Tale of Our Cities

A collaboration between the U.S. Department of Health & Human Services, the Centers for Disease Control and Prevention, and the Harvard School of Public Health

Terrorist Bombings Directed Against Civilians

Saving Lives & Building Resilience

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Key Concepts

The Threat is Tangible. The probability of a terrorist use of explosives, including that by home-grown perpetrators, is high enough to warrant serious attention, action, and preparation both by governmental and non-governmental organizations, including business and non-profit/philanthropic community organizations.

International Experience is Relevant. While the U.S. has limited experience with terrorist bombings, many other nations do and there are lessons that can be generalized and shared despite the differences in government, health care, public health, and emergency response systems.

Terrorist Bombings are Distinct. Terrorists tend to choose crowded, enclosed spaces creating distinct injury patterns. These blasts are designed for maximum impact on the general public and the media. There is an increased frequency of secondary blasts directed at first responders and hospitals. They also result in four distinct events: mass casualty, mass fatality, mass worried well, and mass onlooker. Each requires different response measure.

Bystanders are Critical to the Response. The general public will often be the first on the scene followed by the emergency responders. The public should be informed and educated about threats and what to do in the aftermath of an attack.

Saving Lives and Resilience are the Goals. No prevention system is 100% fail-safe. People should be readied and systems should be designed and tested for their ability to save lives and then resume normal functioning after a terrorist attack.

Background & Purpose

The Tale of Our Cities meeting held in Washington, DC on April 12 – 13, 2010 was the fourth in a series designed to bring together representatives from cities that have experienced terrorist attacks with representatives from geographies that have had limited real-life experience in that regard. The goal of the series to build knowledge and share best practices. The desired outcomes are:

- A greater understanding of the likely aftermath of a mass casualty event among those who have responsibility for preparedness and response so that they can make the best decisions beforehand regarding policy, planning, practice protocols, and resource allocation;
- Connectivity between professionals so that knowledge and experience sharing will be an on-going endeavor. Terrorist networks are global; so too must the networks of the professionals charged with preparedness and response;
- An understanding of the importance of leadership – broadly dispersed and exercised throughout the preparedness and response community – to the advancement of evidence-based planning, policy, and practice.

The meeting convened officials from federal, state, and local agencies, non-governmental agencies, and the private sector (see Appendix A) as well as representatives from Israel, Spain, and the United Kingdom. Experts from these international locations are generously wiling to share their lessons learned, mistakes, and best practices with peers in the United States.

Dr. Leonard Marcus of the Harvard School of Public Health opened the meeting with an overview of the importance of international experience dealing with mass casualty events and thanking Dr. Richard Hunt of the CDC for his initiative in creating this program and working for its continued evolution.

“We have not had much experience with mass casualty events resulting from terrorist attacks in the U.S.,” Marcus said. “Credit goes to the intelligence community but this lack of experience is also a weakness. We must prepare now and learn the lessons captured by our international counterparts.”

"We are in this as a world. We can save lives and build resilience."
Dr. Richard Hunt

"Decrease injuries and their effects – that's the mission," said Dr. Richard Hunt, Director, Division of Injury Response, National Center for Injury Prevention & Control, Centers for Disease Control & Prevention.

A Call to Action

Address by John Brennan, Assistant to the President and Deputy National Security Adviser for Homeland Security and Counterterrorism, The White House

John Brennan took time away from the President's Nuclear Security Summit to express his gratitude and that of President Obama to those attending the Tale of Our Cities event. He reiterated both the reality of the threat and the importance of drawing on the experience of international experts. Noting that he has worked on preparedness for two decades and collaborated with international partners he said, "Sharing lessons learned is near and dear to my heart…collective effort demonstrates what we can learn and what we can do with that learning."

"President Obama's highest priority is keeping the nation safe," he said. "We must pursue terrorists, work with international partners, disrupt finances – do whatever it takes." He noted that because the United States has been successful at prevention, the nation does not have a lot of experience responding to bombings. There is, however, extensive experience with improvised explosive devices (IEDs) as they have caused 60% of the combat casualties in the wars in Iraq and Afghanistan.

