

# Emergency Preparedness in the Region: What Have We Done and What is Still Needed?



## POLICY RESEARCH INSTITUTE FOR THE REGION

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April 3, 2009

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*This Executive Summary of the proceedings offers an overview of the symposium.  
A recording of the conference may be viewed in its entirety at PRIOR's website  
[www.princeton.edu/prior](http://www.princeton.edu/prior).*

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The Policy Research Institute for the Region was established by Princeton University and the Woodrow Wilson School of Public and International Affairs to bring the resources of the University community to bear on solving the increasingly interdependent public policy challenges facing New Jersey, metropolitan New York, and southeastern Pennsylvania.

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# Introduction

Is our society ready for a major catastrophe? Recent large-scale disasters like Hurricane Katrina in 2005 and the September 11th attacks of 2001 have lent new urgency to the question. In the wake of both events, the nation and the region's emergency preparedness apparatus has been reformed and strengthened. But is this system good enough to handle the next event, be it a flu pandemic, a major storm, a terrorist attack, or some unforeseen threat? For the New York – New Jersey – Pennsylvania region, a major economic hub home to significant amounts of critical infrastructure, the question is particularly poignant.

To address these issues, the Policy Research Institute for the Region (PRIOR) at Princeton's Woodrow Wilson School of Public and International Affairs hosted on April 3, 2009 a conference entitled "Emergency Preparedness in the Region: What Have We Done and What Is Still Needed?" Convening experts from academia, the policy world, and the frontlines of emergency responders, the conference sought to assess the current state of emergency preparedness by sharing successes and identifying continuing weaknesses.

Many improvements were identified. Information-sharing practices have been mandated and clear lines of responsibility and authority have been established. Critical infrastructure has been hardened, and the public and private sectors have often collaborated effectively to plan for disasters and invest in systems to mitigate them. At the same time, however, numerous challenges remain. The nation's hospitals could buckle under a massive disease outbreak, the region's transportation systems remain vulnerable to attack, and the current economic downturn has undermined the ability of private businesses and local authorities to invest in emergency preparedness. The experts gathered at the conference unanimously called for more attention and resources for planning, preventing, and mitigating catastrophes.

# Emergency Preparedness in the Region: What Have We Done and What is Still Needed?

April 3, 2009

## Keynote Address:

### Homeland Security and Emergency Preparedness— The National Perspective

#### The Honorable Thomas Kean

*Former Governor, State of New Jersey and  
Co-Chairman of the 9/11 Commission*

Governor Kean began the conference by describing the foremost challenges before the nation, focusing particularly on terrorism. While acknowledging that al-Qaeda retains the goal of killing Americans at home and abroad, Governor Kean noted with cautious optimism that no major attack has been carried out since 2001. This success comes despite the certainty he, amongst others, felt that after September 11th another attack would occur in the United States within four or five years. The fact that it has not is “no small accomplishment,” attributable both to efforts to root out al-Qaeda abroad and to increase the security of American airlines, ports, visa processes, and other controls.

Still, the message Governor Kean emphasized was, “We are safer, but we are still not safe.” In Governor Kean’s view, much is still to be done to prevent another major terrorist attack on American soil, and he elaborated a detailed list of reforms and challenges that remain.

First, Governor Kean cited continuing challenges at the new Department of Homeland Security, created out of some 22 pre-existing agencies in the wake of the September 11th attacks. In many ways the new department has been a success, improving border security, allocating resources to the states more efficiently, inspecting almost 100 percent of arriving cargo for radioactive material, and tightening airport security. But significant challenges remain -- many of them organizational and bureaucratic. Incorporating 22 agencies with some 1 million employees remains a work in progress, Governor Kean noted, and information sharing between units—one of the most important recommendations to come from the 9/11 Commission Report Kean chaired—continues to lag.



*In his opening address, former NJ Governor Thomas Kean noted that while we are safer today than in 2001, there is still much to be done to prevent another major terrorist attack on American soil.*

After the 9/11 attacks, Congress unified the nation's intelligence gathering authority under the newly created Director of National Intelligence, as well as a National Counter-Terrorism Center. The intelligence community was also given an explicit mandate to share information amongst agencies and teams. While Governor Kean reported that there is "no question" that intelligence sharing has improved, more must be done, he argued. A particular challenge is to incorporate the 900,000 people in state and local law enforcement into the intelligence sharing effort. "The Department of Homeland Security has much work to do to harness the power of its army of law enforcement professionals," Governor Kean argued.

In addition, a number of newer challenges are quickly rising in importance. Cyber security is one. Military and civilian computer systems—electricity, the Internet, banks, airports,

hospitals—are all "highly vulnerable to attack." While President Obama has stated that cyber security is a priority for his administration, Governor Kean noted that the head of cyber security at the Department of Homeland Security recently resigned, citing a lack of resources. Other emerging challenges include cargo security, secure drivers' licenses and other identification documents, and public health preparedness.

But it is not just the national bureaucracy that needs to reform, Governor Kean argued, it is also the political oversight mechanism. Congress has been eager to reform the Executive Branch, but less eager to reform the "balkanized and overlapping" system of reporting and accountability. The Department of Homeland Security, for example, must report to some 88 Congressional committees. Rationalizing this process would remove administrative burdens from the agency while also improving the quality of Congressional oversight.

