AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. Hrg. 113–226

LESSONS LEARNED FROM THE BOSTON MARATHON BOMBINGS: PREPARING FOR AND RESPONDING TO THE ATTACK

HEARING

BEFORE THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

JULY 10, 2013

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

Printed for the use of the
Committee on Homeland Security and Governmental Affairs

U.S. GOVERNMENT PRINTING OFFICE

82–575 PDF WASHINGTON : 2014

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS

THOMAS R. CARPER, Delaware *Chairman*

CARL LEVIN, Michigan
MARK L. PRYOR, Arkansas
MARY L. LANDRIEU, Louisiana
CLAIRE MCCASKILL, Missouri
JON TESTER, Montana
MARK BEGICH, Alaska
TAMMY BALDWIN, Wisconsin
HEIDI HEITKAMP, North Dakota

TOM COBURN, Oklahoma
JOHN MCCAIN, Arizona
RON JOHNSON, Wisconsin
ROB PORTMAN, Ohio
RAND PAUL, Kentucky
MICHAEL B. ENZI, Wyoming
KELLY AYOTTE, New Hampshire
JEFF CHIESA, New Jersey

RICHARD J. KESSLER, *Staff Director*
JOHN P. KILVINGTON, *Deputy Staff Director*
JASON T. BARNOSKY, *Senior Professional Staff Member*
HARLAN C. GREER, *Senior Professional Staff Member*
CARLY A. COVIEO, *Professional Staff Member*
MARY BETH SCHULTZ, *Chief Counsel for Homeland Security*
KEITH B. ASHDOWN, *Minority Staff Director*
CHRISTOPHER J. BARKLEY, *Minority Deputy Staff Director*
KATHRYN M. EDELMAN, *Minority Senior Investigator*
JUSTIN ROOD, *Director of Investigations for Homeland Security*
LAURA W. KILBRIDE, *Chief Clerk*
LAUREN M. CORCORAN, *Hearing Clerk*

CONTENTS

	Page
Opening statements:	
Senator Carper	1
Senator Coburn	2
Senator Johnson	17
Senator Ayotte	20
Senator Chiesa	23
Senator Begich	25
Senator Baldwin	28
Prepared statements:	
Senator Carper	43
Senator Coburn	44

WITNESSES

WEDNESDAY, JULY 10, 2013

Hon. Richard Serino, Deputy Administrator, Federal Emergency Management Agency, U.S. Department of Homeland Security	4
Kurt N. Schwartz, Undersecretary for Homeland Security and Homeland Security Advisor, Director, Massachusetts Emergency Management Agency, Massachusetts Executive Office of Public Safety and Security	6
Edward F. Davis, III, Commissioner, Boston Police Department, City of Boston	9
Arthur L. Kellermann, M.D., Paul O'Neill Alcoa Chair in Policy Analysis, RAND Corporation	11

ALPHABETICAL LIST OF WITNESSES

Davis, Edward, F., III:	
Testimony	9
Prepared statement	65
Kellermann, Arthur L.:	
Testimony	11
Prepared statement with attachment	71
Schwartz, Kurt N.:	
Testimony	6
Prepared statement	58
Serino, Hon. Richard:	
Testimony	4
Prepared statement	47

APPENDIX

Responses to post-hearing questions for the Record:	
Mr. Serino	87
Mr. Schwartz	91
Mr. Davis	99

LESSONS LEARNED FROM THE BOSTON MARATHON BOMBINGS: PREPARING FOR AND RESPONDING TO THE ATTACK

WEDNESDAY, JULY 10, 2013

U.S. SENATE,
COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m., in room SD–342, Dirksen Senate Office Building, Hon. Thomas R. Carper, Chairman of the Committee, presiding.

Present: Senators Carper, Begich, Baldwin, Coburn, Johnson, Ayotte, and Chiesa.

OPENING STATEMENT OF CHAIRMAN CARPER

Chairman CARPER. The hearing will come to order. Good morning, everyone. Good morning to our witnesses and those who have joined us, those who are seated and those especially who are standing.

A little less than 3 months ago, the city of Boston—where my oldest son, Christopher, went to college—the city of Boston suffered a horrific terrorist attack during the 117th Boston Marathon. Ironically, he was there—not as a runner, although he is a runner. He was actually there for the race. A lot of people came in from across the country to Massachusetts Institute of Technology (MIT) and other schools just to be there and to help be part of the celebration. The attack claimed the lives, as we know, of three observers and injured close to 300 people.

As the events of April 15 unfolded, we wrestled with the fact that we were witnessing the first successful terrorist bombing on U.S. soil since the September 11, 2001 terrorist attacks. Just as we did in the aftermath of September 11, 2001, we must learn from the Boston Marathon bombing. That is why this Committee has set out to unearth the lessons learned from this act of terrorism. At a future time, this Committee will look at whether this tragedy could have been prevented. Later this year, we will be looking at that. However, today's hearing will focus on the emergency response to the events that occurred on April 15, 2013.

We will examine the preparations made by the city of Boston and by the Commonwealth of Massachusetts to deal with a crisis of this nature. We will also assess how the city, State, and Federal Government responded once Boylston Street was rocked by the two homemade explosives.

For more than a decade, our country has worked to promote effective emergency response systems that help cities and States to mitigate the effects of a terrorist attack. In the years since September 11, 2001, we have learned that it takes preparation, it takes training, it takes effective leadership, and a coordinated response plan to minimize the impact and devastation caused by disaster.

By all accounts, Boston had many of these elements in place on April 15, and lives were saved as a result. Today's hearing will take a step toward identifying the lessons learned from the preparedness for and response to the marathon attacks. We will look at what worked, what we could have done better, and how what happened in Boston can help prepare communities across the country to deal effectively with emergencies.

To help shed light on the lessons learned from the attack, we have with us three key officials who were on the ground on the day of the attack. We are also joined by an emergency management expert who has studied the response to the marathon bombing.

We look forward to hearing from each of you and working with you and others in the coming weeks and months to strengthen our preparedness and response systems across the United States.

As Dr. Coburn joined us, I will just close with this. My colleagues have heard me say probably more times than they want to count, one of my core values is to focus on excellence in everything we do, and I like to say everything I do I know I can do better. And the key for us is if it is not perfect, make it better. And as well as a lot of people responded effectively, people responded on the day of the disaster, the tragedy in Boston, we know we can do better. And the key is for us to figure that out, to take what lessons learned we can to export them across the country in ways that are appropriate.

With that, Dr. Coburn, welcome.

OPENING STATEMENT OF SENATOR COBURN

Senator COBURN. Thank you, Senator Carper, and I apologize for being late. Welcome to each of you, and thank you for what you do. I will have a full statement for the record. I look forward to hearing your comments and your testimony as well as asking you some pertinent questions about what we have done in the past, what has helped and what has not, and what has been effective and what has not.

Thank you.

Chairman CARPER. Thanks, Dr. Coburn.

Dr. Johnson—I always call him "Dr. Johnson." He is not really a doctor. He is like me. He is just a regular guy. Nice to have you with us, Ron.

What I am going to do is briefly introduce the witnesses and ask each of you to share with us your statement. Then we will have others show up on our side and have some good conversation.

Our first witness is Richard Serino—no stranger here—Deputy Administrator of the Federal Emergency Management Agency (FEMA), and prior to this appointment, Mr. Serino served as the chief of Boston Emergency Medical Service (EMS) and assistant director of the Boston Public Health Commission. He served as an in-

cident commander for over 35 mass casualty incidents and for all of Boston's major planned events, including the Boston Marathon. We thank you for joining us today and for your service. We look forward to your testimony.

Our next witness is Kurt Schwartz. Mr. Schwartz is the Undersecretary for Homeland Security and Emergency Management for the Commonwealth of Massachusetts. He is also the director of the Massachusetts Emergency Management Agency (MEMA) and serves as the homeland security advisor to Massachusetts Governor Deval Patrick. Prior to holding these positions, Mr. Schwartz served as Assistant Attorney General and Chief of the Criminal Bureau in Massachusetts. In addition to working as a prosecutor in Massachusetts, Mr. Schwartz has also served as a police officer and as an emergency technician. We thank you for joining us today and for your services to the people of the Commonwealth of Massachusetts.

Next, Mr. Ed Davis—nice to see you, Mr. Davis—currently Commissioner of the Boston Police Department. Mr. Davis became the Commissioner in December 2006 after serving as a superintendent of the Lowell Police Department for 12 years.

Do they have a marathon in Lowell?

Mr. DAVIS. They do have racing events, sporting events, but not a marathon.

Chairman CARPER. OK. He has been in law enforcement for 35 years, and on the day of the marathon bombing in Boston, Mayor Menino appointed Police Commissioner Ed Davis as the head of the unified command, putting him in charge of the overall response effort. Commissioner Davis, we want to welcome you and, again, thank you for your service.

Our final witness is Dr. Arthur Kellermann, an expert in disaster management. Dr. Kellermann is Vice President and Director at the Research AND Development (RAND) Health. Prior to holding this position, he was professor of emergency medicine and associate dean of health policy at the Emory School of Medicine. He was also the founding chairman of Emory's Department of Emergency Medicine and the Center for Injury Control at Rollins School of Public Health. Dr. Kellermann's research at RAND Health focuses on public health preparedness, injury prevention, and emergency health services. Dr. Kellermann, we thank you for joining us today. I believe Dr. Coburn and his staff recommended that you be invited as a witness, and we are glad you could join us.

And we are glad that Senator Ayotte could join us as well.

Now we have four on our side, four on your side; I think we are ready to go. So we are man on man, something along those lines.

You are invited to give us your statement. Feel free to summarize it. If you would, try to stick to about 5 minutes. If you go way beyond that, we will have to rein you in. But your entire statement will be made part of the record, and with that, Mr. Serino, you are our lead-off hitter. Thank you.

TESTIMONY OF THE HON. RICHARD SERINO,[1] DEPUTY ADMINISTRATOR, FEDERAL EMERGENCY MANAGEMENT AGENCY, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. SERINO. Thank you. Chairman Carper, Ranking Member Coburn, and Members of the Committee, good morning. I am Richard Serino, Deputy Administrator of FEMA. And on behalf of Secretary Napolitano and Administrator Craig Fugate, I welcome the opportunity to be here to discuss the Boston Marathon bombing. As mentioned, I was in Boston on that tragic day in April celebrating Patriots' Day in my hometown, so I am here today not just as the FEMA Deputy Administrator but as a Bostonian and a former paramedic.

On April 15, Patriots' Day and the Boston Marathon come together to create a day like no other in Boston. We pause to celebrate our heritage, and our streets fill with millions of residents and visitors from down the block and around the world. For most of my life, I worked those same streets for Boston EMS, ending a 36-year career as chief of the department in 2009.

There were many nights I went home proud of the Boston first responder team, but never more proud of them and the residents of my town that day in April. While in one moment we saw terror and brutality, in the next moment we saw the community's love and compassion. We saw our emergency medical technicians (EMT), police officers, firefighters, paramedics, and emergency managers spring into action and perform what they do heroically.

As Tip O'Neill used to say, "All politics are local." We also know that all disasters are local. And Boston was no exception. But FEMA is proud to support communities like Boston in their efforts to prepare for, respond to, recover from, and mitigate against whatever hazards they may face.

As the medical incident commander in Boston, as you mentioned, for over 35 mass casualty incidents and for all of the city's major planned events, including the marathon, I can assure the Committee that planning and coordination at the local, State, and Federal level played a critical role in ensuring a well-executed response that did, in fact, save lives. I am also here today to express and discuss how FEMA in part played a role in making the people on the ground more prepared that day.

On April 15, Americans witnessed the strength of the whole community—people coming together to help each other and making our collective response that much more effective and efficient. Whole Community is an approach to emergency management that reinforces the fact that FEMA is only part of the emergency management team, that we must leverage all of our resources and tap into the collective strength of our citizens in times of crisis.

That April day, we saw how FEMA's approach to national preparedness helped empower and strengthen the whole community, including the city of Boston and the Commonwealth of Massachusetts. Through our preparedness resources, including our training, exercise, technical assistance, and community preparedness programs, we helped ensure that the people who responded had the tools and the equipment to be effective. Immediately following the

[1] The prepared statement of Mr. Serino appears in the Appendix on page 47.

event, FEMA collaborated with our law enforcement, public safety, and Federal partners and were ready to help when the President issued a disaster declaration for the affected communities.

Many of the capabilities demonstrated that day in the immediate aftermath were built, enhanced, and sustained through FEMA's preparedness grants. As a former paramedic and chief, I can attest to the importance of preparing our public safety and emergency management personnel and the public for all-hazard contingencies. Both Boston and Massachusetts invested Federal grant funds in systems that were critical during the response, including helping stand up an emergency patient tracking system, a web-based application that facilitates incident management, and the system made a difference on April 15.

Boston EMS used FEMA preparedness grants to invest in mass casualty medical supplies and equipment. They were critical and crucial in responding to the bombing survivors.

The Massachusetts State Police used a forward-looking infrared imaging unit they purchased with these funds to search for, locate, and apprehend the surviving bombing suspect. These grants were also leveraged for onsite security and protection, including much of the equipment that was used during the event, such as bomb robots, X-ray equipment, and ballistic helmets and vests.

First responders from Boston and across the country plan, train, and exercise through support from FEMA, making them more equipped for the communities during real-world incidents. Since 2000, thousands of Boston area responders have received training from the Emergency Management Institute, the United States Fire Academy (USFA), and FEMA partners. Boston also used FEMA funds to train Special Weapons and Tactics (SWAT) teams to better integrate bomb technicians into tactical operations, a crucial capability that was demonstrated in Boston.

Medical personnel were trained and exercised in how to respond to a mass casualty incident. It was no accident that not a single hospital in the city was overwhelmed with patients in the aftermath of the bombings. It was no accident that patients were appropriately treated, triaged, and transported in an orderly manner to appropriate hospitals based on their needs. All these exercise and training sessions also allowed key personnel to develop critical relationships. As the saying goes, you never want to be "exchanging business cards" at the scene of a disaster, and people knew each other well beforehand.

FEMA prides itself on continually improving our approach and focusing on further strengthening collective preparedness to meet the evolving threats. We know that we can never replace Krystle Campbell, Lu Lingzi, Martin Richard, or Sean Collier, whose lives were lost and we continue to mourn. We can take some solace in the fact that our collective approach and the years of planning we did as a Nation on the local, State, and Federal level helped first responders on the ground that day and, in fact, saved lives. We also owe it to those who we lost and those who were injured to keep improving. We will work with all the partners across this great country to honor and to continue moving forward.

Mr. Chairman, Senator Coburn, Members of the Committee, I look forward to answering questions.

Chairman CARPER. Thank you very much for that testimony. Mr. Schwartz.

TESTIMONY OF KURT N. SCHWARTZ,[1] UNDERSECRETARY FOR HOMELAND SECURITY AND HOMELAND SECURITY ADVISOR, DIRECTOR, MASSACHUSETTS EMERGENCY MANAGEMENT AGENCY, MASSACHUSETTS EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY

Mr. SCHWARTZ. Good morning. Chairman Carper, Ranking Member Coburn, and Members of the Committee, on behalf of Governor Patrick, I thank you for this opportunity to share thoughts on the public safety response to the Boston Marathon bombings and the ensuing manhunt that together resulted in the deaths of four people and injuries to hundreds more.

The response to the marathon bombings once again demonstrates the value of our investments in local, State, and Federal homeland security. Within seconds of the bomb blasts, an array of personnel, resources, and capabilities—many funded with Federal homeland security grant dollars—were mobilized and deployed.

First responders, aided by the public, swiftly provided on-scene emergency medical care to the injured, and EMS providers followed established plans to triage and transport the wounded to area trauma centers. Our trauma centers were prepared and followed existing mass casualty plans to swiftly and effectively treat the wounded. Indeed, at least two of our trauma centers report that critically injured patients were in operating rooms within just 15 to 18 minutes of receiving them in their emergency departments.

Tactical and other specialized teams, many of which deployed into Boston under established mutual aid agreements, conducted chemical, biological, radiological nuclear (CBRN) monitoring, searched for additional explosive devices, secured our regional transit systems and other critical infrastructure, established a large security zone, and secured the crime scene. A forward command center was established, first on the street and then in a nearby hotel.

Political and public safety leaders began communicating with the public through alerting systems, social media, and traditional media. The Boston Police, supported by the State Police, working with our two fusion centers, immediately launched a criminal investigation, and in only a matter of hours combined their efforts and resources with those of the Joint Terrorism Task Force (JTTF) as the Federal Bureau of Investigations (FBI) took charge.

The speed by which Boston's public safety agencies responded, supported by regional, State, and Federal partners, is a testament to outstanding leadership and smart homeland security investments.

The Boston Marathon passes through seven cities and towns and three counties before ending on Boylston Street in Boston. For our local, regional, and State public safety officials, the marathon is one of our greatest annual events, drawing close to a million spectators, and we appropriately dedicate substantial planning and operational resources to protect, as best we can, the runners and spectators at the eight host cities and towns. These extensive plan-

[1] The prepared statement of Mr. Schwartz appears in the Appendix on page 58.

ning and preparedness efforts are intended to ensure readiness to respond to any and all unexpected hazards that threaten health, safety, or property.

On April 15, the public safety community was prepared. As we have done for many years, a multi-agency, multi-discipline team spent months developing the operational plans for this year's marathon. We did worst-case scenario planning, preparing for a wide array of incidents and events that might impact the marathon or their communities. In early April, we conducted a comprehensive tabletop exercise to ensure our readiness.

On race day, the State's Emergency Operations Center (EOC) hosted an 80-person, multi-agency coordination center that was staffed with representatives of the police, fire, and EMS agencies of the eight cities and towns along the course, along with a dozen other key State and Federal public safety agencies. The Operations Center was also connected to Emergency Operations Centers in all eight cities and towns, and first responders along the course and command-level personnel from all local, State, and Federal public safety agencies were using interoperable channels on portable radios to maintain effective communications.

Along the course, local, regional, and State tactical teams, hazardous materials response teams, explosive ordinance disposal teams, the National Guard Civil Support Team, mobile command posts, and State Police helicopters were deployed as part of an all-hazards operational plan.

In short, we were prepared, and our high levels of preparedness were due to investments made in collaboration with Governor Patrick's administration over the past years using Federal homeland security grant dollars; a longstanding commitment to multi-agency, multi-discipline, and multi-jurisdictional training and exercises throughout the State; a strong record of collaboration, coordination, and cooperation by public officials and public safety leaders; an unwavering 24/7 commitment to homeland security by all local, regional, State, and Federal public and private sector stakeholders; and lessons learned from local, regional, and State responses to hurricanes, tropical storms, blizzards, ice storms, floods, tornadoes, and a massive water system failure that had resulted in the Commonwealth receiving 16 Presidential Disaster Declarations since 2005.

Even as we work our way through a comprehensive after-action review process, several common themes stand out as we assess our response. Foremost, there is a clear correlation between the effectiveness of response operations and local, regional, and State investments in training, exercise programs, incident command system, building and sustaining specialized capabilities, activating and operating emergency operations centers, as well as our longstanding focus on developing regional response capabilities.

There are several other key factors that contributed to the effectiveness of response operations.

The response relied heavily on specialized capabilities that have been built and sustained through our homeland security grant programs.

The response to the bombings was augmented through pre-existing mutual aid agreements.

Interoperability was a huge success story. The millions of dollars that we have spent over the past years on interoperability ensured effective communication.

We benefited from a history of using pre-planned events like the marathon as real-life opportunities to exercise and utilize our homeland security capabilities and to strengthen personal and professional relationships.

We also benefited from investments in regional exercise programs, such as the Urban Shield exercises conducted by the Boston Urban Area Security Initiative (UASI).

The cooperation and collaboration across agencies, disciplines, and jurisdictions was immediate and extraordinary.

Existing strong relationships between the Commonwealth Fusion Center, the Boston Regional Intelligence Center (BRIC), and the FBI's Joint Terrorism Task Force allowed the State Police and the Boston Police Department to quickly integrate into the post-bombing investigation that was led by the FBI.

The support from the Federal Government was immediate and effective. On the law enforcement side, every imaginable Federal agency dispatched personnel and resources, and on the emergency management side, FEMA and the Department of Health and Human Services (HHS) had senior people in our command center in Boston only hours after the bombings, including Deputy Serino.

Local and State public safety agencies effectively communicated with the public through social media, reverse 911 systems, press releases, press conferences, emergency alerting Smart Phone apps; and for the first time in Massachusetts, we utilized the new Wireless Emergency Alert (WEA) Service.

And the response by the public to the bombings and the ensuing hunt for the suspected terrorists was nothing short of incredible. The public heeded requests and directions from Governor Patrick, Mayor Menino, and the public safety leaders, including the unprecedented request on April 19 that residents of Boston, Watertown, and four other communities remain indoors.

In closing, as previously mentioned, we are in the process of conducting a comprehensive local, regional, and State after-action review. At the end of this process, an After Action Report and corrective action plans will be published. We will continue to identify what worked well, where there is need for improvement, and gaps that need to be addressed through training, exercises, planning, and homeland security investments.

Even as we move through the after-action process, I can confidently state that our investments made with homeland security dollars undoubtedly enhanced our capability to respond to these tragic events.

Thank you.

Chairman CARPER. Thanks so much for joining us. Thanks for that testimony very much.

Mr. Davis, welcome. Please proceed.

TESTIMONY OF EDWARD F. DAVIS, III,[1] COMMISSIONER, BOSTON POLICE DEPARTMENT, CITY OF BOSTON

Mr. DAVIS. Thank you, Mr. Chairman.

Good morning, Chairman Carper, Ranking Member Coburn, distinguished Members of the Committee. On behalf of Mayor Thomas Menino, I would like to thank you for the opportunity to testify today about the impact of the terrorist bombing at the Boston Marathon on Patriots' Day, April 15, 2013.

On that day, at 2:50 p.m., two bombs exploded 12 seconds and 550 feet apart near the finish line of the Boston Marathon. Two terrorists killed three people at the scene: 8-year-old Martin Richard and 23-year-old Lu Lingzi, a graduate student at Boston University in front of the Forum Restaurant; and 29-year-old Krystle Campbell at the finish line.

There were multiple amputations. Every ambulance and police transport vehicle available transported nearly 300 people to world-class hospitals. Within 22 minutes, the scenes were cleared and a 12-block perimeter was set. All 19 victims admitted in critical condition survived due to exceptional medical care and the use of tourniquets by civilians and first responders.

The perpetrators were identified in video footage, and the photos were publicly released on Thursday evening, April 19. The release of these photos started a rapid chain of events: the execution of MIT police officer Sean Collier; a carjacking and pursuit that ended in Watertown that included shots fired at my officers and explosives thrown; a shoot-out with the bombers, leading to the critical injury of Officer Richard Donohoe.

One terrorist, Tamerlan Tsarnaev, was killed, and the other, Dzhokhar Tsarnaev, fled. A massive manhunt for Tsarnaev ensued in a 20-block perimeter. This included a citywide shelter-in-place request that began in Watertown and extended to all of Boston, as well as house-to-house searches throughout Watertown, the discovery and arrest of Tsarnaev in a Watertown boat stored in a backyard.

Both terrorists were captured within 102 hours from the time of the initial explosions. This success was the direct result of dedicated training, an engaged and informed public, and an unprecedented level of coordination, cooperation, and information sharing on the line by local, State, and Federal agencies.

I would like to thank President Obama and his Administration, particularly the Department of Homeland Security (DHS) and the Department of Justice (DOJ), for the invaluable assistance Boston received before, during, and after this tragic event. Preparedness training provided through the UASI and other Federal funding set a framework for multiple jurisdictions to work with one another in a highly effective manner. These agencies, including EMS and medical personnel, utilized federally funded Urban Shield training exercises and several tabletop exercises to collaborate in scenarios similar to those that occurred during the investigation. The importance of this training is best illustrated in the efficiency and success of the response and subsequent investigation. These trainings

[1] The prepared statement of Mr. Davis appears in the Appendix on page 65.

and testing procedures revealed operational issues and allowed us to correct them prior to April 15.

UASI funding also provided highly trained analysts in the Boston Regional Intelligence Center. They are critical to the department's daily decisionmaking, intelligence gathering, deployment and information flow, coordination and communication with law enforcement and other first responders.

Boston also received important technology that would not be possible without the Federal funding. Command posts, armored vehicles, robots, and other safety equipment contributed to the safety of my officers and other officers in the Boston area and the success of the investigation.

While all agencies' trainings and equipment worked as seamlessly as possible on the ground, it is clear that there is a need for improvement in our communication and information sharing with Federal partners. In the aftermath of the Boston bombings, the FBI improved information sharing. But policies and practices for information and intelligence sharing must be consistent across all JTTFs. The current language of the JTTF memorandum of understanding (MOU) should be reviewed, including its restrictions and suggested changes to the language and practices that members of the Major Cities Chiefs (MCC) Association believe need to be addressed. Chiefs want to strengthen the partnership between the Department of Justice, the Department of Homeland Security, and the police in urban areas.

For example, the association proposes regular briefings by Federal agencies on any and all threats to the community. These revisions are critical as we all work to prevent further violent extremist attacks in this country.

We are also meeting with the Senate Intelligence Committee to examine how best to share classified threat intelligence and other matters that I cannot address in an open hearing.

Another challenge that occurred immediately after the explosions was the overload to the cell phone system. They were rendered completely useless as a means of communication at the scene. The capacity of the cell phone companies was overrun by public usage, forcing first responders to rely exclusively on radios. Based on this experience, satellite phone technology is not effective because of command posts being inside. Communications assistance from the Department of Homeland Security is an example of how this Committee has made a difference. The DHS Office of Emergency Communications conducted an exercise during a previous Boston Marathon to test and train for communications interoperability. Based on lessons learned from this DHS assistance and funding for technology, our emergency radio communication systems worked without incident, even though all cell phones went down during the crisis. In the past, police, fire, and EMS personnel would not have been able to communicate because of different radio systems.

