

DEFENDING AGAINST BIOTERRORISM: HOW VULNERABLE IS AMERICA?

HEARING BEFORE THE COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES ONE HUNDRED FOURTEENTH CONGRESS FIRST SESSION

NOVEMBER 3, 2015

Serial No. 114-41

Printed for the use of the Committee on Homeland Security



Available via the World Wide Web: <http://www.gpo.gov/fdsys/>

U.S. GOVERNMENT PUBLISHING OFFICE

99-747 PDF

WASHINGTON : 2016

For sale by the Superintendent of Documents, U.S. Government Publishing Office
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Tuesday, November 3, 2015

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
Washington, DC.

The committee met, pursuant to call, at 10:12 a.m., in Room 311, Cannon House Office Building, Hon. Michael T. McCaul [Chairman of the committee] presiding.

Present: Representatives McCaul, Smith, King, Duncan, Barletta, Perry, Clawson, Katko, Hurd, Carter, Walker, McSally, Ratcliffe, Donovan, Thompson, Langevin, Higgins, Keating, Payne, Vela, Watson Coleman, and Torres.

Chairman MCCAUL. The Committee on Homeland Security will come to order.

The committee is meeting today to examine the findings of the Blue Ribbon Study Panel on Biodefense and their recently-released report. Former Senator Lieberman and former Governor Ridge, the panel's co-chairs, will update committee Members on the panel's work and the state of the United States biosecurity leadership and programs, including recommendations for improving our biodefense posture.

I now recognize myself for an opening statement.

I want to welcome Senator Lieberman and Governor Ridge back to the committee. You have worked very well together in a bipartisan way, and we certainly appreciate your service, both the past and present service, to our Nation. Thank you so much for being here.

Particularly on this issue of biodefense, the threat from weapons of mass destruction may have faded from public view since 9/11, but the dangers have not diminished, and terrorists in rogue states are as committed as ever to obtaining weapons-of-mass-destruction capabilities to intimidate our people and to inflict unspeakable harm.

Unfortunately, our level of readiness has not kept pace with the growing risk. Last year, the Ebola crisis showed us that we are not fully prepared to confront biological threats. We learned that the Federal Government did not have the systems in place to address the situation and lacked clear lines of authority. We learned that many front-line health care workers did not have the skills or basic training needed. We learned that officials lacked a plan for communicating the Government's response to the public, including reassuring the American people that it could keep the contagion from spreading through international air travel. Fortunately, we kept

the virus from spreading, but there were important lessons to be learned.

We know that terrorists are still set on obtaining WMD devices to use in their attacks. We have seen groups like ISIS use makeshift chemical weapons on the battlefield and boast about plans to smuggle radiological material into the United States. With recent FBI stings in places like Moldova, we know that there are sellers ready to supply the ingredients for the tools of terror.

Bioterrorism is especially alarming. Technological advances have put dangerous biological agents within reach of extremist groups—capabilities that were previously available only to nation-states. We also know there is no shortage of enemies who would seek to bring WMD devices into our country if they had the opportunity.

At our recent world-wide threats hearing, FBI Director James Comey indicated the potential smuggling of a weapon of mass destruction into the Western Hemisphere and, in his opinion, called it a very serious threat. That is why we must take the recommendations of Senator Lieberman and Governor Ridge very seriously.

Over the course of the past year, their study panel hosted a number of meetings to address the full spectrum of the bioterror threat, and their final report provides a thorough review of the challenges we face on that front. It makes 33 recommendations on a number of topics, including leadership, strategy, intelligence gathering and dissemination, medical countermeasures, and response.

It comes as no surprise to me that one of your main findings is the lack of Federal leadership and coordination at the highest level of the Executive branch. With a dozen agencies playing a role in the biodefense space, we must have a senior individual coordinating these efforts. Indeed, one of the main questions I asked during the Ebola response was, “Who was in charge?” Unfortunately, that would still be an open question today.

That is why I have advocated for the reinstatement of the Special Assistant to the President for Biodefense. Your report calls for the designation of the Vice President as the responsible official, along with the development of a White House biodefense coordination council. I look forward to discussing this recommendation and why you believe the Vice President would be in the best position to address this threat.

We are also interested in your assessment of the responsibilities of the Department of Homeland Security in this space. The report highlights shortcomings of the Department’s biological surveillance and detection efforts through the National Biosurveillance Integration System and BioWatch Program.

The committee shares your concerns and has a long history of conducting oversight on NBIS and BioWatch. In fact, the Emergency Preparedness Subcommittee, after holding a hearing on the bioterrorism threat earlier this year, is planning an additional hearing on biosurveillance and detection later this year.

The committee is currently considering the Department’s proposal to consolidate a number of its WMD functions into a new CBRNE office. Your argument about the need for leadership and coordination for biodefense also rings true for chemical, radiological, nuclear, and explosive activities. This is a priority for Sec-

retary Johnson, and I believe that consolidating the various offices within the Department with responsibility for CBRNE will elevate the mission and fix a broken bureaucracy so that we can keep our Nation safe.

Finally, I would be remiss if I didn't highlight your discussion of the fragmented Congressional jurisdiction for homeland security oversight. Ranking Member Thompson and I share this, and Chairman King before me, have repeatedly called for the consolidation of Congressional jurisdiction. We will make a proposed rule change in the next Congress, and I hope you will join us in this effort to fix this once and for all. It is the only 9/11 recommendation that has yet to be fulfilled, and shame on the Congress for not doing that.

I will continue to work on this issue with the new Speaker to ensure Congress can address some of the oversight challenges you discuss in the report.

Hearings like this give us a better sense of what we are up against and how we can make sure our agencies are prepared to keep WMD threats from reaching our shores and respond to them decisively if they do. We certainly appreciate all the hard work that you have done and commitment to the challenges we face and your service to our great Nation.

With that, the Chair now recognizes the Ranking Member.
[The statement of Chairman McCaul follows:]

STATEMENT OF CHAIRMAN MICHAEL T. MCCAUL

I want to welcome Senator Lieberman and Governor Ridge back to the committee. I commend you both for your continuing public service and your efforts to protect our Nation—particularly on the issue of biodefense.

The threat from weapons of mass destruction may have faded from public view since 9/11, but the dangers have not diminished.

Terrorists and rogue states are as committed as ever to obtaining WMD capabilities to intimidate our people and to inflict unspeakable harm. Unfortunately, our level of readiness has not kept pace with the growing risk.

Last year the Ebola crisis showed us that we are not fully prepared to confront biological threats. We learned that the Federal Government did not have the systems in place to address the situation and lacked clear lines of authority. We learned that many front-line health care workers did not have the skills or basic training needed.

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I will continue to work on this issue with the new Speaker to ensure Congress can address some of the oversight challenges you discuss in the report.

Hearings like this give us a better sense of what we’re up against—and how we can make sure our agencies are prepared to keep WMD threats from reaching our shores and respond to them decisively if they do.

We appreciate the work of your panel, and you have my commitment that this committee will do its part to address these challenges through further oversight and legislation.

Mr. THOMPSON. Thank you very much, Mr. Chairman. I would like to thank you for holding today’s hearing. I am pleased that our committee regularly conducts oversight of Federal biodefense efforts even when we are not responding to an active crisis.

I would also like to welcome our three panelists—Senator Lieberman, Governor Ridge, and Dr. Cole—back to the committee.

The release of the Blue Ribbon Study Panel report this month is timely. One year ago, well after the Ebola virus was determined to be a material threat, a U.S. hospital diagnosed a case for the first time. Although the Ebola case was ultimately contained, the Ebola case has revealed gaps in our Federal biodefense infrastructure that we have known about for decades but have not meaningfully addressed.

Most notably, we focused on determining who is in charge. Leadership appears to shift from personnel at the White House to the Centers for Disease Control to the National Institutes of Health. Nearly 1 month after the first Ebola case was diagnosed, the administration appointed an Ebola czar, despite the facts that HSPD–5, HSPD–10, the National Response Framework, and the Pandemic

and All Hazards Preparedness Act all provided relevant leadership structures that could have been activated at any point.

We should not reinvent the wheel every time there is a crisis, and we should not put biodefense on the back burner between outbreaks or attacks. Progress takes persistence and leadership. So, although I have some questions about the particular structure proposed by the Blue Ribbon Panel, I was pleased that the report's first several recommendations addressed the biodefense leadership vacuum and a need for improved coordination.

The Chair already spoke about his concern, also, about the recommendation on the Vice President assuming a leadership role in that, and I think we need to flesh that out a little bit. I look forward to the discussion.

But I also look forward to discussing your proposals to address our biodefense leadership gap further and to better understand how you envision the Department of Homeland Security's role in this space.

As you are aware, for various reasons, DHS has struggled to carry out its biodefense program. The Government Accountability Office recently issued a report critical of DHS's signature biosurveillance program, the National Biosurveillance Integration Center. We have learned that, despite DHS's efforts to build NBIC's ability to identify bio events early, it lacks the funding and data access necessary to carry out that mission. The Blue Ribbon Panel report echoes many of GAO's criticisms.

DHS's biodetection program, BioWatch, has been similarly criticized. In 2001, the National Academy of Sciences described the circumstances under which the currently deployed BioWatch technology would be useful as follows: If a large-scale aerosol attack occurs where BioWatch is deployed; if an air sampler lies in the path of the release; and if the pathogen used is one of those included in the BioWatch laboratory assays.

In April 2014, after years of cost overruns and delays, DHS decided to cancel the acquisition of BioWatch Gen-3 after a GAO report revealed fundamental flaws in the acquisition. The panel's report identified similar challenges with the currently deployed BioWatch system and the urgent need for better technology.

In light of these findings, I would be interested in the witnesses' thoughts on how DHS can address the challenges it had experienced in the biodefense mission space and how its potential can be better developed and leveraged.

Additionally, the Ebola cases last year reminded us that our local EMS providers and hospitals are our boots on the ground during a biodefense incident. Unfortunately, hospital preparedness for a biological event is not consistent across the country. I would be interested to understand how the recommendations in this report address that problem and to learn how hospitals and the medical community are working to improve hospital preparedness.

Finally, I would be remiss if I did not acknowledge Congress' role in the failure to make meaningful progress to address biodefense challenges. Former committee Member Congressman Pascrell and former Chairman King have introduced the WMD Prevention and Preparedness Act, which would implement many recommendations made by past commissions studying our biodefense gaps, three

times—maybe, Mr. King, we might can get some attention at some point on that—and, unfortunately, this bill has never been enacted.

We must do better. I am eager to explore each of the panelists' recommendations and determine what makes sense to implement.

I thank the witnesses again for being here today, and I look forward to their testimony.

I yield back.

[The statement of Ranking Member Thompson follows:]

STATEMENT OF RANKING MEMBER BENNIE G. THOMPSON

NOVEMBER 3, 2015

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Although the Ebola cases were ultimately contained, the Ebola cases revealed gaps in our Federal biodefense infrastructure that we have known about for decades but have not meaningfully addressed. Most notably, we focused on determining who is in charge.

Leadership appeared to shift from personnel at the White House to the Centers for Disease Control to the National Institutes of Health. Nearly 1 month after the first Ebola case was diagnosed, the administration appointed an Ebola Czar, despite the fact that HSPD-5, HSPD-10, the National Response Framework, and the Pandemic All-Hazards Preparedness Act all provide relevant leadership structures that could have been activated at any point.

We should not reinvent the wheel every time there is a crisis, and we should not put biodefense on the backburner between outbreaks or attacks. Progress takes persistence and leadership.

So, although I have some questions about the particular structure proposed by the Blue Ribbon Panel, I was pleased that the report's first several recommendations addressed the biodefense leadership vacuum and need for improved coordination.

I look forward to discussing your proposals to address our biodefense leadership gap further and to better understand how you envision the Department of Homeland Security's role in this space. As you are aware, for various reasons, DHS has struggled to carry out its biodefense programs.

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Chairman MCCAUL. I thank the Ranking Member.

Other Members are reminded that opening statements may be submitted for the record.

We are pleased to have a distinguished panel of witnesses before us here today on this important topic.

First, the Honorable Thomas Ridge currently serves as chief executive officer of Ridge Global, an international security and risk management advisory firm. Previously, Secretary Ridge served as the first Assistant to the President for Homeland Security following the events of 9/11 and the first Secretary of the U.S. Department of Homeland Security.

Next, Mr. Joseph Lieberman currently serves as a senior counsel at the New York law firm of Kasowitz Benson Torres & Friedman. Previously, he served as a Member of the United States Senate from Connecticut for 24 years.

That is quite an accomplishment, as we sit here looking out today.

While in the Senate, Mr. Lieberman served as the Chairman of the Senate Homeland Security and Governmental Affairs Committee and as a Member of the Armed Services Committee.

Thank both of you for your service to the country.

Finally, Dr. Leonard Cole serves as an adjunct professor at Rutgers New Jersey Medical School and Rutgers University—Newark. An expert on bioterrorism and terror medicine, he is also the director of the Program on Terror Medicine and Security at Rutgers New Jersey Medical School.

I want to thank the witnesses for being here today. Your full statements will appear in the record.

The Chair now recognizes Secretary Ridge for an open statement.

STATEMENT OF HON. THOMAS J. RIDGE, CO-CHAIR, BLUE RIBBON STUDY PANEL ON BIODEFENSE

Mr. RIDGE. Well, good morning, Chairman McCaul, Ranking Member Thompson, ladies and gentlemen, Members of the committee.

First of all, I want to thank you for the opportunity to appear before you, particularly with my friend and colleague Senator Lieberman and such a distinguished academic as Dr. Cole. I am grateful for the opportunity.

I realize you have read the report. I am not going to go itemize the recommendations, but I would like to highlight some of those that we think are critically important.

Together, the recommendations address the entire spectrum of biodefense activities: Prevention, deterrence, preparedness, detection, response, attribution, recovery, and mitigation. As you know, we also include about 100 specific action items associated with these. They address programs, legislation, and policy. In the

short-, mid-, and long-term, we want to make perfectly clear who should execute each item that we recommend, exactly what they should do, and in what time frame they should do it.

Let me highlight several of our recommendations.

First is leadership. Our first recommendation is to centralize leadership at the highest level of Government in the person of the Vice President of United States.

We have multiple Federal departments and agencies and well-intentioned efforts addressing very specific aspects of biodefense, and it is our opinion that they need more than someone in the White House simply trying to achieve consensus among them. I can speak to that from personal experience. It may not be a difficult task; it may be nearly impossible.

These departments and agencies need centralized leadership from someone with the imprimatur of the President in a position that remains in place—it is permanent—regardless of changes in personalities or, frankly, regardless of the party in power.

The Vice President needs some tools to ensure effective and cohesive biodefense for this country. One of those tools is a budget. We recommend unifying the budget for biodefense and giving the Vice President authority over it. The members of the Executive branch must put forward budgets for programs that make sense as part of the entire biodefense infrastructure, not just what each individual department and agency thinks they should be doing.

The Vice President needs another tool; that is a comprehensive biodefense strategy. There are too many biodefense strategy and policy documents lying around in this town. There are too many to be useful in guiding and achieving an integrated, cohesive National biodefense infrastructure. We recommend that the White House develop a National biodefense strategy for the United States of America and that the Vice President make this a top priority.

In addition, after the White House creates the strategy, obviously, they need to develop an implementation plan. We make specific recommendations in that regard and suggest the last tool the Vice President needs is a biodefense coordination council.

It needs participation from both Federal and non-Federal stakeholders. We are of the opinion that you cannot build the most effective biodefense infrastructure if you think it can be done inside the Beltway. We can't protect the country—as well-intentioned as many programs are, you need Federal and non-Federal, State, local, academic, and private-sector engagement in this effort.

I know this committee is particularly interested in biosurveillance and biodetection. We recognized years ago that having multiple surveillance systems did not mean much if the data could not be integrated and could not produce information useful for making real-time decisions. We also recognize the need for early detection.

