

CHILDREN AS POTENTIAL TARGETS OF TERRORISM

CONFERENCE REPORT

Irwin Redlener, M.D., FAAP

Professor of Clinical Public Health and Pediatrics
Director, National Center for Disaster Preparedness
Associate Dean, Mailman School of Public Health, Columbia University
President and Co-Founder, The Children's Health Fund

National Center for Disaster Preparedness

722 West 168th Street, Suite 1014

New York, NY 10032

212-342-5161

www.ncdp.mailman.columbia.edu

The conference was made possible by the generous funding support of the Alfred P. Sloan Foundation and The Children's Health Fund.

TABLE OF CONTENTS

Conference Agenda	3
Background	4
Introduction	6
Topic 1: Veracity of the Threat	8
Response to: Veracity of Threat	10
Topic 2: Preparedness and Prevention	15
Response #1 to: Preparedness and Prevention	17
Response #2 to: Preparedness and Prevention	19
Lunch Time Key Note Address	21
Topic 3: System Capacity	24
Response to: System Capacity	28
Topic 4: Psychological Impact.....	30
Effects of Direct Exposure to Terrorism in Children.....	31
Fostering Resiliency in Children	35
Speakers	38
Conference Attendees	42

Conference Agenda

October 26, 2005

Columbia University, Alfred Lerner Hall, Room 555

9.00 - 9.30 Welcome and Introduction

Welcome: Irwin Redlener, M.D., Director, NCDP
Introduction: David Berman, Senior Policy Analyst, NCDP

9.30 - 11.00 Conservation 1: The Threat against Children

Discussant: Irwin Redlener, M.D, Director, NCDP
Response: Chris Farrell, Director of Investigations and Research, Judicial Watch

11.10 - 12.30 Conservation 2: Prevention and Preparedness: What can be done?

Discussant: William Modzeleski, Associate Assistant Deputy Secretary,
U.S Department of Education, Office of Safe and Drug Free Schools
Response: Greg Thomas, Director, Program for School Preparedness & Planning,
Response: Joseph LeViness, Coordinator, Mental Health Service
New York State Office of Mental Health

12.30 - 2.00 Lunch and Keynote

Speaker: Steve Simon, Ph.D., Senior Analyst, RAND

2.00 - 3.30 Conversation 3: Health System Response

Discussant: Robert Kanter, M.D., Professor of Pediatrics, SUNY Upstate University
Response: Arthur Cooper, M.D., Director of Trauma & Pediatric Surgical Services,
Harlem Hospital

3.40 - 5.00 Conversation 4: Psychological Consequences

Discussant: Betty Pfferbaum, M.D. J.D., Professor & Chair, Department of Psychiatry and
Behavioral Sciences, University of Oklahoma

5.00 - 5.30 Summary and Recommendations

Facilitators: Irwin Redlener, M.D., Director, NCDP, &
David Berman, Senior Policy Analyst, NCDP

Background

The U.S. has dedicated considerable thought to preparing for, responding to, and treating children in the event of a terrorist attack. However, most of the literature addressing children and terrorism considers children as collateral victims as opposed to the intended targets. The case of American children as intended targets of terrorism demands attention as it stands as a potential reality with implications- from triage and long-term treatment to legal and ethical issues -that are largely unconsidered.

For the most part, research and infrastructure strategies to enhance terrorism preparedness and response have been focused on generic population considerations in lieu of explicit attention to the needs of specific demographics such as the elderly, institutionally confined, or children. That said, there have been some notable exceptions, particularly in looking at the specific needs of children who may be victims of wide-impact attacks with non-conventional weapons. For instance, the federal Bioterrorism Act of 2002 mandated that preparedness planning using federal money must include specific a focus on children. As such, certain federal agencies, notably the Agency for Health Research and Quality, have helped assure that this guidance is indeed followed and understood. At the state level, several states including California, Connecticut, New Jersey, and New York have passed, or are in the process of passing, legislation directly addressing children and terrorism. In the non-governmental arena, the American Academy of Pediatrics created a special

task force on terrorism, now called the Disaster Preparedness Team.

In spite of these efforts, no systematic protocols have been adopted for preparing, responding to, or treating children in the event of a terrorist attack. This problem is compounded when considering the case if children are intentionally targeted. Yet this gap in U.S. planning for children as intended targets of terrorism is not without reason. While children as intended targets has received some consideration in foreign states such as Israel, Iraq, Nepal, and Russia where terrorists have explicitly and successfully targeted children, there has not been an attack of this nature on American soil and the topic is one that is difficult for health providers, media, and public officials to broach. Nonetheless, a growing body of evidence suggests that terrorists in general and Al Qaeda specifically may well have such scenarios in mind. Though it is clear there are appropriate steps that can be taken to prevent potential attacks, it also must be recognized that attacks may occur regardless of the best-laid plans. Thus, it is essential for the health, public health, education and other child congregate bodies, and first responder systems to prepare for a scenario with mass casualties of children followed by long-term pediatric care and mental health services for surviving victims as well as those indirectly exposed through media and personal relations.

First Meeting of the Working Group on Children as Intended Targets of Terrorism

The working group was an assembly of top thinkers who through their professional and personal endeavours stand poised to consider the implications of children as explicit targets of terrorism and provide directions for research and policy. The group was structured to be a small, select convergence of high-level persons situated in a forum of free discussion. An underlying objective of the group is for participants to be a resource for each other as well as select communities including policy makers and media. The group will convene periodically as issues emerge and research directions develop.

The meeting was structured around four conversations: Veracity of the threat; Prevention and Preparedness; Health System Response; and Psychological Consequences. This meeting report will follow the order of the speakers.

We would like to thank David Berman for organizing and facilitating the conference and Paula J. Olsiewski, Ph.D., Program Director for the Alfred P. Sloan Foundation.

Introduction

Irwin Redlener, M.D.

Director, National Center for Disaster Preparedness

Associate Dean, Mailman School of Public Health, Columbia University

To say that the world has changed since September 11, 2001 has become a cliché. And, if there was ever any doubt that America's homeland is indeed vulnerable to the long and deadly reach of international terrorism, that day of well orchestrated attacks, using fully loaded jetliners, put a punctuated end to any delusion of an American fortress, impenetrable by highly committed and capable extremists bent on doing great harm to the nation.

Actually, the first bombing of the World Trade Center in 1993 could have served almost as well as a wake-up call, though few really took that seriously enough to appreciably change public opinion, not to mention counter-terror policies or procedures. In fact, it could be said that the '93 incident was treated more like a "snooze alarm" than a wake-up call. It got our attention for a while, but didn't really result in fundamental changes which might have made a difference in 2001.

The utter shock among Americans and in our government that was precipitated by 9/11 was understandable. There was something grotesque and unimaginable about the use of passenger jets attacking unsuspecting targets in New York City and Washington, D.C. Although terrorism is internationally ubiquitous, used as a technique to demoralize societies and nations since the beginning of human conflict, the 9/11 attacks were nonetheless unique in many respects. This was

perhaps the most complex, high tech, low cost attack ever devised against any country in history. The intricate, patient planning, from recruitment to flight training of the perpetrators to schedule coordination and target selection was a study in evil determination.

The consequences of the attack are well known. Thousands of lives lost, destruction of New York City financial landmarks and a direct hit on the Pentagon were apparent immediately after the attack. But years later, the lingering consequences remain. Massive changes were instituted in government, an entire "preparedness" movement was created and thousands of people still suffer from lingering stress and trauma. From the terrorists perspective, 9/11 and its aftermath were probably viewed as a grand success.

That reality concerns us. Will the success of 9/11 embolden the same or other groups to strike again? That more attacks are essentially inevitable is hard to refute. The fires of discontent have been stoked continuously since 9/11 and those who wish to do great harm to the nation are likely to be far more numerous and technically advanced than they were in 2001.

