the community who would not have been vaccinated in the county health department centers, and it provided a positive experience to many who had never used public health services.

*Environmental Health Director Joseph Sternberg, Public Information and Media Services Director Suleima Salgado, and Emergency Preparedness Coordinator Mark Reiswig all assisted in the preparation of the preceding article. Help and support during the 2009 H1N1 vaccination efforts were provided by the Medical Reserve Corps-Georgia East Metro and Director Sherwin Levinson.*

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*Connie Russell, (pictured) a graduate of Georgia State University – where she earned her masters degree in Psychological Sciences – was coordinator of the Early Intervention for Infants and Toddlers program at the health department prior to becoming district program director. She became supervising manager for the district’s emergency preparedness program in 2005 and served as operations chief for local public health response to Hurricane Katrina, an assignment that included support for American Red Cross sheltering, a Joint Resource and Recovery Center, and the National Disaster Medical System.*

# Pandemic Preparedness: Advance Planning Is Mandatory

By JL Smither, Public Health

A pandemic influenza outbreak can be mitigated with the proper planning and preparedness activities. However, jurisdictions must work well in advance of a threat to write and exercise plans. *Lessons Learned Information Sharing* has compiled and maintains numerous documents, plans, templates, and useful examples of successful preparedness activities that can help emergency planners and public health officials prepare and plan for the next pandemic threat.

From late 2006 through early 2007, the Office of Public Health of the Louisiana Department of Health and Hospitals carried out a series of tabletop exercises throughout the state. The exercises were designed to help regional partners discuss a pandemic influenza response and to determine, among other things, the optimum division of responsibilities as well as anticipated shortcomings, challenges, and overall expectations.

In one Louisiana region, exercise participants recognized that they had no regional continuity-of-operations plan in place. Such plans are considered essential to developing an effective response to a pandemic outbreak, because employees with response duties assigned to them may well be among those who become sick and/or are otherwise unable to work. To develop the plan needed, the region's leaders agreed to work with the state's Office of Public Health to determine which public health programs, departments, and positions would be most essential to the development and carrying out of a successful response. When that task is completed the region will develop a plan for keeping those specific programs running. Included in the plan, of course, will be the cross-training of employees in essential positions well *before* the onset of an actual pandemic threat.

Participants in another region focused, during the same statewide tabletop exercises, on issues related to the designation and use of alternate care sites. One problem identified was that no single group had clear guidance on what agency would be responsible for establishing and operating such sites. Public health officials in the region apparently had assumed that local hospitals would have that responsibility because the alternate care sites serve to alleviate overcrowding at hospitals. However, hospital officials believed that the alternate-care sites would be the responsibility of public health agencies because the hospitals would need the surge capacity themselves to support staff members and augment supplies at the main hospital. The two groups agreed to discuss the issue in greater detail and to develop clearer guidance well in advance of a future pandemic surge.

## The SNS, Legal Complications And the Missouri Compromise

The 2009 H1N1 influenza outbreak – officially classified by the World Health Organization (WHO) as a “global pandemic” – put previously developed preparedness plans to a real-life test, and many jurisdictions had to react very quickly to address issues previously overlooked. In April 2009, the U.S. Centers for Disease Control and Prevention (CDC) reported that a number of H1N1 cases had been confirmed in several states; by late May, the CDC announced the release of some antiviral drugs and PPE (personal protective equipment) gear from the Strategic National Stockpile (SNS) to help individual states respond to the outbreak.

In Missouri, the state Department of Health and Senior Services immediately activated its SNS plan and opened three regional distribution centers as well as one “receipt, store, and stage” site. Within just a few days, the department was prepared to distribute, throughout the state, the supplies received from the CDC. However, Missouri law requires that all distributors of wholesale prescription drugs be licensed by the Missouri Board of Pharmacy – a detail that had been overlooked in the SNS plan. Because local public health agencies were distributing and transporting the antiviral drugs, each local-level employee involved in the SNS plan would need a pharmaceutical license.