The DHS has made only limited progress with BioWatch and the National Biosurveillance Integration System, or NBIS, and at a great expense. We recommend that either we make these effective tools or we replace them. DOD and NASA, among others, have fielded more advanced bio-detectors. DHS has implemented some biosurveillance pilots at the State level, and we are advised that they are working far better than what the Department has at-

tempted at the National level. We do not recommend continuing on with BioWatch and NBIS the way they are presently constructed.

Obviously, once you detect a biological event, you are going to have to respond, and medical countermeasures will be among the most important elements of that response. We think there are far, far too many bureaucratic hurdles in order to get a contract developed and initiatives undertaken to begin to develop countermeasures.

We also think that it is ripe for the opportunity to build a different kind of public-private partnership in working with industries to develop incentives to develop, in a cost-effective way, medical countermeasures. Not everything has to cost money. We think HHS leadership should return contracting authority to the director of the Biomedical Advanced Research and Development Authority, or BARDA. We also think the Government can save money by developing incentives together with the industry.

We also know that—and I am a little over my time, so let me just conclude very briefly.

We like the notion, the paradigm of One Health. We don't think there has been enough emphasis paid on the connectivity between zoonotic diseases and the pathogens about which we are most concerned. We think that understanding the integration of the capabilities we have, whether it is biosurveillance and the authorities and the capabilities we have to respond and recover from these pathogens, and the relationship between animal disease and health disease is critically important for us to have a comprehensive integrated system.

We also recommend addressing intelligence collection, attribution, a select agent program, et cetera, et cetera.

Finally, let me comment, Mr. Chairman, on something that you said, and Senator Lieberman and I looked at each other and smiled.

As former Secretary of the Department of Homeland Security, I had 108 committees and subcommittees to report to. I spent more time on the Hill than the Secretary of Defense did, and he had two wars going on in Afghanistan and Iraq.

Now, the proliferation of committees and subcommittees over the biodefense domain isn't as significant, but anything that this committee and the leadership—and calling on both the House and Senate, Republican and Democrat leadership—to narrow—to narrow the aperture of responsibility and accountability, not only for DHS, particularly around biodefense, we would welcome. One of the interesting appendices in this report, it will show you the multiple jurisdictions over very specific items of biodefense.

So I would conclude by simply saying there are a lot of well-intentioned programs—I mean, there are 25 laws and Presidential directives and treaties dealing with biodefense. You have a multiplicity of organizations. Every department asks, and justifiably so, for more money for their specific enterprise. But, ultimately, if we are serious about biodefense, an integrative, comprehensive approach, with somebody having budget authority located in the White House, preferably right next to the President of the United States, we think maximizes our ability to deal with the threat. It

is not like the threat—the threat already exists; it is how we are prepared to respond and recover from it.

I thank the committee for the opportunity to share these thoughts with you this morning.

[The joint prepared statement of Mr. Ridge and Mr. Lieberman follows:]

JOINT PREPARED STATEMENT OF HON. THOMAS J. RIDGE AND HON. JOSEPH I.
LIEBERMAN

NOVEMBER 3, 2015

Chairman McCaul, Ranking Member Thompson, and Members of the committee: Thank you for inviting us here to provide the perspective and recommendations of the bipartisan Blue Ribbon Study Panel on Biodefense. On behalf of our colleagues on the panel—former Secretary Donna Shalala, former Senate Majority Leader Tom Daschle, former Representative Jim Greenwood, and former Homeland Security Advisor Ken Wainstein—we present the findings, concerns, and determined optimism of our group.

As you know, we both have addressed homeland security in various capacities for many years. Senator Lieberman served 24 years in the United States Senate, where he spent 6 years as Chairman of the Senate Committee on Homeland Security and Governmental Affairs. Governor Ridge was the Nation's first Secretary of Homeland Security and served 6 terms in the United States House of Representatives. Although we have left Government, we remain committed to public service and concerned about the challenges our homeland faces. The biological threat is among our greatest concerns. We know that many have undertaken good work to address this threat, but that we have still not achieved what we potentially could in this regard.

The Federal Government and its public and private-sector partners began strengthening National biodefense before the anthrax attacks of 2001 (14 years ago this month), they redoubled their efforts thereafter. As we are sure you recall, letters containing anthrax spores were sent to the Hart Senate Office building (shutting it down for 3 months) and elsewhere throughout the East Coast. Anthrax killed 5 Americans, sickened 17 more, reduced business productivity, and cost the Nation a great deal in terms of money, time, impact on Government operations, and our sense of security.

Yet today, the United States is not taking the biological threat seriously enough and therefore, the Nation is not ready to deal with a biological event. Most recently, the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism (WMD Commission) raised the issue 7 years ago, but others preceded them—the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction raised it 10 years ago, the National Commission on Terrorist Attacks upon the United States raised it 11 years ago, and the U.S. Commission on National Security/21st Century raised 14 years ago.

In 2008, Senators Bob Graham and Jim Talent presented the findings of the WMD Commission to the Senate. Senator Talent also testified to this committee as to the seriousness of the biological threat in 2010 and again in 2011 as you considered legislation to implement the Commission's recommendations. They believed that by the end of 2013, it was more likely than not that terrorists would use a weapon of mass destruction in a terrorist attack. They were proven correct when Bashar al-Assad deployed chemical weapons on the Syrian people in 2013. Their grave concerns regarding the biological threat were also well-founded and we should assume that they could come to fruition.

With this in mind, we began our work with the Panel by posting two questions: (1) Is the United States still vulnerable to the same weaknesses in biodefense that Senators Graham and Talent found in 2008; and (2) what are we doing to heed their advice—and that of the esteemed panels before them—to take decisive action to strengthen our National biodefense?

Beginning last year, we held four public meetings to help answer these questions. At these meetings, we spoke with more than 60 experts, including current and former lawmakers and Federal officials, local health department representatives, emergency service providers, academicians, business leaders, and thought leaders. Their input, along with significant additional research, enabled us to scrutinize the status of those activities deemed necessary for biodefense by both Republican and Democratic administrations, and many policy experts—prevention, deterrence, preparedness, detection, response, attribution, recovery, and mitigation.

Our efforts to examine National defense against intentionally-introduced, accidentally-released, and naturally-occurring biological threats culminated in our bipartisan report, “A National Blueprint for Biodefense: Major Reform Needed to Optimize Efforts.” We thank you for the opportunity to present our findings and recommendations and discuss them with you today.

We found both substantial achievements and serious gaps in our capacity to defend against major biological events, gaps that create vulnerabilities to the homeland. We also found that our preparedness is inversely proportional to how catastrophic consequences could be. We believe that the root cause of this vulnerability is the lack of strong centralized leadership at the highest level of Government. No one person has the charge and authority to take the dozen departments and agencies responsible for some aspect of biodefense and from them create a cohesive, effective, and efficient whole. The last three Presidents appointed a Special Assistant or Czar at the White House to address the issue. While their roles were important and the individuals holding these positions achieved significant accomplishments, they lacked the fundamental jurisdictional and budgetary authorities necessary to drive public and private-sector efforts.

The WMD Commission shared our concern about the lack of White House leadership and governance regarding biodefense. The absence of guidance and accountability created by this lack of centralized leadership may have been the reason why the Commission’s recommendations were not implemented effectively. These recommendations included reviewing the Select Agent Program, strengthening global disease surveillance, and enhancing National rapid response. Recent events, such as Ebola and U.S. laboratory biosafety and biosecurity incidents, demonstrate that these are still not functioning as well as they should.

There are those who believe that many issues are at least as important, complicated, and in need of a centrally-led whole-of-Nation effort, from cyber attacks to violent extremism. We believe, however, that biodefense is unique. Biodefense is one of the Federal Government’s most important National defense functions, falling squarely within the purview of the Federal Government. Biodefense affects National security, homeland security, public health security, and economic security. As such, it requires a complex and highly-sophisticated enterprise approach. More than a dozen departments and agencies must work in tandem toward a common endpoint, with an understanding of intermediate and end goals and the need to eliminate duplicative expenditures in this time of fiscal constraint. We need a driven leader with policy, political, and budget authority sufficient to achieve what has never been achieved before and establish needed harmony and priorities for biodefense.

Insufficient coordination, collaboration, and innovation result from this lack of centralized leadership. The efforts of well-intentioned departments and agencies to coordinate among themselves and address some aspects of biodefense have fallen short. An overarching leader at the White House must direct and harmonize these efforts, setting priorities, goals, and objectives for biodefense and holding members of the Executive Branch accountable for meeting them.

This leader must also take charge of intergovernmental collaborative efforts because biodefense depends on the substantial participation of State, local, territorial, and Tribal governments and their non-Governmental partners. They—not the Federal Government—will immediately feel and respond to biological events. The Federal Government must help them become more capable, allow them greater access, and provide them far more support than they are currently getting.

Biological threats are imminent, biological vulnerabilities have existed for too long, and the complexity of the threat requires equally complex solutions. As a result, biodefense is in urgent need of much greater focus on innovation. The risk aversion generally demonstrated by the Government is often prudent, but in biodefense, it inhibits the entrepreneurial thinking and technological improvements we need for radical, effective solutions.

Sufficient coordination, collaboration, and innovation in biodefense will improve the security of the American people. With effective and efficient biodefense, for example, we would have hospitals able to handle diseases like Ebola, city governments able to dispense medical countermeasures to their populations, and industry able to solve our greatest challenges in biodetection.

The 33 recommendations and more than 100 short-, medium-, and long-term programmatic, legislative, and policy actions in our report can improve our Nation’s ability to prevent, deter, prepare for, detect, respond to, attribute, recover from, and mitigate biological events. Collectively, they serve as a blueprint for biodefense. While we believe they are all important, our most important recommendations address leadership, biodefense strategy, biosurveillance, and medical countermeasures.

1. *Leadership.*—First and foremost, we recommend the instatement of a leader at the highest level of Government who recognizes the severity of the biological

threat and possesses the authority and political will to defend against it. This top-level leader should be the Vice President of the United States. The Vice President can act on behalf of the President when instilled with Presidential imprimatur and given authority as the President's proxy. The primary goal of centralizing leadership is to place coordination and oversight responsibility in a location that will have sufficient jurisdictional and budget authority regardless of personalities or party in power, and with a person in a position with the ability to make executive decisions. The Vice President possesses these attributes. By establishing and leading a Biodefense Coordination Council, the Vice President can also drive a Federal and non-Federal coalition toward solutions.

2. *Biodefense Strategy*.—Solutions depend on a well-considered comprehensive strategy. The Vice President's top priority must be to develop the National Biodefense Strategy of the United States of America. This strategy should address all organizations with responsibilities for biodefense and harmonize their efforts, as well as define the Executive branch organizational structures and requirements, modernization and realignment plans, and resource requirements necessary for implementation. The White House staff must collate existing strategies and plans, identify requirements within extant policies, assess spending history and value, and then draft a comprehensive strategy. With this strategy, policymakers will be able to assess where we are falling short of meeting the goals and objectives included therein and the President and the Congress will be able to determine where best to allocate resources. We strongly recommend that the President implement a unified biodefense budget for this purpose.

3. *Biosurveillance*.—Improving our capacity for rapid detection of dispersed or circulating biological agents is one of the most important actions we can take to protect ourselves. The Department of Homeland Security (DHS) has made early detection a key goal of its biodefense efforts since the Department was established. Some limited progress has been made with the fielding of BioWatch detectors in high-risk jurisdictions around the country and the collection and integration of biosurveillance data by the National Biosurveillance Integration System. Unfortunately, we are still not reliably capable of the kind of rapid detection of the spectrum of biological threat agents envisioned a decade ago. We have two choices: Either we make existing biodetection and biosurveillance programs work, or we replace them with solutions that do. We believe that the many departments and agencies which must coordinate with DHS on detection and biosurveillance will only do so if someone above the level of the White House staff forces the issue.

4. *Medical Countermeasures (MCM)*.—According to Senator Talent, the development of MCM should be a high priority for policymakers because it is clear that success can be achieved in this specific area. We can surmount the technological and resource challenges to taking threats off the table with MCM. Industry is abounding with innovative ideas. We must reduce bureaucratic hurdles at the Department of Health and Human Services and increase efforts to incentivize and fund what is still a growing MCM industry for biodefense. Returning contracting authority to the Director of the Biomedical Advanced Research and Development Authority and convening industry partners to help determine which incentives will be most effective.

5. *One Health*.—Animal health and environmental health are equal to human health. This approach, known as One Health, is the glue that will cohere these efforts. Zoonoses comprise the vast majority of emerging infectious disease threats faced by humans. They are also the pathogens the intelligence community is most concerned about terrorists acquiring. Zoonotic diseases interact with their environments and move between animals and people. Ebola, for example, came to humans through animals and avian influenza spread from wild birds through their environment to reach farm animals. Clearly, we were not and still are not prepared to deal with the impact of this type of disease. The DHS National Bio- and Agro-Defense Facility will provide an important laboratory capacity. Nevertheless, we must also prioritize, properly guide and fund, and fully integrate Department of Agriculture, Department of the Interior, and State-level animal infectious disease surveillance, as well as State, local, territorial, and Tribal planning and surveillance for zoonoses, into all biodefense efforts.

While we only described a few of our recommendations here, we submit that all 33 recommendations are necessary. Our other recommendations, including those to enhance intelligence collection, protect pathogen data from cyber threats, overhaul the Select Agent Program, support hospital preparedness and public health pre-

paredness grants, and lead international efforts in public health response and biological weapons diplomacy, will lead us to a position of much greater strength.

We know that the committee has a particular interest in DHS. You will find that in addition to biosurveillance, we recommend changes in other areas. For instance, we believe that the Federal Emergency Management Agency needs a more prominent seat at the table in discussions on how to remediate communities after a biological disaster. We believe that the Office of Intelligence and Analysis has an important role to play in information sharing with fusion centers and our State and local partners. We also submit that the Department's role in providing bioforensics services to Federal partners needs to shift rather dramatically, and that the forensics laboratory that does this work should have been established at the FBI, rather than at DHS, from the beginning.

If executed efficiently, effectively, and in concert, we can advance our National defense against biological threats by implementing these recommendations.

Congress plays an extremely important role in conducting oversight and providing authorities regarding all of these recommendations. We provide a number of recommendations to amend legislation and coordinate Congressional oversight. We hope you and your colleagues on other committees and in the House will consider the extensive list of suggested topics in need of oversight also contained in our report. We offer that our recommendations for a comprehensive strategy and unified budget will enable this oversight and allow Congress much greater transparency into the successes and continued challenges within the Executive branch.

As we close, we ask you to keep in mind the concerns of our citizenry. Ebola came to the United States and claimed lives here and abroad. Chikungunya is beginning to encroach upon Puerto Rico and the U.S. Virgin Islands, and sick travelers from abroad have presented throughout the mainland. Americans are wondering why we still do not have vaccines or treatments for these diseases. The Islamic State of Iraq and the Levant used chemical weapons in the Middle East earlier this year, and the public is worried about the proximity of our troops. Television shows and movies feature diseases and their devastating effects on society, and they know many aspects of those scenarios are realistic. They understand and are close to this issue. They want us to do something about it, before terrorists use biological weapons, laboratories release more agents accidentally, or new diseases emerge.

The biological threat is already out there. It is too late to get ahead of it, but we can still reduce our vulnerabilities and get ahead of its impact.

The Committee on Homeland Security has been one of the most active House committees on this issue. We recognize that with the introduction of authorizing legislation, you have attempted to resolve capability gaps. The Committee has, in many ways, provided substantial oversight to try to ensure that those DHS elements responsible for biodefense run efficiently and in a fiscally responsible manner, and that other agencies coordinate with them. We strongly encourage your continued work in this area and look forward to working with you to strengthen National biodefense.