All of this has correctly led the U.S. government to develop agencies, programs and strategies to detect, prevent or mitigate further terror attacks. This process has been extraordinarily expensive and highly disruptive to other national priorities. Yet it

is essential that we attempt to be more aware of potential threats and consequences associated with future. Of course this requires paying attention to a wide sweep of scenarios from bioterrorism to attacks with nuclear or chemical weapons of mass destruction.

Among the possibilities, sadly, is the potential for an attack that is targeted against children - the softest of “soft targets” and the most potentially provocative in terms of public reaction. School sites and facilities are considered soft targets, vulnerable to devastating attacks because access is relatively simple, absolute security virtually impossible, and the potential for terror-induced, high degrees of societal-wide grief and reaction are assured. Sadly, such a possibility cannot be ruled out, as is suggested by events and discoveries over the past few years including:

- In late 2001, a planned attack on an American school in Singapore was thwarted by counter-terrorism officials.
- The unspeakable 2004 attack on a school in Beslan, Russia where more than 150 children were slain before the perpetrators could be neutralized by authorities. The concern is, of course, that a Beslan-style attack on a U.S. school or campus cannot be dismissed as a potential future threat and that we are poorly positioned to respond to the specific needs of children in a mass casualty incident.
- In 2004, an Iraqi insurgent captured in Baghdad discovered to have had detailed plans and layouts of eight school districts across six U.S. states.

- The emergence of attacks on schools as a more mainstream tool of warfare and terrorism—with the intentional targeting of a primary school in Afghanistan in 2006 and explosives attacks on both a group of 20 children playing soccer as well as a suicide bomb attack at a college in Baghdad, both in February, 2007. The next month, 32 children and teachers were taken hostage in March, 2007 in Manila by armed gunmen.
- Writings by al Qaeda leaders have spoken to the mandate to attack U.S. citizens in general and children in particular. Sulieman Abu Gheith, a Bin Laden lieutenant, reportedly stated the following: “We have not reached parity with [the Americans]. We have the right to kill 4 million Americans, 2 million of them children...”

Perhaps the point is that the United States cannot afford to be sanguine about the potential dangers facing our children and young people, even if the risk seems low. The risk of occurrence must be balanced by considering the potential for extreme, widespread, and crippling repercussions of such an event occurring without adequate preparedness in place.

It was our hope that by convening a panel of experts who could discuss the risks and consequences of terrorism directed at our children, we could elevate awareness and promote policies that would maximize the nation’s ability to prevent or respond to such events should they ever be contemplated.

Topic 1: Veracity of the Threat

Irwin Redlener, M.D.

Director, National Center for Disaster Preparedness, Columbia University

The impact of 9/11 on the American psyche was absolutely extraordinary, but it could have been worse: for example, what if there had been secondary attacks on places where children congregate with biological or radiologic agents? There are reasons why terrorists target economic and financial centers, but there are also reasons why they might target places where children congregate. It is distressing to think about, but kids and the places they congregate are very soft targets. They're symbolically important, besides being treasures of American families and communities. Consequently, we do need to think about how the systems (school, law, health care) would respond to a situation in which children were targeted and/or there were mass pediatric injuries. We know that terrorists are not afraid to use children. It happened in Beslan, Russia when a school was attacked and children were held hostage. Many of them were killed. What would we do if 500 American children were being held hostage by Beslan-like attackers? How strongly would we adhere to negotiation strategies and policies that were conceived advance? How long would those policies last in the environment where the lives of children were being directly threatened?

These are all questions we don't know the answers to. But one day, we may have to face them.

Half of the American public believes that schools are a likely or a very likely target of terrorism.

Is there evidence that children are being targeted?

We found evidence that there is. It didn't get a lot of media coverage, but there was a plan to attack the American school in Singapore, which had about 3,000 American expatriate kids enrolled. The attempt, luckily, was thwarted at the last minute. In Nepal and in the Middle East, we've children are not off the radar screen in armed conflict and violence. So what can we do to better protect children? I'll discuss four ideas.

#1 Promotion of the international rejection of child-focused terrorism.

Terrorism has existed since the beginning of humankind in all conflicts and it will continue to exist. However, I think the overt rejection of child-focused terrorism—if rejection is made repeatedly and strongly from leaders around the world--- would be helpful in minimizing the risks of children being directly targeted.

#2 Enhancement of security in our nation's schools and other child congregate facilities.

These data are from a Marist poll sponsored by the National Center of Disaster Preparedness.

Unfortunately, even though 50% of the general public believes schools are vulnerable, only 41 percent of parents are aware of the existence of an emergency plan in their children's schools. This

degree of parental awareness differs among cultural and economic groups. According to our poll, Latinos have a higher level of unawareness of what's going on in the schools than do other ethnic groups. This disconnect between school officials and the communities they are serving could result in major problems in times of actual emergencies. Some of the questions I hope we'll address today are: How should we make schools less vulnerable to attack? And what do we want the schools to look like? How far are we willing to go to create a visible sense of security? We need to be cognizant not to create schools that look or feel like fortresses. Increasing safety while preserving the American value of freedom is tough, and I'm not sure we've found the balance yet.

#3 Training of first responders

If there is an emergency situation involving pediatric patients, the children will need specialized treatment. First responders need to be capable of recognizing and handling specific pediatric issues in emergency response and familiar with pediatric protocols. Children may respond much more quickly and much more significantly to particular noxious agents in their environment. For example, if gas that is heavier than air is released into the environment as a toxic substance, it will be much more concentrated around children's breathing areas than adults'. Additionally, children's respiratory rates are much faster than adults.

Children are really not just little adults, even though most adult emergency room physicians and adult emergency planners may envision them that way.

So over a period of time, because of the concentration of the substance and because of their breathing rates, children will take in much more toxic substance per body weight than adults will. Secondly, children's skin surfaces are much more permeable, therefore much more likely to absorb certain kinds of substances than adults'. They're also much more likely to become dehydrated and go into shock.

#4 Being Cognizant of the Psychological Effects on Children

The world's not going to get gentler and softer and more peaceful necessarily anytime soon. The questions is how do we understand that, acknowledge it, and still have our children grow up happy, healthy, thriving, looking forward to the future, not being consumed by fear. I hope we'll touch on some of these questions in our last presentation, on the psychological impact of terrorism on children.

Response to: Veracity of Threat

Chris Farrell

Director of Research, Judicial Watch

History of Children as Targets

There's nothing new to children being targets of terrorism. Children are soft targets of enormously high value. In 1974, Palestinian terrorists raided a high school in Israel. They entered the school dressed as Israeli soldiers, took possession and killed a number of the children. In Northwestern Islamabad, Pakistan, a Christian school for kids of non-governmental aid workers was attacked by some radical Islamists, and children were killed.

I'd like to talk about the threat of terrorism or the targeting of children in light of the attack in Beslan, Russia. The threat of a similar event happening in our country is real. In recent years in the US, we've gone to great lengths to try to secure governmental buildings, economic and military targets. This has left schools and hospitals wide open. U.S. schools house approximately 53 million kids on a daily basis. It would be relatively easy to scout these targets; the attack itself would be a breeze for dedicated, armed terrorists.

It is important to understand the circumstances and the conditions that lead to the attack of the school in Beslan, Russia. The background information illuminates what we need to consider in the future. In 1991, the Soviet Union was falling apart and Chechnya declared its independence. As the governmental and social structures started to dissolve, there was an increasing Arabization of

what were militant Chechnyan Islamists. The strict discipline and radical militancy was adopted within Chechnya and the region became a terror test bed. This is where the truck bomb was perfected, where the concept of using a cellular phone to detonate backpack bombs was created. They've been told, "Go out and do good work." The Chechnyans operate as part of a networked, autonomous cooperation, from cells that don't need direction from Osama Bin Ladin and they're interpretation of good work is what we experience in terror.