Brennan also noted that civilians are usually the initial first responders after an attack. This was a theme that was later echoed in other presentations. Potential destruction is an enduring threat to innocent civilians and officials must give citizens accurate information and guidance for preparedness, risk reduction, and response.

"We must optimize our systems," Brennan continued. However, knitting together the resources sounds nice on paper but it is difficult in reality. There is a need for "systems engineering capability and prowess." He said that the National Security Council tries to anticipate as many scenarios as possible and make sure that the system is flexible enough to respond to as many of those scenarios. The White House wants to go to capabilities-based planning (rather than scenario-based planning) so that the nation can better respond to unexpected events. The White House wants more versatile and robust response capabilities for multiple threats: "The greater the flexibility, the more effective we will be," he said.

"We are pursuing an all-of-nation preparedness agenda," he said. "We are engaging state and local agencies to inform the process and ensure that they have what they need to respond." He said, however, that the Federal government can only do so much: they don't want to be perceived as the "big bad Fed" imposing a "solution."

"The greater the flexibility, the more effective we will be."
John Brennan

Brennan concluded by saying that he was tired of terrorism being used for partisan purposes by either party. "We need to be able to demonstrate strength in the face of adversity," he emphasized. "We have to say 'we are up to the task.'" It takes a village and the more that we can stand up as a world community, the more we will deter as well as respond. "We will be able to go upstream and prevent terrorism," he said.

The Legislative Perspective

Representative Bennie Thompson, Chairman of the Homeland Security Committee in the U.S. House of Representatives, addressed the group to discuss the role of legislators in preparedness and response. He noted that the Homeland Security Committee was created after 9/11 and started out as a select committee, which no one wanted to be on because it involved a lot of work but no formal jurisdiction. He said that they now have jurisdiction but they share it with the Judiciary Committee, Energy & Commerce Committee, and others so there is no single committee that handles all of the issues. There are five different agencies with pieces of the puzzles and oversight is handled by 86 sub-committees – too many in the Congressman's view – and that complicates coordination.

The Committee's perspective has evolved as well. It was initially left it to states and localities to identify potential targets to guide resource allocation. The list they came up with, however, didn't truly reflect the threat. The Committee had to apply uniform criteria to narrow down the list. It took a while for people like him, from rural America, to understand that rural areas were not the most likely targets for terrorism and it was important to allocate resources based on risk.

He noted that despite the general rancor in Washington, the committee is cooperative and collaborative. "We are focused on a shared desired outcome," he said. "We know that the terrorists don't

care if you are Republican or Democrat, Catholic or Jewish, or black or white and we know that we have to work together to get things done."

Later in the meeting, Asha George from Representative Thompson's professional staff, gave participants a look inside the legislative process. "It's hard to understand Congress from the outside," she said. She noted that it was noteworthy from a Congressional perspective to see who was sponsoring this event, who was speaking, who was invited to attend including the engagement from John Brennan on down.

She noted that Homeland Security committees and sub-committees are the ones prioritizing these topics and their members are the ones finding importance in speaking at meetings like this. There is a jurisdictional issue that complicates legislative work on this issue however: homeland security committees don't have jurisdiction over the health system and the issues being discussed at this meeting involved both homeland security and the health system.

Coming out of a meeting such as this, members and their staffs have to take the recommendations and think strategically and politically. They ask themselves, "Can we do anything?" How much political capital will it take?" She said that there are a lot of competing priorities and those priorities all have some (and sometimes a lot) of validity. There is always the issue of the champion, she said. "If you don't have a champion inside the Congressional machinery, it will go nowhere. We're getting close to the point where someone is going to come forward. Keep having these meetings."

The Goal of Resilience

Saving lives is always critical in response. Another important goal is resilience. The quality of the response and recovery to an event is a predictor and reflection of the resilience in the location of the event as well as to national resilience, insofar as the nation and the world will be watching. If the public does not believe that appropriate actions were taken to save lives before and during the event, resilience will be reduced. Resilience can be measured in how long and to what degree the public is able and willing to resume pre-event activities, to include riding public transportation or attending large public gatherings.