Governor Kean ended with a word of caution. Fighting terrorism requires the government to gain new tools to gather and process information, but balanced against these new capacities must be a proper respect for civil liberties. Governor Kean expressed particular concern for how the government used and protected the vast new amounts of information it is able to acquire. Though Congress has, following a recommendation from the 9/11 Commission, created a Privacy and Civil Liberties Oversight Board, that board has not shown it can adequately protect citizen's rights, Governor Kean argued. While the Board was strengthened by Congress in 2004—gaining, for example, subpoena power—the Administration and Congress have yet to nominate and approve new members. Governor Kean urged them to do so

expeditiously. “We need a strong government,” in an age of terror, “But we also need a strong voice within the Executive Branch on behalf of privacy, on behalf of civil liberties, because these two things, if we’re going to be successful, have got to be balanced.”

During a brief question and answer session, one audience member asked what use mass media could play in improving homeland security. Governor Kean responded that in the event of an attack, mass communications can be knocked out, and so are not reliable resources for responding to certain emergencies. Another questioner, noting that anthrax—which was used in a series of terror attacks against Congress in 2001—was originally developed in US laboratories, and wondered what could be done to prevent similar compounds from finding their way into the wrong hands. Governor Kean noted that since the time of anthrax, many more controls have been placed around sensitive laboratories.

A third audience member asked the Governor to suggest some concrete metrics to gauge whether the United States is in fact safer today. “How do you gauge success in emergency preparedness, and what’s the best measure or metrics that we can use to gauge success?” Governor Kean responded that the best metric was the number of attacks prevented, but also noted that when defending against terrorism, our inclination is to prepare for the last attack, not the next one. A large part of the reason the 9/11 attacks were so successful was because no one expected them or even imagined them beforehand. The government is preparing for nuclear terrorism, chemical or biological terrorism, and even cyber terrorism. The true challenge, Governor Kean concluded, is to be ready for the unexpected.



*Moderator Eric Kutner led a panel of experts discussing some of the changes that have been made to at-risk transportation systems, chemical facilities, food and water supplies, financial institutions, and government complexes.*

## Session I:

### Vulnerability of Critical Infrastructure—Do We Need to Re-evaluate?

**Moderator: Eric Kutner**

*Principal, Emergency Response Design Group*

Seven years after 9/11, our nation still has a long way to go to secure adequately the bulk of our critical infrastructure against the likes of natural disasters and terrorist attacks. Transportation systems (including air, rail and shipping), along with chemical facilities, food and water supplies, communication systems, financial institutions, and government complexes are at risk. Led by the moderator, experts in the field discussed what has been done to protect these facilities and what models can be implemented to secure private and public facilities in a systematic way.

## Richard Canas

*Director, New Jersey Office of Homeland Security and Preparedness*

Mr. Canas's office has responsibility for counter-terrorism coordination in New Jersey, administering federal grants for homeland security, disaster planning, school security, and critical infrastructure protection. Three basic principles guide the office's work. First, an inclusive strategy that brings together all partners, local, state, and federal, public and private, is emphasized. Second, the office pursues a regional approach that connects to New York, Connecticut, Pennsylvania, and Delaware. Given the states' interconnectedness with these other jurisdictions, a comprehensive approach is necessary, Mr. Canas argued. Third, Mr. Canas underlined transparency as an important goal, crucial in an office that manages over \$350 million in grants.

But the most important principle Mr. Canas emphasized was a risk management approach. Though significant resources are being invested in New Jersey's protection, not every need can be funded. Choices must be made and priorities established. The Office of Homeland Security and Preparedness uses a formula that assesses vulnerabilities, consequences, and threats to decide where time and money should be spent. The most critical sector in New Jersey is public transit, Mr. Canas reported, because it is a very exposed environment and difficult to police. It has also proven a popular target of terrorists in places like London and Madrid.

Mr. Canas seconded Governor Kean's call for the federal government to involve state and local law-enforcement officials more deeply in the process of the intelligence gathering. "We think it's a mistake to sit there and wait for the federal government to tell us what the



*Richard Canas noted that a risk management approach is critical to being prepared, and that the most vulnerable sector requiring the most funding is public transit, as it is a very exposed environment and difficult to police.*

possible threats might be in Bayonne when we have experts in security in Bayonne that are not being heard," he argued. Mr. Canas also noted that the involvement of the private sector, which controls most of the critical infrastructure in New Jersey—factories, power plants, hospitals, etc.—is essential for successful planning.

## John Paczkowski

*Director, Emergency Management and Security, Port Authority of New York and New Jersey & currently, Naval Postgraduate School Distinguished Fellow at the U.S. Department of Homeland Security*

Mr. Paczkowski began by emphasizing the enormity of the challenge an agency like the Port Authority faces. The Port Authority is a bi-state agency concerned with development and transportation around New York City and northern New Jersey. Every year the Authority's bridges, tunnels, trains, busses, airports and ports move some 254 million people across the Hudson River, accommodate 72 million bus riders, 72 million train riders, 110 million air passengers, 3 million tons of air cargo, and 5 million shipping containers. Not only are these operations



*John Paczkowski emphasized the enormity of the challenge faced by an agency such as the Port Authority of New York and New Jersey. Every year, the Authority helps move 254 million people across the Hudson River, accommodates 72 million bus riders, 72 million train riders, 110 million air passengers, 3 million tons of air cargo, and 5 million shipping containers.*

critical to the security and economic wellbeing of a metropolitan area of some 18.8 million people and almost \$900 billion in GDP, they are also extremely exposed. The agency thus faces an enormous security challenge in combining mobility with security, a challenge that is of critical importance to the entire region, and even the nation.

The Port Authority, as the landlord of the World Trade Center, has also experienced two major terrorist attacks: the 1993 bombing and of course the attacks of 2001. After the 1993 bombing the Port Authority conducted an extensive security audit and implemented a number of new protections. It did not, however, anticipate the nature of the 2001 attacks, and so found itself starting again after 9/11. No shortage of suggestions were generated, Mr. Paczkowski reported, but the 23 analyses containing over 1100 recommendations costing well over \$1 billion were not all feasible for an agency whose

revenues—which come from transportation fees—were deeply hurt by the 2001 attacks. Instead, Mr. Paczkowski developed a dynamic risk management process that operates on a rolling five-year security capital program. Every two years a major risk assessment is conducted and priorities are shifted accordingly.