Things you see occur in Chechnya now manifest themselves later around the world, whether it's a year or two years or three years.

Shamil Basayev is the godfather of Chechnyan terrorists. He's a figure who has dominated Chechnyan life since 1991, politically, militarily, as a terrorist. He seized a hospital with 16 hundred patients in June of '95, engaged in a three-day shoot-out with the Russian army and won. He was responsible for the first time a dirty bomb was placed in a city. Although it did not detonate, he planned for it to explode in the largest park in Moscow. Notice the first dirty bomb was not planned to explode in Chechnya. Basayev wanted to bring the war to Moscow. That's a huge part of his/their objective--to bring the fight not on their own ground, but to where you are and let you experience what their pain is. Another objective is the constant evolution of learning that takes place with series of attacks.

Theater Siege, the Precursor of Beslan

In October of 2002, 46 people, including 19 female suicide bombers barged into a theater in Moscow and took 900 people hostage. Their tactics involved planting a large explosive device in the center of the room and stringing about 20 additional bombs, scattered throughout the audience. Because the theater was showing a musical comedy, there were many families and children present during the siege. The message- no one is getting out—was clearly sent.

Using Women as Suicide Bombers

As mentioned, 19 of the terrorists were female suicide bombers--called black widows. They were called black widows because they were literally widows. They were Chechnyan women who lost husbands, brothers, fathers, and decided that their way to exact revenge was to engage in a suicide bombing. The black widows mingled among the rest of the theater crowd, wearing bomber vests that they could detonate simply by putting two wires together. Normally, in hostage or siege situations, one of the first things that are done is communications are cut off, but not in this case. The Chechnyans forced people to use their cell phones to call family, friends, media, elected officials. The message from the hostage takers, from the terrorists, over and over again to the people held in the theater was--- we want to die more than you want to live. And that is what was repeated to the people in the theater, to the media, to the politicians and to the outside world. Eventually, the situation was resolved when Russian security forces pumped gas (believed to be a nerve agent), into the theater. 129 people died from the effects of the gas. It's believed that probably more than half could've survived, but did not in part

because they couldn't get the ambulances in to get the people out.

Seige of School in Beslan, Russia

The horrific event of the school in Beslan, Russia being taken hostage did not happen in a vacuum. It was part of a terror campaign that ran over eight days. Two planes flying out of Moscow were blown up within half an hour of each other. There were bombings on Moscow's metro and a number of other instances or incidences as well is this eight-day period. One of the tragedies was the Russian government had eight to 10 days warning that a school would be attacked. That warning provided by our Central Intelligence Agency to the Russian government. How did the terrorists get across those borders? How did this large group of people get out of Chechnya, across Ingushetia and into Ossetia and into the town completely unnoticed? There are accusations that a \$20,000 bribe at the border made it happen. We don't know.

What we do know is that the terrorists learned lessons from the experiences in the theater siege and applied these lessons to the terrorism in Beslan:

#1 The hostages were dispersed.

Most were kept in a large gymnasium, but others were taken up onto different floors of the building.

#2 There was a dead man switch on the bomb.

One of the things that was used in the Dubrovka Theater was a detonator that had to be actively engaged to set the bomb off. That's why when the gas was sprayed into the building, folks passed out, and the Russians were able to raid it successfully.

But the terrorists learned. In the school siege, they used pedal actuated trigger. So when of the terrorists constantly has his foot on the pedal. If you shoot him, which is what happened, which is believed to be what happened, if he's gassed, and he ever releases his foot off the pedal, the bombs go off. This is what I talked about, adopting and adapting, constantly revising and learning from the last set of strikes.

#3 Windows were broken and the terrorist shut down the heating and cooling system of the school.

Why? They didn't want to be subject to any kind of a gas, so they ensured there was proper ventilation in the school. The terrorists themselves had gas masks.

#4 Standing orders and contingencies were issued to the bombers inside.

One of the problems in the theater siege was they weren't told specifically go ahead to detonate; they didn't receive direct orders to blow themselves up, so they didn't do it. In Beslan, they were given standing orders. The suicide bombers were instructed that if anything weird happened, if they heard shooting, you hear shooting, blow yourself up. Any movement by any of the security forces against the compound, detonation. That's the, those are the standing orders give. They weren't present in Dubrov- in the theater siege.

The result was a 53-hour siege of unparalleled brutality. The torture that was done is unspeakable. To start off, every male over the age of 14 was gathered up and executed, with the idea that anyone who could pose a physical threat would be immediately eliminated.

Closer to Home: Threats from Al Qaeda

This huge effort over the last four years or so to decapitate Al Qaeda; however, it is a movement, not an organization. What has happened is that we've diffused Al Qaeda and now autonomous networks, little cellular operations are scattered around the world. Because of the diffused operating environment, we're not as able to track the movements and the trends, so there's a double-edged sword to the diffusion of Al Qaeda. Some of the leadership is taken out but then smaller organizations, operating more broadly are dispersed throughout the globe. The militant element is pretty small, but they're very effective, and they have a huge support base at the second and third tier.

Second tier are the supporters who provide administration and logistics. They've got safe houses, accommodation addresses, vehicles. They're not going to pull the trigger or detonate the bomb, but they're going to provide all the infrastructure that allows that to occur. Third tier are those folks who are not actively going to participate in anything, but they support it, financially, philosophically, emotionally, among friends, in discussions, at a mosque. That third tier is also very important; outside the United States, particularly in Southeast Asia, it's an enormously powerful movement. We're in the era of suicide terror.

Understanding Psychology of Suicide Terror

What are the objectives in Arab suicide terror? The first objective is to attack the mind and will of the enemy by maximizing chaos, death and disorder. Suicide terror results in instant psychological paralysis. Arab suicide terror is characterized by

the fact that it works. It's inexpensive, enormously precise, and when it comes to getting the message out, it's irresistible to the media. There's a religious justification by the suicide bombers themselves, at least those that are doing it (in front of the) the rubrics of Al Qaeda because there's this notion that Heaven is gained by doing it. There's a financial incentive because very often, annuities are paid to the families of the bombers themselves. So a suicide bomber achieves heaven and provides for his family. It's a package deal.

The signal that has to go out to the general public is you are not safe, and there's no way the government can protect you. And over the long term, in a dedicated campaign, that is corrosive to the state. It undoes, it tears our fabric as a society, as a government. You cannot survive it over the long haul. It's devastating. So with the message being you're not safe, and the government can't protect, those are some of the, that's the background tape playing in your head, when you have this series of events over time. How long does it roll around in your head, and when you're raising children where that's the steady input, what's the effect?

Along with schools, children's hospitals are other soft targets of high value. It's not too terrible different, but the emotional appeal, when you're in name-the-city Children's Hospital, and that hospital's been seized, it's just another ratcheting up of what the, of what could be done, or what could be seen to be exploited for terror.

What lessons did the terrorists learned in Beslan that will likely be applied to the next event?

There were two divisions within the terrorist group: (1) Jihadis who were ready and willing to die and (2) mercenaries, who had planned to escape and didn't think death was inevitable. There was only one survivor of the terrorists who seized the building—that person was part of the mercenary group. Next time I don't think they'll use a mercenary group.

Understanding Psychology of Suicide Terror

What are the objectives in Arab suicide terror? The first objective is to attack the mind and will of the enemy by maximizing chaos, death and disorder. Suicide terror results in instant psychological paralysis. Arab suicide terror is characterized by the fact that it works. It's inexpensive, enormously precise, and when it comes to getting the message out, it's irresistible to the media. There's a religious justification by the suicide bombers themselves, at least those that are doing it (in front of the) the rubrics of Al Qaeda because there's this notion that Heaven is gained by doing it. There's a financial incentive because very often, annuities are paid to the families of the bombers themselves. So a suicide bomber achieves heaven and provides for his family. It's a package deal.