To address that issue – without further delaying medication distribution – the SNS plan manager contacted the Missouri Board of Pharmacy and obtained temporary one-year licenses for all local public health agency distributors. That action allowed the medications to be distributed throughout the state without any legal problems being incurred. (In addition, the department and board have agreed to work more closely together prior to the next SNS release to secure the proper licenses in the future.)

To briefly summarize: The key to an effective response to a pandemic is advance planning. Jurisdictions must therefore be prepared, well ahead of time, with solid, tested, and thorough plans before the threat of a pandemic evolves into reality. Some problems can be overcome quickly *during* a response but, as Missouri illustrated, other issues may stop and/or significantly delay response activities. For that reason alone, response plans must be exercised well in advance of their actual use, as was done in Louisiana, so that jurisdictions have the time that might be needed to correct and, if necessary, re-test and resolve any issues they encounter.

For more information on pandemic preparedness and plans, visit *Lessons Learned Information Sharing* at <http://www.llis.gov>.

# Maine, California, Colorado, and Mississippi

By Adam McLaughlin, *State Homeland News*



## Maine Oil-Spill Exercise Tests Response Crews

More than a dozen vessels were deployed off the New England coast on Wednesday, 24 March, for an exercise designed to test their abilities to respond to a massive oil spill at sea. What was officially designated as the “Spill of National Significance Exercise” in Portland Harbor was held 21 years to the day the tanker *Exxon Valdez* ran aground off Alaska, leaking 11 million gallons of crude oil in the nation’s worst-ever oil spill.

The *Maine Responder*, an oil-spill cleanup vessel, joined other purpose-built ships and small craft in wet, blustery weather to counter a simulated collision between an oil tanker and a ship carrying cars; the exercise scenario projected a spill of almost three million gallons of oil into the harbor. In reality, of course, there was no oil tanker, no car carrier, and no oil actually spilled. But the vessels and the “spill” were tracked with computers to measure the performance of more than 50 federal and state agencies and private organizations involved in various aspects of the scenario.

The exercise, which is held every three years, takes more than a year of planning, according to Coast Guard Rear Admiral Paul F. Zukunft, the service’s assistant commandant for capability. The Portland Harbor exercise was the first time the oil-spill drill has been held in New England – a region that has a lot at stake, Zukunft commented, with its rich natural resources and fishing and tourism industries.

More than 600 representatives from a broad spectrum of federal, state, and local agencies participated in the exercise, the results of which will be used by decision-makers in Washington to determine how best to respond to catastrophic oil spills. “A lot of coordination needs to take place at different levels, and this exercise brings all ... [of them] into play,” said Zukunft, who served as director of the exercise.

The “principal player” in the exercise was the *Maine Responder*, a 208-foot ship equipped with not only the numerous booms needed to contain and absorb spills but also fitted with the cleanup systems required to suck thousands of tons of oil out of

the water. The *Maine Responder*, which is berthed in Portland and tasked with responding to spills throughout the Northeast, was deployed in Portland Harbor with a number of smaller oil-boom and skimming vessels. Other vessels were deployed to strategic points in Maine both south and north of Portland, and still others had been dispatched to the waters off Boston, Mass., and Rye, N.H., to be in position for a spill spreading south to those areas.

More than 200 responders and emergency managers worked out of a command center that had been set up in a Portland Holiday Inn, where senior officials monitored and directed the ships. In addition to testing the capabilities of the vessels, the drill aims to test and evaluate the coordination among and between the numerous federal, state, and local agencies that would be involved in an actual spill.

The Spill exercises are mandated by the Oil-Spill Prevention Act of 1990, which was enacted by Congress in the wake of the *Exxon Valdez* disaster. Previous exercises have taken place in the waters off Alaska, California, Pennsylvania, and Texas, and on Lake Michigan.