Since 9/11, many new initiatives have been adopted. There are expanded police operations at Port Authority sites. To facilitate information sharing, Port Authority personnel are embedded with the regional counterterrorism offices, including the New Jersey Office of Homeland Security and Preparedness, the New York City Police Department, and the New Jersey state Police. Cargo security has also been improved, with random vehicle inspection at tunnels and bridges, and increased maritime surveillance. Bridges, tunnels, train stations, officer towers, and other facilities have been studied and reinforced to make them less vulnerable to attack. Airport perimeters have been secured. Most importantly, though, the Port Authority has adopted a comprehensive risk-management approach that allocates resources as rationally as possible.

### **Benjamin A. Cooper**

*Commander, Response Department, US Coast Guard Sector Delaware Bay, Philadelphia, PA*

Commander Cooper described the role of the Coast Guard in emergency preparedness in the region. Noting that the Coast Guard is tasked with a variety of missions ranging from environmental protection, to disaster response, to national security, Commander Cooper stated that about half his time is spent on homeland security. Nationwide, the Coast Guard protects some 365 ports and 95,000



*Since 9/11 the U.S. Coast Guard spends more than half of its time involved in homeland security operations, since its responsibility is protecting 365 ports and 95,000 miles of coastline, according to Commander Benjamin Cooper.*

miles of coastline, all containing a vast amount of critical infrastructure. In the region, there are nuclear power plants, refineries, supertankers, and ferries to protect.

Since 9/11, the Coast Guard has become much more active in homeland security, Commander Cooper reported. Incoming ships are required to give 96 hours notice of their cargo and destination (up from 24 hours pre-9/11), information which Commander Cooper's team feeds into a risk analysis model. Should the ship be deemed suspicious, the Coast Guard follows up with inspections.

A key element of the Coast Guard's work is the 2002 Maritime Transportation Security Act, which made the Coast Guard Captain for a particular region the Federal Maritime Security Coordinator, thus bringing together all federal, state, and local law enforcement and emergency response personnel under a unified command. Echoing previous speakers' comments on the importance of information sharing, Commander Cooper argued that the

most beneficial aspect of this new structure is to improve communication and information-sharing between the various groups responsible for maritime security.

## Question & Answer Session

The moderator began the question and answer session by asking the panelists to speculate on how the current economic downturn might affect efforts to protect critical infrastructure. Mr. Canas replied that, because the federal government works on 5-8 year budgets, the economic pinch had yet to affect homeland security grants to the states. He also noted that the region's salience as a target would make it amongst the last to suffer cuts. Mr. Paczkowski suggested that the larger impact of the economic downturn would be on private sector security spending. Private spending on security is vital for critical infrastructure protection, but businesses facing grim bottom lines are hard-pressed to invest in non-core business activities. Commander Cooper added that local police departments, with whom the Coast Guard partners, have been forced to cut back. For example, propane ships traveling along the Delaware River are typically escorted by two boats, one from the Coast Guard, and one from either the Philadelphia Police or the New Jersey State Police. Increasingly, however, the police departments are finding it difficult to find the money to pay for these patrols.

The moderator followed up by asking the panelists to elaborate further on the role of private sector spending in homeland security. Mr. Canas described New Jersey as "extremely fortunate" in this regard. New Jersey business leaders, having decided it made business sense to protect their buildings and people, are voluntarily spending some \$15 million on critical infrastructure protection. Mr. Paczkowski

echoed those sentiments, describing the business leaders he interacted with as “very much committed, because they see it not only as a critical duty, but also as a part of doing business.”

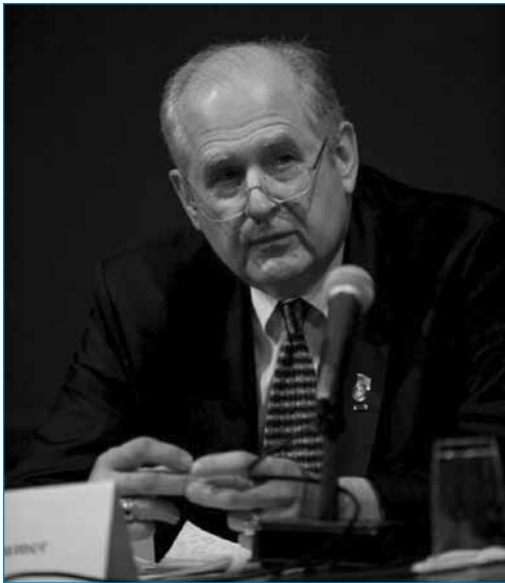
An audience member asked the panel to specify the exact chain of authority in the case of an incident in a port area. The panelists explained that the Federal Maritime Security coordinator would be in charge, but working closely with the FBI, the states, and the Port Authority. Mr. Canas stressed that these complicated governance situations are the reason why emergency responders train so extensively and develop so many plans for contingencies. He expressed some dismay, however, at the results of a recent exercise simulating a nuclear explosion in northern New Jersey. Many of the various state and federal officials in attendance did not know who was meant to be in charge, the federal government or the Governor. Further practice and training is thus required, he argued.

Another audience member asked how many ships coming into ports should be searched for nuclear devices. Mr. Paczkowski responded that searching 100 percent of them was probably not the most effective use of resources. Because there are so many ways a nuclear weapon could be smuggled into a populated area, focusing so much on container ships was not likely to yield the highest level of protection, he argued.