I want to reiterate that law enforcement needs a common and secure radio bandwidth and a public safety spectrum dedicated exclusively to public safety use as it is the only way to communicate during an event of this magnitude. We thank Congress for approving the D Block and look forward to working with FirstNet and the

Department of Commerce to implement this long overdue legislation.

Boston and our partner agencies rose to the challenge we faced and in large part were successful, based on the support and assistance from the community.

I appreciate the opportunity to discuss, reflect, and provide lessons learned that may assist my colleagues across the Nation and the world. Thank you.

Chairman CARPER. Thank you very much, Mr. Davis. Dr. Kellermann.

TESTIMONY OF ARTHUR L. KELLERMANN,[1] M.D., PAUL O'NEILL ALCOA CHAIR IN POLICY ANALYSIS, RAND CORPORATION

Dr. KELLERMANN. Chairman Carper, Ranking Member Coburn, and distinguished Members of the Committee, thank you for inviting me here today. I am Art Kellermann. I am an emergency physician, and I am not from Boston.

We have all heard the adage, "It is better"——

Chairman CARPER. How about South Boston?

Dr. KELLERMANN. Yes, sir. [Laughter.]

We have all heard the adage that, "It is better to be lucky than good." Boston's responders were both lucky and good. That is why so many victims survived.

Several chance factors worked to the rescuers' favor, most notably when, where, and how the attacks occurred. But Boston's responders were also very good. Bystanders, runners, and spectators played a key role, particularly in the first minutes after the attack.

A few years prior to the attack, Boston EMS, fire, and police personnel studied how London, Madrid, Mumbai, and other cities had handled their terrorist attacks, what they did well, what did not go well, and they adjusted their plans to respond to lessons learned in those cities and incorporated it into their plan.

Boston's hospitals did a great job because they were prepared to do a great job. They reacted with speed and precision because everyone knew what to do. That is how disaster plans work.

But these observations lead to an important point. The fact that Boston was lucky and good does not mean that the next American city that is hit will be equally lucky or equally good. We cannot assume, based on Boston's performance, that other U.S. cities are prepared to manage a terrorist attack of similar, much less greater magnitude. In fact, there is ample reason to worry.

Across the Nation, emergency room crowding is as bad as ever. It not only limits surge capacity; it compromises patient safety on a day-to-day basis. Some communities and some hospitals have taken their eye off the ball, and not every community has the spirit of Boston where health and public safety work together as a team.

Now, disaster preparedness is largely a State and local responsibility, but the Federal Government has an important role to play. Your letter of invitation asked that I specifically comment on two areas: research and grantmaking. I will address research first and then grants.

[1] The prepared statement of Mr. Kellermann appears in the Appendix on page 71.

Last year, RAND published the first ever inventory of national health security research funded by civilian agencies of the U.S. Government. We found that the current portfolio is heavily skewed toward biological threats. Two-thirds of the studies, a thousand different projects, address that topic, while natural disasters like hurricanes, earthquakes, and tornadoes were the focus of only 10 percent of studies. Terrorist bombings, 4 percent.

One reason for the heavy coverage of one threat versus the other is that the agencies today do not have a simple way to determine who is funding what or to prioritize which questions are most urgent for responders in the field. As a result, we are not getting top value for our dollar.

Now, RAND's work has been largely concentrated in HHS rather than DHS, so I cannot speak specifically to DHS' approach. But I can tell you based on our prior work and experience with grants that performance measures that focus on what has been bought and what has been taught are not as useful, by and large, as those that measure whether States and municipalities are building the core capabilities they need to respond to a disaster or a large-scale attack.

Now, let me cite an example from the world of public health. It is one thing to ask States and municipalities to self-report if they have established a 24-hour-a-day dedicated phone line that health care workers can call to report a potential biological threat. It is quite another to independently determine if that phone line gets answered at 2 o'clock in the morning, how long it takes for somebody to come back with information, and whether the advice that is offered makes sense. The first is a capacity; the second is a capability.

Disaster drills are another issue. Expensive, prescripted exercises, whether they are run by the hospital or in the community, are substantially better than nothing, but they are less useful for assessing capabilities than you can do with inexpensive, no-notice drills, tabletop exercises, secret shopper evaluations like the one I just described, and systematic learning from real-world events, small as well as large.

Now, the goal of these exercises is not to make hospitals or communities or States look bad, but to help everybody elevate their game so they will be ready when the big one happens. Congress can help by encouraging Federal agencies to promote team work at the local, the State, and the Federal level and by focusing on practical measures that test and improve the capability to respond.

Now, here is my bottom line. Boston responders deserve our praise, but let us do more than pat them on the back. Let us follow their example. Boston learned from the experiences of London, Madrid, and Mumbai. The rest of us can learn from Boston.

Thank you.

Chairman CARPER. Thank you, Dr. Kellermann, and, Dr. Coburn, thanks for inviting him.

I just want to start off, before I ask a question, and speaking maybe for myself, maybe for my colleagues as well, the idea, the thought that this terrible tragedy occurred, three people were killed, declared dead on the scene. Everybody who made it, roughly 300 people who made it to a hospital lived. Some of those people

had no pulse, and they were saved. They are alive today. Some of the lives, many of the lives will be changed forever. Hopefully they will continue to have the kind of support to move on in their lives as they received that day, support of a different kind. But the team of paid professionals, volunteers, bystanders who pulled together as one was just extraordinary.

When we gather in the Senate chamber later today to vote, right over the head of the presiding officer in the Senate and in the House are just about the only Latin words I know: E pluribus unum. From many, one. And, boy, in Boston, from many, one. Extraordinary, and thank you for reminding us of that.

I like to say that the road to improvement is always under construction. Everything we do we know we can do better. I am just going to start and ask each of you to give us an example of one lesson from the tragedy in Boston that can be exported, should be exported to other communities, to other cities in our country. Just give us one really good example of what can be exported. Mr. Serino.

Mr. SERINO. I would say one is to ensure that the training and the relationships are done ahead of time. I think that the fact they are using these special events—planned disasters, if you will—is absolutely key. Because every community, large or small, across the country has events, whether it be on recently the 4th of July—and I happened to be there with Kurt up in Boston on the 4th as well. And building those relationships during a special event, because you know you are going to have numbers of people who are going to be concentrated; you are going to have a lot of these different groups of people coming together, and you have to be able to—for example, the 4th of July and the marathon, people are going to get sick or injured, but maybe not to the quantity, but building that and testing that and making sure the people have the training and the exercises and the equipment to do that.

So I think that taking the lessons learned from that as a whole community approach, bringing all the different partners together, as I mentioned, it was no accident that people went to different hospitals. It was no accident that they were treated on scene. It was no accident that they used tourniquets, because that is the training and the exercise that happens both at the special events using those and incorporating them into what we do each and every day, and that has been being done in Boston for years and should be done across the country.

Chairman CARPER. Thank you. Mr. Schwartz.

Mr. SCHWARTZ. Well, I will build on that. So in addition to the training and exercises and the worst-case scenario planning, we have to translate—and we do in Boston, we did for the marathon, we do for July 4th we have to translate that into worst-case scenario response capabilities. It is one thing to plan for a worst-case scenario, but on game day you need to be ready to act very quickly.

So on marathon day, we had all of the operational capacity across eight cities and towns to respond to these worst-case scenarios. We had a multi-agency coordination center stood up, 80 participants, dozens of agencies; and as I said in my prepared statement, across all eight cities and towns, we had all sorts of resources that many people would say, "Why are they out there? This

is a marathon. Why do you have Special Tactical Operations (STOP) teams, SWAT teams, ordnance disposal teams and K–9s, helicopters, CBRN monitoring? It is all very expensive to deploy." Well, that is building that worst-case scenario operational capacity and capability so that when the bombs went off, there was not a delay. The reaction was immediate. The response was immediate.

So I am just building on the worst-case scenario planning to be able to implement that planning on a moment's notice.

Chairman CARPER. All right. Thank you.

Mr. Davis, please.

Mr. DAVIS. Senator, my colleagues here have mentioned training and equipment and being prepared, and I think that those are the two most important things. I am going to talk just a bit about communication, but not radio communication. I have already addressed that in my statement. I am talking about communication with the community.

Chairman CARPER. Let me just ask a question. When I was Governor, we installed Statewide an 800-megahertz system to deal with the interoperability so State police could talk to fire could talk to all kinds of emergency responders. It took a while to stand it up, finally got it straightened out. Do you all use a similar system? What do you use?

Mr. SCHWARTZ. There is an 800 system being used by the State police; however, we are still in the 400 ultra high frequency (UHF) area. We have cobbled together a system that works very well, being able to patch all the different agencies together. But because of the danger of losing these frequencies in the near future, we really need to put a plan together to continue that capability.

Chairman CARPER. OK. Thank you.

Mr. DAVIS. But let me speak about social media and the old adage that you cannot establish a relationship during a crisis. We have a significant presence on social media where we have engaged not only in a one-way communication but in a dialogue with people in the community about all sorts of issues day in and day out. We were able to use social media effectively in the minutes after the blast to inform people as to where they could go, as to what happened, where they could meet loved ones. There was an enormous amount of upset in the community, and we used social media to tamp that down. We also used it to do outreach to the community to provide us clues and video and photos of the bombers. And then we used it to correct things that had been reported badly by the media.

So I guess my point is a substantial investment in the utilization of social media to do direct outreach from public safety organizations to the community can really help in any kind of an event that happens like this. When the cell phones go down, the texts do not, and so we were able to reach people immediately through systems that are funded in the private sector but utilized by the public sector very well.

Chairman CARPER. All right. Thanks. Dr. Kellermann.

Dr. KELLERMANN. As the health guy at the table, I would say it is critically important that public health and the medical community be partners in planning as well as in response. In disasters

and terrorism, people often get hurt, and we have to be on the same team to make that work.

The other point I think that Boston emphasized is you do not prepare and put everything in a closet or in a garage and lock it away. The best systems are the systems that work well day to day, and you raise your game from what you are doing on a day-to-day basis, and you are much more capable. The most effective cities, the most effective systems in the country, are those that are high performers every day of the week, every day of the year, not just on the day of the disaster.

Chairman CARPER. All right. Thank you.

We have been joined by a number of other colleagues: Senator Chiesa, a new Senator from New Jersey, a former Attorney General, has joined us. Tammy Baldwin, who comes to us from the House of Representatives, before that she served with distinction in the General Assembly of her State. Former Attorney General—two Attorney Generals, like they are bookends here, but Kelly Ayotte, it is great to have her here from New Hampshire. And Dr. Johnson, a successful business person from Wisconsin, has joined us.

Tom Coburn, who has had any number of careers, including health care, a health care provider, a successful business person, and a leader here, and I am going to yield to him now for his questions.

Senator COBURN. Thank you.

Commissioner Davis, just one followup. The city of Boston spent $4.7 million in 2008 and 2009 on interoperable communications, yet you are still using 400 megahertz. What is the plan, and why? Turn your mic on.

Mr. DAVIS. Excuse me, Senator. The money that was utilized was put into rebuilding the infrastructure that is there. To build on a new 800 frequency infrastructure would be much more expensive than that, as I understand it. I am not an expert in this field, but I do know that we have looked at it very closely and the enormous amount of money that is necessary. This is a system that covers 2,000 square miles, and it services about 11,000 emergency personnel in that area.

Senator COBURN. So are there plans to go to the higher frequency?

Mr. DAVIS. That might be better directed at Kurt as far as what is happening across the State. I do not know the answer to that, Senator.

Senator COBURN. Mr. Schwartz.

Mr. SCHWARTZ. Well, our first approach over the years to interoperability was to take all of our different systems—so we have very high frequency (VHF), UHF, 700, 800—and assure that we have regional plans and that all of our systems can talk together. So interoperability is a huge success story. Boston does not need to be on the 700 or 800 system to talk to the State police. We spent the money to figure out how to make them talk to each other and that works.

Now, as we look at the possibility of losing the T-band, which will directly impact many communities, we are building a core 700/800 system across the State, and we expect that over the next

10 to 15 years many of our partners will move, will migrate to the 700 and 800.

Senator COBURN. All right. Thank you.

Administrator Serino, of the capabilities utilized in the response to the Boston bombings, which ones do you think are most important in Boston and are least developed in other cities? In other words, we have seen the stellar performance here. There is no question about it. That is great, those things that are important. What do you see least developed in other major cities?

Mr. SERINO. I may be a little biased about Boston. I will——

Senator COBURN. Well, I was biased for you, so let us talk about what you see in the other cities.

Mr. SERINO. And I think one of the things that is very positive in Boston, as Commissioner Davis mentioned, I think is the communication, and I am not talking the radios. I am talking the fact that, people are on a first-name basis, whether it is Federal, State, local, or the medical community. The medical community has been linked in with public safety for years, not just since 2001. It actually goes back before that. And 2001 helped even reinforce that some more. And the ability for the medical community, medical public health and public safety community, to actually link together so people can understand the language of both groups—you do not see that in many places across the country. And I think it is absolutely essential that the medical community, the public safety and emergency management community are all on the same page. That is probably one thing I think that is probably key, and in Boston it saved lives.

Senator COBURN. So you do not think that we are as well prepared in other major cities in terms of including the medical community into these plans?

Mr. SERINO. I think it is an opportunity that is done very well in Boston and can be replicated in other places.

Senator COBURN. OK. In the past, FEMA has required that States spend a certain percentage of grant dollars on specific areas, like Improvised Explosive Device (IED) preparedness. Should FEMA do more of this or better target that grant spending?

Mr. SERINO. With a lot of the grant funding that we have developed over the last few years, it is specifically to let the communities decide what is best to use rather than being specifically on IEDs, but to give a general framework on how people can actually utilize their grant funding in order to meet, as mentioned earlier, a number of core capabilities. We have 31 core capabilities and utilizing the State preparedness report and the Threat and Hazard Identification and Risk Assessment (THIRA), the threat and hazard assessment reports, to utilize those to identify what the issues are, they go from the locality to the State to the Federal Government. And then look at those, they actually have the localities, the State and locals decide what best to use that on that fit in to meet the core capabilities and meet what they have identified as their main priorities in the localities.

Senator COBURN. We have heard a lot about the importance of exercises and training, especially drills, unannounced drills. Dr. Kellermann has responded. What is the right mix of spending? A lot of money has been spent on equipment and preparedness. What

is the right mix? Do we take Boston's experience as an example and say here is how they did it?

On what we heard from Dr. Kellermann, I would love to have all three of you comment. The fact that Boston looked at these other events in major cities throughout the world had to have played a key role in your preparedness for what happened in Boston. Have the other large cities in this country done similar planning?

Mr. SERINO. As a matter of fact, yes. What Dr. Kellermann is referring to is a program called "Tale of Our Cities" that I actually brought to Boston a number of years ago, 2009, and brought people in from Madrid, London, et cetera, and looked at how we could actually do that. It was a 3-day event, and during that period of time, first they had over 450 responders, the second day just the leadership of, again, not just public health and public safety but also Federal, State, local, and actually changed policy literally that day in how we could look at that.

What we have now done in the Federal level is there is a program that we have had at FEMA for a while, the Joint Counterterrorism Awareness Workshop (JCTAWS), which brings in mainly law enforcement training that was, in fact, done in Boston, and what we did is added a second day to that exactly or very similar to the Tale of Our Cities, that now we have taken around to a number of cities around the country over the past couple of years, and now we are going to continue to expand that and go to other cities with both the law enforcement and the health component to show how that was done. And, obviously, we are going to be adding to that from lessons learned from Boston.

Senator COBURN. My time has expired.

Chairman CARPER. Next to question is Senator Johnson, who will be followed by Senator Ayotte, Senator Chiesa, and by Senator Mark Begich, who chairs the relevant Subcommittee that has oversight on FEMA and emergency management, former mayor of Anchorage, so these are issues that he has thought a lot about and brings a lot of expertise on. And then Senator Baldwin.

Senator Johnson, you are next. Thank you.

OPENING STATEMENT OF SENATOR JOHNSON

Senator JOHNSON. Well, thank you, Mr. Chairman. I guess I would like to start out by echoing some of your comments. It always amazes me in these tragedies that we see the absolute best in America. I will never forget the pictures of the determined faces of the firemen and the police officers on September 11, 2001 walking up those stairs. And we saw the exact same thing in Boston. When those bombs went off, rather than running away from danger, we saw the citizens of Boston run toward the danger to help out.

First of all, I want to thank all of those who responded. I want to thank you for your testimony. It is truly remarkable.

Mr. Schwartz, I truly appreciate your testimony and your comments that this really is primarily a State and local responsibility. So based on that, first of all, Commissioner Davis, I am a numbers guy. What percent of your budget comes from the Federal Government, from the State government, and from the local government? Just do you have a general sense of that?

Mr. SCHWARTZ. Senator, our budget is primarily a local budget. We have about a 10-percent increase in our budget that comes from Federal and State grants. The State grants are usually pass-throughs from Federal. So most of that money, most of that 10 percent of my budget, is coming from the Federal Government.

Senator JOHNSON. OK, so about 90 percent.

Mr. Schwartz, in terms of your agency and the State, how much is from the State coffers versus the Federal Government?

Mr. SCHWARTZ. The State Emergency Management Agency as an agency is about 50 percent funded through Federal grant dollars, and much of that is Emergency Management Performance Grant dollars. The numbers across our other key State agencies, if you looked at Fire Service and State police, are infinitely smaller than that because they are receiving project-specific grants.

Senator JOHNSON. So in terms of responding really to this Boston city bombing, just kind of putting the numbers together, 90 percent is local, plus in the 10 percent, 50 percent of that 10 percent, 5 percent is State, and you got 50 percent of that coming from the State. So about 92.5 percent is really State and local government funding, which underscores your point, Dr. Kellermann, that 7.5 percent is Federal Government spending, 92.5 percent is State and local.

So, with that in light, because being prepared is incredibly important, I guess, Commissioner Davis, the question I would have to ask you is: How many cities have contacted Boston based on your extraordinary response to this to get some tips, some pointers, get some training from what you have done right?

Mr. DAVIS. There have been dozens of cities within the United States and dozens of cities outside the United States that have contacted us to share best practices with them.

Senator JOHNSON. We have seen an awful lot of abuse here in the Federal Government level of conferences and association meetings. But here is a real valid use of them, and is it being used that way? Do you have national associations that are getting together where, when you get similar commissioners or you have public safety officials coming together for training, for sharing stories, for sharing best practices? And how often does that happen?

Mr. DAVIS. We do. About once a year there are groups of us that travel to different countries. I am headed to the Middle East this year. I was there last year. In 2005, I traveled to London and worked with Sir Ian Blair just after the Tube bombings. And he was able to lay out precisely what the Metropolitan Police did in response to the terrorist attack in the London Tube.

That information was extremely valuable to me when I arrived on the scene. When I got there, it can be overwhelming to see the kind of carnage that was wrought on the city of Boston. But because I had been to London and spoken to people who have put the case together, I knew precisely the process to follow.

Senator JOHNSON. Were there other U.S. city police commissioners that went with you to London?

Mr. DAVIS. There were. Through the——

Senator JOHNSON. How many?

Mr. DAVIS. There were six of us that traveled over there in 2005. There were three of us that traveled to the Middle East last year. That is largely through the Police Executive Research Forum, and

they do use Federal money to allow some of those trips. So it is working, but I think it should be expanded, especially with this threat of terrorism that is international.

Senator JOHNSON. But, again, from my standpoint, wouldn't it be just as efficient to hold those conferences here in the United States? And have similar type of conferences occurred?

Mr. DAVIS. However it works, absolutely.

Senator JOHNSON. But, I mean, have those conferences occurred, or are they scheduled to occur?

Mr. DAVIS. They have occurred. We have brought people from the country of Israel, we have brought people from India. There have been people that have come to our national conferences to give presentations, including the United Kingdom.

Senator JOHNSON. OK. Dr. Kellermann, real quick, what other cities are performing at Boston's level?

Dr. KELLERMANN. I think the major terrorist cities are at or close to that level—New York City, Los Angeles—but others, I think, have to raise their game, have to take this seriously. The fact that around this country today the most critical arena of patient care in any hospital in a disaster, the emergency room, is the most congested arena in the hospital is unconscionable. Israel, which is a country I admire in their no-nonsense, straightforward, practical approach preparedness, that is the last place in the hospital they allow to get backed up. We have to change that philosophy in this country.

Senator JOHNSON. OK. My time is running short, so I have to get into the Mirandizing issue. Commissioner Davis, what were your thoughts when Dzhokhar Tsarnaev was Mirandized within—how many hours? Sixteen hours? I cannot remember the exact timeframe.

Mr. DAVIS. Right, we received an order from the United States Attorney's Office not to Mirandize anyone in connection with this incident because it was being prosecuted at the Federal level. And I was surprised, but these statutes are passed here, and they are implemented by the United States Attorney, and we take direction from the people who are in charge. At that point in time, the FBI had taken over the investigation, and the U.S. Attorney's Office was running the investigative part of it. And so I considered that an order from the people who were statutorily responsible for this investigation. But it was a surprise to me, Senator.

Senator JOHNSON. OK. I meant 60 hours, not 16 hours. There is no hard and fast rule in terms of when that Mirandizing occurs, correct?

Mr. DAVIS. Correct.

Senator JOHNSON. And we have actually gone—there have been instances, precedents where that has gone on for 7 days.

Mr. DAVIS. I am not aware of that.

Senator JOHNSON. Or beyond. Do you think that would have been the appropriate thing to do in this case, hold off Mirandizing Dzhokhar, to actually get more information?

Mr. DAVIS. In this particular case, no, I think that Miranda would have been fine. But we did have an evolving threat for a period of time after those bombs were thrown, and I can see that

there can be unfolding situations where it might not be appropriate. So, I mean, I do not want to comment on——

Senator JOHNSON. It is true that he stopped talking the moment he was Mirandized, correct?

Mr. DAVIS. Yes.

Senator JOHNSON. We got no further information.

Mr. DAVIS. As far as I know.

Senator JOHNSON. Thank you, Mr. Commissioner.

Thank you, Mr. Chairman.

Chairman CARPER. And just to dwell on that question for a moment, Dr. Coburn and I have scheduled a followup hearing for later this month to look at a timeline leading up to the tragedy in Boston before and subsequent to that, and so we will save that question for that day as well.

Senator COBURN. Let me just make a comment, just so everybody understands.

Chairman CARPER. Please.

Senator COBURN. Mirandizing—information collected before somebody is Mirandized cannot be used, but you have not violated the law if you have not Mirandized somebody. What you have done is excluded any evidence that you might have gotten. The balance is in collecting evidence that might eliminate further events and taking that risk in terms of the conviction of one bad actor versus preventing others. So it is a topic that should be considered, and I appreciate that we are going to do that.

Chairman CARPER. Good. OK.

Senator Ayotte, please.

OPENING STATEMENT OF SENATOR AYOTTE

Senator AYOTTE. Thank you, Mr. Chairman. I first of all want to thank all of you for being here. Commissioner Davis, I just want to thank you for the extraordinary bravery of the Boston Police Department and all the law enforcement officers and first responders that were involved. It was extraordinary, your courage, the way you handled things, professional, and we are all incredibly proud of the work that you have done, and, really, you do set a shining example for how others should handle—we hope that we do not have any more of these incidents, but to be prepared for them.

I am also very proud, having been Attorney General in New Hampshire, I know this is not the first time that the Boston Police Department has done excellent work, and we have cooperated on many cases across borders between Nashua, New Hampshire, and Massachusetts, and it has been terrific. We were also very proud to send Manchester and Nashua Sea Coast and the New Hampshire State Police down, their SWAT and special reaction teams, to be able to help and work with you on it. So I just want to thank you for that. Our thoughts and prayers continue to be obviously with the victims, and those who lost limbs at the scene, incredibly brave. Think about a guy like Jeff Bauman, the bravery that he showed and others at the scene. We will continue to support them and thank you for what you have done.

What I would like to get at is your testimony—having been Attorney General (AG), I had a chance to interact with the Joint Terrorism Task Force and wanted to get your thoughts on what we

needed to do to improve the MOU, to make sure that agencies like Boston are getting the right information from the Federal agencies and that you are treated as an equal partner in that information sharing. So I saw your testimony on it and wanted to get your insight about what you think should be done.

Mr. DAVIS. Thank you, Senator. It has been a pleasure to work with you over the years, and Colonel Quinn, who is an old friend——

Senator AYOTTE. Yes, he is a great guy. Thank you.

Mr. DAVIS. He really is, yes. But they did an incredible job in helping us out after the incident.

After September 11, 2001, I had an opportunity to meet with Director Mueller and talk about the help that local police could provide to the FBI as a force multiplier in the war against terrorism, and the Director was incredibly gracious and opened up his offices to us. We have established these JTTFs, and they have been working very well.

But as the Senator said, there is always room for improvement, and I think that after this experience, when we go back and look at the series of events that occurred, there are a couple of things that come to mind. One is that the MOU could be worked on from a more equal way so that there was an exchange of information, it was not all one-sided; and I think that is really important.

I also think that if there is information that comes in about a terrorist threat to a particular city, the local officials should have that information. There should be a mandate somewhere that the Federal authorities have to share that with us so that we can properly defend our community.

There can be a difference between decisions made for prosecutorial reasons and decisions made for public safety. And I think that that is the stress that occurs sometimes in these investigations. And if we are aware of what the potential threat is, we can make our own decision as to what we would do with the information, which might be slightly different.

I am not saying anything was done wrong here, and I am not saying that we would have done anything different had we had the information that the FBI had prior to this. But I am saying that there should be a full and equal partnership where everyone is sharing equally.

Senator AYOTTE. Well, Commissioner, I know your responsibilities as the head of a large agency in Boston, a large city, so the information that the FBI had in advance and obviously we will have a separate hearing on, and I know that you are talking with the Intelligence Committees about how we can make sure that there is better coordination among the Federal agencies. I think that is critical that we get at that to make sure that things like the terror watchlist are effective and the information—did you have any of that in advance?