## California Del Norte County Focuses On Tsunami Preparedness

A Northern California county is taking its natural disaster planning to the next level because of its geologic proclivity toward tsunamis. Del Norte County, a thinly populated enclave (fewer than 30,000 residents) in the far northwest corner of the state, tested citizens’ probable response time in the event of a “near-source” Cascadia subduction zone earthquake that could create a massive tsunami and potentially wipe out entire areas of the county – which is probably best known for its towering redwoods and fishing industry.

The “live-code evacuation exercise” – carried out on Wednesday, 24 March – was voluntary for residents and business owners, but also brought out many schoolchildren, senior citizens, and other voluntary participants from the county’s numerous “tsunami hazard zones” who would be seeking higher ground from a real tsunami. The exercise was held in conjunction with two other California counties

(Humboldt and Mendocino) just to the south; Del Norte was the only one, though, to hold a full-scale evacuation drill.

“This is a giant step for us – it is the first time that an exercise on this scale has been executed in a whole county that we know of,” said Del Norte County Emergency Management Coordinator Cindy Henderson.

An estimated 50 or so local, state, and federal agencies and organizations participated in the drill, as did the three Native American tribes (Yurok, Talowa, and Smith River Rancheria) in the area as well as the state and local media. A public-education campaign was launched three months prior to the actual drill, during which officials went door to door and discussed with residents their probable “risk factors.” Newly updated tsunami inundation zone maps – which were released statewide in December 2009 – highlighted areas that probably would be underwater in a worst-case scenario. In addition, citizens were forewarned of the drill well in advance and told that they probably would have only about 10-15 minutes to evacuate if and when a “near-source” quake hit the area.

“I have evolved into a real believer of activities that give people muscle memory of what to do in an emergency,” said Troy Nicolini, warning coordinator meteorologist in Humboldt County for the National Oceanic and Atmospheric Administration (NOAA). “I am not a believer in fear as a motivator – I think positive, community-based experience is powerful.”

From the emergency manager’s perspective, the principal benefit of the drill, probably, was the opportunity it provided to assess community awareness and identify weak spots in the warning system – which included sirens, TV and radio emergency broadcasts, a civil air patrol alert, and numerous checkpoints. A “live code” warning was issued to TV and radio stations by the Alaska Tsunami Warning Center at about 10:15 a.m., and the county’s tsunami sirens were activated at about the same time. Civil air patrols flew over the evacuation zones during the drill and broadcast instructions – frequently pointing

out, though, that the quasi-emergency activities were all just part of an “exercise.”

Senior officials involved in the exercise communicated with one another, and with other participants, via the California Law Enforcement Mutual Aid Radio System and cell phones. An unexpected kink that occurred during the drill, Henderson said, was AT&T’s disruption of service, which affected some area residents. “In a real event, that is going to happen anyway,” she said. “That is to be expected; it was kind of helpful.”

*The predictions for this year show that 15 named storms might form in 2010 in the Atlantic, eight may become hurricanes, and four could grow into powerful hurricanes with winds of at least 111 mph; viewed from another perspective, there is a 69 percent chance of at least one major hurricane making landfall on the U.S. coastline this year, vs. the long-term average of 52 percent*

## **Colorado** **CSU Releases 2010 Atlantic Hurricane Predictions**

The 2009 Atlantic hurricane season was relatively calm, but a much more difficult season is expected this year, according to Colorado State University (CSU) predictions issued earlier this month. Of the 15 tropical storms anticipated in the Atlantic this year, four might fall into the category of “powerful hurricanes.”

Two months before the official start of the Atlantic hurricane season on 1 June, the CSU researchers, led by William Gray, released their 2010 Atlantic hurricane season predictions – which are based on 58 years of reliable historical data. The predictions expect 2010 to be an above-average season, primarily because of cooler ocean temperatures in the Pacific and warmer ones in the Atlantic.