A follow-up question asked how, in a target-rich environment like New Jersey, the authorities made use of active monitoring and surveillance. Mr. Canas responded that for open environments like trains, bridges, and tunnels, a deterrence strategy is the only possible defense. Arguing that it would be

impossible to search the luggage of every passenger getting on a train, or of every car crossing every bridge, Mr. Canas stressed that “the only deterrence that we have is vigilance.” This means identifying likely threats and investigating them, whether through random searches of vehicles, undercover agents on trains, or other strategies. While such a strategy is by no means foolproof, the hope is that by combining various layers of surveillance and protection we can minimize the risk associated with transportation systems while still allowing them to function.

The last questioner asked Mr. Paczkowski about the Port Authority’s ability to communicate in real time to various police and rescue authorities within its areas of operation. Mr. Paczkowski responded that the Authority’s communication abilities have increased immensely, but continue to face challenges. For example, during a recent exercise it was discovered that tactical radio networks employed by public agencies in New York City and northern New Jersey are still not fully interoperable.



*The importance of networking, relationship building, maintaining open lines of communications, and understanding how to bridge gaps is critical for effective emergency preparedness, noted Michael Chumer.*

## Session II:

### Cooperation Issues— Among and Between Governments and with the Private Sector

**Moderator: Michael J. Chumer**  
*Professor & Director, Emergency Management  
and Business Program, New Jersey Institute of  
Technology*

The importance of networking, relationship building, maintaining open lines of communications, and understanding how to bridge gaps is critical for effective emergency preparedness. Furthermore, given the responsibilities and vulnerabilities in the private sector -- especially the protection of critical infrastructure -- it is critical that all segments of government and business be integrated in their planning and implementation procedures. This panel of experts focused on the interplay among and between public sector entities, and

with the business communities to coordinate efforts beyond jurisdictional boundaries to respond to a regional crisis.

### MaryAnn Tierney

*Deputy Managing Director, Emergency  
Management, City of Philadelphia*

Ms. Tierney began her comments by calling on the audience to think about public-private security coordination not as “partnerships” but as “integration.” Whereas partnerships connote, Ms. Tierney argued, a kind of resource exchange, integration describes a more comprehensive coming-together to prepare for, respond to, and recover from large disasters.

Integration begins with planning. Ms. Tierney stressed the need for government officials to involve the private sector in the development of emergency plans -- not just to report plans to them. She cited the Philadelphia evacuation plan, formulated by some 25 different public, non-profit, and private organizations, as an example of this approach. Ms. Tierney discovered that private sector involvement was key to understanding how the public might react to various plans. It also allowed government planners to draw on specialized knowledge to which they might otherwise not have had access. For example, a major challenge was to identify suitable rally points to which evacuees could be moved. Only by engaging with building owners, companies, and advocacy groups was the team able to identify points that could feasibly hold some 300,000 people.

Once a plan is in place, the private sector must also be involved in training and exercises, Ms. Tierney stressed. She noted that Philadelphia has carried out several training exercises, some developed and run by her office with private



*MaryAnn Tierney stressed the need for government officials to involve the private sector in the development of emergency plans—not just to report plans to them—so they can also better prepare for, respond to, and recover from large disasters.*

sector involvement, and some organized by the private sector themselves. This kind of joint responsibility has allowed Philadelphia to achieve far more than it otherwise could, she argued.

Response is another area that requires integration. In the event of an incident, the emergency responders would of course have primary responsibility for ensuring public safety, but the private sector has a role to play too, Ms. Tierney emphasized. Senior fire and police commanders would need to coordinate with companies to know where their employees are located, for example. Having a place for the private sector in the emergency operation center is thus crucial, Ms. Tierney argued.

Last, Ms. Tierney stressed the need for an integrated response to rebuilding in the aftermath of a disaster. Philadelphia has a program called the Corporate Emergency Access System, which designates critical

members of private sector organizations as crucial to emergency cleanup and response, thus allowing them to pass police perimeters and resume business as quickly as possible.

## James Y. Cho

*Director, Plan Management Unit, NYC Office of Emergency Management*

Mr. Cho focused his remarks on the planning element of emergency response, and particularly the private sector's role in it, in New York City and the region. Mr. Cho's office develops plans for various emergencies—from terrorist attacks, to flu pandemics, to transit strikes—which are then shared with the private sector through a public outreach office. This kind of communication is extremely challenging in an economic area of some 200,000 businesses ranging from corner delis to vast multinational corporations. Making plans for all these entities, and finding ways to reach out to them, is a persistent challenge.

In 2008 the planning process added an important regional component, bringing officials from New York together with New Jersey, Connecticut, and Pennsylvania officials to administer grants around the region. Faced



*James Cho noted that government emergency plans and responses are crucial elements that need to be shared with the private sector; even more important is knowing the role of the private sector in the rebuilding process following an emergency or disaster.*

with a combined area of 12,000 square miles and 22 million people, the planning teams, Mr. Cho noted, began to think beyond their traditional jurisdictional boxes to develop an integrated approach for the region.

Mr. Cho concluded by noting the importance of the private sector to many areas of disaster management. For example, during a disaster, various items—food, water, blankets, cots—are needed, which may have to come from private sector sources. The private sector's role is perhaps even more crucial in the rebuilding phase. “The government doesn’t run a Home Depot program,” Mr. Cho noted.

## Lori Hennon-Bell

*Chief Security Officer, Prudential Insurance Company*

Ms. Hennon-Bell brought a private sector perspective to the panel, but one informed with 25 prior years of experience in the public sector. Managing the security of a vast corporation with offices in many countries is a large challenge, and one Ms. Hennon-Bell argued could not be done without extensive public-private coordination.