Thank you again for this opportunity to provide our perspective. We would also like to thank our institutional sponsors (Hudson Institute and the Inter-University Center for Terrorism Studies at Potomac Institute for Policy Studies) and all of the organizations that provided financial and other support to our efforts.

Please see our bipartisan report, "A National Blueprint for Biodefense: Major Reform Needed to Optimize Efforts" for our 33 recommendations and associated action items.

RECOMMENDATIONS OF THE BLUE RIBBON STUDY PANEL FOR BIODEFENSE

1. Institutionalize biodefense in the Office of the Vice President of the United States.
2. Establish a Biodefense Coordination Council at the White House, led by the Vice President.
3. Develop, implement, and update a comprehensive National biodefense strategy.
4. Unify biodefense budgeting.
5. Determine and establish a clear Congressional agenda to ensure National biodefense.
6. Improve management of the biological intelligence enterprise.
7. Integrate animal health and One Health approaches into biodefense strategies.
8. Prioritize and align investments in medical countermeasures among all Federal stakeholders.
9. Better support and inform decisions based on biological attribution.

10. Establish a National environmental decontamination and remediation capacity.
11. Implement an integrated National biosurveillance capability.
12. Empower non-Federal entities to be equal biosurveillance partners.
13. Optimize the National Biosurveillance Integration System.
14. Improve surveillance of and planning for animal and zoonotic outbreaks.
15. Provide emergency service providers with the resources they need to keep themselves and their families safe.
16. Redouble efforts to share information with State, local, territorial, and Tribal partners.
17. Fund the Public Health Emergency Preparedness cooperative agreement at no less than authorized levels.
18. Establish and utilize a standard process to develop and issue clinical infection control guidance for biological events.
19. Minimize redirection of Hospital Preparedness Program funds.
20. Provide the financial incentives hospitals need to prepare for biological events.
21. Establish a biodefense hospital system.
22. Develop and implement a Medical Countermeasure Response Framework.
23. Allow for forward deployment of Strategic National Stockpile assets.
24. Harden pathogen and advanced biotechnology information from cyber attacks.
25. Renew U.S. leadership of the Biological and Toxin Weapons Convention.
26. Implement military-civilian collaboration for biodefense.
27. Prioritize innovation over incrementalism in medical countermeasure development.
28. Fully prioritize, fund, and incentivize the medical countermeasure enterprise.
29. Reform Biomedical Advanced Research and Development Authority contracting.
30. Incentivize development of rapid point-of-care diagnostics.
31. Develop a 21st Century-worthy environmental detection system.
32. Review and overhaul the Select Agent Program.
33. Lead the way toward establishing a functional and agile global public health response apparatus.

Chairman McCAUL. We thank you. We look forward to working with you moving forward in the future on both of those important issues.

Next, the Chair recognizes Senator Lieberman for an opening statement.

STATEMENT OF HON. JOSEPH I. LIEBERMAN, CO-CHAIR, BLUE RIBBON STUDY PANEL ON BIODEFENSE

Mr. LIEBERMAN. Thanks very much, Chairman McCaul, Ranking Member Thompson, Mr. Keating. Thank you for having us here. It is great to be back here.

Let me first thank you for the historic interest and focus of this committee on the biodefense problem and challenge, and I think you have really been leaders in that. I want to thank you specifically for convening this hearing on our report less than a week after we issued it. We appreciate that attention very much.

But, you know, no good deed goes unrewarded or unpunished, so we hope, as this hearing goes on, you will feel strongly enough about at least some of the recommendations we make here that you will become champions for them, both in your legislative and oversight capacities.

This is a panel that came together, stimulated, frankly, by a guy named Bob Kadlec, who many of you know, who was our founding staff director, worked in the White House on this specific area in the last administration, and housed at the Hudson Institute here.

I am very proud of the report. The panel itself was surprisingly small for these operations and totally bipartisan. So, great to be working again with Tom Ridge, who I not only have such great admiration for, I even like him. I mean, this is really—I enjoy spending time with him.

But the other members: Secretary Donna Shalala, former Senate Majority Leader Tom Daschle, former Congressman Jim Greenwood, and former Homeland Security Advisor Ken Wainstein.

This will not surprise you, but, to the extent that the report has any substance, credibility, and vision, it is undoubtedly because Governor Ridge and I had the wisdom to choose as our two top staff members alumni of this committee, Dr. Ellen Carlin and Dr. Asha George.

We thank you for the preparation that you gave when you took this on.

So let me see if I can summarize and just add to what Governor Ridge said.

It is about 14 years ago this month that the anthrax attacks on Capitol Hill and elsewhere around the country, including Connecticut, occurred, killing people, including a lady in Connecticut. Obviously, you will remember that our panel member Senator Daschle, his office was a target of those attacks.

After the attacks, there was a significant increase in the Federal programs that were aimed at dealing with biodefense, the bio threat, both the bioterrorist attacks and, as time went on, clearly, the comparable threat of infectious disease outbreaks and pandemics.

Our panel looked back at what we have done, and I think it is fair to say in summary that we saw substantial accomplishment but, really, not enough has been accomplished, particularly based on what we are spending.

When we talk about the absence of leadership and our own recommendation that leadership be given to somebody at the rank, the level of the Vice President, part of that is because—I will give you an example—it is very hard to find out exactly how much we are spending on biodefense in the Federal Government. In fact, the most reliable number we got, or at least we felt, was not from the Federal Government but from the University of Pittsburgh, which has a center on bioterrorism. It is about \$6 billion a year.

We don't think we are getting our money's worth, effectively, of that, in part because it is not adequately coordinated. So I think Governor Ridge and I and the members of our panel feel that we can accomplish what we are recommending without a substantial increase and hopefully without any increase in spending.

Is the threat real? I think we concluded that the threat of bioterrorism and infectious disease pandemics is not only real, it is growing.

Mr. Chairman, you testified to that in your opening statement. We all dealt with Ebola last year. The Government seemed, certainly to me, unprepared for what came. We were lucky, thank God, that the impact here was so minor. We may not be so fortunate the next time.

Right now, there is an infectious disease called Chikungunya which is beginning to encroach on Puerto Rico and the U.S. Virgin

Islands. Travelers from those places come to the United States, are bringing it here, and it is beginning to have an impact. We are not really prepared, I don't think, to deal with it.

All you have to do is look at what people in ISIS are saying about a bioterrorist attack, and it is enough to—when you think about the extent to which ISIS has built its reputation and its latent state, the state that it has declared so quickly, it is based on the willingness to go further than other radical Islamist terrorist groups in ways they have found to kill people, particularly the beheadings. I worry that bioterrorism and a bioterrorist attack is, unfortunately, almost irresistible to them, and we have to think about that possibility as we go on.

Governor Ridge talked about the main—the last report done, incidentally, on this challenge was done by the so-called Graham-Talent Commission 7 years ago, and, really, not enough has happened in response to that.

I know you will have questions about the decisions we made to recommend that the Vice President coordinate this. In some sense, we backed into that recommendation because every other alternative that we found we thought was not strong enough. We didn't want to make one department of our Government, even Homeland Security, which is the central department responsible for coordinating all the other departments, at least 12 that we found, involved in this.

We thought about recommending that an assistant to the President have this responsibility. That is not a bad suggestion, but, as Governor Ridge said, that doesn't have the heft and the strength that we were looking for, and so we ultimately recommended the Vice President. We are glad to answer questions about that.

Governor Ridge mentioned the One Health approach. I just want to say that one of the things I learned as we did our work here was how—one thing I learned is the definition of the term “zoonotic,” which wasn't something I had been familiar with enough before, which is the extent to which human disease comes from animals, and not enough recognition of that.

I mean, one of the, to us, stunning findings was that there is no comprehensive, standardized, sort-of, National registry or list in real time of outbreak of diseases among animal populations in the country, comparable to what we have for humans, and, therefore, we don't have that early warning that we could have about what may be next for us.

Finally, I just want to touch on the Department of Homeland Security. Tom Ridge talked about our concerns about the existing BioWatch system, and they are real. I mean, we are operating with old technology, and the program is really not doing its job. We ought to dramatically improve it or sack it and figure out a way to do the job better.

Very briefly, we had other recommendations regarding DHS. We believe that FEMA needs a more prominent seat at the table in discussions about how to remediate communities after a biological disaster.

We also believe that the Office of Intelligence and Analysis has an important role to play in information sharing with fusion centers and our State and local partners about the bioterrorist threats.

As I believe Governor Ridge mentioned—I will just touch on it briefly—we concluded that the Department’s role in providing bio-forensic services to Federal partners needs to shift and that the forensic laboratory that does this work actually should be in the FBI, should be transferred to the FBI, because that is its major client.

This report is—it is not wonkish, but it is detailed and substantive and practical. Thirty-three blocks of recommendations, almost 100 action items, Executive and Legislative, in it. But, as I said a few moments ago, it needs champions here on the Hill.

I can tell you that Governor Ridge and I and our panel members intend to stay together to be advocates and supporters for anyone in the Legislative and Executive branches who wants to take our report seriously, not necessarily embrace it all, but take parts of it. We will be happy to provide any support we can to implement this as we go forward.

Thanks, Mr. Chairman. I look forward to your questions.

Chairman MCCAUL. Thank you, Senator.

The Chair now recognizes Dr. Cole.

STATEMENT OF LEONARD A. COLE, PH.D., DIRECTOR, TERROR MEDICINE AND SECURITY PROGRAM, DEPARTMENT OF EMERGENCY MEDICINE, RUTGERS NEW JERSEY MEDICAL SCHOOL

Mr. COLE. Thank you, Chairman McCaul, and to you and to Ranking Member Thompson for inviting me to speak on the threat posed by terrorism and, more importantly, for the vital work that you and other committee Members are doing to strengthen the security of our country.

I feel especially privileged to be sharing a table with former Governor Tom Ridge and former Senator Joe Lieberman, two of our Nation’s most distinguished public servants. I congratulate them on chairing the bipartisan Blue Ribbon Study Panel, whose excellent new report, “A National Blueprint for Biodefense,” is of key interest here.

As you may know, in previous testimony before some Homeland Security subcommittees, I have referenced a 2012 paper titled “WMD Terrorism”—“Weapons of Mass Destruction Terrorism.” It was produced by the Aspen Institute’s Homeland Security Working Group, on which I served.

The Aspen paper has emphasized at some level what you have been hearing so far from our two previous witnesses, that bioterrorism remains a continuing and serious threat. But a virtue of the new Lieberman-Ridge blueprint is that it digs more deeply into numerous biodefense activities, details their flaws, and it lists recommendations for remediation.

Many of the policy deficits derive from turf issues, bureaucratic inertia, and the absence of a coherent National strategy. A casual observer might feel overwhelmed by the multiplicity of issues cited in the blueprint, which includes, as you heard, about 100 recommendations and subsets of action items. Yet failure to absorb the importance of the report’s key messages would be a disservice to our National interest.

Let me make three essential observations that are drawn from the blueprint, as they have been from a few other previous reports, as well.

First, the biological threat is real and, in a worst-case scenario, could be catastrophic. We have to think no farther back than the 20th Century to know that, in the period of 1918 and 1919, a pandemic of what was called Spanish flu killed more than 50 million people and estimates have suggested as many as 100 million around the world. It is also true that, in the first half of the 20th Century, before smallpox was eliminated, an estimated 300 million people in the world were killed, or died, as a result of smallpox.

Second, biodefense activities conducted by scores of Government agencies are, quite evidently, uncoordinated, and many are redundant. Talk about saving money. There is an opportunity right there not to duplicate or triplicate, if that is such a word.

Third, an individual with full Presidential authority should be designated to oversee and coordinate the Nation's biosecurity policies and activities. Strengthening biodefense capabilities can also enhance defense against disease outbreaks in general.

Travelers from countries with high rates of Ebola currently are screened upon arrival in the United States. After landing at Newark International Airport, a suspected Ebola patient is taken to the University Hospital in Newark and remains in a special containment area for days or weeks under observation. My information is that the latest number of Ebola patients, or suspected Ebola patients—none turned out to have actually been infected—numbered about 18 since the Ebola outbreak began in mid-2014.

An official from the World Health Organization termed the hospital's response capability, "a model for other hospitals." Yet that facility can accommodate no more than 1 or 2 patients at a time.

In this instance, the medical needs would be the same whether the genesis of the disease was deliberate or not. Either way, a few simultaneous cases could overwhelm the hospital's ability to provide adequate care. I underscore again, this hospital is unusually well-prepared, as considered by the World Health Organization.

Well, it also indicates that biodefense expenditures to expand the surge capacity for several more victims, to accommodate several more potential victims, could benefit nondefense needs as well.

On another important matter for consideration, the blueprint's top-down emphasis barely addresses the need for education within the general medical community. The field of terror medicine, which includes aspects of disaster and emergency medicine, focuses on the distinctive features of a medical response to a terrorist attack. Yet, even years after the 2001 anthrax attacks, many physicians, nurses, and other medical staff feel unprepared to deal with biological or other forms of terrorism.

The Rutgers New Jersey Medical School offers a course on terror medicine. The curriculum includes hands-on simulation exercises involving biological and other terror threats. Students and faculty who have participated have been uniformly enthusiastic about the experience.

Familiarizing the medical community throughout the country with the essentials of terror medicine would provide a bottom-up

approach toward a goal shared with the authors of the blueprint—namely, enhancement of the country’s biodefense.

More education for doctors and others on terror medicine should be encouraged. The co-chairs of the Blue Ribbon Panel indicated their intention to press vigorously for the enactment of the blueprint’s recommendations. I wish them great success. Actually, I wish all of us great success in this. But I also suggest that support from a broad base of informed health care providers could augment their efforts.

Thank you for your attention to this important matter, and I look forward to discussion, questions, and answers.

[The prepared statement of Mr. Cole follows:]

PREPARED STATEMENT OF LEONARD A. COLE¹

NOVEMBER 3, 2015

Chairman McCaul and Ranking Member Thompson, thank you for inviting me to speak on the threat posed by bioterrorism, and more importantly, for the vital work that you and the other committee Members are doing to strengthen the security of our country. I feel especially privileged to be sharing a table with former Governor Tom Ridge and former Senator Joe Lieberman, two of our Nation’s most distinguished public servants. I congratulate them on chairing the bipartisan Blue Ribbon Study Panel whose excellent new report, *A National Blueprint for Biodefense*, is of key interest at this hearing.

As you may know, in previous testimony before subcommittees of the House Homeland Security Committee I have referenced a 2012 paper titled *WMD Terrorism*. It was produced by the Aspen Institute’s Homeland Security Working Group, on which I served. While reviewing the threat of terrorism posed by various weapons of mass destruction the Aspen paper emphasized that bioterrorism remains a continuing and serious threat. A virtue of the new Lieberman-Ridge *Blueprint* is that it digs more deeply into numerous biodefense activities, details their flaws, and lists recommendations for remediation. Many of the policy deficits derive from turf issues, bureaucratic inertia, and the absence of a coherent National strategy. A casual observer might feel overwhelmed by the multiplicity of issues cited in the *Blueprint*, which includes about 100 recommendations and subsets of action items. Yet failure to absorb the importance of the report’s key messages would be a disservice to our National interest.

Let me make three essential observations that are drawn from the *Blueprint* and a few other reports that preceded it:

1. The biological threat is real and in a worst-case scenario could be catastrophic.
2. Biodefense activities conducted by scores of Government agencies are uncoordinated and many are redundant.
3. An individual with full Presidential authority should be designated to oversee and coordinate the Nation’s biosecurity policies and activities.

I am aware that specifics about some of the recommendations have been questioned—for example, that the Vice President be the designated leader for oversight of biodefense. This designation, according to the *Blueprint*, would assure White House authority behind efforts to promote cooperation among agencies. But it also assumes that the Vice President is conversant with biodefense issues and that a Vice President’s other obligations would allow for adequate attention to a new and large responsibility. Still, the need to resolve such details should not obscure the *Blueprint’s* overall importance.