Mr. DAVIS. We have four officers who were assigned to the JTTF. There is one in each terrorism squad. But we were not aware of the information on Tsarnaev and his travel overseas.

Senator AYOTTE. To Russia.

Mr. DAVIS. Correct.

Senator AYOTTE. So what we need to do is make sure—you hit it right on. I mean, the bottom line is that a local police officer is most likely to encounter that individual first as opposed to an FBI agent, because you are on the ground, you are on the streets every day, and if you do not have that information and you encounter someone like Tsarnaev in advance, then you do not have the information in your mind as to how to treat that individual and what to do with whatever actions they are making.

And so if that information is not flowing down fully to State and local in the way it needs to, then we do need to address that and make sure we get to the bottom of it, because, I know the FBI, they work very hard, they do a good job, but they are not on the streets every day. You are. And you are likely to encounter that person first. Is that right?

Mr. DAVIS. That is correct, Senator. I just want to stress we have a tremendous working relationship with them. We are full partners in many of the endeavors that we have. But if information is compartmentalized and kept away from our Boston Regional Intelligence Center, then when my officers stop Tsarnaev or someone like him, we are not hitting on that data base right away.

Senator AYOTTE. Right.

Mr. DAVIS. So we are blind as to the prior information, and that puts my officers at risk. So I feel very strongly about this.

Senator AYOTTE. So this is something that we can help address here by making sure that the information sharing is improved and that this MOU, that there is a clear understanding that the information cannot just flow one way. And, I have great respect for the FBI, too, and as I understand it, the cooperation was good here. What was your sense of the State, local, Federal cooperation at this investigation?

Mr. DAVIS. It could not have been better. My first call was to Rick Deslauriers, the Special Agent in Charge (SAC) of the FBI. I then called Tim Alben, the colonel of the State police, and I said, "We need Explosive Ordanance Disposal (EOD) units and we need SWAT teams, and we need them right away." And there was no hesitation or delay. They sent them immediately, and we worked seamlessly from that moment on. So there was no problem during the investigation. It was better than I ever could have anticipated.

Senator AYOTTE. That is great. And I had the privilege of working some great investigations with the FBI and State and local, too, and I want you to know we will make sure we get to the bottom of this issue because, again, we cannot have local police officers on the streets encountering people like Tsarnaev and not have the background, because it is an officer safety issue as well as an intelligence-gathering issue. So thank you very much for being here today, all of you. I very much appreciate your testimony and also, again, thank you for your exceptional reaction and response to this terrible situation.

Mr. DAVIS. Thank you, Senator.

Chairman CARPER. Thank you for those comments and for those questions.

Our next Senator is also a former Attorney General for his State, a new Senator, and we are happy that he is here with us, and especially on this Committee. Senator Chiesa.

OPENING STATEMENT OF SENATOR CHIESA

Senator CHIESA. Thank you, Mr. Chairman, and thanks to all of you for being here. I was serving as Attorney General the day of the bombings, Commissioner, in particular. I know that Colonel Fuentes had said to me, having had a relationship with you, that he thought—he knew that the response was going to be outstanding, and that is what all of us saw—heroism, professionalism.

And the other thing I was struck by was the cohesion that all of the different law enforcement agencies brought to a really chaotic situation. No elbowing, no sort of "I am here, this is my turf, this is your turf." The sense was and the perception was, certainly from my standpoint, an incredibly integrated group that was focused on one thing. That was keeping people safe, getting them treatment, and then making sure that we got the people that did this as quickly as possible. So congratulations to all of you for the roles that you played, in particular the folks in Boston and the FBI and everybody else that was involved.

I think Senator Ayotte makes an excellent point, and one of the things that I always had a lot of consternation about was the compartmentalization of information. And I think we have taken great steps—I know we have worked really hard on it in New Jersey. And what I want to ask you, Commissioner, is—you said there are four Boston police department (PD) members on the JTTF? How many State police members on the JTTF?

Mr. SCHWARTZ. There are seven full-time——

Senator CHIESA. Seven full-time? And how did you make those determinations for the numbers that you would have sitting full-time on the JTTF?

Mr. DAVIS. The decisions have been made over the years based upon our staffing and where we could get bodies to put into that unit. And as the issue ebbs and flows, we have maintained the same number of people. But after conversations I have had with Ray Kelly in New York City and some of my other colleagues, I think that it is time to increase the number of officers that are there so that we can have a wider presence at the JTTF. That might help the communications issue.

Senator CHIESA. I want to talk to you a little about the fusion centers. I know immediately following there was—what I noticed during this time was that information was flowing to different States. So there were some contacts in New Jersey that had to be run down. There were contacts in other States, certainly New York, that had to be run down. And I got debriefed afterwards and went to our fusion center, and I was really impressed with the way we were able to coordinate that information.

What is your impression of the effectiveness of the fusion centers being used specifically for this incident, and then steps that you may be taking to improve the way you are able to utilize those resources going forward?

Mr. DAVIS. Well, I think that it is really important to engage the fusion centers in a more active way with the JTTFs. There are different models of that across the Nation. But there could be an improvement in the coordination of information among the agencies, especially DHS and some of the analytical ability that they bring to the process, and making sure that information is better shared.

That is sort of the area that the Chiefs Association, the Major City Chiefs would like to enter into by looking at the MOU, so that that MOU can be crafted so that there is a real—it has got teeth in it to push the information both ways.

Senator CHIESA. Right. And when other cities or other communities call you and other nations call you about your response, what advice do you give them to place where fusion centers have been stood up? And there is certainly always a debate as to—there is intelligence that comes from street crime that is used for the fusion centers, which is very effective to combat gun violence and combat gang violence. They were set up, though, primarily and in large measure post 9/11 to make sure that we were coordinating the information on potential terrorism activity.

So what advice do you have for other cities in terms of creating the correct balance in allocating the resources for the fusion centers to deal with those two competing interests?

Mr. DAVIS. I really think it is important to brief cases out jointly so that there is an intelligence flow back and forth. And the information that comes in from the street can be extremely helpful to ongoing JTTF investigations.

So my officers can access all of our systems, but there is limited access to Federal systems, and that is where the rub is. Names can fall through the cracks here the way it is set up.

Senator CHIESA. And what are the ways that you think this Committee can help with getting rid of some of those things falling through the cracks? Specifically I am talking about the fusion centers, which I know have a lot of THIRA money behind them. What can we talk about or what are the steps that we should be thinking about to help in that regard?

Mr. DAVIS. I just believe that generally a rule that says if there is threat information on terrorism in a particular jurisdiction, the jurisdiction has to be brought into the conversation about it. Even if the case is closed out, we should know what the allegation was. And at this point in time, that is not happening.

Senator CHIESA. I think a lot of this has to do with developing relationships, and I think somebody remarked before that you should not be handing out business cards at the scene of one of these incidents. I think that is an excellent point, and so over your years in developing these relationships, I think that is a critical issue, and I think you could see the effectiveness that it had with all of you working together that day. And I know that this tension exists in other jurisdictions, and we deal with it in other places, and it is not designed in any way to undermine our ability to do these investigations. I think there are people that think they are better situated than others, better trained, or whatever you want to call it.

So what I hope this Committee will think about and I hope that all of you will continue to give us information about is the ways that we can continue to help those relationships become solidified in ways that there are trust—and I am not just talking about the ones where regionally, in Boston and New Hampshire, where people have worked together over time, but I think Senator Coburn talked before about these conferences, and some conferences are better than other conferences. Well, the conferences that we get all

of you in a room together to talk about terrorism activities and sharing information seems to me to be a really good way to spend our money and have you spend your time.

Would you agree with that?

Mr. DAVIS. I agree completely.

Senator CHIESA. OK. Thank you, Mr. Chairman.

Chairman CARPER. Thank you.

Dr. Coburn and Senator Carl Levin have spent a fair amount of time in the last Congress looking at fusion centers, finding out which ones work, which ones do not, and to see what we can learn to make sure that more of them work effectively. So thanks for that line of questioning.

Senator Begich, again, former mayor of Anchorage, and someone who chairs the relevant Subcommittee that focuses directly on emergency preparedness and FEMA, is now recognized. Thank you.

OPENING STATEMENT OF SENATOR BEGICH

Senator BEGICH. Thank you, Mr. Chairman. Thank you very much. I actually want to followup real quick on the fusion center, and maybe, Mr. Davis, you can answer this, or whoever would like to answer this. But in this situation, how would you grade the fusion center activity in response or participation?

Mr. DAVIS. In response, the fusion center worked very well. We have a means to communicate through secure rooms. We have a Sensitive Compartmented Information Facility (SCIF) in the communications center, in our BRIC, Boston Regional Intelligence Center, our fusion center. And that fusion center was able to talk directly to the FBI command post, and they were processing information. We had had some contact with some of the peripheral individuals in this, and we fed that information immediately to the investigators.

So in the aftermath, everybody pulled together. And subsequent to that, in preparation for July 4th, there were some really excellent conversations that occurred that had not happened previously about each threat that was out there. So I think we have come a long way, but I would like to see that memorialized in writing so that it——

Senator BEGICH. Like a memorandum of agreement or some sort of understanding.

Mr. DAVIS. Correct. Yes, sir.

Senator BEGICH. Let me ask you, and then I want to go to another line of questioning, if I can, but you had mentioned limited access of Federal systems or information flow. Do you know, is that by regulation or is it by law that the two-way street of information flow is not as good as you would like it? And if you do not know that, I do not mean to——

Mr. DAVIS. It is by regulation, so that within the MOU there are specific pieces in there that prohibit a two-way flow of information.

Senator BEGICH. OK.

Mr. DAVIS. A task force officer cannot just report information back to his superiors at the local department.

Senator BEGICH. So this is something that through Homeland Security or FEMA or whatever the right organization is, depending on who you are dealing with, FBI or whatever those MOUs are

with, it is something that they could, change by, sitting down and looking at. Kind of an after-incident report of what happened in Boston as an example of where a better flow of information maybe previous to that incident might have had some positive impact in preventing the event. Is that a fair statement?

Mr. DAVIS. It is, but it is a twofold issue. It is not simply the MOU. It is also the cultural issue.

Senator BEGICH. Understood. But, I mean, nothing legislatively prohibits them——

Mr. DAVIS. No, nothing.

Senator BEGICH. OK. That was my second part, and you hit it, and that is kind of the internal cultural environment of some of our Federal agencies. We hold information we get from you. And I know as a former mayor, our police department had an ongoing effort, especially with gang activity, to try to make sure information flowed because we were on the streets every minute every day dealing with these incident, and what we ended up doing, and especially around the gang issue, we actually hired city prosecutors, put them in the U.S. Attorney's Office so we could have a better relationship. And it actually worked very successfully, but we had to create a new environment. We did not have to do it legislatively. We could do it by regulation, and that is kind of what you see, but also the culture. Is that something that is so deep and ingrained, do you think, in the agencies that will take time to happen, or can it happen fairly rapidly because the new understanding of these incidences are that they—could be homegrown, like this example?

Mr. DAVIS. I think it can happen rapidly, Senator. This is a problem that is not simply in Federal agencies. This is endemic to policing. I have had units within my own department that would not talk to each other.

Senator BEGICH. Right.

Mr. DAVIS. So this is a constant cultural thing that my colleagues are working against in local police agencies. But we have made great progress on it. So if you train it up and supervise it, you can make a difference. I know we did a lot of training on the front end, new recruits coming in and trying to make sure that when they came in, they understood kind of the new culture. I mean, it used to be in police work, even though a police officer would tell you they are not in the social service work, lots of times there is a connection between the two, when they do work in schools, for example, which 20 years ago was really not the situation. They would just show up to schools, and extract someone. Now it is a different approach. That took a change in how we trained them at the front end so when they hit the streets they were ready and prepared.

Senator BEGICH. Is that kind of one of the big pieces that we need to be thinking about?

Mr. DAVIS. Absolutely. It is organizational change, something I have become very good at over two police departments. But believe me, it is a problem in every organization. We have to be vigilant and sustain the change.

Senator BEGICH. Let me ask you one more question, and I want to change my topic in this question. That is, I know for a lot of the equipment and activity you were able to utilize—or some of the equipment, armored cars, command posts, robots, so forth, there is

Federal money related sometimes with grant dollars that are coming in. Because the way we are dealing with our Federal budget, which is not so great, to be frank with you, that those dollars are going this way, is there going to be local ability to pick that slack up or is there going to be a gap?

Mr. DAVIS. There is going to be a gap, Senator. No question.

Senator BEGICH. OK. And I will not go into my diatribe on how we do our budgets around here. I will leave that. But your statement is that there will be a gap, no question about it.

Mr. DAVIS. There is no doubt.

Senator BEGICH. Let me ask to the Federal agency folks who maybe—and if I pronounce this wrong, I apologize. Is it "Serrana?"

Mr. SERINO. "Serino."

Senator BEGICH. "Serino." Let me ask you this question, if I can. I know one of the issues we have had, as on grants is the accountability of grants. Let us take, for example, the incident in Boston. Are you going to do anything that reviews how those Federal dollars that went to purchase equipment, how those were utilized and improvements on that or positives that could be shared with us? Is that something that you are doing or will do in the future?

Mr. SERINO. We have actually done a lot of that already——

Senator BEGICH. Fantastic.

Mr. SERINO [continuing]. Working closely with the State and the city, is looked at specifically what equipment and also training and exercise.

Senator BEGICH. Right.

Mr. SERINO. You asked about equipment. That was actually utilized during the marathon and the week following, and a fair amount of the equipment was used in that. And I think one thing that we have also strived to do is to look at it as not just a city capability but a regional capability. And, again, Boston and Massachusetts and outside the State have done that very well. There were a number of other police departments and agencies that brought some of their Homeland Security-funded equipment to the scene to help out with that as well.

Senator BEGICH. And if I can ask—and I will do some followup with you from the Subcommittee standpoint because I think we would be very interested in that because, as you know, we had a hearing a few weeks ago on grants, as you will recall.

The last question I will just put out there to whoever wants to respond, and I know we have seen it in Boston, I have seen it in Galena, Alaska, recently where citizens, stepped up to the plate very rapidly. Is there something more—and anyone can answer this—we can do to train up or prepare? I know in Anchorage when I was mayor, our goal was that every single city employee would be Cardiopulmonary resuscitation (CPR) trained, for example, because we thought 3,000 people on the street every day is a powerful tool in case of a situation, single incident or multiple incident.

Do you think there is something more that can be done that we could do or that we could encourage to be done?

Mr. SERINO. I think there is a lot that can be done, and I think an example of that, again, was in Boston, that the civilians helped out, utilized tourniquets, utilized simple things as direct pressure to control a lot of the bleeding and, in fact, saved lives. And, in

fact, in the grant guidance that we gave out for this year, for both the State Homeland Security Grants and the UASI grants, we actually put language in there as a priority that they could use the money additionally to train people for mass casualties and to look at that. And we have been working with the International Association of Chiefs of Police (IACP), fire chiefs, EMS, et cetera, to look at how we can actually utilize civilians to help train people and get people to do some basic simple things that, in fact, do save lives.

Senator BEGICH. Very good.

Dr. KELLERMANN. Around the world and in communities, bystanders and neighbors are the real first responders. That is a huge asset that our country can take advantage of.

Senator BEGICH. Very good. Thank you very much, Mr. Chairman.

Chairman CARPER. You bet. There is a lot left on the table here, I would say, Senator Begich, in terms of issues to explore. As I said earlier, Dr. Coburn and I are going to hold a hearing in a couple of weeks that focuses on the timeline leading up to the Boston tragedy and the aftermath and the investigations and so forth. But there is a huge amount of lessons learned here. In the National Governors Association (NGA), we had something called "Center for Best Practices," a clearinghouse for good ideas and find out what was working in Massachusetts, Oklahoma, Wisconsin, or Alaska and see if we could export it and bring it back. But there are a lot of good lessons learned here, and we are just scratching the surface, I think. But I know you and Senator Paul have plenty of opportunity to explore. Good. Thanks.

All right. Senator Baldwin, thank you for joining us very much.

OPENING STATEMENT OF SENATOR BALDWIN

Senator BALDWIN. Thank you, Mr. Chairman. And, gentlemen, thank you all for being here today and for your testimony, and particularly for your public service. The men and women who you lead have the gratitude of all Wisconsinites, but in particular those who were present in Boston to participate in the marathon or to cheer on their friends and loved ones.

I would like to direct my questions to Deputy Administrator Serino. It is obvious that Federal support has played a critical role in helping State and local government, as we can see from the Boston experience, prepare for these catastrophic events. And, one of the key lessons learned here has been the importance of building relationships between the various levels of government and conducting joint exercises on a wide range of scenarios.

I want to just focus on my home State of Wisconsin. We have benefited over many years from significant grant funding to help our State and local governments effectively respond should a tragedy strike. However, a lot of the assistance ended in 2010 when the city of Milwaukee was removed from the Urban Area Security Initiative.

Now, a recent audit released this year from the Department of Homeland Security's Inspector General gave pretty strong reviews to how Wisconsin had utilized the earlier funds received in the State, but that said, I think that we will be much better prepared to protect the people with sufficient Federal support.

In Wisconsin, we have two fusion centers—one in Milwaukee, the other in Madison—and these centers do, I think, a really great job on a day-to-day basis coordinating among local, State, and Federal authorities. But without adequate emergency management performance grants, they will have difficulties ramping up in the event of a very significant challenge or tragedy. Moreover, without such grants, cooperative exercises to prepare for such incidents really are not possible.

So I would like to hear your thoughts, recognizing the very constrained funding environment in which we live right now, please speak to how FEMA can help cities and regions like southeast Wisconsin, which have been removed from the Tier 2 list of critical cities.

Mr. SERINO. Thank you, Senator. Actually, I had the opportunity to go out to Milwaukee a couple of times and actually visit the fusion center in Milwaukee and saw Chief Flynn, who I knew from when he was in the Boston area as well. And in Milwaukee, they actually have a pretty comprehensive integrated fusion center that works with a lot of the different agencies.

As we look to continue to move forward, the emergency management performance grants are still in place and have the ability to utilize those, how the State and localities deem fit, some for their personnel and also if they need it for exercises as well.

I think as we move on and continue, a lot of this can be done at the local level. A lot of these, as Dr. Kellermann mentioned earlier, some exercises can also be done fairly inexpensively. It is a lot of times getting people together, holding, if you will, some tabletop exercises and realizing that it is a priority.

Some of the grant funds that we use for the UASI grant in Milwaukee, we were able to buy some of the equipment that they needed, but also to build in the capabilities and to go forward even though they are still not receiving the funds, they still have a lot of the capabilities that were built up during that period of time.

Senator BALDWIN. I know that Wisconsin and our Division of Emergency Management are thinking ahead and thinking about how to do things on a tighter budget. And one of the things that they are hoping to focus on is the ability to respond to cyber threats. I know this is part of the jurisdiction of this Committee, and we are working earnestly on that.

But last year, the Wisconsin National Guard worked with the University of Wisconsin to launch a volunteer cybersecurity initiative to deal with these challenges, but in part because of the very voluntary nature of it, it ended up falling through. And so, perhaps you can speak specifically to cybersecurity as we move forward. How can FEMA help a State like Wisconsin or other States prepare for the increasing concerns of either cyber threats, cyber terrorism, or a cyber component of a larger threat?

Mr. SERINO. I think a lot of it is with the cyber threat is something that is real and something that we are dealing with, and I think within FEMA and more broadly within the Department of Homeland Security, actually has a number of programs that are actually dealing with cybersecurity, both with the National Protection and Programs Directorate (NPPD), the National preparedness division within the Department of Homeland Security, and a cyber of-

fice there is reaching out through the State fusion centers in order to educate people and look at some opportunities both for education and things that they can do, and we are sharing that on a regular basis at a Department level, not necessarily through a FEMA level.

Senator BALDWIN. OK. Thank you.

Chairman CARPER. I have been struck by any number of things that our panel has said today. One of the things that I want to return to deals with communications, and we had some discussion of 400-megahertz systems, 800-megahertz systems, and interoperability of those different systems.

But what I wanted to come back to, as you, Mr. Davis, have talked about, is the communications that goes beyond radio systems. You all seem to do a pretty good job of facilitating communications between different units, different levels of government, the emergency medical providers, the hospitals, the law enforcement folks. Pretty extraordinary.

We are a little State. We have not quite a million people, and we like to say in Delaware that on a good day you can get just about anybody you need to in a room and solve most of the problems that we face as a State. That is a bit of an exaggeration, but we know each other and we work pretty well across party lines. You all seem to somehow have figured that out, at least in this instance as well. Talk to us about how in a big metropolitan area a lot of players, a lot of egos, that you are somehow able to have mastered this, been able to communicate. I like to ask people who have been married a long time, I like to ask them what is the secret for being married a long time, and people married 40, 50, 60 years, and I get some hilarious answers. Last month, I talked to a couple that had been married 54 years, and I said, "Ma'am, what is the secret"—she was standing next to her husband. I said, "What is the secret for being married 54 years?" And she looked at him, and she said, "He will tell you that he can be right or he can be happy, but he cannot be both." [Laughter.]

The best answer I have ever heard to the question, though, what is the secret of being married for a long time, is the two C's: communicate and compromise. Communicate and compromise. That is actually the key to a vibrant democracy.

But you all are doing a pretty job on communications. Let us just talk a little bit more about that. Tell us what you think.

Mr. DAVIS. Well, thank you, Senator. I think that the communication among the law enforcement agencies is fairly simple to describe. It occurs because we work together on a lot of different challenges day in and day out, so we are constantly either in each other's offices or talking about an investigation that is going on, a crisis, as Kurt described, that we have to deal with, the water crisis, for instance, when the Massachusetts Water Resources Authority (MWRA) link to the reservoirs broke. That required us to get all hands on deck and to do logistical planning and delivery of water to places on the fly, very quickly. It had not been prepared for. But it informed the collaborative process that was continued.

And I think that if you continually make planning or processes involve everyone and everybody is at the table, there is a personal knowledge that develops, even in a large metropolitan area like Boston.

And then the ego issue is very important. Everybody has an ego at the table, but when we come together, we are guided by the law and by the rule of law, and the people who are at those tables put their egos in their back pockets and do what the law dictates but also concentrate on that collaborative kind of working together attitude to get the job done.

Rick Deslauriers said, "One team, one mission," through the whole process, and I think that that is a good indication of how it was dealt with.

Chairman CARPER. One of my favorite saying is, "There is no 'I' in the word 'team.'" And you certainly indicated that.

Dr. Coburn, did you want to say something? I have a couple more questions.

Senator COBURN. OK.

Chairman CARPER. I promise not to go on today like I did yesterday.

I want us to go back and talk a little bit about the medical response, and I think I said earlier on, tragically, sadly, three people died. And for them and for their families, we mourn even today their loss. But other people who were injured did not die and are alive today. In some cases, lives changed dramatically, but they are alive today. And we hope they are surrounded with the kind of support that they need.

Talk to us about the involvement, if you will, of the medical community, the hospitals and the emergency medical first responders. Talk to us about how they were involved and were able to be part of the team and such an effective part of the team. How did that happen?

Mr. DAVIS. I'm just going to speak briefly. I think Rick Serino, because of his experience in Boston, has a very good working knowledge.

Chairman CARPER. Please.

Mr. DAVIS. Just briefly, it was not just the medical people who were on duty. It was the medical people who were at the tents to take care of people who were dehydrated and——

Chairman CARPER. Do I understand that the number of docs, for example, that were there that day was sort of doubled from maybe in previous years? I have heard from 60 to 120 because of the dehydration challenges earlier.

Mr. DAVIS. I do not know the answer to that, but Rick says——

Chairman CARPER. Yes, I think that——

Mr. DAVIS. I guess the point I wanted to make real briefly was those doctors sprung into action. Doctors who were running by that were in the marathon came over to assist. It happened in Boston where the medical care is just extraordinary, and I cannot say enough about the medical personnel. They cleared a hundred operating rooms within 15 minutes and opened them up to trauma. So it was an incredible example of work that was done in the field and also in the hospitals.

Chairman CARPER. Mr. Serino.

Mr. SERINO. A number of things that happened, I think the Commissioner mentioned it, is that there was a medical tent that could treat up to 250 people just about a block away, half a block away from the finish line that was set up to take care of people. With

that, there are a number of medical volunteers including physicians, nurses, physical therapists, and people just to help out. And supporting that is a combination of the city's emergency medical services, also with some private services to help with transport. There were EMTs, paramedics on bicycles, on all-terrain vehicles in order to help move them as well. Plus it was linked ahead of time with the hospitals. The hospitals all played a key role in this, and it happened to happen at shift change as well at the hospitals which played another key role in that. And it was also a holiday in Boston, in Massachusetts, which meant the operating rooms were a little less. There were a number of things that played into it.

But there was also the fact that there was a lot of practice that went into this. There were a number of examples. In fact, in talking to a number of people at various hospitals, we had done a drill a few years ago that simulated two airliners crashed, 500 people were hurt and taken to various hospitals. In talking to some of the emergency physicians, they actually remembered that when they got to the ER, this is what we did during the drill: we did this, this, and this. I talked to EMTs and paramedics who were on the ground who said that as soon as this happened, they remembered this is what they have to do. They have to go look at the—they have to do—and their training kicked right in. They realized the potential for secondary devices, EMTs, who notified law enforcement.

So it was not just—as I said earlier, it was not an accident. This was something that was done and drilled and trained many times.

Chairman CARPER. Thank you. Thank you both for those responses. Dr. Coburn.

Senator COBURN. I think that reinforces Dr. Kellermann's testimony in terms of drills being important. It is not just training and equipment.

Commissioner, I wanted to ask you, what equipment did you not have that you needed?

Mr. DAVIS. We had excellent equipment. There was nothing that we needed that we did not have.

Senator COBURN. And 10 percent of your budget comes from the Federal Government—or 7.5 percent, as Senator Johnson said. So, one of the problems with some of our grants and the lack of oversight is there is a point in time when we are equipped up, and so then it should become maintenance of what we have rather than purchasing new equipment. And so even though we are in a tight budget system, we have spent a lot of money, Federal dollars in terms of grants, bringing the equipment forward, and I think we have shown that that has been very beneficial in terms of the Boston Marathon bombing.