Prudential cooperates actively in any exercises that come its way, Ms. Hennon-Bell stated, calling on the audience to let her know of any future opportunities. Part of Prudential's commitment to security stems from its own experience as the target of an imminent—but, thankfully, thwarted—terrorist attack on its corporate headquarters in Newark. While Ms. Hennon-Bell was not with Prudential at that time, she noted that the event resonated deeply with the company, forcing management to think about emergency preparedness as part of its business strategy.



*Ms. Lori Hennon-Bell remarked that the most important thing to emerge from the day's proceedings was the sense that everyone is willing to collaborate toward the goal of emergency preparedness.*

Cyber security and the protection of IT infrastructure are particularly important to an insurance company like Prudential, Ms. Hennon-Bell argued. While the company takes extensive measures to ensure its customers' privacy, it must also guard against an attack on its IT centers. Cyber attacks are highly unpredictable, and so pose a significant threat to Prudential's operations.

Ms. Hennon-Bell ended by stating that the most important thing to emerge from the day's proceedings was the sense that everyone is willing to collaborate toward the goal of emergency preparedness.

## Question & Answer Session

During the question and answer session the moderator asked the panelists to comment on the overall public-sector dominated model of emergency preparedness. Given that some 80 percent of critical infrastructure falls within the private sector, should not more resources be spent upgrading the private sector's capacity to respond to crises, instead of simply bringing it more closely into the government-driven approach? Ms. Hennon-Bell responded that

a mixture of the two was necessary. Private sector entities “have a responsibility to our corporations and to our associates that we maintain good operations in planning a process.” At the same time, because crises affect far more than any one company or structure, a public response is also necessary, she argued. Ms. Tierney concurred, stating that “in an emergency we must all work together, and it’s important that both the private sector and the public sector be equally prepared.” Dr. Irwin Redlener, a speaker on the afternoon panel, added that while the private sector may need to be involved, emergency response was primarily a public responsibility, and that only a public authority had the capacity, responsibility, and authority to respond effectively.

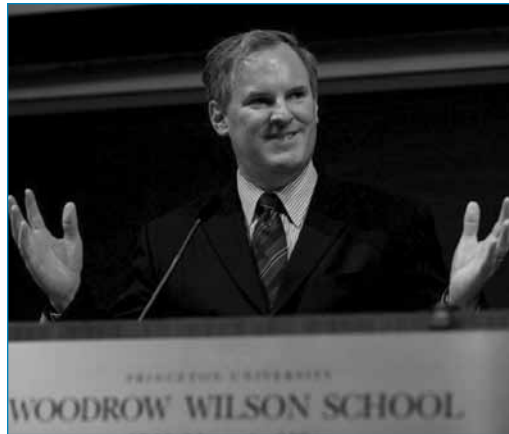
## Luncheon Speaker:

### Recalibrating Homeland Security: The Case for Building Societal Resilience

Stephen E. Flynn

*Ira A. Lipman Senior Fellow for Counterterrorism and National Security Studies, Council on Foreign Relations*

Dr. Flynn began his remarks on resilience with the story of John Damrell, a fire chief in Boston in the 1870s. Damrell traveled to Chicago in the aftermath of the 1871 fire that destroyed that city and brought back a number of lessons and recommendations to Boston. The city burghers discounted him, but, fortunately for them, allowed him to keep working. The very next year a massive fire broke out in a commercial district of Boston exactly at the time an equestrian flu had virtually eliminated the fire agencies’ horses. Left with nothing to pull his engines, Damrell realized the fire could soon get out of control just as the Chicago blaze



*There is a tendency amongst professionals to overestimate their own abilities to deal with problems and to underestimate what can be gained by reaching out to the larger community, noted Dr. Steven Flynn. In order to be successful in responding to emergencies, policymakers today will have to reach beyond their traditional zones of responsibility, and emphasize “resilience”—robustness, readiness, recovery, and review.*

had done. Immediately he sent a telegraph to all neighboring communities announcing that Boston was on fire and requesting volunteers. Only by mobilizing able-bodied people from the area was the fire stopped.

Damrell’s call for help was, Dr. Flynn noted, very unnatural in the current world of emergency response. There is a tendency amongst professionals to overestimate their own abilities to deal with problems and to underestimate what can be gained by reaching out to the larger community. In order to be as successful as Damrell was in responding to emergencies, policy makers today will have to reach beyond their traditional zones of responsibility and emphasize what Dr. Flynn terms “resilience.”

The concept, Dr. Flynn explained, can be summarized in four R’s. First, robustness, which Dr. Flynn described as “the notions that we need to look at things that are truly critical and ensure that they’re robust enough to take the things that we think are probable and foreseeable hazards.” In other words, a sensible risk-management strategy needs to be applied. Second is readiness, the need to

be prepared to recognize events when they happen and respond immediately. Recovery is third. If a target is truly critical, it must be put back in working order as quickly as possible. Last comes review. We need to learn from the last disaster in order to better prepare for the next.

Dr. Flynn made three cases for his concept of resilience. First, a strategic one. The last administration made the argument that in order to protect America, the “war on terror” must be taken to the enemy. In other words, we must fight them over there in order not to fight them here. Dr. Flynn argued that, instead, “the best defense may turn out to be a pretty good defense.” There will always be incentives for terrorists to attack America so long as they can hope to achieve their goals—scaring society and forcing it to react in dysfunctional ways. If that incentive can be removed by making society resilient to attack, terrorists will gain nothing from striking.

Second, Dr. Flynn argued that resilience makes economic sense. Planning for threats and investing in systems to mitigate them allows society to continue operating even in the face of unexpected calamities. The most resilient companies, Dr. Flynn argued, are those that are able to accommodate the unexpected swings of the economy. So too for societies.