The signal that has to go out to the general public is you are not safe, and there's no way the government can protect you. And over the long term, in a dedicated campaign, that is corrosive to the state. It undoes, it tears our fabric as a society, as a government. You cannot survive it over the long haul. It's devastating. So with the message being you're not safe, and the government can't protect, those are some of the, that's the background tape playing in your head, when you have this series of events over time. How long does

it roll around in your head, and when you're raising children where that's the steady input, what's the effect?

Along with schools, children's hospitals are other soft targets of high value. It's not too terrible different, but the emotional appeal, when you're in name-the-city Children's Hospital, and that hospital's been seized, it's just another ratcheting up of what the, of what could be done, or what could be seen to be exploited for terror.

What lessons did the terrorists learned in Beslan that will likely be applied to the next event?

There were two divisions within the terrorist group: (1) Jihadis who were ready and willing to die and (2) mercenaries, who had planned to escape and didn't think death was inevitable. There was only one survivor of the terrorists who seized the building—that person was part of the mercenary group. Next time I don't think they'll use a mercenary group.

Topic 2: Preparedness and Prevention

Speaker: William Modzeleski

Department of Education, Office of Safe and Drug Free Schools

I want to start by saying that schools in the United States are safe. If you take a careful look at the data and you put what's going on in schools in context, you will come to the conclusion that schools are safe places for kids to be. They are safer than many of the communities the student live in, and they're even safer than some of the families they live with.

That being said, the response to how we deal with crime and violence in schools is evolving. I see three very distinct phases of school safety and school planning: (1) Before Columbine (BC) era, (2) After Columbine (AC) era, (3) and the Post 911 era.

In the BC era, we were somewhat lackadaisical in our approach to school safety and school violence. After Columbine, schools began to realize that safety and security were essential to teaching and learning. In that era, the Departments of Education, Justice and Health and Human Services began to collaborate more closely in the design and support of programs to make schools safer and more secure and students healthier and better prepared to deal with conflict. 9-11 was another marker because after the events, we realized the importance of emergency planning for schools. We're currently in the post 911 phase and it will be a few years before we see how the events of that day affected schools. There could be a post Katrina phase, but it's too early to say: we'll have to see whether or not the events of Katrina lead to any

changes in schools security and emergency planning.

I want to divert for a minute and talk a little bit about the events that occurred in Beslan, Russia as we {ED} had responsibility for sending a letter out to schools after the event. And I want to take somewhat of exception about the inadequacy of the letter. The letter was sent out a few weeks after the Beslan incident and it contained all the "factual" information we had regarding the incident. In reality, the exercise was a good lesson in how we deal with schools when incidents like Beslan occur.

The FBI/Department of Homeland Security developed a letter regarding the incident that they were going to send out to the law enforcement community. Initially, we were going to send out the same letter to the schools, but when we saw that letter we realized while it was alright for the law enforcement community, it wasn't what we wanted to send out to the schools. We [ED] felt we had a responsibility to present the facts without unnecessarily scaring parents and educators. We can't say that here are assumptions and here's what we believed to be the case, we have a responsibility to the education community to present the facts. Not what we think is true. Not what we would like to be the truth, but what is true. We also have to again present that in such a way that it's understandable to educators and parents. At the same time we have to present it in

such a manner that we don't unnecessarily frighten the public because then we're feeding right into the hands of terrorists and we're doing exactly what they want us to do, and that is close down schools.

Response #1 to: Preparedness and Prevention

Gregory A. Thomas, MS

Director, Program for School Planning and Preparedness,
National Center for Disaster Preparedness, Columbia University

Schools are not built to respond to terrorism: schools are primarily there to ensure children receive proper education. I have often been asked, "how do you plan for the unthinkable like that kind of event whether it be 9-11 or an event directed at a school?" And my answer has been you plan for the unthinkable by planning for the thinkable. A main problem is that there's not a lot of information sharing. A lot of information that we know about from the intelligence standpoint should be shared more with schools. Law enforcement can play a very important role in the development safety plans. Having a plan is one thing, but knowing how to implement it and how it will interplay with law enforcement protocols is another.

Establishing Formal Relations between Schools and Law Enforcement

In NYC, we transferred the function of school security to the New York City Police Department (NYPD) in 1998. That action created a formal relationship between the school system and the New York City Police Department so that in cases of an emergency—be it a bomb scare or the events of 9-11, the resources of the police department could be brought in to ensure school safety. I can say with certainty that if we had not transferred the function of school security to the NYPD in 1998, we probably would have lost some children or some

teachers on 9-11. The response to that disaster was based on the fact that it was a separate group in the law enforcement community that knew about the schools down at Ground Zero. The nine schools that were in the impacted area were already familiar to the NYPD. As the rest of the department focused on the towers and the surrounding areas, the Police Department sent teams of school safety agents to the schools near Ground Zero. The NYPD had their eyes and ears on the schools from the beginning.

We're fortunate in New York City to have the New York City Police Department's (NYPD) help in development of school safety plans. They assist in the development, and once a plan is accepted, it is then shared with the NYPD.

Working with the Emergency Management Community

The next level of response is working with the Emergency Management community. On veteran's Day, 2002, a day in which school is not in session in NYC, I received a phone call at home from the Emergency Management personnel in New York City-- an oil tanker had exploded off the shore of Staten Island. Terrorism was ruled out quickly, but the large fire was a problem that OEM (Office of Emergency Management) was paying close attention to. When Emergency Management

Schools can not be "safe" on their own - the process of safety in schools requires community based school safety planning

officials asked me to come down to the office right away—I was confused. Schools were closed. They didn't need my input. But they wanted to show me their plume tracking software which they had linked to school safety plans. They were tracking a plume of smoke coming from that oil tanker and they could pinpoint which schools would have needed to be evacuated, had schools been in session that day. It makes perfect sense that in the event of an environmental emergency, the emergency management community should be the agency which instructs schools on what to do--- rather than the school principal watching the event unfold on CNN and making a decision based upon that. When that kind of conversation is held proactively—when school safety officials learn what tools emergency managers and law enforcement have at their disposal, then in times of emergencies, they will know whom to turn to, whom to trust. This will increase the confidence of school safety officials, principals and in turn, parents. School safety requires collaboration with police and fire departments and offices of emergency management. Schools can not go at it alone.

Response #2 to: Preparedness and Prevention

Joseph F. LeViness

Coordinator, Mental Health Services, New York State Office of Mental Health

I'll focus on the psychological aspects of the planning. The big cities especially are doing well-- some small cities also, but there is still room for improvement.

One of my big concerns is whether we have plans in place to take care of children in case of a radiological or a chemical attack. Most likely we would be able to secure safety for children in case of a dirty bomb (because of the limited range of that type of weapon), but what if we have to decontaminate large numbers of children?

Cultural considerations in decontamination

I talked to the New York City Interface Disaster Systems, NYCIDS. And they are beginning to work with cultural and religious leaders in different communities about situations in which decontamination may be required. Will these community leaders be willing to advise people to consent to the decontamination procedures? There are cultural and psychological issues which we tend not to think about, but I think we should. We have a group of people in this city here who are people from the holocaust survivors. Think about running those people through a shower. If you are a Muslim woman who has never been seen by her husband naked, and you're asked to strip in the middle of the street, would you do it? If you've got somebody who is floridly psychotic and you're

coming at them in a level 1 suit and you're telling them to take their clothes off and run through a shower, you might have some problems. I'm not sure the city and the fire departments and police departments have thought about those issues.