Secretary Schwartz, I want to ask you a couple of things. What are the major differences between the Commonwealth Fusion Center and the Boston Regional Intelligence Center?

Mr. SCHWARTZ. Well——

Senator COBURN. And why do you have both?

Mr. SCHWARTZ. Well, I can speak to the Commonwealth Fusion Center. I think the Commissioner can speak to the BRIC. But the Commonwealth Fusion Center serves the whole State and is an all-

crimes fusion center. As Commissioner Davis alluded to earlier, there are lots of different models out there for fusion centers. We have all-hazards fusion centers, terrorism fusion centers, all-crimes. We happen to be primarily an all-crimes fusion center that has invested a considerable amount of money over the years in building the capacity to tie into locally gathered information and intelligence and to be able to analyze that and connect dots between, on the terrorism side, terrorism threats and terrorism information that may be coming from the top down and connecting the dots with information that is gathered at the local level. And that is not just suspicious activity reports, which are sort of the easy thing, but it is all of the daily police work that is done every day, all of the incident reports across all 351 cities and towns, the thousands and thousands of incident reports that are generated every day, building a capacity to analyze the information in those.

So we are serving a statewide function. We have a significant presence in the JTTF, I believe seven full-time now. That number is down from what it was a number of years ago for budget reasons, although Colonel Alben and Secretary Cabral have recently been talking about a way to increase those numbers. Our full-time JTTF troopers are part of our fusion center, are commanded by the commanding officer of the fusion center. We have DHS and FBI intel analysts in our fusion center.

I think the Commissioner can speak to the BRIC, but I think they fulfill very different functions, although compatible, and work very closely together and with the JTTF.

Senator COBURN. And what are those different functions?

Mr. DAVIS. I think, Senator, it is a matter of volume. Major Quinn, who runs the State fusion center, and Superintendent Paul Fitzgerald are in daily contact working on issues that go back and forth. As Kurt said, there are 350 cities and towns in Massachusetts, but there are about a dozen that are contiguous to Boston that have well over a million residents and drive the crime numbers in the State. So there is a lot of criminal activity occurring there, and so the Boston Regional Intelligence Center, is focused on what is happening in those contiguous communities, and the coordination of intelligence and deconfliction of investigations, there is an enormous amount of work being done by those individuals in the BRIC. We have now incorporated a real-time crime center into that, the type that New York has been using so that we can inform officers going to the scene of intelligence that is occurring.

So it really is a dynamic all-hazard location, but it really is a matter of volume.

Senator COBURN. Did the Commonwealth Fusion Center provide information or actionable intelligence to anyone after the bombings that was not provided through any other channels? And if so, what was it?

Mr. DAVIS. I do not believe they did.

Senator COBURN. All right. We have heard a lot about the value of training and exercises like Urban Shield. When we looked at your data, we saw that about 83 percent of the grant spending from 2008 to 2010 was categorized under "Equipment and Planning," not "Training and Exercises." Is that data accurate, Mr. Schwartz?

Mr. SCHWARTZ. The data you have, the raw data you have is accurate. I do not have the percentages in front of me.

Senator COBURN. OK. $1.3 million of the 2008 grant funds were spent on an IED planning contract with a company called Global Incorporated. Do you know what the outcome of that was?

Mr. SCHWARTZ. I do not.

Senator COBURN. All right. Can you answer that for the record?

Mr. SCHWARTZ. I can. I will go back and look. I do not know whether that is on the UASI side or from our four regions that are outside the UASI. But we can look at that, yes.

Senator COBURN. And according to your data, relatively few dollars from 2010, 2011, or 2012 grant years have yet been spent. Is that correct?

Mr. SCHWARTZ. It is not correct. There are some very large reimbursements that are—millions of dollars that are not captured in what you have because those are just being paid now.

Senator COBURN. Will you send that to us, please?

Mr. SCHWARTZ. Absolutely.

Senator COBURN. Thank you.

Was there anything from the Commonwealth Fusion Center—did you have access to any information on the Tsarnaevs?

Mr. SCHWARTZ. Are you talking prior to their identification?

Senator COBURN. Yes.

Mr. SCHWARTZ. The answer in the Commonwealth Fusion Center again is the same as you heard from Commissioner Davis. Although we have full-time troopers assigned to the JTTF, none of our troopers participated in the interviews or the preliminary inquiry that was conducted a number of years ago. So we were not aware through any participation, and none of our troopers had any reason to ever query their names prior to April 19. So prior to April 19, nobody in the State police had any knowledge of the Tsarnaev brothers.

Senator COBURN. All right. Thank you.

Chairman CARPER. Next, Senator Johnson, Senator Ayotte, then Senator Chiesa. A vote has been scheduled for noon, and we will wrap up shortly after that. But, Senator Johnson, you are recognized.

Senator JOHNSON. Thank you, Mr. Chairman.

I would like to talk a little bit about the camera surveillance system. Obviously, with the disclosures on the National Security Agency (NSA) data collection, there has been a pretty large public debate now about the balance between privacy, civil liberties, and security.

What was the State of the camera surveillance system on the streets of Boston that day?

Mr. DAVIS. We have two sets of cameras, Senator. We have cameras that are set up for traffic control, and they are in the downtown area. So there were several cameras that were around the neighborhood, but not directly on the route. So we were not using cameras that were on the marathon route for law enforcement purposes at that time.

Our homeland security cameras are on the major thoroughfares that allow exit from the city, and those were mostly in the neighborhoods. There is a significant amount of violence that occurs in

the neighborhoods, and that is where we had focused our cameras prior to this.

Senator JOHNSON. So who paid for those systems? You said homeland security cameras. Is that paid by the Federal Government?

Mr. DAVIS. That is correct.

Senator JOHNSON. And then the traffic control or——

Mr. DAVIS. The traffic cam was probably from transportation grants, but the city has purchased them as well.

Senator JOHNSON. Do those cameras have a dual purpose? In a case like this, can you refer to those? Are those clear enough?

Mr. DAVIS. They have a problem with clarity, and they also were not recorded until just a few days after the marathon. So we have just got transportation to start to record those cameras so we can go back and look at them.

Senator JOHNSON. I am concerned about civil liberties as well as anybody, but I was certainly hoping there were cameras on the streets that would identify these individuals. Did you have a similar type of reaction? Did you wish you had had more cameras on the streets at that point in time?

Mr. DAVIS. In hindsight, cameras along that route and some other key locations I think are a very important addition to our security plan. But what was good about this was the community pushed cameras forward, and businesses all are using video at their businesses. So we were able to access those businesses very quickly, and critical information came from the community through cameras.

Senator JOHNSON. That is primarily how we ID'd these individuals, correct, was private cameras, private businesses, and just private citizens?

Mr. DAVIS. People on the street taking photos, yes, sir.

Senator JOHNSON. OK. Mr. Serino, I would like to talk—and maybe these questions will be better suited for our next hearing, but I would still like to talk a little bit about Homeland Security's role in the older Tsarnaev brother's exit of the United States and then coming back in and the system that is set up to track that, to be pinged. It is true that DHS—your system was pinged that he left the country, correct?

Mr. SERINO. That is a different part within DHS and something that we would be happy to get back to you with the appropriate people in the Department. I am more in the FEMA area.

Senator JOHNSON. OK. Then I will just save those questions for later, and, Mr. Chairman, I will end my questioning at this point in time. Thank you.

Chairman CARPER. Fair enough. Good. You will have ample opportunity, and we will welcome that line of questioning at our next hearing.

Senator JOHNSON. Thanks.

Chairman CARPER. General Ayotte.

Senator AYOTTE. Thank you, Mr. Chairman.

I just wanted to followup on the question that Dr. Coburn asked because I think it gets back to the issue, Commissioner, that we were talking about before, where, Secretary Schwartz, whether it is the BRIC or the fusion center, if the Feds and FBI, if we are

not sharing, or Homeland are not sharing the interaction or the trip, for example, overseas by Tsarnaev with those systems, then, of course, it is not going to be in there, right?

Mr. DAVIS. Correct.

Senator AYOTTE. And so, therefore, when you query it, your men and women on the streets would not have that background even if they stopped that individual for a traffic stop, correct?

Mr. DAVIS. That is correct, Senator.

Senator AYOTTE. So that is the issue we have to get at. We have to get at it to make sure it is not a one-way street. And like I said, with great respect for the FBI, it cannot be a one-way street. And so for the fusion centers to work and for the BRICs to work and for our information sharing, we have to make sure that whatever we do know about someone like Tsarnaev in terms of what the Federal agencies are interacting with him, if he gets on the watchlist or he is a person of interest or how we do that and tag that, that needs to flow for you so when your officers on the street encounter him, frankly you can give that information to the FBI, too, and that we are all working together hopefully to do whatever we can to prevent these kind of attacks, and then also to make sure that officers on the ground have the right information to interact with people appropriately. Is that right?

Mr. DAVIS. Correct, Senator. If we do that, we are much stronger as a Nation. If we do not, it puts our communities and my officers at risk.

Senator AYOTTE. Yes, that is the issue that we have to get at. And, again, I think you are on the streets every day. The FBI does a great job, but they are not on the streets every day in the way that the local officers are or, in New Hampshire it is local and State police, who are on the roads every day and who are going to interact or encounter this person and can understand who they are dealing with, and also transmit that information to the Federal Government so that they can use that in their information gathering against terrorists.

So I really appreciate all of you being here today, and thank you for bringing this forward, because this is something I think this Committee really can focus on to help make sure that that information sharing is going both ways so that in the future you will have more information at the ground level. And, again, I just want to thank you all for what you do and what you have done here and for the extraordinary work done by those that you represent in your officers.

Mr. DAVIS. Thank you, Senator. I appreciate it.

Senator AYOTTE. Thank you.

Chairman CARPER. As we say in political commercials, "I am Tom Carper, and I approve this message."

Senator AYOTTE. Well, thank you, Tom.

Chairman CARPER. I could not have said it better.

Senator AYOTTE. I think we can do something about this. We should.

Chairman CARPER. Yes, you bet. Jeff.

Senator CHIESA. Thank you, Mr. Chairman.

This is for Mr. Schwartz and Commissioner Davis. Looking back at the way the information was disseminated the day of the bomb-

ing, having two fusion centers, has there been any discussion—understanding that there are volume concerns that would overwhelm either one of them, are there discussions underway to combine the resources or to create a single clearinghouse for all of the information? Or is that something that you do not think is either feasible or productive for your communities?

Mr. SCHWARTZ. For the reasons articulated by Commissioner Davis, the focus of these two fusion centers is so different that we do not have a problem that needs fixing, from my perspective. We have two very good fusion centers. They work collaboratively on a daily basis. So to me there is not a problem to fix. So I am not aware of any discussions or need to go down the path of consolidation.

Senator CHIESA. I am not suggesting there is a problem. I am interested—we had one in New Jersey, and I thought it was a very effective way to say here is our clearinghouse for the way information comes in, irrespective of the type of information. And so I am interested to find out from the two of you, so you are telling me that you think it is an effective and useful way to disseminate the information and that you do not feel that the information is either not getting where it needs to get, there is no breakdown in communication between the two because that would be catastrophic if that were to occur, and that your communities are served in a productive way?

Mr. DAVIS. Yes, I concur with Kurt. I believe that the way the system has been organized and set up is very effective. There is a very close working relationship between the two fusion centers, and there is a whole State to take care of. There are big cities outside of Boston that need to have the full attention of the State system.

There is a danger of being swallowed up in the constant activity in the metropolitan area that could occur if they were combined. So it works right now. I think that both commanders of both units would tell you that this is working very well, there is no problem with the communication of information, and, I like it the way it is.

Senator CHIESA. Thanks for all your time today.

Thank you, Mr. Chairman.

Chairman CARPER. Senator Chiesa, thank you for being here for the entire hearing. I thought this has been an excellent hearing. Thank you for being a part of it.

I have one more question, and we are going to start voting in about 5 minutes, but one more question and then maybe a closing statement.

One of the things I sometimes do at a hearing, especially one like this where there are a lot of lessons learned—you are all asked to give an opening statement, and sometimes I find it helpful to ask you to give us a short, brief closing statement. So I am going to telegraph a pitch, and the pitch is you are going to get a chance to say a few more words, and I would ask you just to think about it. And it could be just something that you feel is just a real important takeaway for my colleagues and me and for our staff. It could be something that you have thought of listening to others speak on the panel. Repetition is fine. You could all say the same thing if it is something you really want us to focus on and be mindful of. That works as well.

My last question focuses on recovery. We talked a lot about the response today to the disaster. Later this month, Dr. Coburn and I will hold the hearing we talked about, alluded to where we focus on, if you will, the timeline leading up to the tragedy, the law enforcement activities during that immediate aftermath of the bombings, and then the ultimate apprehension and interrogation of suspects.

But I want to close by just talking about recovery, because we focus a whole lot on the response to the disaster but not so much yet on how to recover. Officials have said that this might change in the future and that recovery might be incorporated into future exercises. And I think maybe as much for Mr. Schwartz, but others are welcome to chime in if they want, but let us talk about this. Did unexpected challenges pop up during the recovery that maybe the Commonwealth, maybe the city of Boston needed to be better prepared for? If so, what might they be?

Mr. SCHWARTZ. Well, there are always unexpected challenges in any recovery, and there were in this, though I commend the city for thinking about and moving to recovery very quickly. Within hours of the bombings, the city opened its first assistance center, and that is a step toward recovery, the very night of the bombings where some people that had to sleep in a city shelter. Runners that were stranded could not reconnect, so recovery started very quickly with an assistance center looking to reunite family members who scattered, runners that were disconnected from their possessions, crisis counseling, the Federal Government, FEMA, and DHS, the city and the State all brought a lot of crisis counseling services to bear, and we began those discussions just hours after the bombing and had local, State, and Federal teams on the ground starting the very next day. The city opened a business assistance center. The Boylston Street area is a very heavy, dense business area. There were dozens and dozens, more than a hundred businesses impacted. So the city opened a business assistance center very quickly. The Small Business Administration came in at the Governor's request within days.

So were there challenges? Yes. One of the city's takeaways—I have spoken with my counterpart in the city, and she would like to focus some more time and energy in moving forward in training and exercises on the recovery side. So recovery is always challenging, but the need to engage in recovery was recognized right away. The city and the State and the Federal Government partnered right from the onset about bringing recovery resources to bear.

Chairman CARPER. OK. Mr. Serino, how can FEMA help State or local folks to be better prepared with respect to the recovery? Is there anything that comes to mind?

Mr. SERINO. I think there are a couple of things. I think incorporating going forward into some of our national drills to actually look at recovery, part of the National Disaster Recovery Framework that recently came out. And I think that is an important part, and as Undersecretary Schwartz mentioned, we had this conversation literally hours after the bombings in the command post to actually look at how we can start to address some of the recovery issues. But I think recovery is an important part of any sort of dis-

aster, and sometimes even the longest part of an incident is the recovery, and we view that as very important and are going to continue to work toward that and develop various drills and exercises for that, and we have already.

Chairman CARPER. All right. Thank you.

For closing statements, I am going to recognize first Dr. Kellermann. I really want to thank you again for joining us today. When you started speaking—where did you grow up, anyway?

Dr. KELLERMANN. Tennessee, sir.

Chairman CARPER. My wife went to graduate school there, so I thought I would have to get her to come in and interpret what you were saying. [Laughter.]

But I caught on pretty quick.

Dr. KELLERMANN. Good.

Chairman CARPER. But I thank Dr. Coburn and his staff for recommending that you be invited to participate, and we are glad that you were able to. But just maybe a closing statement, if you would, please.

Dr. KELLERMANN. Thank you. Two things.

First, we cannot continue to make our policy decisions based on the last disaster. We have done that for the last 15 years. It does not work.

Chairman CARPER. I spent a lot of years in the Navy. We were really good at fighting the last war.

Dr. KELLERMANN. We cannot keep fighting the last war. We cannot keep reacting to the last disaster. Hospitals in Boston were not stressed. The number of trauma patients any one hospital got was very manageable. We cannot put seven trauma centers in every American city. Massachusetts can barely afford it. Our Nation cannot afford it. We have to raise our game in America's hospitals. Hospitals cannot respond and be islands of strength and recovery if they do not survive the disaster. And New York Hurricane Sandy taught us 7 years after New Orleans Hurricane Katrina that we are not paying attention to hospital security and the strength of hospital infrastructure, so they can be a source of strength for a community.

Chairman CARPER. All right. Good. Thank you very much for that. Mr. Davis.

Mr. DAVIS. Mr. Chairman, I would say please continue what you have been doing. The money, the training, the equipment made it possible for us to do what we did after this happened. Working diligently on improving our systems of intelligence sharing and continuing what we are doing around preparation and response is really the lesson that I have learned from this.

Thank you, sir.

Chairman CARPER. Yes, thank you. Mr. Schwartz.

Mr. SCHWARTZ. First, the bombings illustrate our need to focus more of our time and energy on catastrophic disaster planning, major disaster planning. We did well here, but change the scenario just a little bit in a number of different ways, and we might have had different outcomes. So we need to continue to focus on preparing for these large-scale disasters, worrying about mass care and sheltering, evacuation, large-scale communications failures, distributing critical commodities. And related is while we have

been focused on a terrorist attack, I want to underscore that many of the capabilities we brought to bear to respond to this terrorist attack were built in an all-hazards world.

As I said earlier, we have had 16 Presidential Disaster Declarations since 2008, one of those for a terrorist attack. So we need to continue to focus in the all-hazards world and the capabilities we build can be transferred back and forth and are interchangeable.

Chairman CARPER. Thank you. Mr. Serino.

Mr. SERINO. And then we have to followup with what Kurt said about if you look at the all-hazards, people that were on-scene that day to take care of injured runners and to make sure traffic flowed and to make sure people were safe from the marathon, quickly turned from that all-hazards in order to make a difference in people's lives, that this was truly, as we call it, a whole community response. It was police officers, firefighters, EMTs, paramedics. It was volunteers. It was members of the community, the public that came up and saved lives. It really made a difference. But "Boston Strong" was no accident. It was years of planning, years of training, years of purchasing the right equipment for the right people at the right time, and it saved lives.

Chairman CARPER. Thank you. We hold a lot of hearings here in the Senate and over in the House as well. Some of them are valuable, very valuable, and some are somewhat valuable. This has been a most valuable hearing, and this has been an exceptional panel. Thank you very much for your statements and for your responses to our questions.

I am delighted, I am very proud of the Members of this Committee. I am glad they were able to come. They have a lot of committees they serve on, so they could have been in any number of other places. But I am really pleased that they were able to come, and for Jeff over here, the former AG from New Jersey staying with us right to the end, I thank him.

I spoke with Senator Begich as he was just about to leave a few minutes ago just to reiterate the great opportunity for him and Senator Paul who chair our relevant Subcommittee that focuses on FEMA, emergency response. There is a treasure trove of information for us to mine and to disseminate as best we can across the country. And that is not just our responsibility. That is a shared responsibility, as you know.

But we thank you on behalf of my colleagues and myself and our staffs. I just want to say to our staffs, you all did a great job, minority and majority staff, helping to put all this together as you have. But since September 11, 2001 our country has worked hard to strengthen our ability, one, to prevent terrorist attacks and, when prevention fails, to try to mitigate the effects of those attacks.

The Boston Marathon terrorist attack unfortunately put our response and our mitigation systems to a real test, and from what we have heard today, we have Boston and Massachusetts first responders, emergency planners, law enforcement personnel, medical workers, and marathon officials, and just a lot of citizens to thank for this. I think the cities and towns and States from coast to coast could be well served, would be well served if they knew and could

learn the lessons that we have learned and been reminded of here today in this hearing.

First, training and real-life exercises like Urban Shield can save lives. They can help prepare first responders for dealing with the chaos that ensues in the aftermath of a disaster by helping them build the kind of relationships that we talked about needed to work together effectively.

Second, the city and the State's emergency services planned and prepared for the worst-case scenarios, and as a result, many of the resources needed for an effective response were in place at the time of the bombing.

And, last, while Boston's preparedness for and response to the attacks were clear strengths, city and State officials have noted that more attention needs to be paid to helping the city cope with the long-term recovery efforts that follow a disaster.

Again, on behalf of all of us, thank you. I think you used the term "Boston Strong." I am a huge baseball fan. I am a huge Detroit Tigers fan. But I always root for whoever is playing against the Yankees. Some of the best baseball games I have ever seen were in Fenway Park, with the Tigers and also with the Yankees. Great baseball. But the folks in Boston and the folks in Massachusetts made us enormously proud with the way you responded as a team to an awful tragedy and saved lives and made sure that out of a horrible situation a lot of good actually came. And hopefully in our efforts to mine the data, mine what worked, and maybe what did not work so well, some more good is going to come out of a bad situation, a very bad, tragic situation, and help prepare another community, another city, another State for a disaster. And there are plenty of disasters that threaten us. Part of our challenge is to make sure that they do not occur and that we stop them, nip them in the bud, and that we do that 24/7. But sometimes they get, as we have seen here, tragic. Sometimes they get by us, and something awful happens, and we have to respond. And you responded beautifully.

Thank you again for joining us today for a wonderful hearing, and with that, I am going to go vote, and we will call it a day. Thank you.

[Whereupon, at 12:11 p.m., the Committee was adjourned.]

APPENDIX

Opening Statement of Chairman Thomas R. Carper

**"Lessons Learned from the Boston Marathon Bombings:
Preparing for and Responding to the Attack"
July 10, 2013**

As prepared for delivery:

A little less than three months ago, the city of Boston suffered a horrific terrorist attack during the 117th Boston Marathon. The attack claimed the lives of three observers and injured nearly 300.

As the events of April 15th unfolded, we wrestled with the fact that we were witnessing the first successful terrorist bombing on US soil since the September 11th terrorist attacks. Just as we did in the aftermath of 9/11, we must learn from the Boston Marathon bombing. That is why this committee has set out to unearth the lessons-learned from this act of terrorism. At a future time, this committee will look at whether this tragedy could have been prevented. However, today's hearing will focus on the emergency response to the events that occurred on April 15, 2013.

We will examine the preparations made by the city of Boston and the Commonwealth of Massachusetts to deal with a crisis of this nature. We will also assess how the city, state and federal government responded once Boylston Street was rocked by the two homemade explosives.

For more than a decade, our country has worked to promote effective emergency response systems that help cities and states to mitigate the effects of a terrorist attack. In the years since 9/11, we have learned that it takes preparation, training, effective leadership, and a coordinated response plan to minimize the impact and devastation caused by disaster.

By all accounts, Boston had many of these elements in place on April 15th. Lives were saved as a result. Today's hearing will take a step toward identifying the lessons-learned from the preparedness for and response to the Marathon attacks. We will look at what worked, what could have gone better, and how what happened in Boston can help prepare communities across the country to deal effectively with emergencies.

To help shed light on the lessons-learned from the attack, we have with us three key officials who were on the ground the day of the attack. We are also joined by an emergency management expert who has studied the response to the Marathon bombing.

I look forward to hearing from our witnesses and working with them in the coming weeks and months to strengthen our preparedness and response systems across the U.S.

###

Opening Statement for Senator Tom Coburn
"Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack"
July 10, 2013

Thank you, Chairman Carper, for holding this hearing today.

My state was changed forever when Timothy McVeigh decided 18 years ago to blow up the Alfred P. Murrah Federal Building in Oklahoma City. Oklahomans will always remember that on April 19, 1995, 168 people lost their lives and 680 were injured in this attack - our hearts were broken, but Oklahoma recovered.

At the time, I went to the House floor and said that any response to these attacks "should be measured and based on facts and not on emotion." That is still true today and I hope it is the tone of our committee's inquiry as we consider the important lessons learned.

The Boston Bombing first responders were heroic in minimizing the loss of life, but a number of fortunate (and unrepeatable) circumstances contributed to the successful response. The state, city and first responder community engaged in extensive planning to support the Marathon every year. This included preparing for mass casualties among the runners; maintaining a heavy police, EMS, first responder, and volunteer presence; and running a table top exercise each year prior to the event to practice responding to different types of scenarios.

On top of that, Boston is also home to some of the best medical infrastructure in the world. When we consider lessons learned today, we need to understand not only what worked well in Boston, but what *can* work well in other places.

More important, we need to understand whether the current tools at our disposal, including FEMA's grants, are set up to effectively implement the valuable lessons learned outside of Boston. I am concerned that FEMA's grant programs do too little to ensure that grant funding is spent to address the highest threats and risks on proven activities that we know are effective.

Many witnesses will cite the use ofFEMA grants in improving preparedness, such as funding for the Urban Shield exercise performed in 2012. There is no doubt that grant funding played a role in the successful response, but we have a responsibility to look not just at a few good examples, but at the grant programs as a whole.

There are two big concerns with using examples to infer the value of the preparedness grants more broadly. First, according to data provided to us by Massachusetts, the majority of grant funding under the Urban Areas Security Initiative (UASI) program in recent years went to equipment and planning. Significantly smaller amounts went towards the training and exercises we have been hearing about, such as Urban Shield. At a time when grant dollars are shrinking, this begs an important question as to whether we, and FEMA, need to do more to target the use of grant funding towards concrete activities that work.

The role of fusion centers in preventing and responding to this attack remains questionable, along with our progress in information sharing generally. In briefings for the committee, as well as during a trip to Boston, we have repeatedly sought to understand the role that fusion centers played in sharing information prior to, during, and after the bombings.

Commissioner Davis and Under Secretary Schwartz have both highlighted the efforts of the states' Commonwealth Fusion Center and the Boston Regional Intelligence Center. I hope today to get a clear understanding today of the fusion centers' roles before the bombings and during the response, including the extent to which the fusion centers provided services or information that was not already moving through other channels.