Third, Dr. Flynn made a civic argument for resilience. The solidarity that knit society together in the wake of the 9/11 attacks is a vital social resource, Dr. Flynn argued.

“At the end of the day the basic reason why we all came together as a society and as a community is because we recognized there are problems that occur from time to time that we ourselves as individuals can’t handle, or as families, as independent

units, can’t handle. We rely on each other. And we rely on certain systems and structures to be able to help manage those things from happening.”

Resilience requires an open and inclusive process similar to that which John Damrell tapped in 1872. Instead of a paternalistic approach, government should engage citizens in the common task of preparing for and responding to disasters.

Unfortunately, Dr. Flynn concluded, the government did not learn the lesson of resilience from September 11th. Citizens were not called upon to contribute to national defense, but merely to “shop and travel” and send money to Washington. But in fact it was citizen action that stopped the only major attack following attacks on the twin towers. Ordinary citizens on United flight 93 stopped the plane from crashing into Congress or the White House. “At the end of the day our greatest strength isn’t our second-to-none military... The greatest asset we have is alert, engaged, everyday Americans who are made a part of our solution,” Dr. Flynn concluded.

## Question & Answer Session

One audience member asked Dr. Flynn how he imagined America being able to make the kind of investments necessary to make itself resilient against attack in a poor economic climate. Dr. Flynn responded by describing the current infrastructure problems as an “Eisenhower-style” opportunity to combine economic and homeland security goals. Rebuilding infrastructure, and rebuilding it in a way that makes it resilient to attack, is a good way not just to generate jobs and provide the machinery on which the economy runs, but also to protect against future attacks,

which itself generates economic benefits. Add ecological improvements to the mix, and infrastructure improvements become a 3-for-1 investment, Dr. Flynn argued.

Another questioner asked Dr. Flynn what other societies he might characterize as resilient. He cited Israel and the United Kingdom as two countries that have done a good job of making themselves less vulnerable to terrorist attack. Israel, for example, quickly clears and restores attack sites, reintegrating them into the fabric of the city quickly. In the UK, the willingness of Londoners to continue using the Tube even after the 7/7 bombings demonstrated to the terrorists that they could not achieve their goals—disrupting transit in London—through bomb attacks.

## Session III:

### Public Health Preparedness

#### Moderator: David Gruber

*Senior Assistant Commissioner for Health Infrastructure Preparedness and Emergency Response, New Jersey Department of Health and Senior Services*

Public health experts may be called on to make or inform some of the most important decisions of the twenty-first century. These include the decision to allocate scarce healthcare resources including vaccines, where to set up surge facilities, or ‘sheltering in place.’ Is the framework strong enough to support decision making across all sectors, including government, law enforcement, and others? Panelists discussed these and other issues with respect to bioterrorism, disease outbreak (e.g., pandemic flu), and natural disasters (e.g., hurricanes, flooding).



*David Gruber moderated a panel of experts discussing how to allocate scarce resources, where to set up shelters, and how sheltering-in-place would work in respect to bioterrorism, disease outbreak, and natural disasters.*

#### Irwin Redlener

*Professor, College of Physicians and Surgeons, Columbia University Mailman School of Public Health and Director, National Center for Disaster Preparedness*

Dr. Redlener focused his remarks on “mega-disasters.” Mega-disaster can be distinguished from smaller incidents by one or more of the following four criteria, he argued: they overwhelm local response capacity; they create a backlog of victims needing rescue or treatment; they threaten or destroy critical infrastructure; and they lead to panic or societal breakdown. Dr. Redlener made the case that while the country has rapidly improved its ability to respond to smaller threats -- mega-disasters remain a significant cause of concern.

Dr. Redlener stated quite definitively that the nation is simply not ready for mega-disasters,

citing several barriers to preparedness. First, there is a lack of expert consensus on how to prepare for such crises. Because they are rare and catastrophic, mega-disasters are not well understood. Second, the scale and scope of planning for large scale disasters is grossly inadequate. Dr. Redlener noted that if the country had adopted all the recommendations generated to deal with, for example, pandemic influenza, we would be spending about 50 times as much as we currently are. According to assessments by the Center for Biosecurity and the American Hospital Association bringing all 5,700 hospitals up to speed in terms of basic disaster preparedness would require an initial investment of \$5 billion - \$15 billion, Dr. Redlener stated, plus another \$1 billion per year to maintain an appropriate level of readiness. But, we are currently spending only \$400 million per year (never having made the initial investment) “to try to do a job with far too few resources.” It is also recognized that, given other pressing social needs – especially during a severe recession-- it is difficult to convince society to fund fully mega-disaster preparedness programs, even though the consequences could cost far more.



*Dr. Irwin Redlener made the case that while the country has rapidly improved its ability to respond to smaller threats, mega-disasters remain a significant cause of concern.*

Dr. Redlener then detailed what damage a pandemic flu could cause in a place like New York City. Over a six month flu season, he imagines some 2.5 million sick people, including 600,000 children, 60,000 deaths, 200,000 hospital admissions, and 300 deaths a day. Even New York City does not have the vaccine, medication, hospital beds, ventilators, and other equipment to deal with such a challenge.

The last barrier Dr. Redlener identified was a lack of adequate horizontal and regional coordination. What coordination across jurisdictions that has been done is, as Dr. Redlener put it, “superficial at best.” While there are plans in the works to resolve the coordination problem by 2012 or 2013, Dr. Redlener expressed frustration that it will take more than a decade since the 9/11 attacks to put an adequate system into place.