Decontamination of Children

One of the things I think we need to do is to proactively teach children about some of these things. Every school has a fire safety week; what if during that week, the kids are shown a level 1 suit. Let the kids touch it and tell them this is what a person who would be helping you would be wearing. We talk to kids about fires. We talk to

kids about drugs. We talk to kids about good touch and bad touch. After Columbine, we talked to kids about lock downs. What is discussed should be age appropriate of course, but I certainly think that for grade school kids, it might be good to start exposing them to some of the protective gear.

Relocation Issues

What if a dirty bomb is set off near a daycare center? How are we going to make sure that those kids get put back with their parents? I'm especially concerned about the little ones who are non-speaking or who are so little they don't know their own names or the names of their parent(s). I don't have answers to all these issues, but I'm glad we're starting to think about them. Safety issues are

We need to address cultural and religious issues which will surface should there be a situation in which mass decontamination is necessary

often directly related to mental health. The safer and secure children feel, the more secure parents feel. When parents feel secure with the safety of their children, they will be more willing to cooperate with schools and officials in times of emergencies.

Audience discussion & unanswered questions:

Could there be a better communication system which would allow people to get the information directly to the schools? For example, if the plume of smoke is going east, how would a school get that information in real time? How do schools receive specific information which informs them on issues which impact the safety of children in the school?

Lunch Time Key Note Address

Steve Simonson

Senior Analyst, Rand Corporation

Islam, like Christianity, has well-developed ideas of what's legitimate and what is not legitimate in war. In Islam, there is a class of individuals called innocents who cannot be targeted. The religion holds the human soul in high esteem and considers the attack against innocent human beings a great sin.

In fact, after the attacks of September 11th, many prominent Muslim jurists made important statements condemning the attacks. The mufti of Saudi Arabia said that hijacking planes and terrorizing innocent people - with the key word being innocent - and shedding blood constitute a form of injustice that cannot be tolerated by Islam. He said that the World Trade Center attacks did not reflect honor, which is a very important concept among Arabs.

After September 11th, leaders of Islamic movements made a public statement condemning the attacks against the WTC. They said they condemned in the strongest terms the incidents which were against all human and Islamic norms. God almighty says in the Holy Koran, "no bearer of burdens can bear the burden of another." They did not, however, condemn the attack against the Pentagon.

After the London attacks on July 7th, about a dozen leaders of the Muslim community in London were asked by the British government to issue a statement condemning the attacks, which they did.

It was a very clean statement. It consisted of a couple of quotes from the Koran and that was it.

The scholars made no attempt to actually grapple with the underlying reason for the violence. Neither did they address the concept of innocents. I believe the whole concept of innocents needs to be unpacked, and it needs to be unpacked carefully against the background of contemporary events.

The debate over who is a legitimate target in war is a debate over power within the Muslim community. Suffice it to say that this is a very important thing happening in Islam. The party in this debate who proves to be more influential essentially exceeds to a certain kind of power in this broad community.

Muslims have treaties with the United States and other countries they've attacked; however, it's a great sin to activate a treaty within Islam. Bin Laden concludes that the Muslim leaders who made the agreements with western countries were not representatives of the faith and therefore the treaties they signed were not valid. And even if they were valid representatives of the faith and able to make treaties, the United States violated the terms of those treaties by reeking havoc among Muslims and victimizing Muslims.

He then turned to the key question which is what we would call rules of engagement against his background of defense of war. Bin Laden argued that in certain circumstances it's permissible to kill

civilians. How can one permit the killing of the branch and not permit the killing of the supporting trunk?

Where does the dividing line between combatant and not combatant lie? Bin Laden essentially says two things. First, the people that the clerics imply to be innocent are not innocent. And secondly, there are clear conditions in which civilians may be killed.

Reciprocity

With respect to children, his first condition is immensely important. It's the condition of reciprocity. Bin Laden has a scriptural foundation for this statement because in the Koran it says, "one who attacks you, attack him in like manner as he attacked you." Bin Laden sites this as the justification for the doctrine of reciprocity.

During the first Gulf War, CNN showed images of US warplanes dumping 500-pound laser guided bombs down chimneystacks. The US insisted that the weapons were essentially flawless. Obviously no weapon can be perfect, but the other side bought our propaganda about the accuracy in our weapons. So when civilians were killed in consequence of US military operations, those civilians' deaths were deemed to be deliberate.

It is widely believed that children were killed in Iraq through the implementation of the UN sanctions, which were seen as being instigated and enforced by the United States. Many Muslims also believe that Israelis deliberately target Muslim children. And often the media reinforces that view. You remember his picture in the news of a young kid who was killed in Gaza about four years ago? He was cuddling his father's arms and he looked

kind of pressed into a corner. There was crossfire. And the child was killed on camera. That was seen to be a deliberate killing and it stood for a broader policy of killing Muslims.

It allows for Muslims to kill protective ones among unbelievers as an act of reciprocity. If the unbelievers can target Muslim women, children and elderly, it is permissible for Muslims to respond in kind and kill those similar to those whom the unbelievers killed. This is very powerful argument. And the battlefield is where combatants and noncombatants co-mingle and it's very difficult to sort the wheat from the chaff.

So he says it is allowed for Muslims to killed protected ones among the unbelievers in the event of an attack against them in which it is not possible to differentiate the protected ones from their combatants or from their strongholds. Now women and children enter into the debate at this point. He quotes a famous story from the wars in Syria in which Muhammad is on the battlefield. Corpses of women and children are distributed on the landscape in front of him, and Muhammad is asked whether it had been permissible to kill those women and children. And his somewhat cryptic reply was "they aren't from among them", and that statement is often taken to mean that in Muhammad's judgment, in the prophet's judgment, the decision made by those women and children to remain with their husbands and fathers who were combatants deprived them of noncombatant status. And thus they were legitimate targets for the Muslim fighters.

Bin Laden takes this line of thinking one step farther in a way that is very innovative and accepted among Muslim terrorist groups: he says

that Muslims are fighting democracies, and since the democracy governments are popularly elected, the entire populations of these democracies are culpable for the policies implemented by their governments. In making this argument, and it's a very audacious argument within the Muslim legal tradition, he basically erases the category of noncombatant that is hitherto existed in that tradition.

Bin Laden says it is now allowable for Muslims to kill unprotected ones among unbelievers on the condition that the protected ones had assisted in combat whether in deed, word or mind or any other form of assistance according to prophetic command.

He expands on that saying that whatever decisions the non-Muslims (Americans) make, especially critical decisions which involve war, it has taken face on opinion polls and on voting within the House or Representatives, the Senate which represent directly the exact opinions of people they represent. Based on this, any American who voted for war is like a fighter or at least a supporter. So we're all in their gun sights.

Bin Laden has said "The Americans have still not tasted from our hands what we have tasted from theirs. We have not reached (parity) with them. We have the right to kill 4 million Americans, 2 million children, exile twice as many and wound and cripple thousands". He also goes on to say this is the justification for the use of chemical and

biological weapons so as to afflict them - that is the enemies of the Muslims - with the single maladies they have afflicted the Muslims because of the American's use of chemical and biological weapons. Now this thinking is not just confined to the ivory towers of Islamic jurisprudence; this reasoning has spread quite far and wide.

I'm going to close with a story of a famous Islamic cleric, who just until a couple weeks ago, was living in London. In the wake of Beslan he was interviewed by the Sunday Telegraph, which is a prominent British broadcast--a little bit on the conservative side. He said he would support hostage taking at British schools if carried out by terrorists with "just cause." He used technical vocabulary (that we have heard before) and used it to justify what had taken place in Beslan. He argued further that if any Muslim carried out an attack like that in Britain, it would be justified because Britain has carried out acts of terrorism in Iraq. So here you have someone who is on the right side of the spectrum in Britain but in the leader of a movement who has never up to that point violated British law and who had previously adopted this soviet pro-life view, but whose views had been changed in the context of the changing direction of the debate within Muslim jurisprudence about the dividing line, the rapidly diminishing dividing line between combatant and noncombatant.