In some respects, strengthening biodefense capabilities can also enhance defense against disease outbreaks in general. A deliberate bioattack, as the report notes, at some point is likely. It is also true that future naturally-occurring epidemics are certain. Emphasizing the overlapping benefit of preparedness for either eventuality should be a source of support for both.

A blurring of the line between deliberate and natural causes has been evident in the Ebola epidemic, which began in mid-2014 in West Africa. The World Health Organization estimates that the outbreak has thus far resulted in more than 28,000

¹Unless otherwise indicated the views expressed here are my own and not representative of any institution.

cases including 11,000 deaths. The Ebola virus is deemed a potential bioterrorism agent, though this recent outbreak was of natural origin. Travelers from countries with high rates of the disease are screened upon arrival in the United States. After landing at Newark International Airport a suspected Ebola patient is taken to the University Hospital in Newark and remains there for days or weeks under observation. The patient is confined to an extended treatment area in a huge open space in one of the hospital buildings. The treatment area includes elaborate plumbing and electrical systems, negative pressure containment enclosures, and special waste management systems. An official from the WHO termed the hospital's response capability a "model for other hospitals." Yet for all the praise, the facility can accommodate no more than one or two patients at a time.

At this point of understanding, the medical needs would be the same whether the genesis of the disease was deliberate or not. Either way, a few simultaneous cases could overwhelm the hospital's ability to provide adequate care. Thus biodefense expenditures to expand surge capacity, say for a dozen victims, could benefit non-defense needs as well.

The *Blueprint* offers credible pathways to improve biodefense, though its top-down emphasis barely addresses the need for education within the general medical community. The field of terror medicine, which includes aspects of disaster and emergency medicine, focuses on distinctive features of a medical response to a terrorist attack. A health care provider is likely to be the first professional to identify a patient's illness as potentially related to biological terrorism. This was illustrated in 2001 when victims of the anthrax letter attacks began to show up in doctors' offices and hospital emergency rooms. Yet even years after those attacks, many physicians, nurses, and others in the medical community feel unprepared to deal with biological or other forms of terrorism.^{2,3}

For the past 2 years the Rutgers New Jersey Medical School has offered a course on terror medicine to fourth-year medical students. The curriculum includes lectures, videos, and hands-on simulation exercises involving biological and other terror threats. The dozens of students and faculty who have participated have been uniformly enthusiastic about the experience. Links to relevant articles about the course are listed at the end of my written testimony.

Familiarizing the medical community throughout the country with the essentials of terror medicine would provide a bottom-up approach toward a goal shared with the authors of the *Blueprint*: Enhancement of the country's biodefense. Enrollment in courses and other instructional formats on terror medicine should be encouraged.

The co-chairs of the Blue Ribbon Panel have indicated their intention to press vigorously for enactment of the *Blueprint's* recommendations. I wish them great success. But I also suggest that support from a broad base of informed and enthusiastic health care providers could augment their efforts.

Thank you again for your attention to this very important matter.

SAMPLE ARTICLES ABOUT THE RUTGERS COURSE ON TERROR MEDICINE

Cole, et al. "Terror Medicine As Part of the Medical School Curriculum," *Frontiers in Public Health: Disaster and Emergency Medicine*, September 12, 2014. <http://dx.doi.org/10.3389/fpubh.2014.00138>

Barnes, "Terror May Become a Bigger Focus at Med School," *Global Security Newswire*, produced by *National Journal*, June 24, 2014. <http://www.nti.org/gsn/article/terror-may-become-bigger-focus-med-school/>

Kitchenman, "Medical School Students Gain Insight into Harsh Reality of 'Terror Medicine'," *NJ Spotlight*, April 4, 2014. <http://www.njspotlight.com/stories/14/04/03/medical-school-students-gain-insight-into-harsh-reality-of-terror-medicine-issues/>

SAMPLE STATEMENTS FROM STUDENT EVALUATIONS OF THE COURSE ON TERROR MEDICINE

"A fantastic introduction to terror medicine, an area we would otherwise never learn about."

"The course explored topics that have not been touched on in previous medical school classes but are very relevant to every medical student."

"It was great, informative, and relevant."

²Smith and Hewison. "Are Nurses Prepared to Respond to a Bioterrorist Attack: A Narrative Synthesis," *Journal of Advanced Nursing* (2012) 68:12. <http://www.ncbi.nlm.nih.gov/pubmed/22708982>

³Stankovic, et al. "Bioterrorism: Evaluating the Preparedness of Pediatricians in Michigan," *Pediatric Emergency Care* (2009) 25: 2. http://journals.lww.com/pec-online/Abstract/2009/02000/Bioterrorism_Evaluating_the_Preparedness_of.8.aspx

“Very interesting and valuable lessons in a short amount of time and I would recommend to every medical student.”

“This course provides an in-depth introduction to terror medicine and is a valuable springboard to a field that future doctors should be aware of and comfortable with.”

Chairman MCCAUL. Thank you, Dr. Cole.

I now recognize myself for questions.

First, before I get into the recommendations, I really want to kind of highlight the nature of this threat. I think as we saw with Ebola—and it hit my home State of Texas—just a handful of cases, but the wide-spread panic and fear was palpable. It is the enemy that you can't see. That is what instilled, I think, the terror in Americans, that they couldn't see it, and they didn't know where it was coming from, and they would go on an airplane, and they would be concerned about, you know, their susceptibility.

You know, there is Mother Nature as a threat that evolves. As you mentioned, the pandemics. A SARS airborne strain would be of grave concern. But then there is also the ability of terrorists to exploit biological weapons and use those against Americans.

I want to just quote from a report and get your comment on how realistic this threat possibly could be. But a laptop was recently recovered from an Islamist State jihadist, which contained a hidden trove of secret plans, including weaponizing the bubonic plague.

As this report says, most chilling were files that indicated the computer's owner, identified as a Tunisian national, joined ISIS in Syria after studying chemistry and physics at two universities in Tunisia, taught himself how to manufacture biological weapons in preparation for a potential attack that could have been catastrophic on a global scale.

It goes on: A 19-page document in Arabic included instructions on how to develop biological weapons and how to weaponize the bubonic plague from infected animals. It says, “The advantage of biological weapons is they do not cost a lot of money, while the human casualties can be huge.”

I would just like for all three of you, perhaps, to comment on that very briefly.

Secretary Ridge.

Mr. RIDGE. Well, Mr. Chairman, I believe one of the reasons that you get a sense of urgency—we are not reckless about this, but there is a sense of urgency—is our assessment that the threat is real. That is just one indication of how serious one sector of our enemies take the capacity-building of bioweapons into consideration as part of their arsenal.

We also know that there are five or six countries that have signed pledges not to develop these weapons, but they still have active research capabilities. On top of that, you are never quite sure what Mother Nature is going to throw at you.

But, with regard to the terrorism threat, we are foolish if we don't accept the reality that if you—like ISIL, if they control territory, have access to money, plenty of information available on the internet how to do this—obviously, they have already given some serious thought and may actually be in preparation of trying to weaponize any number of pathogens—then let's say to ourselves that the threat is real and let's begin educating multiple constituencies.

Not that we are going to have to alarm America. We have demonstrated we are resilient. But we also like to know the threats we are confronted with. So some public education around that area. There are two other constituencies: The health care workers and the emergency responders.

So the threat is real. It is not as if we are anticipating it. It is out there. We have to act, not in a reactive way, but this is all about preemption. You know, democracies are more inclined to act in response to a crisis. The threat is real. We had better act before the crisis occurs.

Chairman MCCAUL. Senator Lieberman.

Mr. LIEBERMAN. Thanks, Chairman.

The excerpt that you read really is chilling, but it is quite realistic. Frankly, as I look back, it surprises me that we haven't, thank God, experienced a bioterrorist attack in this country of any significance since the outbreak of the war against Islamist extremism and terrorism. Because, as the Graham-Talent Commission said, compared to the other forms of weapons of mass destruction, a biological weapon is relatively easier to put together—not easy—and, of course, easier to either transport into the country or do here.

If you want a standard of the scope of the threat, really, it is to go to the infectious diseases that Dr. Cole talked about and the enormous loss of life that has occurred over our history, because that can be replicated in a bioterrorist attack.

It is really striking, going back to the word “zoonotic,” that, in the excerpt you read, the plan was to draw the disease, if you will, from an animal population and weaponize it to be used against people.

So this is not a threat that we are creating. This is real. As Tom just said, we had better get ahead of it before it strikes us and we are running to catch up. It is pretty clear we are not ready for the threat now.

Chairman MCCAUL. Dr. Cole, before you answer, you mentioned smallpox killed 300 million people. That has been eradicated but not vaccinated currently. If there was an outbreak of smallpox today, what kind of position would we find ourselves in? Do we have the capability to respond to that?

Mr. COLE. Well, you might remember that on the eve of consideration of sending troops to Iraq there was concern that some terrorists or perhaps in Iraq itself there were some capabilities with smallpox, in particular. The President then, President Bush, George W. Bush, with the advice of the CDC, said we ought to have a vaccination program revived, including stockpiling.

What happened was that that recommendation of some 10 million inoculees initially—first responders, police, fire—pretty much melted after it was clear that there was no smallpox threat at that time. But there still has been, fortunately, in my opinion—and I believe everybody would agree—a build-up and stockpiling of more smallpox vaccine.

As one colleague of mine said, you know, all we need is a case of smallpox, one case, anywhere in the world, and we will all really be on the edge of concern and probably start some active vaccination program.

So the short answer is we are in better shape now than we were 15 years ago. How it would play out and how quickly we would be able to vaccinate people is another question.

I would just say, if I may steal a little time here, in response to some of the concerns that we have heard, particularly from Senator Lieberman, his wonder about why we haven't had a bio attack until now, well, first of all, it hasn't been for lack of effort. Al-Qaeda had actual laboratories working on developing anthrax as a weapon.

When you deal with biological agents, even of the same genus or strain, like anthrax, where there are probably a thousand variations, some are virulent, some will kill, some are not. So there is more of a variation in the kind of material in a biological arsenal potentially, and it is not certain to kill. When you release bio agents into the air, a lot of variables take place. Wind, sun, ultra-violet light can kill them.

On the other hand, we do know the potential. As the old saying goes we have heard over and over again, we have to be right every time in our defense and prevention of terrorism; the terrorists have to be right only once. You can say the same thing as an analogy with bioterrorism. Maybe 99 times the effort will fail in an enemy's laboratory, an adversary's laboratory, but all you need is one success to create a major, major problem.

Chairman MCCAUL. I agree with that.

In the limited time I have, I want to touch on the recommendations, Secretary Ridge and Senator.

I agree, we asked the question, "Who is in charge?" when Ebola was breaking out, and the answer was, "We don't really know." I think the White House has to have a unified effort, whether that be an assistant secretary or at the Vice Presidential level. I think those are strong recommendations.

Within this committee's jurisdiction, we are proposing streamlined and elevated WMD functions into a unified office within the Department of Homeland Security—and this is sort-of the organizational chart that we are looking at—based upon the recommendations of this report.

I just wanted to give the two of you time to comment on that.

Mr. RIDGE. Well, first of all, I think I will defer to this committee as a partner in the evolution of DHS and to Secretary Johnson. I am not about to move portions of his infrastructure around, and I will let the two of you work it out.

I do think, however, that in spite of that reorganization, which may—because there are probably overlapping jurisdictions, and it is not about cost savings—might give a more specific focus on the WMD—and I think that is what you are trying to do—DHS will still be one of multiple agencies dealing with the bio threat and the biodefense.

So let us assume that the reorganization effort is successful because of the collaboration between the Executive and the Legislative branch. I hope it is. You still have the same situation. The focus may be better inside DHS, but you still have that broad spectrum of multiple agencies, each doing their own thing, setting their own priorities, without it being consistent with an overall strategy and without being consistent with priorities set not by individual

departments and agencies but by the President and the Vice President of the United States.

Chairman MCCAUL. Yeah. Good point.

Senator.

Mr. LIEBERMAN. So I would say, from what I know of the proposal the committee is making, that it is a step in the right direction, because it is a step to coordination. But, of course, I agree with what Governor Ridge has said, that we also need that same kind of overarching cooperation, collaboration, and leadership at a Government-wide level. That is why we recommended the Vice President.

Chairman MCCAUL. That is good.

Let me just close by saying we have had very productive discussions with Secretary Johnson on this proposal.

Mr. LIEBERMAN. Good.

Chairman MCCAUL. As with most reorganizations, we obviously want his buy-in on what we are doing here and collaboration. So far it has moved very well.

So, I mean, I agree with you, with the overarching Federal—all the Federal agencies working on this need to collaborate, and it has to be under who is in charge in the White House.

Yes, sir.

Mr. RIDGE. If I might just add, that is precisely the reason that some of us—and I will speak as the first Secretary of Homeland Security—we would like to see this committee have—I know it is tough for a committee Chairman and subcommittee Chairmen and your colleagues to give up jurisdiction, but it would be certainly nice if this committee had more complete jurisdiction and really develop the kind of relationship that apparently you have developed with Secretary Johnson, saying, we need to collaborate, we need to be on the same page to make this a more effective enterprise. So I commend you for that effort.

Chairman MCCAUL. I certainly agree with that.

Mr. LIEBERMAN. Mr. Chairman, I just want to say the same. Senator Collins and I, who led the effort on the 9/11 Commission report, thanks to a lot of support across the aisle, both in the Senate and working with the House, we really adopted most of the report recommendations. We were really quite successful at reforming the Executive branch. It was when we got to the Legislative branch that we had our problems. I admire you for wanting to charge the fortress again, but it is critically important to do that.

I shouldn't use this parallel, but I always felt that a lot of the other committees that were calling on people like Secretary Ridge to testify were, in some sense, visiting the subject matter. The House Homeland Security Committee, the Senate Committee on Homeland Security, I mean, we live with it every day, and this is where the focus should be.

Chairman MCCAUL. We look forward to working with you on that effort.

The Chair recognizes the Ranking Member.

Mr. THOMPSON. Thank you very much.

The testimony has, indeed, been very good.

Governor Ridge, you and Senator Lieberman have talked about putting somebody in charge. While I think that the Vice President

is almost as high as you can go in terms of putting somebody in charge, but the practical reality of oversight by this committee is, can you envision the Congressional oversight on biodefense? Because the likelihood of a Vice President coming, testifying, would not be—well, it would be nice, but I have yet to see it.

So tell us your thinking on that, if you would.

Mr. RIDGE. I appreciate that, Congressman.

First of all, the other day, I counted the number of public paychecks I have received over my life from 7 different jurisdictions from one time or another. So, if you looked at my resume, I can't hold a job. But 3 of the most important was sitting up proudly as a Member of the People's House, as Governor of the great Commonwealth of Pennsylvania, Assistant to the President, and then Cabinet Secretary.

All those experiences, particularly the 2 in the White House, suggested to me that, in spite of the well-intentioned efforts of Congressmen and Senators and think tanks and department heads, you need a unified effort, a cohesive effort.

I also concluded, based on my experience in the White House, that the only way you really effect change—and I think you will all appreciate this—is if you have control over budgets. That is why we want to give the President the budget authority—the Vice President oversight budget authority.

I think the Executive branch answers the call of oversight in many different ways. I think, in this instance, perhaps you would use the Director of Science and Technology or, more importantly, maybe the Director of OMB to be talking about the priorities. Remember, there is going to be a comprehensive plan, hopefully with the input of the Congress of the United States and other people involved in the development of the infrastructure.

So I think you can, the Congress can effectively, effectively, meet its Constitutional responsibilities on oversight, because you will still have, based under that plan, department heads, agency heads, and OMB answerable to you. That is why making it—it is the oversight over a comprehensive plan rather than individual departments and agencies that we think is so critical.