Building resiliency into the community should encompass anything that builds capacity for the community to be able to absorb trauma, said Dr. Alexander Garza, assistant secretary for health affairs and chief medical officer of the Department of Homeland Security. He wondered whether the U.S. could select a city to become a model for resilience from which others could then learn.

Resilience also means dealing with loss. Professor Isaac Ashkenazi, Director of the Urban Terrorist Preparedness Project of the National Preparedness Leadership Initiative, a joint program of the Harvard School of Public Health and Harvard's Kennedy School of Government, said that in response, "perfect is the enemy of good." Responders, policy makers, and the public have to be willing to expect some losses. You have to solve what you can, he said.

However there was not consensus around the idea of acceptable losses. Some participants felt there was no such thing while others felt that it was as natural as accepting tens of thousand of deaths from auto crashes each year as the cost of near-universal access to automobile travel. Rear Admiral Ann Knebel, Deputy Director of Preparedness & Planning at the Department of Health & Human Services stressed that decision making around this must be transparent and that there must be sensitivity to language that will be accepted by the general public.

Recommended action: *Develop and implement on-the-ground activities to save lives and build social cohesion, a prerequisite of resilience, at the community level. Regard proper preparation and response as a predictor and reflection of resilience.*

The Importance of Leadership

Mounting proper preparation for and response to a bomb blast attack requires coordinated work and connectivity across government agencies, among different levels of government, and between government, NGOs. and the private sector. Building that connectivity is a leadership challenge, and its practice is embedded in the strategies and methods of meta-leadership.

Recommended action: Support leadership programs that research and provide instruction in best practices for addressing the preparation for and response to mass casualty bomb blast injury events.

Understanding the Enemy

Dr. Ashkenazi, one of the world's foremost experts in urban terrorism, led a discussion of the distinct outlook and goals of terrorists. "Understand the threat. Know your enemy," he said. They choose "soft"

targets such as transportation systems where there will be large numbers of civilians and highly visible after-blast chaos. They prefer closed spaces because they magnify the impact of the blast. Their ultimate aim is to convince civilians that their government is unable to protect them. Their ultimate audience is the media because of their ability to amplify the psychological impact of the attack. They are expert in how to mobilize the media.

For many years, Askenazi led a team whose mission was to assist in response, save lives, and gather on-site experience with terrorism. Israel shares this knowledge freely because it views international cooperation as critical.

"Terrorists look for your vulnerability and will exploit it. They are not nice.
They will not do you any favors."
Dr. Isaac Ashkenazi

Ashkenazi said that there are four components of terrorism: 1) It is pre-meditated – dormant cells cannot be launched in an instant; 2) It involves repeated violence against the innocent; 3) It is a psychological tool for leveraging their small numbers against a larger foe (<1000 Al Qaeda members intimidate 300M Americans); and 4) It is asymmetric. The asymmetric warfare component is well-documented but the asymmetric values are less understood: terrorists use human shields and have shown themselves willing to deploy suicide bombers.

The pattern of Al Qaeda and related groups has been multiple, thematic (e.g. involving mass transit), near-simultaneous explosions. Dr. Ervigio Corral, Director-General of SAMUR-Proteccion Civil, one of the two ambulance services in Madrid, Spain, said that one of the lessons they learned in the 2004 bombings was that multiple bombings like Madrid experienced must be handled globally, not as separate events.

The Challenges of a Mass Casualty Event Resulting from a Terrorist Bombing

While a possible nuclear attack garners significant attention, a conventional attack is far more likely. Dr. Hunt related that he and his colleagues had surveyed more than 50 emergency response courses and found that bomb blast injuries were rarely covered and not covered in great depth where they did appear. However civilian bomb blast injuries have specific characteristics and require specific clinical protocols. While the U.S. military has gained extensive experience with IEDs, terrorist bombings are significantly different: battlefield explosions tend to happen in the open air and are directed at warriors with protective armor while terrorists prefer closed areas with large civilian crowds.