Topic 3: System Capacity

Speaker: Robert Kanter, M.D.

Professor of Pediatrics, SUNY Upstate Medical Center

I'd like to talk with you about national objectives for the hospital care of children in disasters. I'd like to think about how well those national objectives stand up to quantitative scrutiny and how well balanced are the projected needs for hospital care against existing resources. Are there gaps? If so, what might we do to narrow those gaps?

National Objectives and Guidelines

Federal agencies have suggested that we prepare to take care of disaster surges of 500 new hospital inpatients per million population. 500 is an arbitrary number, but it's reasonable for planning purposes. Regional and statewide planning is critical. Individual hospitals can not work alone during a surge. The objective during a surge should be to maximize the number of lives saved. That's quite different than our current approach in routine care, which is to use all necessary resources in order to maximize the chance of saving each individual life. If we provide unlimited care to individuals during a mass casualty event, we'd overwhelm the system and compromise most outcomes. We'd like to develop guidelines that are general as well as event specific. Any framework that we develop should be applicable to ordinary, daily routines as well as extraordinary events. To have an infrastructure that works well in a disaster response, it needs to have a foundation which supports good outcomes in daily events.

We have fewer pediatric beds now than we did ten years ago. In the event of mass pediatric casualties, this could be a problem.

Are existing resources sufficient to accommodate surges of 500 new hospital inpatients per million population in a terrorist event? If existing resources are not sufficient, are there realistic modifications that might extend those resources and allow us to do a better job in meeting national targets?

Routine hospital care of children

Let's start with some data about how hospitals are actually used now in the routine care of children. Most of this information comes from our work in New York State, but I think it may generalize reasonably well to other states. Each day in New York State, on average, 1600 kids and 38,000 adults are receiving inpatient care. The routine pediatric needs are much smaller than the adult needs and so it makes sense that the hospitals resources for children will be more limited. In addition, the rate of child hospitalization per year is decreasing by about 2.3% a year. From a pediatric public health point of view, that's good news. However, it's worth remembering that as routine hospital care of children decreases, the resources for pediatric disaster care in hospitals have also decreased in recent years.

The largest number of routine child hospitalizations are due to ambulatory care sensitive conditions such as asthma, gastroenteritis and respiratory tract infections. In disaster situations, those ambulatory care sensitive conditions will still exist;

in fact, you can imagine that if primary care is interrupted, those illnesses may become more acute. If certain unfavorable environmental conditions occur, those illnesses may be exacerbated. This occurred in New Orleans after Hurricane Katrina.

A second important group to consider are children hospitalized for mental illnesses. Children are being hospitalized for mental illness at a rate that is increasing by 5% a year during a recent seven year period. Children with mental illness are only going to become more vulnerable in a disaster situation.

There's an overlap geographically between those areas that have high health risks, particularly high hospitalization rates, with concentrated socioeconomic disadvantage. The zip codes in New York State with the highest hospitalization rates for children are also the zip codes with very high poverty rates, youth crime rates, youth drug abuse rates, and school failure rates. In any major community emergency, the people in those neighborhoods are going to be far more vulnerable to the bad effects of the disaster than others. Again, this is something we saw in New Orleans after the hurricane.

Routine hospital capacity

How many patients can we accommodate? New York State has a maximum of 700 beds per million children for pediatric care and 3,000 beds per million adults for the care of adults. Average occupancy is about 60% for children and 82% for adults.

What is the current capacity of hospitals to care for children? By capacity, I'm referring not only to the availability of the staffed bed, but the capacity of providing specialized care for the higher risk, more complex illnesses in the sickest children. Out of the 242 hospitals currently in operation in New York State, 42 of them are caring for about 2/3 of all hospitalized children. Presumably the other 1/3 are kids with mild or common low risk conditions; they are being treated in hospitals that don't have specialized pediatric services. If you define pediatric hospitals as those facilities that have residency teaching accreditation, as well as a high volume of pediatric cases and a high diversity of pediatric diagnoses, there are 11 such hospitals statewide.

One worrisome fact is that if you study the use of existing resources in ordinary daily activities there is a good deal of variation in how well existing pediatric hospital resources are used. There may be some barriers to using resources even though they're available in New York State.

If that's true in routine daily activity, one wonders if similar barriers may occur in a disaster situation.

Capacity in disasters

Now what about disaster responses? Let me start by making some optimistic assumptions so we can proceed with the analysis. Let's assume that in a disaster, children can be appropriately distributed to the pediatric and non-pediatric hospitals according to how severely ill or injured they are. Let's assume for simplicity that we're talking about the early capacity immediately after a discreet event and not a protracted epidemic. Let's just consider the hospital phase of care. Other

Children who are vulnerable on a daily basis will become even more vulnerable during a disaster.

researchers and other planners have done quite a lot of work on the pre-hospital phase and the emergency department phase of management. Not many people have thought about what happens a few hours down the line once you've stabilized the situation and now you have a large number that require hospital care.

How many children can we take care of in the hospital on short notice? Using our study of daily hospital occupancy, we estimate the number of available vacant beds as being the difference between the peak and the average census.

New York State can accommodate fewer than 300 new patients per million children in a hospital bed, which is considerably under the target of 500 per million. For adults we can accommodate just over 500 new patients per million adults, which meets national objectives. Remember these are just averages. Sometimes we'd be able to do better. Sometimes we wouldn't be able to do even this well.

How much can we expand that capacity by a discretionary reduction of occupancy, by discharging patients early and by canceling admissions for children who don't need to be admitted? Insight for this comes from the events around 9/11/2001. 9/11 was a major disaster for which hospitals immediately began to try to open up as many beds as possible. And we can tell how successful they were, because unfortunately there were not very many people who needed to be hospitalized. Statewide in New York there was very little change in the hospital census, but in New York City there really was a change. Starting at a baseline occupancy on 9/10, pediatric beds were only a little over half filled before that

disaster. Adults' beds were at 82% of their capacity. During that week pediatric hospital occupancy declined by 9% relative to the baseline. Adult occupancy fell by 8% relative to the baseline. One might argue that because it became apparent very quickly that large numbers of inpatient beds wouldn't be needed, maybe patients were not aggressively discharged. So perhaps we could've opened up even more capacity.

Well to move on from here and consider large surges of patients, we're dealing with events that really have never been encountered. If we want to think about it quantitatively, we need to do this in a simulation methodology. What's the probability that the New York City region could rapidly accommodate 500 new inpatients per million population? NYC has 1.6 million children 14 years old and younger, so the federal surge target of 500 per million corresponds to 800 new pediatric hospital inpatients.

What strategies might improve capacity? We have explored two very simple ideas.

(1) Discharge patients who don't need to be there and cancel the next days' scheduled admissions. Let's assume that we can increase vacancy by 20% by doing that. That's a little better than we did after 9/11, but I think it's realistic.

(2) Increase the capacity for the care of new patients by changing standards of care, reducing the standards of care a little bit so you have more resources to go around for more patients. The outcome for individual patients may be compromised, but you can take care of many more patients, thus improving the overall outcome. Our simulation calculations show that if all hospitals were in operation, if we increased vacancies by 20% by discretionary reduction of occupancy, and if we

altered standards of care to double the capacity for new admissions, we could reliably accommodate 500 per million new disaster victims, meeting federal objectives.

What if hospitals themselves were targeted?