That still means that you are going to have plenty of committee hearings and a lot of the Cabinet Secretaries and Under Secretaries appearing before you. But from the Vice President point of view, you might have the Office of Management and Budget up here explaining why different funding streams are going to different departments and agencies.

Mr. THOMPSON. Are you—Senator Lieberman.

Mr. LIEBERMAN. Thanks, Mr. Thompson.

Look, you make a good point. I think maybe when you were out of the room briefly, I said, in some sense, we backed into the proposal about the Vice President being the lead for the Federal Government, because all the alternatives that we considered didn't seem strong enough.

So you are absolutely right; we tried to get about as close to the President as you could get, in terms of the strength of the leadership and the ability to coordinate. No question, you would not get the Vice President up here testifying any more than you get the President up here regularly to testify. But, on balance, we felt that

you still have the people under the Vice President who would be subject to your oversight, and the pluses associated with that central leadership in the Office of the Vice President outweighed that obvious problem with the proposal.

Mr. THOMPSON. Thank you much.

Dr. Cole, as you know, we have challenges within the health community. Can you talk about the funding challenges that you see in hospitals and medical schools preparing students and staff to identify and respond to a biological event?

Mr. COLE. That is a great question.

What we need to see is more of a culture change. Then, funding becomes more amenable.

I had a conversation with a dean of a medical school a few years ago, and he said: So who should we cut in order to pay for more exercises and drills?—\$50,000, \$80,000 a year. Should we cut a dietician from our current needs and our current staff? So you face the inevitable issue of the limited funding resources and where the money is going to go.

If, through the great efforts that we have just been hearing about, there becomes more of a consciousness about this, including the suggestion that I make relative to terror medicine being taught, there becomes a greater sensitivity.

In my written remarks, toward the end, the very last item, there is a series of quotations from various students who have taken the course on terror medicine. They are amazingly consistent in their recognition. These are fourth-year students. They have been through most of their formal education at that level. They say, wow, this was a great course, not so much because of instruction as much as because of content.

It has not permeated through the medical school curricula in many places. Certainly, it has been fairly successful at Rutgers in Newark, but that is not representative of the larger community.

Mr. THOMPSON. So you say we need to get the schools to start changing how they look at the whole area about medical defense?

Mr. COLE. Yes. I would say that a good start would be—or I shouldn't say a start only in this one area, but among your starts, go to the medical community, go to the AMA and other reputable organizations that represent physicians, remind them of the issues.

Presumably they have all been informed about it in some fashion in the past, but, as you have heard, there have been several good reports that have come out that lie on shelves still without action.

You create the culture of awareness, and then I think what would follow would be a pressure from below up toward the Government, as opposed to the Government telling them what to be doing.

Mr. THOMPSON. Thank you.

I yield back.

Chairman MCCAUL. The Chair recognizes Mr. King.

Mr. KING. Thank you, Mr. Chairman. Thank you for holding this hearing.

I want to again welcome Secretary Ridge and Senator Lieberman.

I had the privilege of serving with Tom Ridge in the House of Representatives when I first came here. You did an outstanding

job. I saw first-hand the job that you did setting up the Department of Homeland Security, which really was being present at the creation. Because no one really knew what direction it was going to take, how it could be done, and somehow you put it together. So I really commend you for that and for your service.

Senator Lieberman, of course, you and I have been friends for years. I admire the great work you have done in many ways. Also, when you were talking about people having egos and committee Chairmen wanting to stand on ceremony, maybe it is a small thing, but I remember, when I was Chairman of the committee, we held a joint hearing on radicalization in the military, and you actually agreed to have the Senate committee come over to the House side of the Capitol Visitor Center, which I think was almost unprecedented, to have you guys actually come over to our side.

Mr. LIEBERMAN. Thank you for remembering that. I came where the leadership was, and you.

Mr. KING. Thank you, Senator.

Also, I have to commend you for having the good wisdom to hire Dr. Carlin. She served for me when I was Chairman of the committee. My only criticism of her was she caused me many sleepless nights when she would come in with all these scenarios about how we could be dead before the next day. I was afraid that one night she was going to be right.

But, Ellen, it is great to see you back here today.

I just have a few quick questions.

One, Ranking Member Thompson mentioned the fact that we have legislation that has not moved. One we were lucky on was Congressman Pascrell and I had a bill to provide anthrax vaccines to first responders. That did pass the House. Your old friend, Senator Ayotte, has it right now in the Senate, and hopefully it can move there.

If you could just put in the record why it is important that first responders do have access to vaccines in cases of attacks such as the ones we are talking about.

Mr. LIEBERMAN. Thanks, Mr. King, Congressman King.

So, you know, it is because they are going to be the ones that have to respond first. I mean, I can't think of anything more creative. We owe it to them to have access to the vaccine. We know, by their training and by their reflex, they are going to go to what others would shy away from, which is danger, because that is their responsibility. So we want them to feel that they have a vaccine and they are protected.

I strongly support your proposal. Senator Ayotte, I think, along with Senator Booker, have a similar proposal.

This is also not only preemptive in terms of creating this level of confidence among our first responders, but it is sensible because, as you know, the viability of some of the anthrax vaccine in our stocks is going to run out and it will be useless, and now we have an opportunity to use it in a most constructive way.

So I hope your legislation moves quickly.

Mr. KING. Dr. Cole, do you have any thoughts on that?

Oh, I am sorry, Tom. Did you want—Secretary Ridge.

Mr. RIDGE. I think you are on to something. First responders run to danger. If we can immunize them to the danger that they are running to, that is the right thing to do. It is good policy.

Mr. KING. Dr. Cole, do you have any thoughts? Is there any downside to this? Do we run any risk by having the vaccines available? Is there any—

Mr. COLE. No, we certainly don't have any downside. All our military, especially those who are headed for the Middle East, are automatically required to get anthrax vaccines.

By the way, I should say that you chaired one of the subcommittees at which I testified. I appreciated your questions and your leadership then, and I still do now.

Mr. KING. Thank you, Doctor. I really appreciate it. Thank you.

We know that ISIS has used mustard gas on several occasions. We know the large numbers of foreign fighters who have gone from Europe to Syria to fight. Many of them will be going back.

Is there any way we can protect ourselves in a greater way from the threat of mustard gas or other biological agents coming to the United States from these foreign fighters or from other sources in the Middle East?

Tom. Or, actually, any of the three who want to jump in.

Mr. RIDGE. You know, this whole refugee problem creates potential unintended consequences for the broader community. Those leaving Syria and Iraq in the face of ISIS and the notion that some sympathizers are actual members may be among that group, I think there is a risk attendant to it. I don't think there is any question about that.

I also think that—and this is Tom Ridge's opinion—the world has ignored the reality of what is going on in Syria, the extermination of 250,000 Syrians and the mass exodus of hundreds of thousands, if not millions. We still have not done anything about the actual cause of the problem. We are obviously not going to get around to that for a while.

So I think we are going to have to accept that some of the risk. Hopefully, there will be some kind of screening protocol that we could come up with before they enter the country, just as we did with people traveling in from those countries that were affected by Ebola.

It is a thorny problem, and I don't have the best answer to it. But I do think that we just have to accept a certain amount of risk and, hopefully, under a protocol that would allow admission of some.

Mr. LIEBERMAN. Congressman King, you ask, really, a big question, which is, how do we act to prevent terrorists from carrying out a bioterrorist attack here? Really, it goes to all the elements of the war on terrorism.

I mean, again, I worry that ISIS has so rapidly built this state that it has created by going beyond what previous terrorist groups did, I mean, being more inhumane. Therefore, I would think that a bioterrorist attack would be something that—and we know this from what the Chairman read—something they would want to carry out.

So it requires everything that we have talked about. I mean, this is the classic “we should fight them there instead of here.” In other

words, we should do everything we can to eliminate this nascent state that they have created in parts of Iraq and Syria. It requires an enormous commitment in terms of intelligence.

They are drawing on a more intelligent, in a different sense, population that may come to their ranks with some specialized experience in biology that will help them to gain this capacity. All that we do to try to keep people out of this country who are coming in for nefarious terrorist purposes—and then the enormous challenge of how do you stop a lone wolf or a small group of people who are already inside America from developing this capacity? It requires everything that all the DHS, FBI, intelligence community, et cetera, are doing.

So the bottom line that I think our panel came away with with a sense of urgency is that the threat of a bioterrorist attack is real, and the need to up our fight here and our capacity to prevent, let alone respond, but to prevent, is urgent.

Mr. KING. Dr. Cole.

Mr. COLE. Well, I certainly agree with both Governor Ridge and Senator Lieberman's comments.

I would only add that I have no personal information about what I am going to say, except that David Cameron, the Prime Minister of the United Kingdom, recently said that his counterterrorism expert—presumably it is MI5—said that they estimate that 2 out of every 100 of these refugees probably have a relationship—a past relationship, I hope, but maybe a current one—to al-Qaeda or another kind of terrorist group.

That is a phenomenal number. You are talking, then, if that is even near-truth, of thousands of these people coming in with nefarious backgrounds. I am not sure how well the screening would go. I don't know the basis on which those estimates were made, but it is worthy of at least considering.

Mr. KING. Thank you, Doctor.

Thank you, Senator.

Thank you, Governor.

Chairman MCCAUL. The Chair recognizes Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to thank our panel today.

Particularly, it is great to see you again, Secretary Ridge and Senator Lieberman. I appreciate your extraordinary work on this and your commitment to the country and all that you have done in public service. We are grateful for that.

Welcome to you also, Dr. Cole. Thank you for your service, as well.

So I, as you know, have spent many years on this subject as a founding member of the Homeland Security Committee and also having had the privilege of chairing the Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology that looked at it, did a deep dive on things like bio threats and pandemic influenza.

I want to recognize also and thank your two staffers who helped to prepare this report: Asha George, who served as my staffer when I chaired the subcommittee; and Ellen Carlin, as well. I thank them both for their extraordinary work and commitment to this issue.

This issue really hit home for me when, in an informal conversation I had with a former high-ranking official from the Pentagon, and I was asking him to quantify, you know, how much are we talking about this—say, a biological agent. How much of it would it take? Are you talking about tanker trucks full of it to have, you know, a wide-spread impact? Or is it something smaller than that? You know, without hesitation or very much thought, he said, “No, it wouldn’t take much at all.” In fact, to quantify it, using a certain type of biological agent, which I won’t mention, weaponized and aerosolized in some size of a fire extinguisher, sprayed from the top of a tall building, it would create a plume of about 50 miles wide, 100 miles long. Untreated, there would be a 90-percent death rate.

So that is riveting and terrifying, in many respects. I hope we can redouble our efforts to get this right, to prevent or be better prepared and protected against such a threat, because it is of great certainty.

So, Senator Lieberman and Secretary Ridge, I share my colleagues’ concerns about coordination being a top concern, one that is, of course, highlighted as the first recommendation of the blueprint.

In the narrative, you discuss the existing office of the U.S. Coordinator for Prevention of Weapons of Mass Destruction, Proliferation, and Terrorism, created under the 9/11 Act. You point out that Congress, “has not forced the issue” of ensuring any President fill this position. We certainly have ways that we could apply pressure, fencing off funds and such, to really push this harder.

Is this a problem with the construct of the office or with Congress? Could an empowered, Senate-confirmed official within the Executive Office of the President provide the needed coordination?

Mr. LIEBERMAN. Well, we looked at that. It is not, clearly, our first choice. That is why we ended up recommending the Vice President. But if that office was filled, we would at least find out whether it could do the job. In other words, it is a respectable alternative.

Mr. LANGEVIN. I don’t think it has to be mutually exclusive, Right? I mean, we could do both.

Mr. LIEBERMAN. We could do both.

Mr. LANGEVIN. As we all know, the Vice President is going to have many things on his plate.

Mr. LIEBERMAN. Right.

Mr. LANGEVIN. So to have an additional individual who was solely responsible, as well, and focused on this and works hand-in-hand with the Vice President.

Mr. LIEBERMAN. Yeah, absolutely. It is a very good point, Mr. Langevin, that this person, if we fill that position, with some pressure from Congress, could obviously, essentially, work under the Vice President and, incidentally, going back to Mr. Thompson’s concern, would be subject to the oversight of Congress.

Mr. LANGEVIN. Right.

So, to the panel, last week, the FDA approved the first viral-based cancer therapy. A reengineered herpes simplex virus can now be used to target specific melanoma cells while leaving healthy cells, healthy tissues unharmed.

While this advance shows great promise for medicine, what does progress in synthetic biology mean for our future biodefense? When, as pointed out in the blueprint, the capabilities required to produce pathogens de novo have become increasingly available, will existing defense techniques based on a single pathogen—say, anthrax—become obsolete? How do we prepare for this eventuality?

Mr. RIDGE. I am not quite sure.

First of all, Congressman, before I try to respond to that—and I mean try, feebly, to respond to that very technical question—let me say that, prior to appearing before you today, I read the report that you and then-Chairman Thompson issued back in 2009 with regard to pandemics. There is a long list of concerns that you raised nearly 6 years ago. Unfortunately, 6 years later, we issue this blue-ribbon report, and it probably sounds like an echo in some of the areas of the concerns that you expressed. So we are grateful for the continuing commitment of this committee to do something different, profoundly different, than has been done before.

I don't have the technical capability to respond to that question. I do know, however, that during the course of our hearings, and not only in Washington but around the country, the notion of research into synthetic antibiotics as being a 21st-Century platform to deal with the threat of existing and future pathogens is something very much that both the academics as well as the researchers feel has enormous potential.

It is one of the reasons we suggested that, as we are looking at how we use these dollars in the future, that we engage the research community, as well as the private sector, to advance this notion as aggressively as we possibly can.

Mr. LANGEVIN. Thank you.

Dr. Cole, did you have any comment on this?

Mr. COLE. Well, if I may slightly veer from this, a comment that you made before about what quantity of biological agent would be required, we have lived the experience here, which I hope is a lesson, regarding the anthrax letters.

Less than a teaspoon of anthrax spores, powder, were in as many as 6 or 7 letters. We never quite recovered all of them. We did recover 4, and, therefore, we know almost for sure what would have been in the other couple. That is a total quantity that would allow you to place all of it in your hand and still have room for more.

That experience, as you will recall, tore up the East Coast with worry, concern. Yes, as we say, "only" 22 people became infected, but 5 of them died.

Had this powder, had this anthrax not been subject to the capabilities of an effective antibiotic to save some lives—in other words, had the strain been developed as antibiotic-resistant—we could have expected many, many more deaths.

Furthermore, there were more than 30,000 required prophylactic treatments to people who presumably had been exposed. So just from a handful of letters, if you have more than 30,000 people exposed and you then have the real witch's brew of an effective organism that can't be treated readily, you can imagine the horrible results. That is based on our own experience.

Mr. LANGEVIN. Yeah.

Mr. RIDGE. If I might add, it wasn't a contagion. I mean, just think about this. If anthrax, if the condition was contagious and could be passed on from individual to individual, God only knows how many people would have been affected or infected by the 5 people that ultimately died and the dozens that were infected but fortunately there was an antibody that we could deal with it.

Mr. LANGEVIN. Yeah. All important points. Thank you for making—

Mr. LIEBERMAN. Mr. Chairman, if I can say briefly—and maybe we will come back to it—I mean, one of the areas that we focused on was the whole problem about medical countermeasures here, both vaccines and therapeutics, the problem being that, in so many ways, we are—because there are incredible advances, as you said, Mr. Langevin, in your opening statement about this question, in pharmaceutical science. Yet there is not an obvious market here. The market doesn't function as it normally would, because, whereas you talked about a cancer drug, I believe, we don't know whether there is going to be an anthrax attack or a pandemic of one kind or another.