Injury Patterns

The key variable in the criticality of injuries is the bomb blast wave and its containment in a closed space. The bombings in Madrid in 2004 showed that there were distinct injury patterns based on whether the train car doors were open or closed and there were more fatalities in cars with closed doors; the bombings in London in 2005 showed that explosions on trains in single tunnels caused injuries far worse and more fatalities than those that occurred in double tunnels. Treatment had to be customized accordingly and it was important for care givers to know the location and context of the injury. Based on this knowledge of the amplification of blasts in confined spaces, buses in Israel have been equipped with windows that blow out during an explosion, an innovation that significantly reduces the severity of injuries and number of fatalities.

Recommended action: *Require DHS Science and Technology Directorate to investigate innovations that could be adopted to reduce loss of life on public transit vehicles.*

Flow of Patients

There is a significant difference between a mass casualty accident, such as a multi-vehicle highway collision, and terrorist use of explosives. In the former, the incident is for the most part over once the vehicles come to a stop. In a terrorist attack, international experience shows that there is significant danger of a secondary event. This could be somewhere else on a similar type of target, whether an aircraft or train, against first responders who arrive at the scene, or at a hospital where victims, responders, and the media gather. For example, unexploded devices were found at two of the four sites in the 2004 bombings in Madrid. Therefore, a distinct set of operational assumptions and actions must be incorporated when there is suspicion or confirmation that the event is the result of terrorism.

Recommended action: *Implement guidance developed by the CDC for optimizing the flow of patients after a terrorist attack.*

The Distribution of Victims

The hospital closest to the event is likely to receive a large wave of "walking wounded" – those injured who are ambulatory, many with minor injuries – shortly after the event. Up to 50 – 70% of injuries will be self-referred to a hospital. This wave – in Madrid there were 1,800 injured and 191 dead - will overwhelm

hospital staff. At this closest hospital, it is most advantageous for hospital staff to attend to patients with life threatening injuries who arrive in ambulances in a second wave. Therefore, triage and distribution of lightly and moderately wounded to outlying hospitals is the most prudent strategy for saving lives. With few exceptions, such systems of reverse triage (emptying hospitals of patients who do not require hospitalization) and secondary distribution are not in place and are not ready for execution. Systems and mechanisms should be instituted in cities and hospitals that would be in vulnerable locations.

London has created survivor reception centers – private facilities for the walking wounded to help draw the flow of those with minor injuries to appropriate facilities. Chief Superintendent Simon Lewis of New Scotland Yard commented that they needed to put more police resources at these centers as the walking wounded can be witnesses or suspects.

"Hospitals don't always talk well with each other," said Richard Serino, former head of the Boston (Massachusetts) EMS and currently Deputy Administrator for FEMA in the Department of Homeland Security. However in an emergency, inter-hospital efforts must be coordinated. Additionally, while many cities have centralized EMS dispatch centers, few have the equivalent of an air traffic control system that pinpoints the exact location of each vehicle at all times to enable the optimal distribution of resources.

Recommended action: *Implement guidance developed by the CDC for optimizing the distribution of victims after a terrorist attack*

Hospital Security

Terrorists in the Middle East and India have targeted hospitals that would receive victims of explosions elsewhere. There is a danger that this will be repeated in this country. Plans should be in place by law enforcement to control access to roadways leading from the incident to nearby hospitals and to augment hospital security in the aftermath of a terrorist incident. Serino recommended that plans should be in place to rapidly install physical barriers for crowd control at hospitals. The decision for who will be responsible for hospital safety and security – the hospital's security staff, local police, state police, FBI, or some other agency – must be made in advance. Additionally, hospitals must ensure that their staff members have the proper credentials to enable them to get to their facility in the event that a secure perimeter is established.

Recommended action: *Require the FBI to work with local law enforcement and hospital security to encourage connectivity of effort and clarity or roles among agencies responsible for securing sites that are providing victims clinical care.*

Clinical Care

Clinicians in cities that have experienced bomb blast incidents report a unique set injury patterns that require distinct care and attention. Not only will proper medical care save lives and reduce injuries, it will increase the efficiency and effectiveness of medical attention, insofar as clinicians do not over-treat victims when the system is already overwhelmed and under significant stress.