### **Dr. Leonard Cole**

*Author and Adjunct Professor, Division of Global Affairs, Rutgers University*

Dr. Cole discussed “terror medicine,” or the medical response to terrorist attacks. The concept is made of four elements: preparedness, incident management, the nature of injuries caused by terrorist attacks, and the psychological consequences of terrorism. Dr. Cole addressed each in turn.

One of the difficulties with preparedness, Dr. Cole emphasized, was that it is difficult to measure. A good place to start, however, would be the strategic national stockpile of vaccines and other medical equipment, of which 12 exist around the United States. These resources can be delivered anywhere in the United States within 6-12 hours, and are meant to respond to terrorist attacks. But whether or not these capacities are enough is an open



*Dr. Leonard Cole discussed "terror medicine," or the medical response to terrorist attacks, which consists of four elements: preparedness, incident management, the nature of injuries caused by terrorist attacks, and the psychological consequences of terrorism.*

question, Dr. Cole suggested.

Second, terror medicine involves incident management. Many emergency personnel are not well trained in how to respond to terrorist attacks, Dr. Cole argued. He showed a slide of nurses running toward the bombed Oklahoma federal building to help victims. Unfortunately, because the scene was not adequately controlled, one was killed by falling rubble. Similarly, authorities in London failed, after the 7/7 attacks, to get many victims to hospitals in time, instead trying to help them at the scene. The first patient did not make it to a hospital until 57 minutes after the initial detonation, and four hours later there were still people in need of hospitalization. This was not due to lack of capacity in London hospitals, but rather to lack of appropriate response training. Israel, in contrast, has learned to get patients to hospitals as soon as possible, Dr. Cole noted, and has thus increased victims' chances of survival.

Third, Dr. Cole called for more knowledge about the nature of terrorist injuries. During the anthrax outbreak, 22 people were stricken with the toxin, and five died. Some of these victims had been misdiagnosed, and thus did not receive appropriate treatment in time to save their lives. Better training of medical staff might have saved their lives.

Finally, Dr. Cole spoke of the psychological consequences of terrorism. Most experts agree that the emotional trauma from terrorism is far more profound than that caused by automobile accidents or other physically damaging incidents. Comprehensive psychological treatment is necessary, and works best when it receives support from family and society. Dr. Cole told the story of one Israeli victim of a suicide attack, a young woman whose body was severely burned. Despite some dark and angry years, this young woman managed, with her family's help, to move on with her life and is today, Dr. Cole reported, expecting a baby.

## Peter D. Marghella

*Executive Vice President, Disaster Preparedness Resources, Inc.*

Mr. Marghella began his talk by emphasizing the need to invest in the medical infrastructure of the country in order to prepare for attack. When in danger, people will naturally look to hospitals, he reasoned, which must have the capacity to accommodate victims of a large disaster. If the goal of incident management is to "save lives, reduce suffering and mitigate further harm against an impacted population," then hospitals will be key.

He also stressed the importance of coordinating local, state, and national response capacities. Citing the disorganization surrounding Hurricane Katrina, Mr. Marghella



*Peter Marghella emphasized the need to invest in the medical infrastructure of the country in order to prepare for attack. When in danger, people will naturally look to hospitals, he reasoned, which must have the capacity to accommodate victims of a large disaster. He also stressed the importance of coordinating local, state, and national response capacities.*

suggested a Department of Defense idea may offer a solution—the Joint Operational Planning and Execution System, or JOPES. JOPES is a holistic approach to battlefield planning that allows the soldier on the front lines and the commander in headquarters to operate within a single command structure.

Instead, emergency response is too often characterized by what Mr. Marghella termed “silo-ization,” or the tendency for each jurisdiction or agency to operate only within its established chain of command. With a more JOPES-style system, the idea would be not to eliminate the silos, but rather to encourage better coordination across them in pursuit of a common mission.

The good news, Mr. Marghella reported, is that the Department of Homeland Security is moving to an Integrative Planning System (IPS) similar to JOPES. The challenge is implementing the system across the massive bureaucracy that forms the Department, plus all its state and local partners. There is also a plan, called JTF CapMed, that links the military

to the civilian medical infrastructure in the area surrounding Washington D.C. with the goal of forming a unified response.

## Question & Answer Session

Dr. Redlener began the question and answer session by asking his fellow panelists about the preparedness of the strategic national stockpile. Is it enough, he wondered? Measured against what? Much planning has been rather haphazard, he suggested, with supplies stockpiled without much thought to what would actually be required. Mr. Marghella responded that the strategic national stockpile is a great idea in theory, but quite lacking in practice. First, only two states—Florida and Illinois—have adequate plans to distribute the stockpiled materials should they need them. Second, the actual contents of the stockpile are somewhat nonsensical, including, for example, anti-nerve toxin medicines that would need to be administered within minutes of contact to be effective.

One audience member wanted to know how the panel's sense of urgency could translate into action given the trend to streamline medical facilities in the face of budget pressures. Dr. Redlener responded that the excellent medical case for greater capacity was overwhelmed by the lack of political will to spend what is required on the matter. His sentiments were echoed by Dr. Cole, who called upon those in the room concerned about this issue to advocate on its behalf. Dr. Cole also stressed the need for individual citizens to be aware of their own responsibilities. How many would notify an authority about an unattended package in a public place? And how many have thought about what they would do in an event of a biological attack?

Another questioner asked why the medical community did not audit medical facilities on their level of disaster preparedness. Dr. Redlener replied that, in fact, he had a discussion just yesterday with the hospital accreditation agency about that very subject. While many believe it is a good idea, the hospital industry opposes adding further criteria for accreditation. This is, Dr. Redlener concluded, yet another political battle to fight.