So we have tried through BARDA to incentivize pharmaceutical companies to get involved. I would say for myself, I think we felt BARDA is doing a pretty good job at doing that. But we still haven't really figured out a way.

It is a real shortcoming to create, through some Government involvement, incentives for the great pharmaceutical sector of our economy to devote some of its enormous research capability to these real problems. God forbid there is a contagious attack, an attack of a contagious agent, or a pandemic. We are going to be just running around crazily to come up with a therapeutic to deal with it. Better that we do it beforehand, of course.

Mr. LANGEVIN. Good point. I hope we can get out ahead of it.

Thank you.

Chairman MCCAUL. The Chair recognizes Mr. Duncan.

Mr. DUNCAN. I want to thank the Chairman.

I am sporting a beard for No-Shave November in support of prostate and pancreatic cancer awareness month. I would ask everyone to consider supporting that, as well.

Chairman MCCAUL. Does that mean I have to grow a beard, as well?

Mr. DUNCAN. Well, I—

Chairman MCCAUL. Oh, okay.

Mr. DUNCAN. I am not alone. There you go.

I want to thank you gentlemen for the report. I think, you know, your taking an opportunity to do that outside of the normal channels was important.

I want to also encourage you to think about, the next opportunity to do something would be with the threat of EMPs. Hardening our grid is important. Whether it is man-made, electromagnetic pulse created through a nuclear weapon, or whether it is naturally occurring, our grid is unsecured, and it could be detrimental to the country. As part of the EMP Caucus, I would encourage you guys to look into that.

I want to shift into the issue with our border. I notice in the report we don't talk about our unsecured border.

We are witnessing right now huge migrations across Europe, where they have open borders, and the countries are having to deal with it. We saw in the United States a huge migration of unaccompanied children. So migration patterns can shift, and we can see folks come into the United States across our unsecure border.

With them they could bring infectious diseases, with them they could bring biological devices, and with them they could bring radiological devices. If they are able to bring drugs and they are able to come across undetected and enter our country, we don't know who is here and we don't know what they have brought or could bring with them.

So, as former Secretary of Homeland Security and former Senator, how would you address our unsecured Southern Border with regard to biological weapons and National defense?

Mr. Secretary.

Mr. RIDGE. Well, first of all, I think Congress and this administration have really focused on deploying more people and more technology, which I believe was long overdue. I remember way back when, in 2002 and 2003, when we started the Department, the number of border agents we had there and the kind of technology we deployed down there, and there has been a significant and very positive change in that regard.

You may be probably talking to the wrong person. I happen to believe that, until we move down multiple paths and come up with a comprehensive immigration platform dealing with the legal ingress and egress in and out of this country, as well as securing the border, we are still going to be talking about this 5 or 10 years from now.

I think the capabilities that we have—I have often wondered whether or not we are deploying the best technology available down there. I am going to leave that to you to make that determination. Obviously, it is very, very important to you.

I think we have plenty of manpower down there, but I am not sure we have quite the kind of arrangement or agreement or collaboration with our friends in Mexico to help us deal with that issue. I am always interested in adapting more technology, the use of drones, as well as a tactical response to the kind of situational awareness that sensors give us when people are trying to penetrate the border.

One of these days, I am going to learn to hit—it says, “Talk,” and it is not red—I am going to hit it so you can hear me. But hopefully I spoke loud enough so you could get my view.

With regard specifically to the border, I think we need to continue to do everything we possibly can to make sure that the law is enforced. That doesn't necessarily, in my judgment, mean more bodies, but it may need more and better technology and, certainly, far more cooperation from the Mexican Government to assist us.

Mr. DUNCAN. Right.

You know, we are seeing the use of drones to deliver drugs across the border—very undetectable. I mean, heck, we couldn't even detect a gyrocopter coming into the Nation's capital airspace. So, if someone wanted to deliver a biological weapon into this country, it would be fairly easy if we can't detect them bringing drugs

in. So I think there are a lot of different things to consider when you talk to border security.

Mr. RIDGE. Well, I think you are absolutely right, Congressman. I think the reality is, I think, given the forces and the nature of globalization, you could potentially have an individual infected by contagious disease coming in lawfully through New York City, and, given the nature of the infection, we wouldn't know about it until it emerged either in that individual, in symptoms around that individual.

That is why, whether it is the border and you are dealing with illegals or it is those who are traveling in and out of the United States lawfully, we need to be preemptive in anticipation that one or the other or both might occur, and we are not prepared for that pathogen in our midst.

That is why, you know, it is really a defensive, preemptive approach we are asking this committee and the Congress and the President to take. Because that penetration through the border or just somebody passing through our gateways, you know, past the Statue of Liberty, could bring in a pathogen that could be infectious and potentially cause us enormous problems.

So I think the concern, whether it is the border or elsewhere, is legitimate.

Mr. DUNCAN. Yeah.

We have been very successful in knocking back a lot of these diseases that are now starting to come back on the scene. Do you think Europe is prepared for what they may see with this mass migration?

These folks aren't screened coming into Europe. There is a possibility, with Schengen and with open borders and with visa waiver, that down the road those folks may end up in this country through normal travel patterns.

So I would just ask both of you: Do you think Europe is prepared? Is there a possibility for infectious diseases to come in that way?

Mr. RIDGE. I don't think the broader global community is prepared for the magnitude of infectious diseases. We are ill-prepared to respond to those with which we were familiar.

Congressman, when the President asked me to come into the White House, I was give the list of pathogens that we were, as a country, concerned about at that time, and Ebola was among the list. Now, that was 2001. Fast-forward to 2014, and you can draw your own conclusions as to whether or not, having evidenced a legitimate concern regarding this pathogen, whether or not 13 or 14 years was sufficient time for all the parties, interested parties, to take effective deterrent action and be prepared in case there was an outbreak of Ebola.

So I don't think the World Health Organization is as prepared. I mean, we encourage us to provide leadership as we engage in that organization. There are some other recommendations that we make with regard to strong, positive American leadership among international organizations. Because we don't believe generally—and I am going to defer to Dr. Cole on this—that the world writ large is really well prepared to deal with a major pandemic.

Mr. DUNCAN. Right.

Mr. LIEBERMAN. That is our, actually, 33rd last recommendation, that after everything we recommended that we try to do here at home to deal with the bio threat, that we really need to assume an international leadership role, perhaps through the World Health Organization but, really, probably on our own, to coordinate with other nations around the world.

Because, forget for a moment refugee flows; people are just moving around so much more than they ever have because of the ease of travel, and they are carrying contagious diseases with them.

I mean, I remember reading a book a while back about the impact of the Spanish movement from the Iberian Peninsula to what we now call Latin America and the devastating effect it had on the indigenous populations because they had no resistance to—

Mr. DUNCAN. The Native Americans in this country—

Mr. LIEBERMAN. Yeah.

Mr. DUNCAN [continuing]. Impacted by Europeans.

Mr. LIEBERMAN. Yeah. Exactly.

So, honestly, to answer your question, is Europe ready for the massive refugee flow that is occurring now, I think even though Europe has, obviously, a very well-developed public health system and all the rest, the answer has got to be: No, they are not ready.

It is among the various urgent responses to this totally unexpected, massive refugee flow, which is not stopping. I saw something last week that an average of 9,000 people landed in Greece every day last week.

Mr. DUNCAN. Right.

Mr. LIEBERMAN. I mean, the scope of it—and some of them will end up coming here, and we have to be ready to deal with that reality and make sure that they don't bring disease with them.

Mr. DUNCAN. Thank you very much.

I am out of time, but we have seen a changing world, Mr. Chairman, and that is why this hearing is so important. I yield back.

Chairman MCCAUL. Thank you.

The Chair recognizes Mr. Higgins.

Mr. HIGGINS. Thank you, Mr. Chairman.

On page 6 of your testimony, you indicate that the biological threat is already out there, that it is too late to get ahead of it, but we can still reduce our vulnerabilities and get ahead of its impact.

Is this based on known specific biological threat, or is it the capacity to produce a weapon without detection?

Mr. LIEBERMAN. I am going to start the answer.

That is a good one. I mean, I will read from it: "The biological threat is already out there. It is too late to get ahead of it," which I think means to stop it. "But we can still reduce our vulnerabilities and get ahead of its impact."

My answer is that both of the possible explanations for that conclusion are correct. I mean, that is why it is so real and so threatening. Both of those that you gave.

Mr. RIDGE. You know, I think one of the challenges will ultimately be attribution, if we are ever confronted by an intentionally-introduced pathogen. We know that countries such as Russia and China and Syria and Iran and North Korea maintain R&D centers for both offensive and defensive capabilities around biological challenges. So we know that that exists.

We also know that there is a predisposition within the terrorist community. I think Dr. Cole referred to al-Qaeda experimenting with animals with anthrax. They had laboratories doing it. A laptop, recently collected, indicated that ISIL has, certainly, the intent. If you control territory and you have access to information, you have money to buy the science—so the threat is real. We don't want to be breathless about it. We have to accept the reality that it exists today, and we have to be preemptive in preparing.

As the 9/11 Commission report suggested, what the country lacked pre-9/11 was a failure of imagination. It is not difficult to imagine, given the globalization of travel and people in the chaotic world, that a pathogen willfully introduced by someone or by Mother Nature would have a dramatic effect on all of us.

Mr. COLE. I think it is important to break this down in the following way: In none of our lifetimes or our grandchildren's lifetimes will infectious disease be entirely eliminated. As long as there are agents that can cause disease and cause fatality, there will be some who would want to use that capability for bad reasons.

What our goal should be, as opposed to eliminating—which is impossible to do—this whole notion of infectious disease, whether natural or even man-made, is to disincentivize those who would want to use these materials for unsavory events. We have that capability to at least, by showing the preventative capabilities, discourage a terrorist from wanting to use this weapon, only because it would be a waste of time if there is enough evidence and enough preventive measures in place.

So I think that is another good argument for the recommendations, because of the overlap, the unusual overlap, that you take care of the terrorist possibility and the reasons that they would be doing it; you are also helping to prevent disease in general, which is a good thing.

Mr. HIGGINS. So, absent Vice Presidential leadership in this regard that is called for by your committee, of the 12 Federal agencies that are involved in the biodefense field, you know, what is the most logical agency leadership there? Is it CDC? Is it—

Mr. LIEBERMAN. Well, apart from the reference before to this unfilled position of a coordinator, to me—and I am biased, but I am together with a co-chair who shares my bias. It seems to me we have a Department of Homeland Security. The bioterrorist threat is a homeland security threat.

As you know, DHS has been organized and reorganized to respond to disasters, including the critical role that FEMA plays. So I would say that if it fell back to—again, we have our list of first choices for this, but I would say it would be the Department of Homeland Security.

I mean, one thing that was lacking last year, I just want to say it briefly. My reaction—I think it was broadly felt. It wasn't clear who was in charge in response to the Ebola panic and outbreak. Actually, some of the statements made by the people at CDC seemed a bit odd, actually. I felt like, you know, they didn't instill confidence. I guess I would put it that way.

So I think we are better-prepared now as a result of that unfortunate circumstance, from which we came out remarkably well, for-

tunately. But to create that central leadership. I think DHS is the natural place.

Mr. HIGGINS. Okay. All right.

I yield back.

Chairman MCCAUL. Mr. Barletta is recognized.

Mr. BARLETTA. Thank you, Mr. Chairman.

Governor, Senator, Dr. Cole, thank you for your work.

Governor, I noticed that you provided a list of potential oversight hearings for Congress to take up. This includes suggestions for the House Transportation and Infrastructure Committee.

I am Chairman of their Subcommittee on Economic Development, Public Buildings, and Emergency Management, which has jurisdiction over FEMA and the Federal management of emergencies and natural disasters.

FEMA is responsible for the National Response Framework, which provides how the National Incident Management System is intended to be used in response to disasters and emergencies, regardless of cost.

Now, FEMA is the Federal Government's crisis manager, as you know, which is why, for example, the President put FEMA in charge of coordinating Federal resources and assistance during the Ebola response.

So I think your points on biosecurity and cybersecurity are very important, as the Federal Government will likely have to deal with the consequences of any bio or cyber attack.

Can you expand on this more for us? What are we facing in terms of the potential hacking of lethal virus information? Why is this so important? What would the consequences be if individuals, groups, or countries which clearly don't share our values and have malicious intents were able to get into some of these databases?

Mr. RIDGE. We very much appreciate the question. I, for one, believe that—thank you.

Mr. BARLETTA. The third time is the charm.

Mr. RIDGE. No, the fourth time is the charm, perhaps. We will see.

There are five theaters of war: Air, land, sea, space, and there is a fifth theater going on right now, and it is cyber. I don't think we should be under any illusion, that it is going on 24 hours a day, every day of the year. We know who the actors are, we know their motivations, and we know the outcomes that they would like to achieve.

With the emergence of the terrorism threat and the ability of certain elements to actually control territory, buildings, build cyber capacity—I mean, let's not forget that it was the Syrians that hit our financial institutions a couple years ago simply with a denial-of-service attack. So a lot of our enemies out there, including terrorist organizations, have the capacity to at least attempt to exfiltrate critical information.

If you were going to try to build a biological weapon or somehow genetically change its composition, I suspect that there are plenty of—there are; not suspect—there are plenty of research institutions, both public and private, that have that kind of intellectual property that, if secured in the hands of the wrong people, could create serious problems and untold consequences for us.

So the merger of the cyber world and the intellectual property and research dealing with pathogens is something that we are very, very concerned about.

Mr. BARLETTA. Yeah. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAUL. I thank the gentleman.

Before I recognize Mr. Keating, I have a commitment I have to go to, but I just want to thank you for this report. We will look at it very seriously in terms of legislation. I want to thank you for your service again.

Also, on the jurisdiction issue, I want to, again, raise how important it is for Congress to fix this. It is the only recommendation not fulfilled, as you know, by the 9/11 Commission recommendations. I think as the 9/11 Commission came back together and reconvened, they stated that Congress would be to blame, if there was another 9/11-style attack, partially to blame, for not fixing this problem.

So it is something that I think, not just as Chairman of this committee, but that the Congress as a whole has to do the right thing for the Nation and fix, again, this jurisdictional problem.

So I look forward to working with you the next year, as we go forward into the next Congress, to remedy this problem that, quite frankly, should have been fixed from Day 1. But, recognizing all the problems, the political compromise from the beginning, that we need to fix it, I think, once and for all.

So let me apologize for having to leave. But, again, thank you for your service and the report and your testimony here.

Mr. LIEBERMAN. Thank you, Chairman. Thanks for convening the hearing. Thanks for your leadership.

As I said earlier, we are going to stay together, and we are here to support any of the work that you want to do in this subject area. Because the danger is clear, and it is present.

Chairman MCCAUL. Thanks.

I leave you in good hands with the first female combat pilot, Ms. McSally from Arizona.

Oh, the Chair recognizes Mr. Keating.

Mr. KEATING. Thank you, Mr. Chairman.

I am going to try something different. I am going to just put out three threads of discrete questions and, for the sake of time, have you react to those things, maybe drilling down on some things we have talked about.

The first one, you know, there are so many challenges already in our intelligence communities—coordinating, sharing information. We are getting better at it, I believe, but we have commented on severe fragmentation of how we respond to this.

First area would be, you know, we are dealing the FBI, NSA, even the CDC, all that information in terms of prevention, investigation, response. How much more difficult is it, this fragmentation, for the intelligence community to share information? That is important, because you can't have one without the other.

No. 2, you know, the greatest threats we have here are, it has been told to us over the past few years, home-grown violence extremists as well as domestic terrorists. The use of social media by

groups like ISIL and even the easy applicability of how to make a bomb with al-Qaeda affiliates has presented problems.

Second question: How easy through the social media is it to translate the information necessary to go forward with some of these bioterrorist attacks? How easily can that be done through the social media? What threats does that create?