There will also need to be a need to relax standards of care in order to meet the surge in patients. HIPAA standards may also need to be relaxed in order to provide care. Policy makers, care givers, administrators, regulators, and legislators must address these issues in advance of an attack.

Recommended action: *Request the Joint Commission on the Accreditation of Hospitals and Healthcare Organizations to require appropriate training and preparation for clinicians who may be required to care for victims of bomb blast attacks.*

Three Other Simultaneous Events

Dr. Askenazi noted that the mass casualty event rarely occurs without three additional simultaneous events with distinctive characteristics and requirements for preparedness and response. Jihadist terrorists employ a pattern of multiple, simultaneous, and thematic events. In fact, the true multiplicity of an event lies in the scope of post-event activities. A bomb blast event is: 1) A **mass casualty event** with injuries that range from life threatening in smaller numbers and moderate injuries in much larger numbers (covered above); 2) A **mass fatality event**; 3) A **mass worried well event**, to include many people suffering from post-traumatic symptoms and with minor physical injuries; 4) A **mass onlooker event**. Those preparing for and responding to a terrorist attack must be aware of the unique characteristics and requirements of each of these events.

Recommended action: *In planning, training, and strategy, distinguish the unique demands of each of these events and ensure there are resources to appropriately manage each of them.*

The Mass Fatality Event

Along with casualties come fatalities. Just prior to the July 7, 2005 attacks in London, officials there prepared a mobile, temporary morgue facility to accept hundreds of victims from a mass fatality event.

The facility was erected shortly after the attacks. It includes separate spaces to examine and identify remains separately from each of the attack sites to preserve the integrity of evidence, culturally sensitive waiting and counseling areas for families, and a serene and respectful atmosphere for those at the site. So impressed were families with the care and sensitivity of the facility and its staff that they asked that it be named the "Resilience Mortuary."

The 2005 bombings in London provided an opportunity for a "live test" of the new mortuary. While it was far larger than what was needed, Simon Lewis shared that it was a valuable opportunity to gain first-hand experience. "You can't simulate the adrenalin, the passion of a live event in a drill," he said. He advised taking advantage of small and medium-sized actual events to give people experience and the chance to learn lessons – even if it means over-deployment of resources. This must be married with a rigorous after-action review process.

Recommended action: *Policy makers should study the London model and examine its applications to mortuary services and provisions for mass fatality events in the U.S.*

The Mass "Worried Well" Event

In the aftermath of an attack, whether a conventional use of explosives or a chemical, biological, or radiological attack, the worried well – those who think they may have been affected or with minor injuries – can overwhelm a system struggling to treat people with life-threatening injuries. It is important for leaders to systematically attend to this population as well, with information, instructions, and mechanisms to reduce the likelihood that among people assumed to be in this category, there are also people with less apparent though equally dangerous injuries.

Recommended action: *Require the National Institute of Mental Health to issue guidelines in coordination with other agencies in regards to the worried well, to include training of professionals who may be available to assist in the response.*

The Mass Onlooker Event

The experience of international locations is that onlookers can significantly distract those focused on saving lives in the aftermath of an event. These onlookers include the media, political figures, and curiosity seekers. While this factor is always a presence in a mass casualty event, there will be particular strains given concerns of further events and the particular fears and stresses in the aftermath of a terrorist event. See the section on Hospital Security above.

Recommended action: *Preparedness officials should include training for crowd control, guidelines for elected officials, and collaboration with the media to reduce distractions that will cost lives in the immediate aftermath of a mass casualty event.*

The Importance of the General Public

The critical role of the general public in preparedness and response was a theme heard throughout the event. The public assumes three critical roles in regard to bomb blast terrorism: 1) A vigilant public can identify possible threats and alert authorities; 2) Bystanders are the real "first responders" during an event; 3) The public's willingness to resume a normal pattern of life in the aftermath of an event is a key element of overall societal resilience. Steps should be taken to encourage the public to assume these three roles through information, training, recognition and reward. Alert and active publics are found in London, Madrid, and Israel.

The Role of Bystanders

Dr. Hunt called Madrid "an inflection point" as there were more than 2,000 casualties. He pointed out the importance of bystanders to the response: "Look at photos of the Madrid bombings," he implored the audience. "How many uniforms do you see? The public must be prepared because they will be the ones with immediate access to the injured."