I want to thank the Commonwealth of Massachusetts, City of Boston and FEMA for responding to my follow-up information requests. However, I remain concerned that this hearing is being held without the benefit of the completed after action reports and analysis that would provide a more comprehensive picture of what worked and what didn't. In the weeks, months, and years that follow, I look forward to continuing to work closely with all of the witnesses at this table to translate lessons learned into real

reforms that improve our safety and security, and I ask for your continued cooperation in that endeavor.

STATEMENT

OF

RICHARD SERINO
DEPUTY ADMINISTRATOR

FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOMELAND SECURITY

BEFORE
THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
U.S. SENATE
WASHINGTON, D.C.

"LESSONS LEARNED FROM THE BOSTON MARATHON BOMBINGS: PREPARING FOR AND RESPONDING TO THE ATTACK"

Submitted
By

Federal Emergency Management Agency
500 C Street, S.W.
Washington, D.C. 20472

JULY 10, 2013

Introduction

Chairman Carper, Ranking Member Coburn, and Members of the Committee: Good morning. I am Richard Serino, the Deputy Administrator for the U.S. Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA). On behalf of Secretary Napolitano and Administrator Fugate, thank you for the opportunity to discuss the Boston Marathon bombing. I was in Boston on that tragic day in April celebrating Patriot's Day in my hometown, and I am here now not just as FEMA's Deputy Administrator, but also as a Bostonian and a former paramedic.

Patriot's Day and the Boston Marathon come together to create a day like no other in our region. We pause to celebrate our heritage, our streets fill with millions of residents and visitors from down the block and around the world, and the city shines. For most of my life, I worked those same streets for Boston EMS, ending a 36-year career as chief of the department in 2009.

There were many nights I went home proud of the men and women of Boston EMS, but I was never more proud of them, and the residents of my town, than I was on April 15th. While in one moment we saw terror and brutality, in the next we saw our community's love and compassion. We saw our Emergency Medical Technicians, paramedics, police officers, and firefighters spring into action and perform their jobs professionally and heroically.

They weren't the only first responders, though. Bystanders and marathon volunteers, regular people given the chance to run, decided instead to stay and help the professional responders do their jobs. Some comforted victims, urging them to hold on and reassuring them that help was on the way. Some helped carry victims to the medical tent for triage. Some did more by helping to control bleeding, in some cases using their own clothes as tourniquets to stop life-threatening blood loss.

It was an amazing example of humanity, service and teamwork.

For years, responders in Boston, as in other cities, have used large public events as an opportunity to train, anticipating and preparing for mass casualties in case something goes wrong. A number of high-profile events over the past few years have offered Boston's medical community a chance to hone their plans and skills in managing public events. At FEMA, we work with communities across the country to prepare for a variety of scenarios. All disasters are local, but we're proud to be there to support communities across America as they prepare for, protect against, respond to, recover from and mitigate against whatever hazard they may face.

As the medical incident commander in Boston for more than 35 mass casualty incidents and for all of Boston's major planned events, including the Boston Marathon, I can tell you that the fact that the response was so well executed wasn't an accident – it was a result of years of planning and coordination. It was no accident that not a single hospital in the city was overwhelmed with patients in the aftermath of the bombings. It was no accident that patients were appropriately

triaged and transported in an orderly manner to the appropriate hospital based on their needs. And it was no accident that a Medical Intelligence Center was fully staffed and operating on race day to keep track of patients, coordinate resources and share information with the medical community throughout the region. All of these are tangible results of disaster planning that has gone on in Boston for more than 20 years. I'm here today to discuss, in part, how FEMA played an important role in making the people on the ground more prepared for that day.

The Role of the National Preparedness System in the Whole Community

On April 15, Americans witnessed the strength of the whole community – people coming together to help each other and making our collective response that much more effective and efficient. Whole Community is an approach to emergency management that reinforces the notion that we must leverage all of the resources of our collective team at every level of government to prevent, prepare for, protect against, respond to, and recover from, all hazards; and that collectively we must meet the needs of the entire community in each of these areas. This larger collective emergency management team includes, state, local, tribal, and territorial partners as well as non-governmental organizations like faith-based and non-profit groups, the private sector, individuals, families and communities, who continue to be the nation's most important assets as first responders during a disaster.

This incident also demonstrated how FEMA's approach to National Preparedness helped to empower and strengthen the whole community, by giving its members the right tools and information they needed to be prepared. The National Preparedness System (NPS) is the instrument that the Nation employs to build, sustain, and deliver the core capabilities that work toward the National Preparedness Goal. FEMA requires grantees – which include both the Commonwealth of Massachusetts and the City of Boston – to implement the NPS and establish a whole community approach to homeland security and emergency management, making them more prepared should an event like this occur. As a result of the NPS, the whole community plans better, organizes better, equips better, trains better, and exercises better, resulting in improved national preparedness and resilience. And this was evident in Boston.

FEMA is proud to be a part of this collaborative, whole community approach to preparedness. Our preparedness programs – including our training and exercise programs, technical assistance programs and community preparedness programs – that were implemented in coordination with Massachusetts and Boston had a positive impact on the City of Boston, on the Commonwealth of Massachusetts and the survivors of this tragic day. That day also demonstrated local and national capabilities to respond to hazards. Immediately following the event, FEMA, as part of the whole community, collaborated with our law enforcement, public safety and federal partners to provide expertise and were ready to help when the President issued a disaster declaration for the affected communities. Indeed, the events in Boston have highlighted how close coordination among federal, state, and local officials is critical in the immediate aftermath and response to terrorist attacks.

Both the work leading up to the Boston Marathon, as well as the quick action following the event, highlight the significant progress that we, as a nation, have made over the past ten years in responding to acts of terrorism. But there is still more to do and we are continuing to learn from this event and others to strengthen our preparedness, training and exercises programs as they relate to mass casualty and active shooter situations.

Homeland Security Grant Programs

FEMA works with cities around the country to assess gaps and prioritize grant investments. In 2012, Boston completed a Threat and Hazard Identification and Risk Assessment (THIRA), a process for assessing regional capability gaps required annually by each State and urban area designed to prioritize investments in key deployable capabilities. Fifty-six states and urban areas, including Boston, identified complex attacks as one of their top threats/hazards in their 2012 THIRAs. These assessments assist States and urban areas planning and preparing for various scenarios, prioritizing the development of capabilities to address known and evolving threats.

Many of the capabilities demonstrated in Boston and in the immediate aftermath of the bombings were built or enhanced – and have been sustained – through the preparedness suite of Homeland Security Grant Programs (HSGP), including the Urban Areas Security Initiative (UASI) Grant Program and the State Homeland Security Program (SHSP). Since 2002, the Commonwealth of Massachusetts has received more than $943 million in FEMA preparedness grant funds. Since 2003, Boston has received more than $369 million through eight grant programs, including $179 million through Urban Area Security Initiative (UASI) grants.

As a former paramedic and chief, I can attest to the importance of preparing our public safety and medical personnel for whatever may come. FEMA grant funds provided commodities and training that were essential in response to the explosions. Both Massachusetts and Boston invested state, local and federal grant funds in systems that were critical during the response including the stand-up of an Emergency Patient Tracking System, which is a secure, web-based application that facilitates incident management, family reunification, and overall patient accountability during emergency incidents. This system made a difference on April 15, as it helped ensure that not a single hospital in the city was overwhelmed with patients in the aftermath of the bombings. In part because of the investment made in that system, and in no small part of the outstanding work of our first responders, patients were triaged and transported in an orderly manner to the appropriate hospital based on their needs.

The FY 2009-2011 HSGP grant, administered in partnership with the Department of Health and Human Services (HHS), provided commodities and training that aided in response to the explosions. The Boston Public Health Commission (BPHC) invested $200,000 in Mass Casualty Incident (MCI) medical supplies and equipment. These provisions, available on the special operations vehicles at the Marathon, were crucial in responding to the bombing survivors.

BPHC has also used more than $920,000 in grant funds for first responder safety, including to purchase equipment and supplies such as personal protective equipment and radiation dosimeters for first responders. The grant funds also provided for planning and coordination, authorizing salaries for staff that work on medical surge planning projects such as patient tracking and health and medical services coordination. These capabilities were particularly essential in ensuring a coordinated and successful response and recovery operation following the blasts.

More than $275,000 was used previously to fund mass casualty incident training, education and exercises for first responders. In 2003, the Boston EMS utilized funding to pilot a training and exercise program, which later became the DelValle Institute for Emergency Preparedness. This Institute has trained tens of thousands of first responders and first receivers. In March 2013, grant funds were used to coordinate a psychological first aid course for first responders providing pre-hospital medical care. The skills learned through this course proved to be invaluable for Boston EMS and their peers when responding to the explosions at the Boston Marathon.

The approach taken by both Boston and Massachusetts is considered a best practice for other states and urban areas looking to effectively use grant dollars, while prioritizing threats and developing critical capabilities.

Quite simply, our preparedness system worked that day like it should: we invested in local and state resources, those resources were not overwhelmed the day of the event and local and state resources were able to effectively respond. This shows the efficacy of our programs and demonstrates our return on investment.

To support that argument, I'd like to discuss how FEMA guidance served as the basis for our collective response. First responders in Boston used the National Incident Management System and the National Response Framework to exercise before the event. Agencies and organizations involved adopted the Incident Command System (ICS)[1], conducted planning and operations using unified command, and integrated aspects of the region's disaster plans into the event's operations plan.

As part of the FEMA grant program, the region – consisting of Massachusetts, New Hampshire, Rhode Island, Boston Urban Area, and Providence Urban Area– completed and exercised a Regional Catastrophic Coordination Plan (RCCP) that facilitates communication, situational awareness, and functional area coordination across the Region in a catastrophic event. UASI investments also helped bolster capabilities that were critical on the ground, supporting the Boston Regional Intelligence Center (BRIC) and their work in bombing-related operations, analysis and investigations led by the Federal Bureau of Investigation (FBI).

[1] The ICS is a standardized, on-scene, all-hazards incident management approach that allows for the integration of facilities, equipment, personnel, procedures and communications operating within a common organizational structure; enables a coordinated response among various jurisdictions and functional agencies, both public and private and establishes common processes for planning and managing resources.

In addition, FEMA provided funds for equipment that local and state agencies used during the event. For example, the Massachusetts State Police used a forward looking infrared imaging unit purchased with HSGP grants funds to search for, locate and apprehend the surviving bombing suspect. Camera systems that were used during the post-incident investigation were also obtained with UASI funds. Overall, HSGP grants for more than $3 million have been used for screening, search and detection. Additionally, more than $7 million in UASI grants have been leveraged for on-site security and protection, including much of the equipment that was used during the event, such as: bomb robots, x-ray equipment, and ballistic helmets and vests.

Operational communications have also been bolstered, with nearly $15 million in funding through UASI grants going toward such enhancements as the addition of frequencies to support the regional mutual aid radio systems, which include law enforcement, fire service and EMS.

Preparedness: Training Exercises and Technical Assistance

First responders from across the country plan, train and exercise through support from FEMA, making them more equipped to serve their communities during real world incidents. Training, exercising and planning are extremely valuable to prepare for real world incidents because they help teach new skills, promote continuous improvement and develop relationships before they are relied upon in a crisis. Since 2000, more than 5,500 Boston area responders have received training through FEMA partners including the National Domestic Preparedness Consortium (NDPC) and Continuing Training Grantees. During that same period, FEMA's Center for Domestic Preparedness (CDP) has provided Chemical/Biological and mass casualty training to more than 500 Boston responders and providers.

FEMA has supported twelve exercises directly involving the City of Boston. These have included topics as diverse as chemical or biological attacks, hurricane preparedness, hazardous materials events, cyber and improvised explosive devices (IEDs). In 2011, DHS – in conjunction with the FBI and the National Counterterrorism Center – hosted a Joint Counterterrorism Awareness Workshop that focused on integrating response operations to a complex attack in the Boston metropolitan area. More than 200 participants from the local, state, and Federal community participated in the workshop.

As part of FEMA's Regional Catastrophic Preparedness Grant Program, the Metro Boston Homeland Security Region (MBHSR) in 2012 exercised a Regional Catastrophic Coordination Plan designed to augment existing operations plans by facilitating communication, situational awareness, and functional area coordination across the region in a catastrophic event. The region also developed a Regional IED Annex using DHS grant funding in 2010, creating coordinated response protocols for State and local agencies to respond to a catastrophic IED incident and codifying the structure of explosive ordnance teams within the region when collaborating on multiple IED scenarios.

Boston also used UASI funds to train SWAT teams to better integrate bomb technicians into tactical operations, a crucial capability that was demonstrated in the aftermath of the Marathon bombings.

Additionally, the Boston Marathon was evaluated by the interagency Special Events Working Group (SEWG), which is managed by the DHS Office of Operations Coordination and Planning, and was determined to be a high risk event. This determination resulted in enhanced attention to the event across the federal family and assured a greater level of situational awareness and coordination of federal resources dedicated to the event. Through our interagency relationships and established special event processes, DHS was positioned to respond very quickly to the needs of our state and local partners. This preparation was instrumental to the rapid federal response to the Boston Marathon bombing incident.

More than $6 million in UASI grants have been used to fund the National Incident Management System Training, and these exercises allow key personnel to develop critical relationships. As the saying goes, you never want to "exchange business cards" at the scene of a disaster – it is better to know the people you will be working with beforehand. We are training responders for mass casualty response and recovery, explosive devices, medical response, hospital incident command systems, crime scene management, hazardous evidence collection and law enforcement response to bombing incidents with the CDP and NDPC.

DHS technical assistance and funding enabled the City of Boston to codify its emergency response plans and protocols through planning support initiatives. Since 2005, FEMA has provided five technical assistance deliveries for the Boston urban area and seven for the Commonwealth of Massachusetts, including assistance with IED awareness, fusion centers, equipment, anti-terrorism training, and interoperable communications. Further, NPPD/OEC has worked closely with jurisdictions in the MBHSR to improve coordination, training and tactical planning for emergency communications.

Incident Response

As this Committee is aware, FEMA's mission includes response to acts of terrorism and we take that charge very seriously. To ensure that our response is as quick and effective as it can be, FEMA pre-positions teams at or near major events in case of emergency. Before this year's Boston Marathon, FEMA participated in Boston Marathon Security Coordination meetings with other federal, state and local partners including: DHS's National Protection and Programs Directorate's (NPPD) Federal Protective Service (FPS); the Massachusetts Homeland Security Advisor; the Commonwealth Fusion Center/Massachusetts State Police Counter-Intelligence Unit; the BRIC; and the FBI/Joint Terrorism Task Force (JTTF). While intelligence reporting indicated no credible threat to the event, its designation as a Special Events Assessment Rating (SEAR) 2 by the Special Events Working Group meant there were Federal, State, and local security and logistical support resources on hand. The FBI was designated the event's lead

Federal law enforcement agency and the Massachusetts State Police was the designated lead local law enforcement and public safety organization. The Massachusetts Emergency Operations Center (EOC) was the designated operations center for the event.

Leading up to the event, the DHS Massachusetts Protective Security Advisor (PSA) as well as representatives from FEMA, and NPPD's Federal Protective Service (FPS) participated in Boston Marathon Security Coordination meetings alongside the Boston Athletic Association, the Massachusetts Homeland Security Advisor, the Commonwealth Fusion Center/Massachusetts State Police Counter-Intelligence Unit, the Boston Regional Intelligence Center, and the FBI/JTTF. The Massachusetts PSA worked directly with owners and operators of critical infrastructure to identify facilities in proximity to the event. Engagement included documenting protective measures, reviewing past assessments, providing local and State partners with map books of all critical infrastructure and chemical facilities in close proximity to the marathon route, and monitoring infrastructure for changes in posture on a real-time basis.

FEMA was on alert in preparation for the event, activating Region I's Regional Response Coordination Center (RRCC) and the Region's Incident Management Assistance Team (IMAT).[2] Following the blasts and initial response, FEMA activated its RRCC, which was already setup in Boston and served as our base of operations. From there, we were able to monitor the response operations and contact federal and Massachusetts emergency management partners to offer FEMA's support. We also brought partners from the Department of Transportation, HHS, the Environmental Protection Agency, the U.S. Coast Guard, Massachusetts National Guard, urban search and rescue and federal law enforcement to the RRCC to support survivors.

Our Regional IMAT relocated from the Joint Field Office in Portsmouth, New Hampshire to FEMA's Region I RRCC, located at the Mobile Emergency Response Support Operations Center in Maynard, Massachusetts about 30 miles from Boston. We also collaborated and sent resources to our partners, dispatching liaison officers (LNOs) to the FBI command post and the JTTF. Region I was also activated to a Level II (Partial Activation) with select Emergency Support Functions, Defense Coordinating Element and an American Red Cross LNO.

FEMA monitored the situation from our headquarters in Washington, D.C., coordinating with other agencies at the National Watch Center (NWC), which coordinates closely with the DHS National Operations Center for national-level information sharing, situational awareness, and common operating picture. The NWC was activated to Enhanced Watch to include the NWC Threat Monitoring Team and additional personnel were advised of the potential for a deployment. Our National IMAT White was also placed on alert.

---

[2] IMATs are full-time, rapid-response teams with dedicated staff able to deploy within two hours and arrive at an incident within twelve hours. They support the local incident commander in establishing a unified command and provide situational awareness for federal and state decision-makers. IMATs were available to officials on the ground that day, in addition to a FEMA Liaison Officer (LNO).

As I have said and firmly believe, all disasters are local and this event was no exception. Accordingly, FEMA's true role is to be available if duty calls and to assist local and state governments should they need us. In essence, FEMA is part of a response system that relies on the collective strength and bravery of the entire nation – both its people and its assets.

Immediate Aftermath and Recovery

Two days after the bombing, President Obama issued an Emergency Declaration for Massachusetts to "alleviate the hardship and suffering caused by the emergency on the local population, and to provide appropriate assistance for required emergency measures, authorized under Title V of the Stafford Act, to save lives and to protect property and public health and safety, and to lessen or avert the threat of a catastrophe in the counties of Middlesex, Norfolk, and Suffolk." This declaration authorized FEMA to identify, mobilize and provide equipment and resources necessary to alleviate the impacts of the emergency. FEMA was authorized to provide Category B emergency protective measures to include items such as police personnel, search and rescue, and removal of health and safety hazards. FEMA also provided Public Assistance to include funding for shelters and emergency care for Norfolk and Suffolk counties, which was primarily used for residents whose homes had been impacted during the blast or could benefit from crisis counseling. That assistance was provided with 75 percent federal funding.

Additionally, FEMA authorized state and local agencies in Massachusetts to use existing preparedness grant funding to support law enforcement and first responder overtime costs resulting from investigation support activities or heightened security measures, from April 15, 2013 through May 5, 2013. FEMA granted a similar authorization for state and local agencies hosting major special events scheduled during this timeframe.

Maximizing Existing Strengths While Looking Forward

FEMA prides itself on learning from every event and continually improving its approach. With that in mind, we are focused on further strengthening our collective preparedness to meet evolving threats, including how we respond to active shooters and mass casualty events. Looking forward, FEMA has also requested more than $2 million in the FY 2014 Budget for State and Local Programs to conduct approximately 75 course offerings and table-top exercises to bring together over 3,000 community leaders, planers, and staff from schools, institutions of higher education, and places of worship in an effort to make their communities and institutions more secure and resilient.

In terms of mass casualty and active shooter training, several states and urban areas identified complex attacks as one of their top threats and hazards in their Threat and Hazard Identification and Risk Assessment (THIRA). Accordingly, FEMA is planning to increase training opportunities in active shooter, mass casualty, and counterterrorism awareness. FEMA also has surveyed the NDPC and CDP offerings with respect to mass casualty incidents to examine how we can continue to improve those courses.

Ensuring adequate funding through state and local grants is also important.

In recognition of the substantial impact mass casualty events have on families, communities, and state, local and regional first responder agencies and public/private medical service providers, FY 2013 SHSP and UASI grantees are encouraged to apply funding in support of efforts to improve mass casualty care capabilities with a specific focus on providing immediate emergency care to victims of mass casualty events, including mass shootings.

This priority may be achieved by:

- Engaging in mass casualty planning, training, and exercises specifically involving law enforcement, fire service, and EMS providers to rapidly deploy into areas that have been cleared but not secured in order to initiate treatment at or near the point of injury and effect rescue of survivors. Plans, training and exercises must include strategies that ensure the health and safety of first responders and citizen responders, and training associated with the prevention and detection of secondary attacks;
- Improving coordination between law enforcement, fire service, EMS systems, other first responder agencies, and local healthcare delivery and trauma systems to improve victim triage, treatment and transport, to ensure patients are distributed to appropriate levels of definitive emergency care; and
- Establishing protocols on the medical principles of tactical emergency casualty care and conducting training for responders. Empowering community bystanders through public education initiatives and training about life sustaining actions and how they can support survivors and providers in a mass casualty event.

We are also developing new curriculum through FEMA's Continuing Training Grant program that focuses on awareness training for first responders. Specifically, it will focus on how to gather and recover information during a crisis, "care under fire" when medical personnel are overwhelmed or unable to access a crisis site, public messaging to provide quick information to the public, and interoperable communication needed from tactical teams and incident commands. The overall goal of this curriculum is to provide responders and private sector partners with a better understanding of the challenges associated with multi-jurisdictional interdiction and response, planning protocols and tools, and command, control and communications in a dynamic, complex attack.

As we look to further strengthen our ability to prepare for events, the President's FY 2014 Budget proposes to reform the grant programs and establish a National Preparedness Grant Program (NPGP). The proposed NPGP would consolidate current State and local preparedness grant programs into one overarching program (excluding EMPG and Assistance to Firefighters Grants programs) to enable grantees to collaboratively build and sustain core capabilities toward achieving the National Preparedness Goal.

By encouraging collaboration among disciplines and across all levels of government, grantees can work together to collectively prioritize needs and allocate increasingly scarce grant dollars where they would have the greatest impact. The Program would focus on developing and sustaining the core capabilities – as identified and defined in the National Preparedness Goal – necessary to prevent, protect against, mitigate, respond to, and recover from events that pose the greatest risks to the United States.

Implementing the NPGP would also improve the efficiency of the grant programs by eliminating the burden on grantees to meet mandates from multiple individual grant programs. As the Committee is aware, the Redundancy Elimination and Enhanced Performance for Preparedness Grants Act identified the elimination of duplicative mandates as a priority. This process, and the creation of NPGP, will ensure that grantees have the ability to build and sustain capabilities that can be deployed not just on the local level, but on the regional and national levels as well – creating an interconnected network of local, state, regional and national capabilities to increase the security of the nation. We look forward to working with this Committee toward that end.

Conclusion

The events in Boston have highlighted how close coordination among Federal, State, and local officials is critical in the immediate aftermath and response to terrorist attacks and reinforces the principle and value of whole community contributions, including from the general public. Both the work leading up to the Boston Marathon, as well as the quick action following the event, demonstrate the significant progress that has been made over the past ten years.

Although we will never forget those whose lives were lost, as a community we can take some solace that our preparedness efforts helped saved lives. At FEMA, we often stress that there is no one agency or entity responsible for emergency response. It takes a whole community of emergency responders to prepare for disasters and save lives. I have never been so proud to be a part of the Boston community as I was on April 15. We owe it to those who we lost and to those who were injured that day to keep improving – and we will work with all of our partners across this great country to honor that moving forward.

Kurt N. Schwartz
Undersecretary for Homeland Security & Homeland Security Advisor
Director, Massachusetts Emergency Management Agency
Massachusetts Executive Office of Public Safety and Security

July 10, 2013

Testimony before the Senate Committee on Homeland Security & Governmental Affairs: The Boston Marathon Bombings

Chairman Carper, Ranking Member Coburn, and members of the Committee on Homeland Security and Governmental Affairs:

My name is Kurt Schwartz and I serve in Governor Patrick's administration as the Undersecretary for Homeland Security and Homeland Security Advisor, and the Director of the Massachusetts Emergency Management Agency. On behalf of Governor Patrick, I thank you for this opportunity to share thoughts and insights as you look at the initial lessons learned from the public safety response to the Boston Marathon bombings. As you know, these events began with the terrorist bombings on April 15th during the Boston Marathon that killed three people and injured hundreds, and continued through April 18th and 19th when one police officer was shot and killed and another seriously injured before one of the suspected terrorists was killed during a shootout with law enforcement officers and the other was captured after a day-long manhunt.

The response to the events surrounding the Boston Marathon once again demonstrated the value of our investments of money, time and resources in local, state and federal homeland security since 2001. Within seconds of the bomb blasts at the finish line of the Boston Marathon, an array of personnel, resources and capabilities - many funded with federal homeland security grant dollars - were brought to bear to triage and care for the wounded, communicate with the public, provide situational awareness for decision makers, ensure the safety and security of the public and critical infrastructure, set up a joint command center, and ultimately identify and apprehend the suspected terrorists.

As the world watched, first responders, aided by the public, swiftly provided on-scene emergency medical care to those injured from the blasts, and emergency medical services (EMS) partners followed established plans to triage and transport the wounded to area trauma centers. And even as the wounded were being evaluated, treated and transported, tactical and other specialized teams, many of which deployed into Boston under established mutual aid

agreements, conducted chemical, biological, radioactive and nuclear (CBRN) monitoring in the area, searched for additional explosive devices, deployed to and secured our regional transit systems and other critical infrastructure, and established a large security zone and crime scene perimeter. The speed with which Boston, supported by the Massachusetts State Police, the National Guard, the Transit Police and dozens of local, regional, state and federal law enforcement agencies and other first responders, evacuated the wounded to hospitals, took control of the crime scene, established a large security perimeter, and established communication with the public, is a testament to homeland security spending and investments in preparedness, training and exercises, effective mutual aid systems, coordinated response systems, and outstanding leadership.

I speak with first-hand knowledge of the heroic work done by our public safety team on April 15th and in the following days; I arrived on Boylston Street only minutes after the blasts where I joined city and state command level public safety officials, including Commissioner Ed Davis of the Boston Police Department and Colonel Timothy Alben of the Massachusetts State Police. And I was still with this team five days later when the last of the suspected terrorists was captured in Watertown.