The other one we have touched on but haven't really talked on at any length is the threats, you know, through animals, a bioterrorist attack. That means, you know, not just the harm to the animals themselves, but it also means threats to our food supply and the transferability of these diseases through animals to humans.

So those are the three questions: The intelligence issue; home-grown extremists or domestic terrorists; and the third one, the threat through animals.

Mr. RIDGE. Do you want to go ahead?

Mr. LIEBERMAN. Well, I will start. Thanks. That is quite a menu. Unfortunately, each of them requires a good response.

I am going to go to the social media because, you know, I learned a lot about biological threats in my work on this before on the Homeland Security Committee in the Senate, overcoming my previous ignorance in areas of science. But it seems to me that if you can put instructions up on social media about how to make a bomb, you can do the same—though it is not easy, but—for how to weaponize a biological threat.

The other danger here is that, in the overall campaign of radicalization that Islamist extremist terrorist groups carry out now every day, every hour on social media, that they will engage the commitment and attention of somebody who already brings this technical expertise with them. We know that this has happened in the past in various ways.

So, look, we do a lot to try to counteract this. That is a subject that we could hold a separate hearing on. But that work has to continue.

You know, I will say that we decided, in trying to make this threat clear, we started on page 1 of this report with a scenario, a kind-of virtual scenario, and it was of a joint Congressional hearing, I think we said, 9 weeks after a bioterrorist attack on the country that killed over 6,000 people. It started with aerosol distribution, but it also included, I would call it poisoning, infecting animal stocks with a contagious disease that then went to humans.

So—this goes to your third—this zoonotic threat is much more real.

Now, some of it, of course, beyond the bioterrorist threat, is naturally occurring. I mean, last year, in the avian flu crisis, almost 50 million poultry, chickens, were culled, euthanized. Fortunately, that didn't cross over to the human population, but we don't know that the next strain of avian flu won't.

How did that get here? Talk about immigration. Migratory birds. So part of this is actually tracking migratory birds. As we said, hard to believe that we don't have a standardized comprehensive list in relatively real time of the outbreak of diseases in our animal populations, including those, particularly, that will transfer to humans and—

Mr. KEATING. Yeah.

Dr. Cole, I was just curious if you could talk about that, expand on the animal—

Mr. LIEBERMAN. Good.

Mr. KEATING [continuing]. Side of it.

Also, you know, with encryption, with the social media, and the challenges we have with that, this becomes even a greater threat. I don't know if Dr. Cole has any knowledge. Is it easily transferred, as to how to manufacture some of these bioterrorism diseases, through social media? Can you instruct someone to do that? How easy is that? Did you do any research on that?

Mr. COLE. Okay. I can give you a less-informed response about zoonotics than I can about social media transfer. But the zoonotics, clearly, are a problem. A lot of the diseases that humans suffer from had origins in various animal species: Monkeys, bats, birds. So there is no question that that could pose a danger. I couldn't give you a solid answer on the comparative dangers from one versus another.

Social media, very clear. We are all pioneers in this. How long has social media been out there as a globalizing force? Twenty years? Ten years? Yes, there are awful things on social media, awful things on the internet. When I say "awful," I mean in the full, broad sense of it, from debasement and indecency, character assassinations, and, of course, instruction by some people.

Some of the Islamic terrorist groups have publications, in effect— one is called *Inspire*—by I think it is the Islamist groups, who then give all kinds of instructions, including in English, an encouragement that Americans be assassinated. They don't say how.

So whatever—

Ms. MCSALLY [presiding]. The gentleman's time has expired. If we could wrap it up.

Mr. COLE. Oh, yeah. Okay. So the shorthand is: Whatever you want to see that is bad, as well as good, you can find on the internet. Sorry.

Mr. KEATING. Thank you.

I yield back.

Mr. RIDGE. Yeah, could I just, if you don't mind, Congressman—you raised—

Mr. KEATING. On the intelligence issue?

Mr. RIDGE. Yes, I want to talk a little bit about that.

Madam Chairman, I would like the record to reflect that the "talk" button was on.

Ms. MCSALLY. Great. But his time has expired, if you don't mind.

Mr. RIDGE. Thank you very much.

Ms. MCSALLY. Secretary Ridge, yeah, he is out of time. So, if you don't mind, we are going to move on. We can follow up on that if you would like, but—

Mr. RIDGE. Sure.

Ms. MCSALLY. Great. Thank you.

The Chair now recognizes Mr. Clawson from Florida.

Mr. CLAWSON. We look alike, so—

Ms. MCSALLY. Yeah. Exactly.

Mr. CLAWSON. Thank you all for your service, for coming. You know, I may ask a question or two that could be tough, but your service to our country far surpasses anything that I have ever done

or will do, and I acknowledge that and humbly appreciate what you have done for our country.

I came back in to the country—in my private-sector experience, I was in India, and I got nicked by the wrong mosquito. So, then, a week later, I am back in the States. I had a fever, went to a hospital that you all would have all heard of, not in my district. Think it is malaria, think it is this, think it is that. Never did get it until I saw a specialist: Dengue fever. Never came up on the map. Chikungunya, by the way, Mr. Lieberman, was never even talked about.

Mr. LIEBERMAN. Right.

Mr. CLAWSON. Then I read the report here that was, I think, the last report by WMD that kind-of gives the status of our health infrastructure with respect to being ready for these kind of threats. If it is large-scale contagious disease, we get a “D” across the board. So my personal experience coincides with the last report.

So I say to myself, we are not prepared here. We seem to understand the situation, right, that we are not prepared? It feels like we have a strategy to kind-of move where we need to get. But, in terms of execution, we are not even close. Lots of organizations and companies fail because they make wrong strategic decisions, but I think it is even more common that organizations, companies, countries fail because of lack of execution.

How do we execute? Our infrastructure is not owned by the Government, except maybe on the border, but certainly not the health care infrastructure. It is all over the place.

Mr. Ridge, you talked about being unfocused up here, much less you have these assets all over the place. We can talk forever about problem diagnosis or strategy, but if we can never execute, we are still going to be unprepared. It feels like that is where we are.

Am I right or am I wrong here? If I am right, how do we execute? How do we execute?

Mr. LIEBERMAN. Well, I would just say quickly that you are absolutely right. That is one of our biggest conclusions. We have all these specific recommendations, but, in the end, unless there is somebody to coordinate this and put together a biodefense strategy, then all the specific recommendations, any existing programs are not going to work.

I mean, we concluded—and this is a summary statement—that we are spending too much on some things and not enough on other things.

You know, just to go back to a recommendation Dr. Cole made in response to something you said, Congressman, we are not utilizing the hundreds of thousands of health care professionals who are out there every day—doctor, nurses, emergency responders—to be aware of the potential for an infectious disease or a biological threat.

Mr. CLAWSON. Given our structure, organizational ownership structure, or lack thereof, how do we do that? Because if you don’t influence the assets on the ground, you cannot execute, correct, Mr. Lieberman?

Mr. LIEBERMAN. Correct.

Mr. CLAWSON. So how do we influence folks that we don’t have operational control over so they can save lives? I don’t know the

answer, but I know we don't have enough influence to make it happen.

Unless you are going to disagree, Mr. Ridge.

Mr. RIDGE. No, I think you are absolutely right.

But I think you have to take a step before you even worry about execution. It is no accident that we talk about a blueprint. My notion of blueprints is you take a look at it and you are trying to connect the various pieces of infrastructure to get a completed package.

To your point, one, you need a strategy, you need a blueprint. Because there are multiple, multiple groups, multiple State, Federal, local, private—you have identified all the groups. Everybody is doing their own thing because they have been given specific tasks. Whether or not those tasks align themselves with the strategy we don't know, because, as a country, we don't have a blueprint around which we would build out strategies.

Until you have that strategy and you set priorities and then you fund those priorities consistent with the National strategy or the blueprint, you are going to have well-intentioned but probably redundant and less effective capability, preemptive capability. That is precisely why we chose the word "blueprint."

There are a lot of well-intentioned people out there doing the right thing, but whether or not it—in terms of what we need as a country—look, I am going to tell you as a Cabinet member, I want to get as—when you get to budget, you have responsibilities and jurisdictions and programs that you are going to do everything you can to get the sufficient funding in order to execute those responsibilities.

But HHS would have biodefense responsibilities. DOD has them. Eleven or 12 departments are going to have them. Unless there is a blueprint, a National strategy, and funding is allocated consistent with a plan, with a blueprint, you are going to have the effective execution that you are talking about.

Mr. CLAWSON. Thank you. Let's go.

Mr. LIEBERMAN. Let's go.

Ms. MCSALLY. Thank you.

The Chair now recognizes the Ranking Member on the Subcommittee on Emergency Preparedness, Response, and Communications, Mr. Payne from New Jersey.

Mr. PAYNE. Thank you, Madam Chairman.

Governor Ridge and Senator Lieberman, it is very good to see you once again. And—

Mr. LIEBERMAN. Good to see you.

Mr. PAYNE [continuing]. The work that you have done with respect to Homeland has really created the infrastructure that we try to build on now. So we appreciate all the work that you have done for this Nation.

Mr. LIEBERMAN. Thank you.

Mr. PAYNE. Governor Ridge and Senator, the report that you created is critical of two programs administered by Department of Homeland Security in the biodefense mission space: BioWatch and the National Biosurveillance Integration System.

Ms. McSally and my Subcommittee on Emergency Preparedness have a lot of oversight and have done a lot of oversight with respect to those two programs.

How much time would you give the Department to get these programs on the right track?

Mr. RIDGE. Well, first of all, I think there has been recognition by Secretary Johnson that BioWatch is not as effective as it needs to be. I think, if my recollection is correct, my information is correct, there was supposed to be BioWatch III, and he terminated it because he knows it is not effective.

NBIS is not as effective as it needs to be simply because the information that should be provided by other agencies and departments to help build out that total situational awareness has not been made available. Listen, I understand that, but somebody has to hit the “send” button to send the information to DHS so they can paint a broader situational awareness package to send out to all those who are interested.

So NBIS ineffectiveness really requires more collaboration and cooperation with the other agencies, which speaks to the siloed nature of biodefense writ large and one of the reasons we think it has to be elevated to the White House, to the Vice President.

BioWatch—listen, Secretary Johnson is a very able, dedicated public servant. I will let him set the time frame. But I am absolutely convinced, if he doesn’t get results, the kind of results he wants shortly, he will replace it. But I will leave it up to him to determine what the time frame is.

Mr. LIEBERMAN. Yeah, I agree, Mr. Payne—and I thank you for the question, thank you for your leadership on this—you know, the time has passed.

I mean, God forbid—take a look at this scenario on page 1—that there is a bioterrorist attack in an urban area where BioWatch exists but it doesn’t function. Boy, think about what it going to happen as people look back and say, “We had the technological ability. Why didn’t we have it in place to warn us that this was happening?”

The other thing we say here is that there ought to be more collaboration with the Department of Defense, which is naturally doing a lot of, I think, pioneering work in biosurveillance, bio-protection of our troops, of our personnel, that can be applied also to the domestic threat.

Mr. PAYNE. Uh-huh. Thank you.

Dr. Cole, it is very good to have you here from my district and my home town. I should have taken the train you took so I would have been on time.

Mr. COLE. Well, I was coming in yesterday as you and the President—

Mr. PAYNE. Oh.

Mr. COLE [continuing]. Were going the other way, so—

Mr. PAYNE. Okay.

Let me ask you—you know, everyone here agrees that the Federal biodefense activities are fragmented and poorly coordinated. Can you talk about the impact that the lack of coordination has on hospitals as they prepare for a response to biological events?

Mr. COLE. Well, when you say “coordination,” definitely in Newark, for example, hospitals do coordinate. But not all hospitals are the same in terms of capability. University Hospital is what is known as a Level I trauma center.

Mr. PAYNE. Right.

Mr. COLE. They can deal with virtually—or at least try to deal with virtually any form of trauma, from burns right through broken bones. Some of the other hospitals are not as well-equipped. In fact, some of them have departments that are superior.

One of the benefits of coordination, which is what they do ideally when they are faced with a situation with somebody who needs special treatment, is quickly to send or make sure that that patient will go to the appropriate hospital. I can’t speak to the National scene. I assume this is so in communities, urban communities in particular, where there are multiple numbers of hospitals.

So coordination for some things, done properly. There is less, I think, of a coordinated response or a strategic response, even from hospitals in similar areas, when it comes to bioterrorism or other forms of terror drills.

Mr. PAYNE. Okay.

I will yield back.

Ms. MCSALLY. Thank you.

The gentleman yields back.

The Chair now recognizes Mr. Donovan from New York for 5 minutes.

Mr. DONOVAN. Thank you, Madam Chairman.

Thank you to our witnesses for coming today.

In the 14 years since 9/11, the threat facing this country from terrorist networks has evolved, but it has not abated. This committee has taken note of the shift from centrally-planned, mass-casualty attacks to the seemingly random, disconnected plots hatched by lone-wolf terrorists, many of whom radicalize on the internet.

Just yesterday, Chairman McCaul released the committee’s monthly Terror Snapshot, which notes that the FBI has initiated more than 900 investigations into home-grown extremists, with 60 arrests this year alone.

Sadly, New York City remains the top target of terrorist networks across the world. Commissioner Bratton of the New York Police Department has stated that the current threat environment facing our city is as complex and elevated as it has ever been.

Given these facts, I want to thank you for focusing this past year on the specific threat from bioterrorism.

Whatever agent is used, a bioterrorist attack is exactly the type of mass-casualty event that would shut down a city such as New York and have untold costs, both economically and in human life. For my part, it is hard to imagine a target more difficult and yet more important to protect than New York City’s transit system, which moves nearly 8 million people per day in and out of the metropolitan area.

In regard to a 1995 sarin attack on the subway in Tokyo, which killed 12 people and injured hundreds, I would like to ask the witnesses: In the context of today’s terrorist threats, how difficult is it for a home-grown radical who may be physically disconnected

from a wider terrorist network to acquire materials and train for such a similar attack?

Mr. LIEBERMAN. Well, it is not easy, unless that individual happens to bring an expertise with them. Of course, that happens. They may work in this field and know enough to construct—but it is definitely within the range of the possible.

Of course, there you had a group of people, in Tokyo, who had enough knowledge. You know, these weren't PhDs, but they had enough knowledge to put together the biological weapons and carry out—or I guess it was chemical, in that case—and carry out a very severe attack.

So you are right to be concerned about the safety of the subway system in the greater New York area, the transit system. Obviously, NYPD, et cetera, cooperating with Federal and State authorities, has one of the best counterterrorist operations, maybe the best, in the country.

Mr. RIDGE. I think there is another dimension to your question, as well, and it goes to our concern about the absence of follow-on surveillance technology, not only BioWatch but writ large. I mean, I remember BioWatch being implemented over 10 years ago. It is labor-intensive. It takes quite a bit of time for the lab analysis to be complete, even though they are into BioWatch 2.0.

So it is not just a Federal program, but we need to get about the business of the developing surveillance and detection technologies that have application in the private sector. One would have thought, post-anthrax, that there would be a more aggressive posture, even with DHS or elsewhere, to engage the private sector to respond to this need.

So, while I think it is difficult, as Senator Lieberman pointed out, for a lone wolf to access the kind of contagion you talk about, it is still a possibility. But, again, we are talking about preemption. We are talking about identifying the risk as quickly as possible and being prepared to respond and recover from it. We don't have that capability in our public transit systems.

Again, if you had a coordinated blueprint for biodefense, engaged both with the public and private sector, it would seem to me that would be a very significant, very high priority.

Mr. DONOVAN. Thank you, Secretary.

Senator, you hit on something about New York City's capabilities. I suspect during your studies you looked at local law enforcement's efforts and coordination with our Federal efforts. Are there any cities besides New York that you have seen that should be replicated elsewhere that are doing a very good job at this?