All of these projections assume that all of our resources are still available. What about darker scenarios? What if our hospital resources have been degraded by some aspect of the disaster, if some hospitals were targeted, the power is out, staff can't make it to work, some essential supplies run out? Assume that our resources have decreased by 40%. If that were the case, then we would be unable to accommodate the care of even 200 per million new pediatric inpatients. However, if you then go on and use the strategies that we just talked about- discretionary discharges, discretionary cancellations, and change the standards of care so that we can care for twice as many patients with the remaining staff that are available, we would do much better. We would reliably accommodate nearly 400 new patients per million population. If we changed standards of care to even more strictly limit interventions to only lifesaving care, we might quadruple capacity for new patients. Then essential care could be provided reliably to 500 per million, thus meeting federal targets. The simulations show that we need to develop ways to improve surge capacity. The simple strategies of discretionary occupancy reduction and altering our standards of care may allow us to extend existing staff and equipment resources to take care of larger numbers of patients. The hard work remains to be done. What

alterations in standards of care are feasible and clinically acceptable?

What kind of tradeoffs will there be in outcomes between lower standards of care and accommodating larger numbers of patients versus routine standards of care that exclude many patients from care? Who makes the decision to alter care? What criteria would we use to make this decision? What are the procedures, and how much practice do we need to make them effective? Once a disaster happens, responders have a way of swinging into action. We have magnificent resources. The question is whether we will be smart enough, organized enough, and resourceful enough to work effectively in a disaster.

We will often have difficulty accommodating surges at the target level of 500 pediatric patients per million population.

To read more about our observations on pediatric hospital capacity and simulations exploring disaster response strategies, see:

1. On line publication
doi:10.1016/j.annemergmed.2006.10.019
2. Pediatrics 2007;119:94-100.

Response to: System Capacity

Arthur Cooper, M.D.

Director of Trauma & Pediatric Surgical Services, Harlem Hospital

There is a predictable nature to the types of injuries that we see in terrorist bombings, and this can work to our advantage as we figure out what systems need to be in place to best plan for the pediatric patients who are involved. In the Oklahoma City bombing, 66 of 816 casualties were children. Of the 47 children who were injured but survived, only 15% required hospitalization. Most of the children who died were seated by the window near the daycare center near the epicenter of the blast. This is a scene that is repeated throughout the disaster literature. In general, after a major blast, there are three groups of patients: many who are far enough away from the blast that their injuries are relatively minor, a small number who are fatally injured, and a small number of those who are in the “penumbra” of the blast and need to be hospitalized for their injuries—around 15% in total. A smaller percentage of these patients will require critical care.

Israel has given us some sense of what happens after a bomb blast. The prehospital procedures after a bombing in Israel are somewhat different than ours in the United States, and much less complex, due to the inherently dangerous environment of the blast site. Israel’s emergency response is a group effort—first responders (many of them off duty volunteers) typically arrive before the ambulances arrive. Everyone has a clear understanding that secondary explosions could

occur, so the goal is to get the patients away from the scene as quickly as possible. Evacuation times are very fast and victims are typically evacuated to multiple facilities. This also emphasizes the role that receiving hospitals play in the process, and establishes an important point that the closest hospital is typically the receiving hospital, regardless of its capacities or prior designation.

When the 9/11 disaster occurred in New York City, most hospitals invoked their disaster plans. In order to free up pediatric bed for possible patients, children who were stable were discharged. While hospital staff were waiting for the influx of injuries that never came, they asked these questions: What if the plane actually hit the daycare center? Were they ready to handle 100 critically injured kids? Were they ready for possible radiation poisoning? What would they do if the emergency department became contaminated? This was a wake up call in the sense that it exposed the liabilities of plans that exist largely on paper only.

When we think about planning for pediatric terrorism-related trauma, we must understand that injuries are to be expected. As a general rule, the pediatric patients have injuries that are consistent with those seen in the adult population. Most children will be injured in closed or confined spaces rather than open spaces, which increases

Pediatrics is all about the pediatric chain of survival: prevention, access, life support and specialized care.

the magnitude of the forces. Severely injured survivors will require early surgery and specialized care in a pediatric intensive care unit (PICU), followed by lengthy physical and psychological hospitalization and rehabilitation.

In terms of mitigating the response, we can expect that patients who are alive during the first hour will be taken to the closest hospitals, whether they are pediatric-capable or not. So far as the hospital is concerned, we have to remember a few things: the numbers of nurses and staffed PICU beds determines a hospital's capability to care for critically ill patients, as do the numbers of x-ray machines and technicians, and the hospital's capacity for perform emergency surgery.

In general, a region's hospital capacity to receive and treat blast-related injuries among adults is likely adequate in most areas, unless the regional trauma center is primary or secondary target. But this is not so true for children because of the limited, and occasionally centralized, pediatric emergency care, PICU care, and pediatric acute care, or availability of bed space, in that region.

Prevention means education and preparation. Access means getting the patient to the right place at the right time. We developed a new prehospital triage model for use in New York City. A modification of the Jump-START Triage System that is used nationwide, its fundamental operating assumptions are these: that all children are critical if they can't walk and talk; and that no children are pronounced dead until have had at least the

opportunity to be ventilated with a bag and mask for a short period of time.

In Manhattan, this is where we stand at the moment: the population exceeds one and one half million, with a population density of nearly 67,000 people per square mile, and a pediatric population that is relatively stable. There are approximately 400,000 kids in New York City during a school day. Where are we now in terms of pediatric preparation? Fewer emergency physicians than we need have disaster training and experience. Most EMS training and emergency resuscitation based courses focus primarily on adult populations.

At the National Blast Injury Awareness Conference in Washington in May of 2005, the Surgeon General, VADM Richard Carmona, who is an emergency physician, recited to the assembled group what he saw as the five most likely bomb threats:

1. Bomb in a bus stop;
2. Bomb in a fast food restaurant;
3. A single kilogram TNT from a car bomb;
4. Many synchronized bombs;
5. Bombs contaminated with a chemical, biological or radiological substance.

The initial response to disaster is always local. The federal aspects will take about 24-72 hours to arrive.

Perhaps the worst-case scenario would be ambulance truck bombs detonating in a hospital, especially a children's hospital. It will take 24 to 72 hours to ramp up a federal response - what former Air Force Surgeon General Paul "PK" Carlton refers to as the "red wedge". Existing local resources will need to handle the initial 24 to 72 hours of care until Federal or other supplemental assets arrive, but in a way that does not disrupt the rest of the health care system.

Topic 4: Psychological Impact

Irwin Redlener, M.D.

Director, National Center for Disaster Preparedness

Associate Dean, Mailman School of Public Health, Columbia University

Indirect Victimization and Psychological Impact

If we start at 9/11 and we say, what's happened since then that might be responsible for an ongoing assault on the psychological well being of children? If you think about it, we immediately after 9/11 had the anthrax situation, which was terrifying, you know, I remember telling people to tell their children not to open the mail. But the fact is that there was a great deal of discontentment and anxiety about anthrax in the environment, and that was not missed by children. That amount of focus and attention and nightly news coverage was another reminder that the world was pretty dangerous after 9/11. In New York City, we had a very bizarre, tragic accident of an American Airlines flight crashing in the city limits in New York weeks after the 9/11 bombing. The sniper shootings, while not really strictly terrorism, dominated the news for, you know, weeks and weeks and people, you know, going shopping, going to 7-11, getting shot by an unknown assassin. Again, I'm mentioning this because, think about this as an ongoing movie picture that children are watching, starting on 9/11 and going forward. The wars, the images from the wars, the ongoing terror attacks in Madrid and London, the smallpox vaccination debacle in 2002 where the threat of a smallpox outbreak was discussed. And then the images of chaos and social disruption out of New Orleans and the Gulf region. All of this represents an ongoing trajectory of violent images and

unsettling, weird realities in the lives of American children since 9/11. So putting it all together, again, as a pediatrician, you have to worry here that we're exposing to kids to an awful lot of things that are understandably unsettling. I'm so pleased to be able to welcome Dr. Betty Pfefferbaum to the podium. She is a leader in the field of childhood trauma and has published many, many important studies. There really is no one better qualified to lead our discussion and thinking in this area than Betty.