I commend Commissioner Davis of the Boston Police Department, the men and women he commands, and the multitude of first responders from the Boston Fire Department and Boston EMS for their extraordinary performance of their duties under horrific circumstances.

April 15, 2013 marked the 117th running of the Boston Marathon, one of the most prestigious marathons in the world. As it does every year, the race took place on Patriot's Day, a state holiday that commemorates the anniversary of the first battles of the Revolutionary War in 1775.

Unlike most marathons, the Boston Marathon's 26.2 mile course is a relatively straight line that starts in Hopkinton, Massachusetts and proceeds east through eight cities and towns and three counties before ending on Boylston Street in Boston. For local, regional and state public safety officials, the Boston Marathon is one of our largest annual events and we appropriately dedicate substantial planning and operational resources to protect, as best we can, the runners and spectators, and the 8 cities and towns that host the race. These extensive planning and preparedness efforts are intended to ensure readiness to respond to any and all unexpected hazards that threaten health, safety or property.

On April 15th, the public safety community was prepared.

As we have done for the many years, the Massachusetts Emergency Management Agency brought together a multi-agency, multi-discipline team last January to begin developing the operational plans for this year's Marathon. We did worst case scenario planning, preparing for a wide array of incidents and events that might impact the Marathon or the host communities. In early April, this multi-disciplinary team conducted a comprehensive tabletop exercise to ensure our readiness.

On race day, an 80 person Multi-Agency Coordination Center - - a MACC -- was operational in the State's Emergency Operations Center at the Massachusetts Emergency Management Agency. Representatives from Boston's police, fire and EMS services, and public safety personnel from the other 7 cities and towns along the 26.2 mile course, were present in the MACC along with key state and federal public safety agencies such as the Massachusetts State Police, the Department of Fire Services, the Office of Emergency Medical Services, the Department of Public Health, the National Guard, the Commonwealth Fusion Center, the FBI, the Department of Homeland Security, the FAA, the Coast Guard, and the Boston Athletic Association. The MACC was also connected to emergency operations centers in all 8 cities and towns, as well as the Boston Medical Intelligence Center and the Department of Health's Operations Center. Additionally, first responders along the course and command level personnel from all local, state and federal public safety agencies were using interoperable channels on portable radios to maintain effective communications paths. Along the course, local, regional and state tactical teams, hazardous materials response teams, explosive ordinance disposal (EOD) teams, the National Guard Civil Support Team, mobile command posts, and State Police helicopters were deployed as part of an all-hazards operational plan.

In short, when 27,000 runners started the race in Hopkinton, we were prepared from the starting line in Hopkinton to the finish line in Boston. In large part, our high levels of preparedness were due to:

- Investments made in collaboration with Governor Patrick's Administration over the past years using federal homeland security grant funds;
- A longstanding commitment to and implementation of multi-agency, multi-discipline, and multi-jurisdictional training and exercises throughout the state;
- A strong record of collaboration, coordination and cooperation by public officials and public safety leaders;
- An unwavering 24/7 commitment to homeland security by all local, regional, state and federal public and private partners and stakeholders; and
- Lesson learned from local, regional, and state responses to hurricanes, tropic storms, blizzards, ice storms, floods, tornadoes and a massive water system failure that have

resulted in the Commonwealth receiving 16 Presidential Disaster Declarations since 2005.

At 2:50 PM on April 15th, two powerful bombs were intentionally detonated 12 seconds apart on Boylston Street in Boston within short distances of the finish line. The bombs were placed outside of the secure zone of the race course on the public venue sidewalks between the race spectator perimeter and the store fronts along Boylston Street. These areas were packed with race spectators and shoppers. The results were catastrophic: three people killed and close to 300 were injured, dozens of them seriously.

The response by the public – bystanders, witnesses and volunteers - in those moments after the blast was nothing short of remarkable. This sense of community and empowerment to take care of our own was demonstrative of the way our Commonwealth came together in this time of shock and tragedy.

The public safety response was equally incredible. I witnessed this response, and it speaks volumes about the investments that we have made in the Commonwealth to enhance our homeland security. On April 15th and during the next four days, our investments across all five homeland security mission areas - - prevention, protection, mitigation, response and recovery - - paid off in dividends.

Several responding agencies have completed internal after action reviews to identify best practices, lessons learned, and areas needing improvement. A more comprehensive multi-agency, multi-jurisdiction after action review, led by a team of representatives from state agencies and the cities of Boston, Watertown and Cambridge, is currently underway. Even as these initiatives are on-going, several common themes and key factors stand out as we assess the massive, swift and effective public safety response to the bombings.

Foremost, there is a clear correlation between the effectiveness of response operations in and around Boston in the aftermath of the bombings and local, regional and state investments in training, exercise programs, building and sustaining specialized capabilities, activating and maintaining an incident command system, activating and operating emergency operations centers and mobile command posts, as well as our longstanding focus on developing regional response capabilities and mutual aid agreements, and building preexisting strong personal and professional relationships amongst public safety leaders.

There are other key factors that contributed to the effectiveness of response operations.

- The response to the bombings relied heavily on specialized capabilities that have been built and sustained through our homeland security programs, including SWAT and EOD teams, bomb detection K-9's, CBRN detection systems and surveillance systems, command posts and emergency operations centers.
- The response to the bombings was augmented through pre-existing inter- and intra-state mutual aid agreements that have been built on regional response strategies and plans.
- Interoperability was a success story. Over the years, millions of dollars have been invested under local, regional and state interoperability plans, and our investments in mutual aid channels, tactical channel plans, radio towers, new radios, and specialized training allowed first responders, as well as command level personnel, to effectively communicate by radio between agencies, between disciplines, and between jurisdictions. The availability of interoperable radio systems was particularly important to first responders in the first few hours after the bomb blasts because cell phone and land-line telephone systems in the greater Boston area were overloaded by the spike in demand, rendering them largely inoperable.
- We benefited from our history of using pre-planned events like the Marathon as real-life opportunities to exercise and utilize our command posts and emergency operations centers, to test our operational plans and mutual aid systems, to activate our specialized response teams, to stay familiar with the technology based systems that we rely on during emergencies, and to strengthen personal and professional relationships amongst people, agencies, disciplines and jurisdictions that otherwise may not have many opportunities to work together. A reoccurring theme of our after action discussions is that pre-existing strong professional relationships allowed command and line-level responders to be familiar with the capacities and capabilities of other responding agencies and to quickly and effectively mount a large response to the bombings. These strong and positive relationships have been built over many years by joint planning for pre-planned real life events, participating together in exercises, and relying on mutual aid to enhance the response to large scale, multi-jurisdictional incidents and pre-planned events.
- We also benefited from our investments in regional exercise programs, such as the Urban Shield exercises conducted by the Boston Urban Area Security Initiative (UASI), that allow first responders to hone specialized skills and gain familiarity with responders from other areas who may be called in for support under mutual aid agreements.
- The cooperation and collaboration across agencies, disciplines and jurisdictions was immediate and extraordinary. This was truly a best practice that should be noted nationwide. Within minutes of the blasts, local and state public safety leaders

responded to Boylston Street and followed Boston's lead in establishing a command group that effectively shared information, pooled resources, and collaboratively managed a massive response. There was unity of focus and unity of purpose at the command level and through the ranks all the way to the first responders on Boylston Street on April 15th and the thousand plus police officers that participated in the state's largest manhunt on April 18 and 19.

- Existing strong relationships between the Commonwealth Fusion Center, the Boston Regional Intelligence Center, and the FBI's Joint Terrorism Task Force allowed the Massachusetts State Police and the Boston Police Department to quickly integrate into, and be contributing members of, the post-bombing investigation that was led by the FBI.
- The relationship between public safety leaders and public officials at all times was open, positive and constructive. Governor Patrick and Mayor Menino regularly communicated with one another, and consulted with and were briefed by their public safety leaders such as Commissioner Davis, Colonel Alben of the Massachusetts State Police, General Rice of the Massachusetts National Guard, and Chief Paul MacMillan of the Transit Police Department. Their decisions were informed by, and reflected public safety concerns, needs and objectives. This positive working relationship was based on trust, respect, and a commonality of purpose and mission, and it fostered constructive decision making and opportunities for bold "out of the box" decisions such as Governor Patrick's decision to deploy the National Guard into Boston on April 15th to support law enforcement efforts, and issue the April 19th shelter in place request for Boston, Watertown, and four other surrounding cities.
- The support from the federal government was immediate and effective. On the law enforcement side, every imaginable federal agency dispatched personnel and resources in support of local, regional and state law enforcement response efforts. On the emergency management side, the Federal Emergency Management Agency (FEMA) and the Department of Health and Human Services had senior people in the command center in Boston only hours after the bombings, and they helped ensure that direct federal assistance was provided as needed. And, the White House and FEMA quickly turned around the Governor's request for an Emergency Declaration, approving direct federal assistance and Category B Emergency Protective Measures within 24 hours of the Governor's request.
- Finally, local and state public safety and emergency management agencies effectively communicated with the public through social media, reverse 911 systems, press releases, press conferences, an emergency alerting Smart Phone app, and - for the first time in Massachusetts - pushed an emergency notification to the public through the

new Wireless Emergency Alert Service that is part of the Integrated Public Alert and Warning System known as IPAWS.

The response by the public to the bombings and ensuing hunt for the suspected terrorists was nothing short of incredible and the support for first responders has been unprecedented. The public heeded requests and directions from Governor Patrick, Mayor Menino and public safety leaders, including the unprecedented request on April 19th that residents of Boston, Watertown and four other surrounding cities remain indoors. Businesses heeded this request as well, and remained closed for an entire business day. The community has responded to these tragic events with compassion, with strength, and with support for the survivors of the bombings, the families of the victims, and the impacted communities. Boston and Watertown, and all of our impacted communities have shown us what it means to be resilient.

As previously mentioned, we are in the process of conducting a comprehensive local, regional and state after action review of the bombings and their aftermath, including our pre-bombing prevention, protection and mitigation strategies and actions, and our response and recovery efforts. At the end of this process, an After Action Report and corrective action plans will be published. We will continue to identify what worked well, where there is need for improvement and gaps that need to be addressed through training, exercises, planning and homeland security investments. We welcome and support a full review, not because we have a basis to believe that the system did not work, but because an event of this magnitude and tragedy requires that we gather and analyze all of the facts and determine what worked, what might not have worked, and if there are areas for improvement.

Even as we move through the after action process, I can still confidently state that investments made with homeland security dollars enhanced our capability to respond to these tragic events.

I think it's important to end by stating that Governor Patrick and I have tremendous pride in our community of public safety professionals who demonstrated so well its commitment to public safety, even under the most difficult of circumstances. These were trying times, and we are able to look back upon them with admiration for the collaboration and partnerships that truly made a difference.

Testimony of Boston Police Commissioner Edward F. Davis, III

Before the Senate Committee on Homeland Security

July 10, 2013

Chairman Carper, Ranking Member Coburn, distinguished members of the Committee, thank you for the opportunity to testify today about the impact of the terrorist bombing at the Boston Marathon on Patriots Day, April 15, 2013.

I am here today as the Commissioner of the Boston Police Department, but I also speak on behalf of Mayor Thomas Menino, Major Cities Chiefs across the Nation, and Massachusetts law enforcement when I describe the response and lessons learned from this tragic event.

On April 15 at 2:50 pm two bombs exploded 12 seconds and 550 feet apart on Boylston Street at the finish line of the Boston Marathon. Two terrorists killed 3 people at the scene: 8 year old Martin Richard and 23 year old Lingzi Lu, a graduate student at Boston University in front of the Forum Restaurant; and 29 year old Krystle Campbell at the finish line.

There were multiple amputations. Every ambulance and police transport vehicle available transported nearly 300 people to world-class hospitals. There were countless examples of bravery that day by first responders, medical personnel, runners and spectators who ran toward the explosions and rushed severely injured people to medical care; police officers who used their belts as tourniquets, their bare hands to extinguish a man on fire and citizens like Carlos Arredondo, a peace activist who helped save Jeff Bauman so he wouldn't bleed to death by holding his femoral artery. Jeff lost both legs.

The perpetrators were identified in video footage and the photos were publicly released on Thursday night. Sadly these terrorists executed MIT Police Officer Sean Collier that evening in a botched effort to take his gun. Officers were shot at and had explosive devices thrown at them during a pursuit that began in Cambridge and ended in Watertown.

One of the bombers, Tamerlan Tsarnaev was killed during an exchange of gunfire in Watertown on Friday morning. MBTA Officer Richard Donohue was shot and critically injured at that scene, lost 100% of his volume of blood, but thankfully survived.

The second bomber, Dzhokhar Tsarnaev, eluded police during the shootout. A massive house-to-house manhunt was conducted in a 20-block perimeter. The City of Boston and several surrounding communities were extremely cooperative when they were asked to shelter in place during this time. Tsarnaev was located in a Watertown backyard boat on Friday evening as a result of the homeowner's key observations and information.

Both terrorists were captured within 102 hours from the time of the initial explosions. This success was the direct result of dedicated training, relationships already in place, an engaged and informed public, and an unprecedented level of coordination, cooperation and information sharing on the line by local, state and federal agencies. Throughout this event Boston showed the Nation how to conduct a complicated investigation involving over 120 Federal, State and local law enforcement and partner agencies with multiple crime scenes over an extended period of time.

The Federal Government, particularly the Department of Homeland Security and the Department of Justice provided valuable assistance before, during and after this tragic event. Preparedness training provided through the Urban Area Security Initiative (UASI) and other federal funding set a framework for multiple jurisdictions to work seamlessly with one another in a highly effective manner. Urban Shield training with Boston's law enforcement and medical professionals was one of the most important steps we took to prepare for this day. The significance of this can be no better illustrated than by looking at the facts: the scene was cleared of all spectators and nearly 300 injured within 22 minutes; the 19 critically injured victims admitted to hospitals all survived, due to exceptional medical care and backed up by the response and use of tourniquets.

UASI funding also provides highly trained analysts in the Boston Regional Intelligence Center (BRIC), critical to the Department's daily decision-making, intelligence gathering, deployment and information flow, coordination and communication with law enforcement and other first responders. Funding also provides important technology that would not be possible without UASI funding: vehicles such as command posts, armored vehicles, robots, harbor patrol vehicles and other safety equipment. This equipment allowed us to take Dzhokhar Tsarnaev into custody alive. Over the course of the last several years the City of Boston has experienced both level funding and cuts to local aid. If we had to depend solely on local assistance prior to April 15th we would have been much less prepared and without the appropriate information and equipment to do our jobs. I would like to take a moment to thank President Obama and his Administration for this support and urge each one of you to continue this important funding for major cities around the US.

The community plays one of the most important roles in our Nation's fight against terrorism. They contributed to the success, efficiency and safe resolution of the investigation by providing videos, photographs, information and sheltering in place. Law enforcement needs to continue to seek opportunities and new ways to encourage dialogue and cooperation with the community as we look to stop violent extremists.

One of the most effective ways the Boston Police Department engaged the community was through the use of social media. Communication with the public was essential throughout the entire week. Employing the Boston Police Department's Facebook and Twitter social media accounts allowed us to stay immediately connected with our residents, tourists and business community. We were able to create and maintain a dialogue with our community partners. We learned that social media gave us the immediate ability to correct misinformation and break news. Even news outlets were waiting for our Twitter information before they reported on developments.

The Boston Police Department for many years has enjoyed long-standing professional and personal relationships that helped facilitate effective collaboration during this investigation.

As I previously testified, within moments of receiving notification from my officers about two explosions at the finish line, I contacted my colleagues, Special Agent in Charge of the FBI Boston Office, Richard DesLauriers and Colonel Timothy Alben, the Superintendent of the Massachusetts State Police and shared all of the information I had at the time. Both men immediately began to deploy resources to assist us. I want to also acknowledge our other partners who contributed to the efficiency of this operation: the Department of Justice, the U.S. Attorney's office, the Attorney General's office, FBI, ATF, ICE, National Guard and our state partners including the Executive Office of Public Safety and Security, the Massachusetts State Police, the Attorney General's office, Suffolk and Middlesex County District Attorneys Offices, Cambridge, Watertown, MIT, Transit and other neighboring police departments as well as everyone who worked tirelessly at our command posts looking for answers.

Contrasted with the strong partnership by local, state and federal law enforcement at the crime scenes and command posts, there is a gap with information sharing at a higher level while there are still opportunities to intervene in the planning of these terrorist events. I speak specifically about the Joint Terrorism Task Forces (JTTF).

The Boston Police Department has four members assigned to the JTTF in Boston. All have the appropriate security clearances and many of the Task Force Members have served in that capacity for a number of years. Information sharing with local law enforcement task force members need to be improved. The current MOU for JTTFs around the country needs to be amended to mandate immediate sharing of terror information that poses a threat to our cities.

In the aftermath of the Marathon bombings, the FBI improved information sharing. This sharing needs to continue and be consistent across all JTTFs. I urge you to review the current language of the JTTF MOU, its restrictions and suggested changes to the language and practices that members of the Major Cities Chiefs Association believe need to be addressed. This revision is critical as we all work to prevent further violent extremist attacks in this country.

Another challenge that occurred immediately after the explosions was the overload to cell phone service. They were rendered completely useless as a means of communication at the scene. The capacity of the cell phone companies was overrun by the general public usage, forcing first responders to rely exclusively on radios. Based on this experience, satellite phone technology is not effective for indoor command posts and communication across multiple bodies as they do not have the capacity to effectively function. I want to reiterate that law enforcement needs secure radio bandwidth in a public safety spectrum dedicated exclusively to public safety use now, as it is the only way to communicate during an event of this magnitude.

September 11, 2001 forever changed the way we do business. We need to be constantly vigilant and informed on emerging violent extremist threats. The worldwide exchange of information in law enforcement on terrorist threats and activities must continue. My experience with authorities from London, Northern Ireland, Israel and Jordan was critical to an understanding of what was happening on April 15, 2013. These international learning and training experiences need to be a fully integrated part of our preparedness.

In closing, on behalf of the Boston Police Department, I want to thank all of our law enforcement partners, State and City of Boston agencies, our outstanding medical teams, runners, spectators, Boston Athletic Association Volunteers, business owners and our Boston and neighboring community citizens for the outpouring of support that continues today. I would be remiss if I did not mention that the OneFund for the victims and families, established by Mayor Thomas Menino and Governor Deval Patrick is now at 61 million dollars and being distributed among victims.

I want to give special thanks to Mayor Menino and Governor Patrick for their support and deployment of the necessary resources that allowed us to do our jobs. Finally, I once again want to mention the names of those tragically lost at such young ages: Martin Richard, Lingzi Lu, Krystle Campbell and Officer Sean Collier.

This tragic series of events set in motion by two violent extremists intent on destruction has changed us, emboldened us, strengthened us, better trained us, bonded us – I am proud to be a small part of this impressive team that is Boston. Thank you

Arthur L. Kellermann[a]
The RAND Corporation

What Should We Learn From Boston?[b]

Before the Committee on Homeland Security and Governmental Affairs
United States Senate

July 10, 2013

Chairman Carper, Ranking Member Coburn, and distinguished Members of the Committee, thank you for inviting me here today. My name is Dr. Art Kellermann. I am an emergency physician, and hold the Paul O'Neill–Alcoa Chair in Policy Analysis at the RAND Corporation, an independent, non-partisan research organization dedicated to objective analysis.

I appreciate the opportunity to appear before you to discuss the lessons our nation should draw from Boston's response to the marathon bombings. I have more than 25 years' of clinical experience as an academic emergency physician in Seattle, Memphis and Atlanta, where I was part of Grady Memorial Hospital's ER team the night of the Olympic Park Bombing. My remarks will also cover key findings from recent RAND research.

I'm sure you've heard the adage, "It's better to be lucky than good." Boston's responders were both lucky and good.[1] That's why so many victims survived.

At least 6 factors worked to the rescuer's favor:

1. The bombers targeted a major event where large numbers of police, security, and EMS personnel were pre-deployed. This dramatically shortened response times.
2. Because it was race day —and a state holiday —the city's streets weren't choked with traffic. Hospitals were operating at slightly less than maximal capacity.
3. The attack happened shortly before 3pm, hospitals' change of shift. This meant that double the normal complement of health care providers were on-site at every facility.
4. The bombs exploded in the heart of a city that is home to seven trauma centers and several world-class hospitals. Because Boston EMS took care to evenly distribute the casualties, each trauma center received a manageable number of victims.

---

[a] The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of RAND or any of the sponsors of its research. This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.
[b] This testimony is available for free download at http://www.rand.org/pubs/testimonies/CT395.html.

5. The 2 relatively low-yield bombs exploded out-of-doors. Typically, closed-space bombings are more severe, because surrounding walls concentrate blast waves.[2] Lack of structural collapse facilitated the rapid extrication of victims.
6. Lessons learned by our military healthcare providers in Iraq and Afghanistan have started percolating through the US trauma care community – EMS and hospital.

But luck was only part of the reason the death rate was so low; Boston was also good.

Bystanders played a big role in the initial response. Rather than flee the scene, runners tore off their shirts and used them as tourniquets or applied direct pressure to bleeding. Bystanders pulled barriers aside to create access for emergency vehicles, while those with medical training began triaging victims. These courageous civilians were the true "first responders."

Years before the incident, Boston's EMS, Fire and police personnel mapped out how they would handle a terrorist bombing. A few years before the Marathon bombings occurred, more than 700 of the City's prehospital and hospital-based responders learned the basics of blast-injury care at a city-wide "Tales of Our Cities" anti-terrorism conference hosted by (then) Boston EMS director Rich Serino and sponsored by the CDC.[3] Speakers from Madrid, London, Mumbai and other global cities that have been targets of terrorism described how their incident unfolded, how they managed the response, and what they'd do differently.[4] Immediately after the conference, Boston's officials huddled together to weave what they'd learned into the city's plan.

Boston's hospitals did a great job because they *prepared* to do a great job. Every hospital that received casualties had a well-crafted disaster plan that had been exercised prior to the event. Experience has shown, time and again, that a framework of pre-considered action is necessary to ensure a well-organized response. Boston's healthcare providers reacted swiftly because they knew what they were supposed to do. That's how disaster plans work.

These observations lead to my most important point:

We cannot assume, based on Boston's performance, that other U.S. cities are prepared to manage an event of similar or substantially greater magnitude. The fact that Boston's responders were lucky and good doesn't mean that the next city will be equally lucky *or* equally good.

As the horror of September 11, 2001 fades into memory, grant funds for DHS and HHS to strengthen preparedness are dropping and the attention of many local officials and business

leaders has moved elsewhere. Emergency managers and public safety agencies remain focused on the mission, but some hospitals have lapsed into thinking that disaster preparedness is a costly distraction from daily business.

The evidence is all around us:

- Across the country but especially in big hospitals and academic medical centers, emergency departments (EDs) are packed with seriously ill and injured patients who belong in an ICU or hospital ward, but are stuck in the ED because no inpatient beds are available. Every day, hundreds of inbound ambulances are diverted from overcrowded EDs and told to go elsewhere.[5] Despite substantial evidence that ED crowding harms patients and degrades disaster preparedness, many administrators turn a blind eye.[6] If you had told me when I joined the first national task force to tackle this problem *more than 20 years ago* that it would be worse today, I would not have believed you. But here we are.

- For many years, preparedness made the annual list of "top ten" issues facing healthcare executives. No longer.[7] Many hospitals regard disaster drills as a burden they must perform twice a year to satisfy the Joint Commission. This is understandable, because drills cost money, take time, and pull hospital leadership away from other endeavors. To minimize the disruption such drills might otherwise cause, they are typically scheduled well in advance, widely publicized to staff, and held at a time of day –often mid-morning near the end of the week - when the drill will have minimal impact on operations. While such drills are better than nothing, they aren't run in a manner calculated to identify potential weaknesses so they can be corrected before the real thing happens.[8]

- Hospitals are supposed to serve as community bulwarks during a disaster and focal points for recovery. They shouldn't become part of the disaster themselves.[9] But seven years after New Orleans' Charity Hospital had to be evacuated when its backup generator drowned in the hospital's basement; two of New York City's most vital hospitals were disabled when storm surge from Hurricane Sandy submerged critical backup power components in <u>their</u> basements. In Rockaway Park, Queens, a 200-bed nursing home was disabled when storm surge swept inside its first floor and destroyed its backup generator. After more than 24 hours of misery, ambulances arrived to evacuate the facility's nearly 200 medically fragile patients.

- Hospital administrators juggle many competing priorities, but few are as important as ensuring that your facility will remain functional during a disaster. This requires a systematic assessment of its security, seismic integrity, vulnerability to flooding and storm damage, fire

safety, backup power and other essential considerations. This cannot be ignored. A hospital can muddle along with a short-handed staff and limited supplies for days, but it cannot function without power. Unfortunately, when the time comes to rank capital improvements or approach a wealthy donor, a backup generator rarely makes the list.[10]

- Some hospitals don't even respond to requests from state and federal authorities. More than 2 years ago, FEMA, HHS and California state officials asked 200 Southern California hospitals to provide information about their ability to survive a catastrophic earthquake along the southern San Andreas Fault. The hospitals were asked, for example, how many backup generators they have, how much fuel the generators burn, and whether their water tanks are designed to survive an earthquake of the scale predicted along one of our nation's most dangerous faults. Last January, the *Los Angeles Daily News* reported that nearly half of the hospitals FEMA and HHS contacted have not complied with their request.[11]

This is not where the American people expected us to be after more than a decade of taxpayer investments.

Your letter asked that I address how the federal government's various research and grant programs be better tailored to strengthen emergency preparedness and response. I will first address research, then grant programs:

Research

In 2011-12, RAND conducted a first-ever inventory of non-classified national health security–related research funded by civilian agencies of the federal government.[12] We found that studies on biological threats and bioterrorism dominate the U.S. government's portfolio of health security research. Of the 1,593 research projects we identified, more than one thousand (66 percent) addressed biological threats. Fewer than 10 percent focused on natural disasters such as earthquakes, hurricanes, tornadoes, or floods. Only 4 percent addressed explosives, the method of attack in Boston and the most widely used tool of terrorists around the world.[13] One reason the federal portfolio is so skewed is that a number of these agencies are working on similar things. Currently, there's no simple way agencies can determine who is funding what, or how the hundreds of studies different agencies are funding each year are adding to our collective knowledge. My team had to manually review each currently-funded study and compile a spreadsheet to conduct our analysis.