## Conclusion

The experts who gathered to discuss the status of emergency preparedness in the region made it clear that there is still a great deal of work to be done to increase our ability to both act and react in the face of unexpected disasters or terrorism in our communities. The very nature of emergencies makes them amorphous situations that are difficult to identify and to plan for in advance. But, as a society we have to do everything possible to safeguard the health and wellbeing of our fellow citizens, so therein rests the conundrum.



*PRIOR Director Richard Keevey and former NJ Governor Thomas Kean.*

The forum participants addressed the issues we face in confronting emergencies, the initiatives that have already been implemented to deal with them, and offered their analyses of areas that need improvement.

Information-sharing practices have been implemented throughout federal agencies and within the region, but it is imperative that we balance the need for access to information with the civil liberties guaranteed by the Constitution. The Privacy and Civil Liberties Oversight Board was created by Congress on the recommendation of the 9/11 Commission, co-chaired by Governor Kean, but as he warned, it is not certain that it adequately protects citizens' rights. Governor Kean urged that Congress nominate and approve new members to the Board to facilitate the balance of strength and civil liberties within the government.

A recurring theme, particularly in Dr. Flynn's remarks, is the need for greater societal resilience. As the panelists acknowledged, it is almost impossible to predict, prepare for, or prevent unexpected disasters- accidents, natural phenomena, or terrorist attacks.

However, if we can develop resiliency by strengthening and expanding our current emergency systems to deal with the unexpected while encouraging quick reactions to events we cannot prevent, we will be much better prepared for these emergencies.

Dr. Cole's discussion of "terror medicine" focused on the need for improved preparation by medical personnel responding to terrorist attacks. First responders need to be

adequately trained in order to get patients to the hospital as quickly as possible, hospital medical workers need to know the proper treatment for patients affected by unusual toxins, and psychological counseling must be available immediately to deal with the emotional trauma of the attack. As Mr. Marghella emphasized, it is critical to invest in the nation's medical infrastructure in order to ensure its capacity to address the needs created by a significant incident.

The private and public sectors have found numerous areas where they can cooperate, but more needs to be done to ensure that the key stake-holders and responders in the area are working together with compatible equipment to facilitate quick and effective responses to disasters. At the end of the day we are all in this together, and individuals, nonprofit organizations, government, and the private sector must act together to overcome adversities that are bigger than any one unit can cope with on its own.

Respectfully submitted,

A handwritten signature in black ink, reading "Richard F. Keevey". The signature is written in a cursive, flowing style with a large, prominent "R" at the beginning.

Richard F. Keevey, Director

# Appendix A

## Conference Agenda

### Emergency Preparedness in the Region: What Have We Done and What is Still Needed?

April 3, 2009

*Sponsored by the Policy Research Institute for the Region at the Woodrow Wilson School of Public and International Affairs, Princeton University*

#### Welcome

Richard F. Keevey, Director, Policy Research Institute for the Region,  
Woodrow Wilson School, Princeton University

#### Keynote Address—Homeland Security & Emergency Preparedness— The National Perspective

The Honorable Thomas Kean, former Governor, State of New Jersey and Co-Chairman  
of the 9/11 Commission

#### Session I—Vulnerability of Critical Infrastructure—Do We Need to Re-evaluate?

##### **Moderator:**

Eric Kutner, Principal, Emergency Response Design Group

##### **Panelists:**

Richard Canas, Director, New Jersey Office of Homeland Security and Preparedness

John Paczkowski, Director, Emergency Management and Security, Port Authority of  
New York and New Jersey and currently Naval Postgraduate School Distinguished Fellow  
at the U.S. Department of Homeland Security

Benjamin A. Cooper, Commander, Response Department, US Coast Guard Sector  
Delaware Bay, Philadelphia, PA

## Session II—Cooperation Issues—Among and Between Governments and With the Private Sector

### **Moderator:**

Michael J. Chumer, Professor & Director, Emergency Management and Business Program, New Jersey Institute of Technology

### **Panelists:**

MaryAnn Tierney, Deputy Managing Director, Emergency Management, City of Philadelphia

James Y. Cho, Director, Plan Management Unit, NYC Office of Emergency Management

Lori Hennon-Bell, Chief Security Officer, Prudential Insurance Company

## Luncheon Speaker— Recalibrating Homeland Security: The Case for Building Societal Resilience

Dr. Stephen E. Flynn, Ira A. Lipman Senior Fellow for Counterterrorism and National Security Studies, Council on Foreign Relations

## Session III—Public Health Preparedness

### **Moderator:**

David Gruber, Senior Assistant Commissioner for Health Infrastructure Preparedness and Emergency Response, New Jersey Department of Health and Senior Services

### **Panelists:**

Dr. Irwin Redlener, Professor, College of Physicians and Surgeons, Columbia University Mailman School of Public Health and Director, National Center for Disaster Preparedness

Dr. Leonard Cole, Author and Adjunct Professor, Division of Global Affairs, Rutgers University

Peter D. Marghella, Executive Vice President, Disaster Preparedness Resources, Inc.

## Conclusion

Commentary sponsored by the Policy Research Institute for the Region at the Woodrow Wilson School of Public and International Affairs at Princeton University.

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The Policy Research Institute for the Region was established by Princeton University and the Woodrow Wilson School of Public and International Affairs to bring the resources of the University community to bear on solving the increasingly interdependent public policy challenges facing New Jersey, metropolitan New York, and southeastern Pennsylvania.

With a full-time staff augmented by project coordinators and guided by faculty associates and an advisory board, the institute reflects and understanding that the issues facing our region cut across not only state and municipal borders, but also across a range of traditional academic disciplines. Our mission is to bring together the University's greatest resources—its faculty and students, its research expertise, and commitment to public service—to find solutions across boundaries that improve the quality of civic life in our dynamic, multi-state region.

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