Mr. LIEBERMAN. I am sure there are, Congressman, but I can't think of any that we came across in our studies. I don't know if Governor Ridge can remember any. I mean, New York has set the standard post-9/11, for obvious reasons, and continues, I think, to do that.

Mr. RIDGE. New York is platinum.

Mr. LIEBERMAN. Yeah.

Mr. RIDGE. It is not gold; it is platinum.

Mr. LIEBERMAN. Yeah.

Mr. DONOVAN. Commissioner Bratton is going to be very pleased to hear that.

Mr. LIEBERMAN. Yeah. You know, obviously, Ray Kelly, before him, also contributed strong leadership, which Commissioner Bratton has carried on.

So that is a general counterterrorism program—awareness, local intelligence coordinating with Federal, raising our defenses.

One of the things we concluded is that there is not enough Federal-State-local coordination on the specific threat of bioterrorism. It is so different. You can't see it, as somebody said. The technology and the medical countermeasures are not where they need to be. So this continues, even in New York, to need more work.

Mr. DONOVAN. Thank you very much, gentlemen.

I yield back, Madam Chairman.

Ms. MCSALLY. Great. Thank you.

The Chair now—I will recognize myself for 5 minutes.

Thank you, gentlemen, for all your hard work, your service to our country and during a long but very important hearing today.

I represent southern Arizona, and I have spent a lot of time doing ride-alongs with emergency responders, fire departments, police. Especially in my role as the Chair of the Emergency Preparedness, Response, and Communications, we have had hearings on the threat of bioterrorism, chemical terrorism.

I am always wanting to make sure—I was in the military—it is not just the Pentagon who understands what is going on, but the troops out in the field, to use an analogy, that they know what the plan is and they are ready for it.

So, as I ask them, you know, “What if there is a bio event? You are the first people that are going to be out there. Do you know, you know, how you are going to detect it? Do you know how you are going to respond to it?” Oftentimes, the answer is, like, “Well, somebody else is going to tell us. We are going to get some intelligence.” They are going to be the first ones out there responding to that, you know. So I am certainly concerned about that.

Two of the bills that I have been able to pass this year through the House are related to this issue, some you have identified in your recommendations, about increasing intel and information-sharing down to the State and local level. Then one that was passed yesterday was related to fusion centers, potentially increasing the number of State and local law enforcement, first responders, that have security clearances so that they can have that information.

Because if they don't have it down on the front lines, then there is just going to be chaos. No plan inside the Beltway is going to survive first contact with the enemy. So we really want to make sure that those emergency responders have what they need to know what is out there, to not just be driving into some sort of event that they think is naturally-occurring, to be protected themselves, and then to be able to respond.

You mentioned this a lot in your recommendations, but I would like just some additional comments and perspectives on what else can we do, chipping away at this issue, to make sure that the first responders have what they need, intel- and information-sharing-wise and response.

Mr. RIDGE. Madam Chairman, I think you have raised a relevant issue across the Government as it relates to threat information

writ large. I think a lot of this information, based on my own experience, is over-classified.

Ms. MCSALLY. Yeah.

Mr. RIDGE. I think it is over-classified because there is an institutional reluctance to share. It is reflective of a siloed mindset—

Ms. MCSALLY. Right.

Mr. RIDGE [continuing]. And if you own the information, it is question of authority. It might be of jurisdiction. It might also be a question of the dollars, I don't know.

So one of things I think we need to do as we take a look at just the biological threat, if we can beef up the capacity with the DNI—because, right now, biological threat information is almost an adjunct; there is not a real specific directorate within DNI to focus on that—and be sensible and thoughtful in sharing it to those first responders who will be at the scene.

I am quite convinced, and somebody has to, frankly, go the other way in terms of convincing me that I am wrong and my feet aren't locked in the concrete, but much of the information with regard to biological threats can be de-classified and shared with people and organizations in order for them to prepare for that possibility.

There is a failure of imagination to suggest it can't happen. It is a failure of leadership to prepare people with the information needed to protect their constituencies and their communities if it does.

Ms. MCSALLY. Great. Thanks.

Mr. LIEBERMAN. I will just add briefly that—first, thanks for the legislation you brought forth. It actually anticipates and kind-of gets ahead of a series of recommendations we make in block 16 of our report, DNI.

Local police departments need not only intelligence—they really do that—but they need the ability to analyze a potential biological—

Ms. MCSALLY. Right.

Mr. LIEBERMAN [continuing]. Attack as it is happening. They don't have that now. They are only going to get it if, not only the DNI, but the Justice Department assists them in putting that together.

Ms. MCSALLY. Great. Thanks.

We had a hearing on this issue, and one of our testimonies was from someone from the New York City Department of Health and Mental Hygiene. They mentioned that, during a recent anthrax response exercise, New York City had its medical countermeasures dispensing capability up and running for 4 hours before the countermeasures actually showed up.

So they had this system up and running—you said it is a platinum capability—but the countermeasure didn't show up. I was surprised that one of my more rural fire departments, they said, "Yeah, that door over there is a CDC stockpile. We have it right here, you know, in southern Arizona."

So what is it that CDC needs to be doing better in order to be able to respond quicker with getting the countermeasures out there, especially if you have the system set up but they just can't disburse them fast enough?

Mr. LIEBERMAN. Well, this is, again, recommendation 23, thank gosh. But, you know, allow for forward deployment, we say, of Strategic National Stockpile assets.

I mean, this is pretty logical stuff. You don't want to keep it—these attacks are not going to happen—some may happen in Washington, but, ultimately, they are going to strike out across America. If you have to try to get the stuff that you need to prevent expansion or treat people who have been hit, it is just like—it is a war, it is military, and we pre-stage military equipment around the world so it is there for us. That is one of the things that we recommended—

Ms. MCSALLY. Great. Thank you.

Mr. LIEBERMAN [continuing]. Here. I agree.

Ms. MCSALLY. Secretary Ridge, did you want to add to that?

Mr. RIDGE. Just briefly. I think one of the things we have encouraged at CDC, to piggyback on the Senator's comments, is forward-deploy the capabilities that you have.

I know, years ago, when we ran some exercises, TOPOFF 3, 4, 5—I forget the numbers—it was clear that one of the big challenges we have in response to a terrorist attack, whether it is kinetic or biological, is that we are still not as prepared to respond as quickly as possible.

To that end, to your earlier question, you need information as to the nature of the threat, to be prepared for it, and, when it comes to biological, have the countermeasures available, which right now are virtually nonexistent.

Ms. MCSALLY. Right.

Mr. RIDGE. So we may have a distribution plan to deal with this particular pathogen, but, frankly, we don't have the MCMs to distribute.

Ms. MCSALLY. Right.

Mr. RIDGE. That is why, when we pulled the blueprint together, we see these are interconnected, independent recommendations.

Ms. MCSALLY. Great. Thank you.

My time has expired, but I will just have one final comment.

I was glad to see you recommend greater cooperation between the DOD for civil-military cooperation. I, myself, have had all the anthrax vaccines and smallpox and all that prior to my deployments, and I know, I mean, we are dialed in and dealing with that every day.

So I definitely want to work more—I am on the Armed Services Committee, as well—to see how we can bring some of those recommendations to bear so they are not reinventing the wheel but actually bringing best practices out to the civilian community.

Mr. LIEBERMAN. That is very important.

If I may, Dr. Cole's recommendation earlier about better training of health personnel around the country is critically important. People are going to get sick, as they did with some of the anthrax, about which he wrote a book. They are going to go to the doctor; the doctor or the nurse may not realize that this is anthrax.

Ms. MCSALLY. Right. Exactly.

Okay. Totally, time has expired.

So the Chair now recognizes Mr. Perry of Pennsylvania.

Mr. PERRY. Thank you, Madam Chair.

Gentlemen, thank you very much for your service.

Secretary, great to see you again.

Senator.

Dr. Cole.

We have the political, the policy, and the technical expertise at the table here. Unfortunately, I think we have a lot of answers, but I would agree with the gentleman from Florida, who we look a lot alike, that we fail to execute.

I have a couple of particular questions and maybe something from about a 30,000-foot view.

The President, I think, appoints about 50 people with some bio-defense responsibility, somewhere around 50. I am wondering if, in your study, you saw any duplication and you would like to enumerate on that at all.

Mr. LIEBERMAN. I mean, yes. It is startling when you think about it: 50 political appointees, Presidential appointees. This has accumulated over a long time. They just bump into each other. It is just not necessary.

That is the kind of—a real overview by Congress or by Federal leadership, like the Vice President, I think would turn that up. You would save some money and probably have the operation run better, have it better implemented, if you would eliminate some of those political appointees.

Mr. PERRY. I am not looking to make it partisan or political. Just, with that many people and nobody coordinating the effort, it should be obvious to anyone that is looking that you are not going to come to solutions easily, right?

Are you folks comfortable with the protocols of command and control and communication if an event happens? I am thinking about, you know, the CDC, DOD, FEMA, individual HRFs in individual States, PEMA from Pennsylvania, the National Guard, NORTHCOM.

Are you comfortable, knowing what you know now, if an event were to occur, with the chain of command and with communication in regard to disseminating information and making sure that somebody is at the top, so to speak, saying, “No, no, no, this isn’t your jurisdiction. You go over here and do this. We need these people here. You stand down over here. But I need you from over here.”

Is that—because I don’t have a—I am not comfortable, but I don’t know what you know. So give me your thoughts, if you would.

Mr. RIDGE. Well, I think your discomfort is unfortunate but well-placed.

Let’s just look at how we respond to Ebola as exhibit A. This is a pathogen that we were aware of as a potential problem for us 14 years ago. I believe you were here when I mentioned that was on the list that I saw when I got into the White House. It took 14 years to come up with—and, fortunately, there were two or three experimental countermeasures, and we accelerated the development of a vaccine. We blew right through protocol, as we needed to, given the emergency. It should not have been an emergency.

But then how we coordinated public information, how we worked with hospitals, how we worked with the first responders, it was very disorganized. In spite of the well-intention of the President in

naming a czar, czars really don't have too much authority to coordinate activity among the agencies that you are talking about.

So your discomfort level is well-placed.

Mr. PERRY. I don't want to put words in your mouth, Secretary, but I saw it as somewhat ad hoc based on the situation on the ground. Would that be a fair assessment, from my standpoint?

Mr. RIDGE. Yes, sir.

Mr. PERRY. Okay.

So you two, in particular, have been legislators. This seems to me, and with Mr. Clawson's, kind-of, pinpointing execution as an issue, this is a matter of prioritization, if nothing else, at the doing-business end of Government, right, where you are making decisions and you are making things happen. I just see it as a matter of priority or a lack of priority or will or whatever you want to call it at that level. I can't change that. I am sitting in the United States Congress, which—I am privileged and honored to be here.

But, as legislators, how do we set the table? What can we do? What is our part? I mean, I see a lot of oversight and, you know, making sure that there is not duplication and agencies are focused. But we are legislators. So how do we set the table? How do we set the conditions, if you will, on the battlefield for success for the Executive, who does make it a priority, when that comes to—

Mr. LIEBERMAN. I think part of it, from my own experience in the Senate, is oversight and exposure when it doesn't exist.

I can give you a quick example. We all remember how embarrassed we were about the failures of the Federal and State government, but talk about Federal, to Hurricane Katrina. We did an investigation of that and what happened, and then, working together, Senate Homeland Security and House Homeland Security, we passed, I think, a really strong reform bill in which we set out some standards. So we did pass legislation.

One of the things that was done was that FEMA set up—I forget for the moment whether it is 10 or 12 regional centers at which every potential Governmental agency that would be involved in a response to a natural disaster has representatives, and they drill on how to respond. They have changed what they are drilling based on the part of the country. Obviously, in the Gulf Coast, it is more about hurricanes; maybe in some parts of Oklahoma, it is more about tornadoes.

One of the really important things you mentioned we haven't talked about enough here is—you did, Madam Chair—is the importance of clear and consistent communications, which we didn't have in response to the Ebola crisis. Because one of the dangers is public panic, particularly if there is more contagion going on than existed in Ebola. You can get ready for that—

Mr. PERRY. Can I clarify, if you will indulge me, Madam Chair?

But you are talking about the solutions that you folks rightfully enacted, seeing the problems that occurred with Katrina or our failure to be prepared, but—

Mr. LIEBERMAN. Right.

Mr. PERRY [continuing]. As you would certainly acknowledge, we can't wait, right? Like, we can't wait until—

Mr. LIEBERMAN. No.

Mr. PERRY [continuing]. This happens, right? We have to be proactive, because—

Mr. LIEBERMAN. You are absolutely—

Mr. PERRY [continuing]. Once it happens, it is too late.

So how do we set the table? Do you have a blueprint—you have a blueprint there, but do you have a blueprint for legislation or legislative and particular oversight actions from the Congress in this regard right now?

Mr. RIDGE. Well, I think I have a very practical but very, very difficult suggestion.

If the White House, hopefully in collaboration with the Congress of the United States, develops a blueprint, a strategic blueprint, then it will be up to the individual committees and committee Chairmen and Ranking Members and all 535 men and women in both the House and the Congress to resist—to resist—the exhortation from Cabinet Secretaries and Deputy Secretaries, “I know it was the blueprint.” But, really, really, we really need to go in a different direction.

I mean, that is a challenge—that is a working condition that Congress has dealt with forever. Departments and Secretaries and Under Secretaries and agencies have special relationships with the committees that oversee them. There is a bias based on strong professional and sometimes personal relationships, all well-intentioned. But the only way you get a blueprint, take a blueprint to execute, is if everybody buys in to the strategy and makes sure that the dollars go to the priorities established in concert with the White House and resisting the temptation of Cabinet Secretaries, such as Tom Ridge from DHS, saying, “I understand the blueprint, but, really, I think we ought to be doing X, Y, Z.”

That, institutionally, is the biggest challenge that the Congress has and the biggest challenge the country has in establishing not only a blueprint but, as your colleague said, executing on a game plan.

Remember, I have been there; I have been downtown. That is the chemistry, that is the alchemy, that is the challenge, not only for this issue but across the board.

Mr. PERRY. Thank you, Madam Chair. Appreciate—

Mr. RIDGE. It is a great question.

Mr. PERRY [continuing]. Your indulgence.

Ms. MCSALLY. Thank you.

I want to thank our witnesses for your—Dr. Cole, do you have one final word there?

Mr. COLE. Yes. I am going to try to lighten the darkness about this whole subject matter by noting that a biological attack, a biological weapon, offers something that none of the other likely weapons systems do, whether explosive, chemical, or heavy radiological—namely, that, after exposure, after the event, the release event, you still have time, in many cases days, in some few cases weeks, during an incubation period, even if a person doesn’t know he or she is infected.

Vaccination, in some cases, days after an exposure, particularly to smallpox, can still be effective. Antibiotics, antivirals, other medications—that is where we ought to be working, on medical countermeasures.

Four hours I think is what you mentioned. Four hours would not have been devastating for a lot of disease exposures. So that doesn't worry me as much as if it were another form of attack.

So that ought to be taken into consideration, and all the more emphasis, then, on being able to identify whether there is some kind of organism in the air or in the drink or in some other fashion. Therefore, the front-liners for this kind of identification will be the medical responders, the educated physicians, the nurses, who will see the sick patient first and have a notion that, well, you know, maybe, based on my knowledge because of terror medicine, we ought to be considering this as a possible deliberate agent—deliberately-released agent.

Ms. MCSALLY. Great. Thank you.

I want to thank all of our witnesses for your work on this important issue, your testimony today.

Thanks to the Members for their questions.

Members may have some additional questions that they will submit in writing, and we would ask if you would be able to respond within 10 days. Pursuant to committee rule VII(E), the hearing record will be open for 10 days.

Without objection, the committee stands adjourned.

[Whereupon, at 12:36 p.m., the committee was adjourned.]