We urgently need to develop a more coordinated approach, so we can quickly get answers to important questions. For example, "What are the most effective strategies for managing and allocating scarce resources in a large mass casualty event?" Last year, RAND published the results of an Agency for Healthcare Research and Quality (AHRQ)-sponsored systematic review of the best available evidence on this question.[14] With the exception of research on field triage systems, which don't perform particularly well, we determined that the number of high-quality studies on any particular strategy is insufficient to either endorse or reject it. That's not the answer our first responders and hospital providers need to save more lives.

Better measurement tools would help. Earlier this year, in a cover letter to a report on challenges in measuring awardee performance in meeting medical and public health preparedness goals, the GAO noted: "The 2011 and 2012 tornadoes in the Midwest, Hurricanes Sandy in 2012 and Katrina in 2005, the 2009 H1N1 influenza pandemic, and other emergencies have raised concerns about communities' and states' abilities to plan, prepare for, and respond to public health threats, whether naturally occurring or man-made. *Of particular concern are questions about the ability of health care systems to "surge"--that is, to have the staff and resources in place to adequately care for increased numbers of affected individuals or individuals with unusual or highly specialized needs.*[15]

With the support of the HHS Office of Assistant Secretary for Preparedness and Response (ASPR), RAND recently developed the prototype for a simple but effective hospital "stress test." It is designed to assess either a single facility or health care coalition's capability to handle a large surge of patients from a sudden, unexpected MCE such as a major terrorist bombing. It also evaluates how swiftly and completely hospitals perform a series of key actions during the first 90 minutes of a major event. Unlike current disaster drills, it is designed to be conducted on a *no-notice* basis. Much as a bank "stress test" evaluates a financial institution's strength without disrupting its operations; RAND's exercise evaluates healthcare institutions without hindering patient care. To date, we've run the new exercise in a handful of the nation's top trauma centers and gotten great feedback. Even highly experienced staff said that the no-notice format was far more challenging, and generated more useful insights, than more costly but scripted drills. Capability measurements like this are needed; not to "catch" underperforming hospitals or communities but to improve everyone's game.

Grants

Since 9/11, the federal government has invested billions to enhance the preparedness of state and local responders. Have these grants made a measurable difference? The answer is clearly "yes."

For example, RAND has twice evaluated the Cities Readiness Program; a CDC initiative to prepare cities to distribute medical countermeasures following a bioterrorism attack.[16,17] Funding provided through this initiative helped communities develop disaster plans, train response personnel to follow those plans, develop protocols and policies to recruit volunteers to supplement trained responders during disasters, and acquire equipment and material required to respond.

Initial efforts to bolster health preparedness in the aftermath of 9/11 and the Anthrax attacks were largely focused on bioterrorism. In hindsight, perhaps they were too focused. Biological threats are certainly important, but America faces other threats as well, as events in New Orleans, Joplin, New York, Boston, West, Moore and other cities have so tragically demonstrated. In the past few years, federal agencies have broadened their efforts and emphasized the need for flexibility. Evidence can be found in the Department of Homeland Security's Quadrennial Homeland Security Review,[18] the Department of Health and Human Services' National Health Security Strategy,[19] and a CDC monograph entitled, "In a Moment's Notice: Surge Capacity for Terrorist Bombings."[20]

Grant monitoring remains a challenge. Until now, the federal government's monitoring effort has focused more on structure (facilities, equipment and supplies) and process (i.e., the number and type of people hired, trainings held) than on desired *outcomes* – the capabilities local and state governments must have to successfully manage a disaster or terrorist attack. To cite an example from the world of public health preparedness, it's one thing to ask that a grantee document that it has established and staffed a 24-hour, dedicated phone line that healthcare workers can call to report potential biological threats. It's quite another to independently determine if the line gets answered, how long it takes someone to respond, and whether or not the guidance makes sense.[21] As any baseball fan knows, a team can have great facilities, a talented roster, and still lose lots of games. Capacity is helpful, but it's far more important to have a demonstrated *capability* to win when a game is on the line.

Some question whether or not FEMA's grant programs are employing adequate measures to assess grantee activities and performance.[22] Others object to FEMA's proposed consolidation of

its preparedness grant programs.[23] Regardless of whether FEMA's current approach to grants is altered or retained, the agency faces a difficult task of identifying a manageable number of straightforward standards, focusing less on the process of grant management and more on achieving desired *capabilities* and *outcomes*.

RAND has not studied FEMA's grant programs, or assessed the approach it takes to monitoring grantee performance. Thus, I cannot directly address the impact of FEMA's grant programs. We have, however, worked closely with two agencies of the Department of Health and Human Services for more than a decade on issues related to public health preparedness. One of the key lessons we've learned is the need to develop and maintain a set of valid and reliable performance measures that can be used to track progress made, identify areas for improvement, and assist in the development of appropriate accountability systems. In some areas significant progress has been made in developing performance measures and implementing them consistently over time. For example:

- the Cities Readiness Initiative program developed the Technical Assistance Review tool to provide a basis for tracking progress over time and across states and metro areas, and
- CDC's PHEP Cooperative Agreement program developed a standard set of measures that have appeared in several recent national reports on preparedness.

But progress has been slowed by a number of factors that we've seen since the early days of our work. First, "preparedness" often looks different in different communities and scenarios. Where there has been good progress it has been through building measures around core "building blocks" that are common across communities and scenarios.

Second, measuring preparedness often requires a fair amount of effort on the part of the communities providing the data. Thus, where measurement has worked in the past it has often involved getting state/local stakeholders buy-in. Identifying good measures is the relatively easy part; setting up systems for collecting data over time is the tougher -- and more time consuming -- part.

As result, progress in developing good measures has been spotty, with few measures reaching a level of maturity required for supporting accountability decisions. The good news is that we have learned some important lessons about creating useful, sustainable measurement systems that could be applied more broadly.

1. Recommendations to strengthen preparedness research

At the end of our 2012 study of preparedness research,[12] we offered a few ideas to improve the process. They include recommendations to: a) employ a risk-based approach to priority setting; b) enhance coordination by forming an interagency working group; c) implement a simple process to categorize and track current and future preparedness research projects so officials can easily determine which agency is funding what and quickly disseminate key findings. Engaging practitioners in priority setting would help hasten the translation of research to the front lines, and shorten the feedback loop to the research community. Because disaster research is not amenable to randomized controlled trials, we need to be more open-minded about encouraging alternate approaches so we can learn from real-world events. Developing a standardized, searchable format for "after-action" reports would be a great place to start.[24] Instead of settling for "good enough," we need to constantly strive for "better." Steps like these, along with an ongoing commitment to preparedness research, will go a long way towards producing the evidence we need to strengthen public safety and protect the health security of the United States.

2. Recommendations to strengthen grant-making

Going forward, grant-making should be more focused on results. Our homeland security communities are bright, dedicated and effective. Why not specify the desired capabilities and outcomes, and let them determine the best way to get there?[25,26] The analogy in medicine is monitoring every test or therapy a doctor orders rather than outcomes he or she achieves. After decades of spinning our wheels, we're finally moving that way in healthcare. Let's not wait several decades to do the same in emergency preparedness. Following the proper process, passing multiple audits and filling out every form correctly provides no comfort to those who lose their homes, go days or weeks without power, or find themselves separated from their loved ones in a disaster. DHS and FEMA have made an encouraging start on measuring outcomes with such programs as HSEEP (Homeland Security Exercise and Evaluation Program),[27] but the effort is still in its nascent stages.

Healthcare preparedness must be strengthened as well. The best way to do this is to build a strong foundation on efficient daily operations.[4] There are strategies hospitals can implement today, such as smoothing elective surgery schedules and employing capacity management tools to optimize hospital operations, that will make a difference. Steps like these not only enhance efficiency and get admitted patients out of the ED, they strengthen a hospital's capability to respond to a disaster. HHS' Hospital Preparedness Program is tasked with enhancing capabilities but the $347 million it is allocated cannot, by itself, reorient a $2.8-trillion-per-year health care

industry to embrace preparedness: the economics don't work. But if America's hospitals can be persuaded to voluntarily weave preparedness into their daily routine, they'll become more efficient, more productive and be better prepared.

The only way a hospital can confirm its preparedness is to test it. Administrators can't assume that their staff will "rise to the occasion." Military officers teach that "You don't rise to the occasion; you fall to the level of your training." Observations gleaned from realistic drills, "stress tests," and small-scale events such as a multi-casualty trauma response can be used to assess various aspects of a facility's disaster plan. Gaps in performance should be addressed in a collaborative process, involving front-line staff and representatives of local public safety and emergency management agencies. Functional assessments of this sort should be expected of any FEMA or HHS grantee.

3. Recommendations to strengthen partnerships

Hospitals and healthcare organizations must be more willing to partner with FEMA. After all, a hospital can't respond to a disaster if it doesn't survive it in sufficient shape to function. As a condition for accreditation, The Joint Commission requires that hospitals conduct a hazard assessment and take steps to mitigate any threats. A useful tool worth considering is the Pan American Health Organization's Hospital Safety Index.[28] Additionally, we might consider making the periodic performance of rigorous threat assessments—and the reporting of findings and corrective action to FEMA and HHS as well as relevant local and state agencies—a condition for participation in the Medicare program. It should also be a condition for the continuation of any preparedness grant.

FEMA and the emergency management community must also be more open to work with public health and healthcare at every level from local to national. There are important health dimensions to nearly ever domain on FEMA's core capabilities list.[29] Although it is likely that HHS' health preparedness capabilities and FEMA's core capabilities are better aligned than most people realize, comparable alignment of the agencies' grant-making and performance metrics would help everyone.

Finally, both FEMA and HHS should sit down with the staff of the National Center for Disaster Medicine and Public Health and non-governmental experts from several disciplines to establish core competencies for health professional training in disaster medicine and public health, then use these competencies to foster a national curriculum and create the core architecture for a national disaster health system. We did it for EMS without violating the concept of federalism; we

can do it here as well. This would ensure that everyone shares a common language, basic doctrine, essential skills and goals. For the sake of our citizens, these worlds should be brought together.

Reflecting on Boston's success, it's not enough to enumerate what went well; we must understand why. As Professor Peleg and I noted in our recently published essay[1] about the Boston Marathon Bombings, the Red Sox got some lucky breaks during the 2007 World Series, but their victory was largely due to preparation, teamwork, and execution. The same was true when Boston's citizens, first-responders, healthcare providers and hospitals delivered on April 15, 2013. They learned from the experiences of Madrid, London and Mumbai.[4] We must learn from Boston.

References

[1] Kellermann AL, Peleg K. Lessons from Boston. N Engl J Med 2013; 368:1956-1957. DOI: 10.1056/NEJMp1305304.

[2] Golan R, Soffer D, Givon A. The ins and outs of terrorist bus explosions: injury profiles of on-board explosions versus explosions occurring adjacent to a bus. Injury. 2013 March 11 (Epub ahead of print).

[3] Smith JF. Doctors share expertise on handling terror attacks. The Boston Globe. June 15, 2009 http://www.boston.com/news/world/worldly_boston/2009/06/doctors_share_expertise_on_han.html accessed July 4, 2013.

[4] Hunt R, Askenazi I, Falk H. A Tale of Cities. Disaster Med Public Health Prep. 2011 Sep;5 Suppl 2:S185-8. doi: 10.1001/dmp.2011.62

[5] Institute of Medicine Committee on the Future of Emergency Care in the U.S. Health System. Hospital Based Emergency Care: At the Breaking Point. Washington D.C. The National Academies Press. 2007.

[6] Kellermann AL. Waiting Room Medicine: Has It Really Come to This? Ann Emerg Med. 2010;56(5):468-471.

[7] American College of Healthcare Executives Announces Top Issues Confronting Hospitals: 2012. http://www.ache.org/Pubs/Releases/2013/Top-Issues-Confronting-Hospitals-2012.cfm accessed July 4, 2013.

[8] Peleg K, Kellermann AL. Enhancing hospital surge capacity for mass casualty events. JAMA. 2009;302(5):565-567.

[9] Pan American Health Organization. Safe Hospitals General Information. http://new.paho.org/disasters/index.php?option=com_content&task=blogcategory&id=1026&Itemid=911%20 accessed July 4, 2013.

[10] Kellermann A. "Generation Ex" The RAND Blog. http://www.rand.org/blog/2012/11/generation-ex.html accessed July 4, 2013.

[11] Schoch D. Many Southern California hospitals rebuff government over disaster plans. Los Angeles Daily News. Posted: 01/12/2013 at http://www.dailynews.com/ci_22363223/many-socal-hospitals-rebuff-government-over-disaster-plans?IADID=Search-www.dailynews.com-www.dailynews.com accessed July 4, 2013.

[12] Shelton S, Connor K, Usher-Pines L, Pillemer FM, Kellermann AL. Bioterrorism And Biological Threats Dominate Federal Health Security Research; Other Priorities Get Scant Attention. Health Affairs. DOI: 10.1377/hlthaff.2012.0311 HEALTH AFFAIRS 31, NO. 12 (2012: 2755–2763

[13] Shelton S. "Far More U.S. Health Security Research Effort Aimed at Bioterrorism than Natural Disasters" The RAND Blog.

[14] Allocation of Scarce Resources During Mass Casualty Events. June 2012. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/research/findings/evidence-based-reports/er207-abstract.html accessed July 4, 2013.

[15] Government Accountability Office. National Preparedness: Improvements Needed for Measuring Awardee Performance in Meeting Medical and Public Health Preparedness Goals. GAO-13-278, Mar 22, 2013.

[16] Willis H, Nelson C, Shelton S et al. Are Communities Ready to Conduct Rapid and Large-Scale Dispensing of Medications During a Public Health Emergency? Santa Monica, RAND Corporation. 2009. http://www.rand.org/pubs/research_briefs/RB9434.html accessed July 5, 2013.

[17] Nelson C, Parker A, Shelton S, et al. Analysis of the Cities Readiness Initiative. Santa Monica, CA. RAND Corporation. 2012. TR-1200-CDC. http://www.rand.org/pubs/technical_reports/TR1200.html accessed July 5, 2013.

[18] Quadrennial Homeland Security Review. Washington, DC, U.S. Department of Homeland Security. 2010. http://www.dhs.gov/xlibrary/assets/qhsr_report.pdf accessed July 4, 2013.

[19] The National Health Security Strategy of the United States of America. Washington, DC. U.S. Department of Health and Human Services. 2009. http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Pages/default.aspx accessed July 4, 2013

[20] National Center for Injury Prevention and Control. In a Moment's Notice. Surge Capacity for Terrorist Bombings. Atlanta (GA): Centers for Disease Control and Prevention; 2007 http://www.bt.cdc.gov/masscasualties/surgecapacity.asp accessed July 4, 2013.

[21] Dausey DJ, Lurie N, Diamond A. Public Health Response to Urgent Case Reports. Health Affairs. 2005; August 30, 2005; 10.1377/hlthaff.w5.412

[22] Coburn T. Safety at Any Price: Assessing the Impact of Homeland Security Spending in U.S. Cities. Washington, DC. December, 2012.

[23] NATIONAL PREPAREDNESS: FEMA Has Made Progress, but Additional Steps Are Needed to Improve Grant Management and Assess Capabilities Washington, DC. Government Accountability Office. GAO-13-637T, Jun 25, 2013. http://www.gao.gov/products/GAO-13-637T

[24] Nelson C, E Beckjord, D Dausey, et al. How Can We Strengthen the Evidence Base for Public Health Emergency Preparedness? Disaster Medicine and Public Health Preparedness. 2008;2(4): 1-4.

[25] Jackson B, McKay S. Preparedness Exercises 2.0: Alternative Approaches to Exercise Design That Could Make Them More Useful for Evaluating — and Strengthening — Preparedness. Santa Monica, CA. RAND Corp. http://www.rand.org/pubs/external_publications/EP201100128.html accessed July 7, 2013.

[26] Jackson BA, Faith KS, Willis H. Are We Prepared? Using Reliability Analysis to Evaluate Emergency Response Systems. Santa Monica, CA. RAND Corp. http://www.rand.org/pubs/external_publications/EP201100141.html accessed July 7, 2013.

[27] FEMS Homeland Security Evaluation and Exercise Program: HSEEP. https://hseep.dhs.gov/pages/1001_HSEEP10.aspx accessed July 8, 2013.

[28] Pan American Health Association. The Hospital Safety Index. http://www.paho.org/disasters/index.php?option=com_content&task=view&id=964&Itemid=911 accessed July 4, 2013.

[29] Core Capabilities List. http://www.fema.gov/core-capabilities accessed July 5, 2013.

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Lessons from Boston

Arthur L. Kellermann, M.D., M.P.H., and Kobi Peleg, Ph.D., M.P.H.

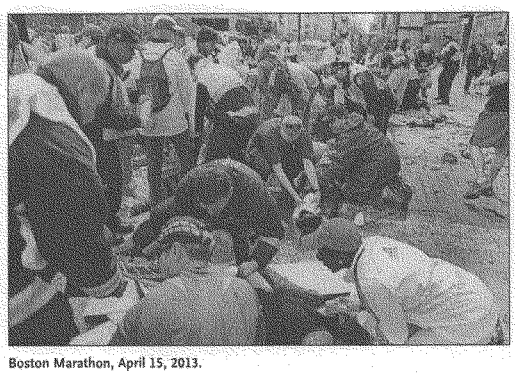
At 2:50 p.m. on April 15, nearly 3 hours after the first runner completed the Boston Marathon, two blasts ripped through the crowd that was gathered along the approach to the finish line, killing 3 people and injuring more than 260. Within moments, the crowd's initial panic was replaced by purposeful action, as bystanders ran to, rather than from, the horror to help the injured. Law-enforcement and emergency medical services (EMS) personnel swiftly converged on the scene. Within minutes, ambulances began transporting the most critically injured to nearby hospitals.

Once victims reached Boston's hospitals, the story continued in the same vein. Noted Harvard surgeon and author Atul Gawande described how quickly they arrived and how "everything happened too fast for any ritualized [disaster] plan to accommodate."[1] Praise for Boston's rapid and effective response is richly deserved. Clearly, lives were saved. But before memories fade, we should analyze the event for the lessons it offers. Although a formal after-action report will take time, enough is known for us to offer some initial observations.

First, the remarkably low mortality rate of the attack — 1% — was attributable in part to excellent care and in part to six factors that favored the rescuers:

- The bombing occurred at a major event where large numbers of police, security, and EMS personnel were already deployed.
- Because it was race day — indeed, a state holiday — it is likely that the city's operating rooms and other clinical services were running at less than full capacity.
- The attack happened shortly before the 3 p.m. change of shift at area hospitals. As a result, a full complement of administrative staff and two shifts of health care providers were on site at each facility.
- The bombs were detonated in a city that is home to seven trauma centers and multiple world-class hospitals (see map in the Supplementary Appendix, available with the full text of this article at NEJM.org). Boston EMS personnel wisely distributed casualties among the area's trauma centers, so each one received a manageable number.

- The bombers detonated their relatively low-yield devices out-of-doors. A bombing inside a closed space (e.g., a building, bus, or train) produces more primary blast injuries (e.g., blast lung) and fatalities, because surrounding walls concentrate blast waves.[2] The absence of structural collapse facilitated the swift extrication of victims.
- Although most health care providers in the United States have never treated a bombing victim, lessons learned by military surgeons, emergency physicians, and nurses in Iraq and Afghanistan are progressively percolating through the trauma care community. Moreover, hundreds of Boston's prehospital and hospital-based responders had already learned the basics of blast-injury care and the operational challenges their city could face. In 2009, Rich Serino, then Boston's EMS chief and now deputy administrator of the Federal Emergency Management Agency, hosted the first citywide "Tale of Our Cities" conference in Boston, at which doctors from India, Spain, Israel, Britain, and Pakistan who had managed the consequences of terrorist attacks explained the nature of the blast injuries they treated, the triage systems they used, and other lessons responders can use to save lives. More than 750 locals attended.[3]



Boston Marathon, April 15, 2013.

Second, photographs taken shortly after the bombings vividly depict the vital role bystanders play in the initial response to mass-casualty incidents (see photo). Instead of fleeing the scene, runners tore off their shirts and either used them as tourniquets or applied direct pressure to control bleeding. Other bystanders pulled racecourse barriers aside to facilitate access to the victims and their rapid extrication to area trauma centers. Bystanders and runners with medical training started triaging victims. These courageous civilians were the true first responders.

Third, the seemingly spontaneous actions Gawande describes didn't happen by chance. The goal of a well-crafted disaster plan is to provide a framework for preconsidered action. Experience has shown that such a framework is necessary to ensure a well-coordinated response to a sudden mass-casualty event. Boston's health care providers reacted the way they did because they knew what they were supposed to do. Those who did not were smart enough to follow the lead of those who did. That's how a "ritualized" disaster plan works.

What is not clear is whether other U.S. cities, if faced with a challenge of similar magnitude, would have done as well. In contrast to Israel, a country that has ample experience with terrorist bombings, too many U.S. hospitals treat disaster preparedness as an afterthought. We would be wise to emulate Israel's doctrine, which emphasizes the importance of national coordination, standard operating procedures, constant attention to surge capacity, the avoidance of emergency-department overcrowding, the distribution of casualties according to type and severity, and the frequent conducting of rigorous drills.[4] Because Boston followed many of these principles, it mounted an effective response. Our goal must be to ensure that every U.S. city can do the same.[5]

Finally, Boston's response illustrates the value of adopting a broad-based approach to disaster preparedness. In the early years after 9/11 and the anthrax attacks that followed, federal preparedness efforts were too narrowly focused on bioterrorism and weapons of mass destruction. More recently, agencies have embraced a more flexible, all-hazards approach, as exemplified by the National Health Security Strategy first published by the Department of Health and Human Services (DHHS) in 2009,[5] the De-

partment of Homeland Security's Quadrennial Homeland Security Review published in 2010, and a monograph from the Centers for Disease Control and Prevention entitled "In a Moment's Notice: Surge Capacity for Terrorist Bombings" (released 2007, updated 2010).

The best way hospitals can prepare is to base their response on a strong foundation of daily health care delivery.[4] The $347 million in federal funding allocated to the DHHS's National Healthcare Preparedness Program cannot, by itself, transform our $2.8-trillion-per-year health care industry; the economics don't work. Therefore, it is vital that hospitals weave the threads of preparedness into their daily routine.

As we reflect on Boston's response, it's not enough to enumerate what went well; we must understand why. Otherwise, some citizens and health care professionals may erroneously conclude that it doesn't matter if emergency departments are crowded and if disaster plans and rigorous drills are lacking, because their hospital's medical staff will simply "rise to the occasion." That's a risky bet. The Red Sox benefitted from some lucky breaks in the 2007 World Series, but their victory was largely due to preparation, teamwork, and execution. The same was true when the city of Boston was attacked on April 15. The rest of us should take that lesson to heart.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the RAND Corporation, Arlington, VA (A.L.K.); and the National Center for Trauma and Emergency Medicine Research, Disaster Medicine Department, Tel Aviv University, Tel Aviv, Israel (K.P.).

This article was published on April 24, 2013, at NEJM.org.

1. Gawande A. Why Boston's hospitals were ready. The New Yorker. April 17, 2013 (http://www.newyorker.com/online/blogs/newsdesk/2013/04/why-bostons-hospitals-were-ready.html?mobify=0).
2. Golan R, Soffer D, Givon A. The ins and outs of terrorist bus explosions: injury profiles of on-board explosions versus explosions occurring adjacent to a bus. Injury 2013 March 11 (Epub ahead of print).
3. Smith JF. Doctors share expertise on handling terror attacks. The Boston Globe. June 15, 2009 (http://www.boston.com/news/world/worldly_boston/2009/06/doctors_share_expertise_on_han.html).
4. Peleg K, Kellermann AL. Enhancing hospital surge capacity for mass casualty events. JAMA 2009;302:565-7.
5. The National Health Security Strategy of the United States of America. Washington, DC: Department of Health and Human Services, 2012 (http://www.phe.gov/Preparedness/planning/authority/nhss/ip/Documents/nhss-ip.pdf).

DOI: 10.1056/NEJMp1305304
Copyright © 2013 Massachusetts Medical Society.

Post-Hearing Questions for the Record
Submitted to Hon. Richard Serino
From Senator Tom Coburn

"Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack"
July 10, 2013

Question#:	1
Topic:	THIRAs
Hearing:	Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack
Primary:	The Honorable Tom A. Coburn
Committee:	HOMELAND SECURITY (SENATE)

Question: In your statement, you mentioned that Boston completed a Threat and Hazard Identification and Risk Assessment (THIRA) in 2012. Our review of the Boston and Massachusetts THIRAs shows that they are very different documents.

Given the differences in the THIRAs, are both of equal utility, in light of FEMA's objectives for improving performance measurement under the preparedness grant programs?

Will FEMA require that states and urban areas use their THIRAs to determine which specific projects to fund? If so, when?

Response: FEMA will require all investments to address capability gaps identified through the THIRA/capability estimation process in FY 2014.

FEMA's philosophy is that States and local jurisdictions are best positioned to assess their own risks, and to allocate funding—both grant funds and local funds. To support the localities and states in assessing risks, FEMA released a consistent methodology for identifying and assessing risks through its 2012 *Comprehensive Preparedness Guide 201: Threat and Hazard Identification and Risk Assessment (THIRA)*. All states, territories, and Urban Areas Security Initiative (UASI) sites were required to develop a THIRA by December 2012 as a condition of the Homeland Security Grant Program (HSGP) and the Emergency Management Performance Grant Program (EMPG) awards. While each grantee's THIRA used the same methodology described in *CPG 201*, every THIRA is unique to the jurisdiction. Boston's 2012 THIRA, for example, identified multiple explosive attacks during July 4th festivities as a concern, a threat specific to its metropolitan community. Massachusetts' THIRA, on the other hand, identified risks

Question#:	1
Topic:	THIRAs
Hearing:	Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack
Primary:	The Honorable Tom A. Coburn
Committee:	HOMELAND SECURITY (SENATE)

across the state as a whole. Each is of equal utility and provides targets for measuring progress toward improving preparedness.