Dr. Ashkenazi further emphasized the importance of bystanders. The public are the target of the terrorist so information must be shared with them and officials should use everyday emergencies such as car crashes to build expectations of and experience with the public's role in emergency response. In the immediate aftermath of the recent earthquake in Haiti, Ashkenazi said, "More that 2,000 people were saved by bystanders; fewer than 200 by were saved by professional responders."

The American public has become reluctant to get involved during an event out of concern for subsequent legal implications. Many of these constraints are embedded in state law. California

among other states is leading the charge to provide active bystanders "Good Samaritan" legal protections if they assist victims in the aftermath of an injury producing event.

It was suggested that officials train the bystanders about what to do. For example, "don't go to the emergency room unless you really need it. Dr. Marcus said that if the leader says, "If you don't feel great, go to the hospital…" the hospitals will be overwhelmed. The leader has to say, "Don't go to hospital X,Y, or Z." However, telling people not to get medical care has legal implications. The alternative is to send them clinics or somewhere where they can get be examined with a goal of preventing them from overwhelming the emergency department without preventing them from getting care.

People will do what they are told. Don't tell them to call 911 – it will be overwhelmed (the London Casualty Bureau received 100,000 calls after the 7/7 bombings in 2005). But they do need a number to call so officials need to have one ready.

Arthur Kellerman, Senior Principal Researcher at the RAND Corporation spoke of other barriers to public involvement. He cautioned against the complacency that can come when the government message is "don't worry, we have it covered" and "magical thinking" that we are protected by oceans. Representative Bennie Thompson echoed this point, "Most citizens think that terrorist bombings happen somewhere else. They happen here, too. Our citizens are targeted," he said.

Recommended action: *All states should be encouraged to adopt similar legal protections for well intentioned citizens*

Involving the Private Sector

Richard Serino emphasized the importance of involving the private sector in preparedness and response as businesses near an incident are part of the pool of bystanders. Drawing on his many years with the Boston, Massachusetts EMS system, he said that the private sector is often overlooked. Their concerns range from getting factual information – was that explosion in the subway a transformer or a bomb? – to wanting to know how they should direct the people in their buildings, whether they will be expected to provide resources, and how they can best help. They need to be part of the team.

Chief Superintendent Simon Lewis of New Scotland Yard said that they regularly train shop owners/managers in the UK. In a day-long program, business people are shown actual footage of a bomb in a shopping area and then discuss what they would do. The idea is to get them ready to respond in the time that it takes the emergency responders to arrive.

Organizing for Response

London has put extensive effort into the organizational structure of its response infrastructure. It began to clarify roles after police and fire found themselves responding to the same calls without coordination. It is now standard that the police coordinate all responses even if they are not the leaders (The fire service, for example, would be the lead agency at a fire but the police would still coordinate the responding agencies). Coordination was expanded to include the ambulance services and, later, local authorities, the military, and utilities. They use a Gold/Silver/Bronze command structure borrowed from the British army. Each agency is allowed one gold individual (strategy), one silver (tactics), and as many bronze (operational as needed).

Preparedness and response for major incidents is coordinated through the London Resilience Partnership, a body that includes government, business, and non-profit entities. Detailed information on these plans is available at www.leslp.gov.uk.

They bring together academics, civil servants, and responders together to craft plans that are practical and realistic. Now every region in the UK has a version of the London plan.

Dr. Corral shared that he had learned that it was crucial that the overall response commander not also be expected to manage an individual site in a multi-site incident. This can happen when an attack is initially perceived as a single bombing but then grows through multiple explosions. The overall commander must have a global view unencumbered by distractions from the details of an individual site. He recommended an independent radio channel to allow for easy communication among those in charge at each incident site to mitigate confusion among responders.

The Federal Role

"The mission is almost overwhelming," said Dr. Alexander Garza. Garza added that all responses are local and that federal agencies have to become integrated. "The federal government can't just come to the rescue," he said.