An average Atlantic hurricane season, which “officially” starts on the first day of June and ends on 30 November, sees an average of about 10 tropical storms, six of which have the potential to become hurricanes – with two of them growing into major hurricanes. In 2009 there were nine tropical storms, including three hurricanes, in the Atlantic. It turned out to be the quietest season since 1997, although early forecasts suggested that there might be as many as 14 tropical storms.

The predictions for this year currently show that 15 named storms might form in 2010 in the Atlantic, eight of them may become hurricanes, and four could grow into powerful

hurricanes with winds of at least 111 mph (178.6 km). Viewed from another perspective, there is a 69 percent chance of at least one major hurricane making landfall on the U.S. coastline this year, vs. the long-term average of 52 percent. Even more specifically, according to the CSU team's predictions, there are: (a) a 44 percent chance of a major hurricane making landfall on the U.S. East Coast (including Florida and the Gulf of Mexico oil patch), vs. a long-term average of 30 percent; and (b) a 58 percent chance of a major hurricane hitting the Caribbean.

A cautionary note that should be kept in mind, though: AccuWeather has predicted a potentially "extreme" hurricane season for 2010, with 16 to 18 tropical storms – almost all of them in the Western Atlantic or the Gulf of Mexico; five of them could escalate into hurricanes, two or three of them major. However, it is the Colorado State University predictions that are followed most closely by the energy and commodity markets. But, another cautionary note: the CSU team itself has repeatedly pointed out that its hurricane-activity forecasts are basically "best estimates" and not only can but frequently do turn out either higher or lower than expected.

## **Mississippi**

### **Southern Miss Develops Stadium Evacuation Modeling Software**

Developers at the University of Southern Mississippi are working on the software needed to model evacuation scenarios in the event of a terrorist attack at a crowded U.S. sports stadium. Using blueprints provided by actual stadiums, the Southern Miss developers are creating virtual 3-D "e-stadiums," packed with as many as 70,000 avatars – i.e., animated human-like "agents" programmed to respond to threats as unpredictably as live human beings might be expected to respond under the same circumstances. Security planners hope to be able to develop a plausible scenario to illustrate how 70,000 "real" fans probably would behave, and/or *mis*behave, when faced with a real-life security threat.

Scenes like this may sound like a trailer for a Hollywood thriller – but their grim purpose is all too real, and immensely important. Last year, the U.S. Department of Homeland Security (DHS) and the FBI issued a joint warning that terrorists, both homegrown and international, are apparently interested in attacking a crowded stadium during a major U.S. sports event. Such an attack, if successful, could have

extremely serious consequences. A bomb, or a noxious plume of lethal chemical or biological agents, activated over a crowd of captive sports fans could cause a major loss of life as well as serious and long-lasting injuries.

Stadium security personnel, increasingly mindful of that threat, have been developing plans in recent years to manage and minimize the anarchy that would follow such an attack. There are currently no fully credible answers as to how authorities would be able to quickly and safely whisk tens of thousands of people out of a stadium and onto the roads. For an evacuation on that scale, there is and perhaps never will be either a dress rehearsal or a practice drill – which means that simulation software may have to fill the gap.

By simulating how sports fans would behave in the minutes immediately following an attack, SportEvac (as DHS refers to it) will help security experts across the country plan and train in order to answer several key questions, including but not limited to the following: How can the stadium be evacuated in the shortest period of time? How can emergency responders get into the stadium while tens of thousands of fans are running out? How can stadium employees provide valuable information to responders and assist them as the evacuation unfolds?

Drawing on actual architectural data, the university's researchers are creating 3-D "virtual models" of seven of the state's largest college sports stadiums. This year, through summits and workshops, security teams from university athletic departments will test and refine SportEvac, with help from local police, the state's own homeland-security agents, the Mississippi Emergency Management Agency, and security specialists from professional sports organizations. The model then will be deployed to the seven state universities. After the schools have tested and approved it, the U.S. Department of Homeland Security's Science and Technology Division will make an advanced version available to other universities throughout the country, as well as to professional sports franchises and amateur sports organizations.

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