Again in 2013, UASIs, states, and territories are required to complete a THIRA as a condition of the Homeland Security Grant Program and Emergency Management Performance Grant Program awards. In addition, in 2013, tribal nations are required to complete a THIRA as a condition of the Tribal Homeland Security Grant Program award. All of the jurisdictions required to complete a THIRA will continue to use the methodology outlined in *CPG 201*. However, THIRA reporting will be done in a more consistent manner. FEMA has created a FY 2013 Unified THIRA/State Preparedness Report (SPR)/National Incident Management System (NIMS) Reporting Tool by which all grantees will submit their THIRA, SPR, and responses to NIMS compliance questions. The Unified THIRA/SPR/NIMS Reporting Tool follows the step-by-step THIRA process outlined in *CPG 201* and provides formatting consistency between THIRAs at all levels.

Grantees use the THIRA process to assess their own risks and establish specific capability targets. Through the annual SPR, grantees identify their current ability to meet the targets established in their THIRA. The capability gaps identified in the SPR are then addressed through grant applications in investment justifications. In the investment justifications, grantees must demonstrate how proposed projects address gaps, shortfalls, and deficiencies in one or more core capabilities outlined in the Goal and reported on in the SPR, or how projects are sustaining core capabilities.

Question#:	2
Topic:	federal aid
Hearing:	Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack
Primary:	The Honorable Tom A. Coburn
Committee:	HOMELAND SECURITY (SENATE)

Question: A Massachusetts Emergency Management Official was quoted in the Boston Globe as saying that FEMA is "still figuring out what actions will and won't qualify" for federal aid.

Is there any lack of clarity on FEMA's part about what costs are eligible under the emergency declaration?

Response: Under an emergency declaration, the Public Assistance Grant Program is authorized under the Robert T. Stafford Act to reimburse eligible applicants for eligible work performed under (Category B) Emergency Protective Measures. Emergency Protective Measures are actions taken by a community before, during, and after a disaster to save lives, protect public health, and safety, and prevent damage to improved public and private property.

Examples of emergency protective measures are:

- Warning of risk or hazards
- Search and Rescue
- Security Forces (police and guards) in the disaster area
- Construction of temporary levees
- Provision of shelter and emergency mass care
- Provision of emergency medical care
- Sandbagging
- Bracing/shoring up damaged structures
- Provision of food, water, ice and other essential needs at distribution points for use by the local population
- Emergency repairs
- Emergency demolition
- Removal of health and safety threats
- Cost effective measure by a state or local government to prevent damage to a public or private facility, or by an eligible PNP organization to prevent damage to eligible facilities for which it is responsible

In general, Eligible Work is based on the following minimum criteria:

Question#:	2
Topic:	federal aid
Hearing:	Lessons Learned from the Boston Marathon Bombings: Preparing for and Responding to the Attack
Primary:	The Honorable Tom A. Coburn
Committee:	HOMELAND SECURITY (SENATE)

- It must be required as a direct result of the declared major disaster or emergency
- It must be within the designated disaster area
- It must be the legal responsibility of an eligible applicant

Not all costs incurred by an eligible applicant are eligible for public assistance funding. Generally, eligible costs are costs that can be directly tied to the performance of eligible work. They must be:

- Reasonable and necessary to accomplish the eligible work
- Compliant with Federal, State, Tribal, and local requirements for competitive procurement
- Reduced by all applicable credits, such as anticipated insurance proceeds and salvage values

The eligible cost criteria apply to all direct costs, including labor, materials, equipment, and contracts awarded for the performance of eligible work.

Question: What is the current estimate of federal funds that will be provided under the declaration?

Response: The current estimate of eligible project costs under the Public Assistance program is $11,438,750 for EM-3362, Massachusetts Explosions.

Post-Hearing Questions for the Record
Submitted to Kurt N. Schwartz
From Senator Tom Coburn

"Lessons Learned from the Boston Marathon Bombings:
Preparing for and Responding to the Attack"
July 10, 2013

1) According to the Department of Homeland Security, the Commonwealth Fusion Center (CFC) is the primary fusion center, which means that it should be prioritized in receiving federal grant funding.

   Response: As is explained more fully below, the Commonwealth Fusion Center, which is the state's primary fusion center, is funded primarily with state appropriated funds. Indeed, the Commonwealth Fusion Center receives more than $3,000,000 in state funds on an annual basis. Accordingly, examining the amount of federal grant funds awarded to the Fusion Center does not provide a fair or complete picture of the extent of state support for the center.

   a. Between the CFC and the Boston Regional Intelligence Center (BRIC), which one receives a larger share of FEMA preparedness grant funding and why?

      The Boston Regional Intelligence Center (BRIC) receives a larger share of FEMA preparedness grant funding because it is funded through the USAI program, which has a larger pool of federal funding to allocate than the State Homeland Security Grant Program (SHSGP), which funds the CFC. In FY10, the state was allocated $15.5 million and the Boston UASI received $18.9 million. In FY11 the state received $7.8 million through SHSGP and the UASI received $18.9 million, and in FY12 the state was allocated $4.1 million through SHSGP and the UASI received $10.8 million. Additionally, because 80% of SHSGP funds awarded to the state must be granted to local entities, the funding available to the Fusion Center through SHSGP is substantially less than federal funds available to the BRIC through the UASI grant program.

      The Commonwealth Fusion Center was created as an all crimes intelligence center. The Massachusetts State Police is committed to this concept and has invested state operating funds to build the Fusion Center's capabilities. The majority of the State Police officers, intelligence analysts and support staff assigned to the Fusion Center are paid from the state budget. As is noted above, state appropriated dollars dedicated to the Fusion Center are substantially greater than federal grant funded dollars. The federal grant funding awarded to the Fusion Center has been used to purchase equipment and computer based solutions for multi-agency, multi-disciplinary information sharing and data analysis. This funding has also been used to build a Critical Infrastructure program, which is embedded in the Fusion Center and staffed with Massachusetts State Police personnel.

b. In July 2010, the Commonwealth Fusion Center provided information indicating that the criminal intelligence and information sharing components of the fusion center received no federal grant money between 2007-2009. Is this information accurate, and if so, why was this the case?

The data accurately illustrates that in 2007-2009, the Fusion Center did not receive homeland security grant funds for information sharing initiatives. However, the Critical Infrastructure Program within the Fusion Center received $1.5 million in grant funds. The Fusion Center invested in information sharing capabilities using state funding.

2) According to data you provided, the majority of preparedness grant funding is put towards equipment and planning. At the hearing, you talked about the importance of training and exercises, yet significantly smaller percentages of grant funding are spent on these activities.

a. How do you determine the right balance in terms of the activities towards which grant funding is utilized?

Each year the Commonwealth conducts an assessment process with its homeland security enterprise stakeholders. This process includes regular meetings between the Executive Office of Public Safety and Security (the State Administrative Agent "SAA") and the State Homeland Security Advisory Council and the Chairs of the Regional Homeland Security Councils. Additionally, local, regional, and state representatives convene to complete the State Preparedness Report and the Threat Hazard Identification Risk Assessment (THIRA). These meetings provide opportunities to assess and discuss the current state of the Commonwealth's capabilities, identify gaps in capabilities, and prioritize future preparedness projects and grant spending. The Commonwealth also reviews after action reports for real world events and exercises funded by homeland security grants to help identify areas that need improvement. The information obtained throughout these meetings and reports are the basis for our annual investment justifications submitted to FEMA as part of the state application process.

The Regional Homeland Security Councils, responsible for implementing the local and regional homeland security projects, are required to submit annual plans that outline their priorities per grant year. The Commonwealth will continue to work with the State Homeland Security Advisory Council, Regional Homeland Security Councils, the UASI, and local and state agency stakeholders to help identify gaps and needs.

b. Why is a larger percentage of grant funding spent on equipment and planning versus training and exercises?

Trainings and exercises are an important component of our broad and diverse homeland security enterprise in the Commonwealth. Other components also require substantial funding. While our enterprise has matured significantly over the years, it still requires a substantial annual investment in equipment and planning, and we continue to invest in creating new capabilities while sustaining existing capabilities that were built in whole or in part with homeland security funding.

On an annual basis, investment justifications and spending priorities are developed with substantial input from local, regional and state homeland security stakeholders and with regard to existing threats and hazards and capability gaps. The percentage of funding that is invested in trainings and exercises is determined annually and reflects priorities across the spectrum of our state homeland security enterprise.

Simply looking at grant dollars spent on training does not tell the full story because it does not accurately quantify or reflect the state's collective investment, from all sources, in training and exercises. As discussed at the hearing, training and exercises are invaluable to preparedness efforts; they build and maintain necessary tactical and operational skills and afford opportunities to build and enhance important relationships. In Massachusetts, training programs are funded through many sources, including local and state appropriated dollars. Additionally, first responders who attend grant funded training programs often are on regular shifts and being paid with local and state dollars. Grants often only cover backfill/overtime costs for the participants. And in some cases these overtime/personnel costs are simply absorbed by the state or local entity sending participants. Therefore, the expenditures are not captured in the fiscal data collected by the Executive Office of Public Safety and Security.

Many state agencies, including the Massachusetts State Police, Massachusetts Police Training Council, Massachusetts Emergency Management Agency, and Massachusetts Department of Fire Services, have internal, state funded academies and training units, and these agencies hold a variety of state sponsored trainings on a regular basis for local, regional, and state first responders.

c. What metrics are you using to determine the effectiveness of grant expenditures in each of these categories?

The Commonwealth continues to work with FEMA to determine the best way to quantify effectiveness. Additionally, the Commonwealth requires after action reports for all grant-funded exercises, and after action reports are conducted for all major disasters and large pre-planned events, including the Boston Marathon bombings. These after action reports examine the implementation of grant-supported capabilities and identify gaps in capabilities. And, as is noted above, the SAA engages in regular discussions and meetings with local, regional and state homeland security stakeholders. These discussions/meetings provide a forum for discussing, monitoring and assessing the effectiveness of grant spending. Additionally, the process of completing an annual State

Preparedness Report and the relatively new process of annually conducting or updating the state THIRA provides a basis for assessing effectiveness.

3) According to your data, about $1.3 million of 2008 grant funds were spent on an IED planning contract with a company called Global Inc.

   a. What was the outcome and deliverables related to this effort?

   These grant funds were expended as part of a three state multi-year FEMA Regional Catastrophic Planning Grant. The funds were used to retain the services of a contractor. The contractor provided several deliverables including:

   - *A Regional Catastrophic Coordination Plan (RCCP), which created a concept of coordination for the Regional Catastrophic Planning Area (MA, NH, RI) in a catastrophic incident, defined a catastrophic incident, and provided triggers for activation of the Plan; all other hazard/functional frameworks/plans are annexes to RCCP;*
   - *Regional Coordination protocols for each functional area;*
   - *Comparative analysis of and improvements made to Emergency Operations Plans within MA, NH, RI, Boston, and Providence;*
   - *A Regional IED Annex that outlines how MA, NH, RI would coordinate in an IED incident that greatly exceeds the capabilities of the affected jurisdictions and requires response resources from the entire Region;*
   - *A Regional IED Risk Assessment and jurisdiction specific IED risk assessments for MA, NH, RI, Boston and Providence;*
   - *A Regional IED Capability Assessment;*
   - *An exercise to validate the Regional Catastrophic Coordination Plan and Annexes.*

   b. What role did the outcomes from this effort play in the response to the marathon bombings?

   The Regional Catastrophic Coordination Plan (RCCP) was not activated during the response to the Marathon Bombing because the incident involved only two IED's in the same general area and requests for IED response resources were fulfilled with local, regional and state equipment and personnel without having to activate the RCCP and out-of-state resources. However, the project provided an opportunity for local, state, regional, and federal stakeholders throughout Massachusetts, New Hampshire, and Rhode Island to collaborate and develop the IED Annex. During the project these stakeholders were able to share information regarding risk, current capabilities and available resources. The meetings, interviews, and workshops that occurred throughout the planning process also provided value by providing opportunities to build stronger relationships between stakeholders and first responders throughout Massachusetts, New Hampshire, and Rhode Island. As noted in the hearing, the strong relationships

across disciplines and jurisdictions expedited collaborative problem-solving in the response effort.

4) At the hearing, you indicated that expenditures using grant funding from 2010 are being paid out presently, and as a result were not captured in the data you provided in advance of the hearing. Please provide data on expenditures using 2010 preparedness grant funding.

   Please see attached. The attached spreadsheet illustrates, by federal grant type, the amount of FY10 funds that have been spent and invoiced as of August 7, 2013. This amount increases on daily basis as our Homeland Security Grants Division continues to process payment requests. We expect that all of the FY10 funds will be expended by the grant expiration date (March 30, 2014).

5) Commissioner Davis testified that there were no unmet needs with regard to equipment that was needed in the response to the bombings. Will future expenditures of preparedness grant funds for equipment purchases be more limited than in the past, taking his statement into account?

   It is my understanding that Commissioner Davis was speaking only for the Boston Police Department and from a high level executive perspective and with regard to just the law enforcement discipline.

   The multi-disciplinary, cross agency after action process for the Boston Marathon bombings has just begun and it is our expectation that this will provide a systematic, comprehensive examination of the response including overall preparedness and coordination and use of capabilities. The results will be used to identify areas that are in need of investment to either sustain or build important preparedness capabilities.

   It is important to remember that our state homeland security enterprise is an all-hazard enterprise. Even if the Marathon after action concludes that there were no significant equipment gaps in this particular response, it will not mean that there are not significant equipment needs elsewhere in the Commonwealth as we look at the potential for other types of disasters, including natural disasters, which involve other disciplines or areas of the state.

6) In your statement, you said that "interoperability was a success story." According to the DHS Undersecretary of the National Protection and Programs Directorate, Suzanne Spaulding, problems still arose in sharing large data packages, like the videos of the suspects, during the response. The Boston Fire Department also indicated that there were problems with the public safety 800 MHz network being overloaded as all channels were used to report from the two blast cites. Likewise, the after action report from the 2012 Urban Shield exercise cited problems with interoperable communications.

a. Had the problems that occurred during Urban Shield with interoperable communications been resolved at the time the marathon bombings occurred?

Many of the issues identified in Urban Shield were resolved. However, there were some that were in the process of being addressed when the Marathon attack occurred. For example, it was evident from Urban Shield that there was a need to quickly assimilate non-regional users in the overall communication architecture. In response, changes were made to the Channel Plan Infrastructure to allow for streamlined net assimilation. This was completed and successfully utilized during the Marathon attacks. Urban Shield also illustrated the need to create a Regional Field Operating Guide (FOG) to shield against perishable field communication skills. This FOG was in the final stages of approval at the time of the attacks. As a result of lessons learned from the bombing, a change was made to the FOG. The final product is scheduled for delivery to the region by mid-August.

b. Does your statement that interoperability was a success take into account the problems that still occurred, as reported by DHS and by the Boston Fire Department?

My statement regarding interoperability was intended to describe the success of radio/voice communications during the response to the Marathon bombings. Issues are being addressed with respect to data and cell service.

The state's investments in interoperability, to date, have been focused on building a system of linked public safety radio systems that allow for continual critical voice communications during a critical incident, emergency or disaster anywhere in the state. During the response to the Marathon bombings, first responders from federal, state, and local agencies were able to communicate, despite the cell service failure, in part because of our collective investments in communications systems, building and connecting communication infrastructure, and comprehensive communication planning.

Data interoperability has not yet enjoyed the successes of voice interoperability. But, the Commonwealth believes that the FirstNet system that Congress has mandated will provide a solution to data interoperability. The Commonwealth, through the Executive Office of Public Safety and Security, is developing plans and implementation strategies as part of FirstNet to address these data sharing issues.

It is my understanding that the Boston Fire Department statement concerning the Marathon identified a training issue within the Department as opposed to a capability gap of the 800 MHz state radio system. The City of Boston is not a primary user of the 800 MHz system. Indeed, during the response to the bombings, fire dispatchers and fire services personnel mainly relied on the department's UHF system. However, some users attempted to use the state 800 MHz system and encountered difficulties due to their relative unfamiliarity with the system. These issues will be resolved through training programs. To my knowledge, the state's primary users of the 800 MHz radio system, including the Massachusetts State Police, the Massachusetts Emergency Management

Agency, the National Guard, the Massachusetts Environmental Police, and the Department of Corrections did not experience any system issues during the respone to the bombings.

c. What is the total amount of grant funding that has been spent on interoperable communications to date?

Throughout the Commonwealth and including the Public Safety Interoperable Communication (PSIC) grant program from the Department of Commerce, approximately $130 million has been spent since 2004.

d. What is the end state you are hoping to achieve in this area, in terms of measurable outcomes, and how much additional funding is required to achieve that end state?

The Commonwealth strives to achieve operable and interoperable communication throughout the state. Our Statewide Interoperability Executive Committee (SIEC) and the Statewide Interoperable Coordinator (SWIC) have worked with the DHS to update the Commonwealth's 5-year Strategic Interoperable Communications Plan (SCIP), and to outline multi-year goals to build, sustain, and enhance interoperable communications. The Commonwealth is also in the initial stages of planning with FirstNet. This planning initiative will help outline future needs to achieve voice and data interoperability.

FFY 2010 MA Federal Homeland Security Spending as of 8/7/13

Funding	Awarded	Program Funds Spent	State M&A Spent	Total Spent
HSGP	$ 35,713,314.00	$ 14,799,027.41	$ 430,594.33	$ 15,229,621.74
UASI	$ 18,933,980.00	$ 6,648,056.36	$ 227,448.82	$ 6,875,505.18
Local	$ 15,147,184.00	$ 3,974,007.67		
State	$ 3,786,796.00	$ 2,674,048.69		
SHSP	$ 15,575,715.00	$ 7,550,829.68	$ 203,145.51	$ 7,753,975.19
Local	$ 12,460,572.00	$ 5,729,875.28		
State	$ 3,115,143.00	$ 1,820,954.40		
CCP	$ 251,362.00	$ 136,373.94	$ -	$ 136,373.94
MMRS	$ 952,257.00	$ 463,767.43	$ -	$ 463,767.43
EMPG	$ 6,640,453.00	$ 6,074,367.56	$ -	$ 6,074,367.56
BZPP	$ 1,900,000.00	$ 1,123,015.00	$ 54,738.66	$ 1,177,753.66
PSGP	$ 2,367,917.00	$ 2,237,761.24	$ 22,810.40	$ 2,260,571.64
RCPGP	$ 3,570,000.00	$ 10,758.23	$ 70,205.60	$ 80,963.83
IECGP	$ 1,117,500.00	$ 318,865.40	$ 48,652.33	$ 367,517.73
TOTAL	$ 47,739,184.00			$ 22,930,224.52

Response of Commissioner Edward F. Davis, Boston Police Department
To Post-Hearing Questions for the Record
Submitted by Senator Tom Coburn

"Lessons Learned from the Boston Marathon Bombings:
Preparing for and Responding to the Attack"

Submitted: August 16, 2013

1) When Senate staff visited Boston and met with the Director of the Boston Regional Intelligence Center, he stated that he had problems with staff turnover.

a. Have these problems affected the BRIC's ability to carry out its mission?

No. BRIC has been able to carry out its mission despite staff turnover issues as well as reductions in staffing due to decreased funding. The nature of grant funded positions creates uncertainty for these employees regarding long term career advancement. In addition, existing pay scales and grant limitations on compensation make it difficult to compete with federal agencies and private companies for long term retention of talent. Despite these challenges, BRIC has been able to attract and retain highly skilled analytic personnel.

b. What actions have been taken by the City of Boston to help mitigate this problem?

The City of Boston has assisted the BRIC with staff turnover, most notably by adding BRIC positions to the operating budget when grant funds expired. In addition, BPD leadership works closely with the BRIC's Director to identify new funding opportunities to support the BRIC's analytic requirements. Regarding City commitment, recently when the ARRA Stimulus Grant of 2009 ran out, the City of Boston was able to pick up the four grant-funded positions by adding them to the Boston Police Department's payroll. These four employees staff the Real Time Crime Center, which played a vital role in supporting first responders and the overall security response during the Marathon Bombings, the follow-up security operations, and ultimately the events that unfolded leading to the apprehension of the Tsarnaev brothers.

c. How many contract intelligence analysts work at the BRIC, versus how many sworn officers?

The BRIC currently has 10 "contract" analysts, and 20 sworn personnel, however this is not a complete accounting of staffing levels. In total, the BRIC currently has 45 full-time and 6 part-time personnel. This breaks down as follows:

- ***20 Sworn Personnel***

- *19 (BPD Funded)*
- *1 (Massachusetts State Police Funded)*

- *31 Civilian Personnel*
  - *1 Director (BPD Funded)*
  - *1 Admin (BPD Funded)*
  - *9 Crime/Intel Analysts (BPD Funded)*
  - *3 Crime/Intel Analysts (MA Dept. of Probation Funded)*
  - *2 Intel/Medical Analysts (Boston Emergency Medical Services Funded)*
  - *6 Crime/Intel Analysts (DHS HSGP Funded*)*
  - *4 Info Technology Analysts (DHS HSGP Funded*)*
  - *3 Crime/Intel Analysts (DOJ Grant Funded)*
  - *1 DHS I&A Intelligence Officer*
  - *1 FBI Intel Analyst*

    ** considered "contract" analysts*

2) You have indicated through testimony that information sharing with the Federal Bureau of Investigation (FBI) has improved since the attacks. Please provide specific examples of how and why this is the case.

As examples of improved information sharing between the FBI and the BRIC/BPD since the Marathon attacks, please note the following:

- ***After the bombings the FBI provided classified briefings to members of the JTTF and law enforcement department liaisons assigned to the FBI command post relative to the ongoing investigation. These briefings continued throughout the timeframe leading up to the suspect apprehensions, and continued for some time afterwards.***
- ***Following the apprehension of the Tsarnaev brothers, BRIC/BPD leadership participated in weekly Secure Video Teleconferences (SVTCs) led by FBI Headquarters personnel related to the investigation. Additionally, BRIC analysts and detectives were invited to work full time with the FBI on the investigative task force focused on the attacks; currently, the BRIC/BPD has detailed a detective and one detective supervisor.***
- ***To assist with the planning and security of the July 4th Celebrations in Boston, the FBI partnered with the BRIC and the Commonwealth Fusion Center to conduct a review of Guardian leads (open and closed) to assess potential threats to the Celebrations. This is the first time that a BRIC analyst was granted access to Guardian, and was also the first time that the FBI had opened Guardian for open collaboration and lead review. Approximately 4000 Guardian leads were reviewed, which lead to the further assessment of leads at***

the request of local law enforcement, and ultimately collaboration amongst local, state and federal law enforcement to proactively investigate leads and implement precautionary security mitigation efforts in light of the July 4th events.

- ***During the July 4th events, the FBI hosted an investigative command center in collaboration with local, state and federal law enforcement in a multi-agency operation to support surveillance and counter surveillance activities, lead generation and review, and intelligence analysis and information sharing as part of the overall security operation of the events. This, too, was a first of its kind.***

3) At this time, my office understands that Tamerlan and Dzhokhar Tsarnaev had encounters with the Brookline, Cambridge and Arlington police departments in 2009 and 2012, respectively.

a. Has the Boston Police Department identified any other law enforcement encounters with the suspects?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

b. Is the Boston Police Department aware that the suspects are possibly listed on the Drug Enforcement Agency's (DEA) National Drug Pointer Index (NDPIX)? If so, when and how did you become aware of this information?

DEA Intelligence was communicated to me well after the bombings. I cannot comment further.

4) It has been widely reported that surveillance footage along and near the Boston Marathon finish line was a critical tool that allowed law enforcement to identify the suspects.

a. How quickly after the bombings did the Boston Police Department request and receive the surveillance footage that led to the identification of the suspects?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

b. How did the Boston Police Department confirm the names of the suspects?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

c. When did you first view images of the suspects? After viewing these images what actions were taken by the Boston Police Department?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

d. The bombings occurred on Monday and the images of the suspects were made public on Thursday night (April 18th)—What was the biggest hindrance to identifying the suspects?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

e. What information can you provide on the source of the Ruger pistol cited in the indictment of Dzhokhar?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

f. How many total firearms belonging to the Tsarnaevs were recovered by law enforcement?

Due to the active law enforcement investigation and pending prosecution I am unable at this time to comment.

5) The lockdown of the greater Boston area included school closures, closure of public Transportation, and notices for residents to remain in their homes. Ultimately, Dzhokhar was apprehended outside of the 20-block grid in Watertown. You have made public your concern of infringing upon civil liberties and the "police state", do you believe the door to door search was warranted?

POINT OF CLARIFICATION: Dzhokhar was <u>apprehended inside the 20-block grid</u> in Watertown, not outside as stated in the question.

Yes, we do believe this was warranted. The suspects and their actions presented a tremendous risk to public safety. We had an extremely dangerous terrorist loose on the streets in Watertown. He used pipe bombs, weapons of mass destruction, and firearms to inflict death and serious bodily injury on innocent civilians and police

officers. The lockdown was necessary for resident safety and police operational needs. The lockdown allowed police units to methodically search each street, yard, and home, if warranted, to make residents safe. We did not proceed into people's homes unless we had facts that created reasonable suspicion, (open doors, footsteps, calls, etc.). Police units carried on their duties with the utmost respect to people's liberties. Frightened residents also invited the police to search their homes; they offered us their facilities and food. Given the outcome, the searches proved not only to be necessary but very much welcomed by residents and ultimately led to Dzhokhar's capture.