He noted that health care is delivered by private sources and government has to work with the private sector and understand that they use "just in time" models without idle resources.

Richard Serino of FEMA said that efforts are underway to transform the role of FEMA so that it supports

rather than supplants state and local efforts and coordinates with other federal agencies. "We are part of the team," he said. "We are not the whole team."

Documenting and Disseminating Best Practices

The CDC, in conjunction with the TIIDE Project, has been compiling and documenting lessons learned from bomb blasts around the world and disseminating it to wherever it is needed. Dr. Hunt portrayed them as just-in-time training on precisely what a clinician needs to know. Most recently, the CDC had immediately forwarded information to Russia in the aftermath of the Moscow subway bombings in late March. While each bombing has distinct characteristics, "the pre-hospital challenges are the same as are the hospital challenges," Hunt said. "The dead and injured will overwhelm the nearest hospital no matter what the triage system."

> *"If your plan is not saving lives, change it. If it is not building the resilience of the public, throw it out."*
> Dr. Isaac Ashkenazi

Ashkenazi emphasized keeping manuals concise and practical – otherwise they will not be read. Practice, he said, is far more important. He emphasized the importance of practice and that it should precede writing so that the information will be realistic and tested. Write after you have made mistakes and learned lessons. It is important to use consistent crisis language across agencies and sectors to facilitate communication and understanding.

Lewis noted that there is a difference between "lessons captured" and "lessons learned." That which is written down after an event is captured but only when something is integrated into practice has it truly been learned.

Leadership of the medical community is willing to engage practicing clinicians as well as health care educational and training institutions to disseminate best practices for the aftermath of a bomb blast event.

Recommended action: *Require the CDC and other federal agencies to continue supporting meetings, research, and dissemination of findings that collect and disseminate recommendations regarding bomb blast injuries.*

Other Important Topics

Mistakes are not Failures

There is an understandable reluctance to confront mistakes in the aftermath of an event. There are also considerable advantages in making those mistakes explicit to reduce the likelihood that they will recur. One productive avenue is to pursue through the experiences of international locations that have experience terrorist incidents.

"Honesty has tied all of these discussions together today," said James Robinson, Chief of Operations, Denver Health and Hospital Authority." If we aren't honest, we'll keep fighting these battles over and over again. We need to be able to admit mistakes and learn from them."

Recommended action: *This is more a matter of attitude that an action that can be taken by government. And yet, if government leaders understand this principle, the public is more likely to grasp its meaning and importance. In the early phase of H1N1, the public did not expect perfection – they expected accurate information and instruction.*

It Takes a Village

Several comparisons were made between preparing and educating the public with other public education campaigns such as those to promote seat belt use, and discourage drunk driving, littering, and smoking. In each case, multiple organizations and agencies were involved and results were only seen over time. Representative Thompson noted that it took 25 years to get people to stop littering. Asha George, speaking about the seat belt issue, noted that the Department of Transportation had started the effort but it took state, local, and non-profit groups to effect changes in public behavior. Brent Eastman, Chief Medical Officer at Scripps Health, suggested that we need to begin to think about life flow responsibilities as communities: "We are the EMS system for our neighbors."

Recommended action: *Policy makers should consider "emergency literacy" efforts to improve the public's understanding of what to expect from officials, and what officials expect of them, in emergency situations.*

Key Personnel Involved in Organizing this Meeting

CDC
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Ms. Lisa Garbarino

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Dr. Leonard Marcus
Dr. Barry Dorn
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Supporting Reference Documents

"Bombings: Injury Patterns and Care" online course and PowerPoint slides:
http://emergency.cdc.gov/masscasualties/bombings_injurycare.asp

Blast Injury Clinical fact sheets for Clinicians: http://emergency.cdc.gov/blastinjuries

"In a Moment's Notice: Surge Capacity in Terrorist Bombings" report:
http://emergency.cdc.gov/masscasualties/surgecapacity.asp

"Interim Planning Guidance for Preparedness and Response to a Mass Casualty Event Resulting from Terrorist Use of Explosives" report:
http://emergency.cdc.gov/masscasualties/terrorist_explosives.asp

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Appendix A: Participants

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