Effects of Direct Exposure to Terrorism in Children

Betty Pfefferbaum, M.D., J.D.

Paul and Ruth Jonas Chair, Professor and Chairman

Department of Psychiatry and Behavioral Sciences

University of Oklahoma College of Medicine

Director, Terrorism and Disaster Center of the National Child Traumatic Stress Network

Introduction

Unfortunately, terrorism in this country and abroad has not spared children and the literature on the effects of exposure to domestic and international events is growing rapidly. Research suggests that emotional outcomes of disasters are related to the magnitude of the event and exposure, measured quantitatively, for example, in physical distance and in degree or perception of danger. Reflecting the goal of terrorism to create chaos and generate widespread fear and changes in attitudes and behaviors, investigators have examined population-based effects of these events in disaster-affected communities (see e.g., Fairbrother et al. 2003; Hoven et al. 2005; Pfefferbaum et al. 1999; Stuber et al. 2005) and in areas remote from the disaster site (see e.g., Hock et al. 2004; Pfefferbaum et al. 2003; Schlenger et al. 2002; Schuster et al. 2001). Some studies have included directly exposed children in samples addressing the September 11 attacks (e.g., Hoven et al., 2005) and events in Israel (e.g., Pat-Horenczyk et al. 2007). Less research has focused specifically on the children most directly exposed to these incidents, perhaps due to the relatively few numbers of children physically present at the disaster scene, the fact that many children who were present perished, and the difficulty accessing those who survive. While not an exhaustive review, this paper addresses what we know about the effects of terrorism on directly exposed children—those physically present

at the site of an attack and those in close enough proximity to eye witness the event (especially if their proximity places them in danger)—concentrating on acute and near-term reactions, long-term effects, and the consequences of chronic threat.

Acute Reactions

It is difficult to conduct research in the early aftermath of disasters when attention is focused on security, safety, and physical consequences. Galili-Weisstub and Benarroch (2004) studied 260 young victims seen in emergency rooms in Jerusalem right after a terrorist event. Most of the children suffered minor physical injuries and were discharged from care within hours of being seen. Eighteen percent exhibited pathological acute stress reactions including dissociative states, conversion reactions, intense anxiety, and psychotic reactions.

A retrospective study of adolescents in New York City six to nine months after the September 11 attacks revealed that over 15% of adolescents met criteria for a probable peri-event panic attack on the day of the event (Pfefferbaum et al. 2006). While this study did not focus exclusively on adolescents physically present at the site, approximately 10% reported seeing the attacks in person and over 50% reported leaving school early on the day of the attacks. A probable peri-event panic attack strongly correlated with subsequent

probable PTSD and probable subthreshold PTSD six to nine months later. The investigators noted that peri-event panic attacks may be a normal fear response or may represent symptoms of acute stress disorder (Pfefferbaum et al. 2006).

Near-Term Reactions

Posttraumatic stress and other reactions are common in children directly exposed to terrorist incidents. For example, Koplewicz and colleagues (2002) found that children who were trapped in the World Trade Center at the time of the 1993 bombing of the facility had significantly higher levels of posttraumatic stress and disaster-related fear than children in a community comparison sample. Children who reported the strongest symptoms initially were most likely to have strong persisting symptoms. Of note, parents failed to recognize the level of distress in their children, reporting a decrease in child posttraumatic stress and incident-related fear between three and nine months while the children themselves reported no decrease.

More than one third of parents of preschool-aged children attending early childhood centers, primarily near or within view of the World Trade Center at the time of the September 11 attacks, reported that their children had personally witnessed at least part of the event (DeVoe et al. 2006). Over one half reported new fears in their children, almost one fourth reported increased aggression, and over 40% reported that their children experienced difficulty going to sleep after the event (DeVoe et al. 2006).

A study of children, aged 6 to 14 years, held hostage for three days in a school-based terrorist incident in Beslan, Russia, in 2004, revealed very

high levels of posttraumatic stress symptoms three months after the attack (Scrimin et al. 2006). Approximately three fourths of the children met the study's criteria for PTSD, and many experienced neuropsychological impairment in working memory and sustained attention (Scrimin et al. 2006).

In the largest study of the effects of terrorism on United States school-aged children to date, Hoven and colleagues (2005) examined a representative sample of over 8,000 New York City public school children (grades 4 through 12) in 94 public schools six months after September 11 to examine exposure to the disaster, pre-September 11 trauma, and post-September 11 adjustment. The sampling strategy included schools in the immediate vicinity of the World Trade Center. The children studied evidenced higher than expected population rates of posttraumatic stress disorder (11%), major depression (8%), generalized anxiety (10%), agoraphobia (15%), and separation anxiety (12%) though a direct link between these disorders and the September 11 attacks was not established. Higher rates of measured disorders correlated with severity of exposure to the event. Children directly exposed to the incident (e.g., fled the disaster site) and those whose family members were exposed (e.g., family member killed, injured, or escaped unhurt) were at greater risk for posttraumatic stress disorder than children in other parts of the city (Hoven et al. 2005).

Long-Term Effects

Very little is known about the long-term effects of direct exposure to terrorism. Desivilya and colleagues (1996) studied a sample of Israeli adults who had been taken hostage while on a school field trip during their adolescence. Overall, the level of

psychiatric symptoms among survivors was in the low-to-moderate range but was significantly higher than levels in the demographically-matched comparison sample. With respect to interpersonal adjustment, survivors reported significantly greater fear of abandonment and fear of closeness than controls, but were not significantly different in marital adjustment, parenting styles, and effectiveness of family functioning. With respect to vocational adjustment, survivors had significantly lower job stability than controls.

Living With Chronic Threat

Pat-Horenczyk and colleagues (2007) examined 695 adolescents living with chronic threat of terrorism in a commonly-targeted neighborhood in Jerusalem to explore the effects of repeated exposure to terrorist incidents over a 22-month period of repeated attack. Approximately one third of the adolescents reported personal exposure to an incident (having a close friend or relative killed or injured in an attack as well as being present at an incident) and over one fifth reported a near-miss experience. Only 7.6% of the sample met criteria for probable PTSD. This seemingly low rate may be due to social factors such as compulsory military service and an increased sense of self-efficacy, high levels of social support in a society braced for repeated attack, and rapid return to routine as well as to developmental characteristics of adolescence such as denial of danger and personal vulnerability. Approximately one fifth of the adolescents studied reported functional impairment in at least one domain. In another report, Pat-Horenczyk and colleagues (2006) described the ability of Israeli adolescents to maintain routine activities in the face of chronic exposure to terrorism.

Conclusions

Research on children directly exposed to terrorism involves children across the age-span from pre-school to adolescence and includes studies of children exposed to single incidents and those living in environments where multiple incidents have occurred and the threat is chronic. While some children suffer serious adverse consequences that persist for months and years, many children are resilient. Future studies should take a systematic approach to determine the factors that create risk for adverse outcome and those that promote resilience including developmental and cultural influences.

References

- Desivilya, H. S., Gal, R., & Ayalon, O. (1996). Long-term effects of trauma in adolescence: Comparison between survivors of a terrorist attack and control counterparts. *Anxiety, Stress, and Coping*, 9, 135-150.
- DeVoe, E. R., Bannon, W. M., Jr., & Klein, T. P. (2006). Post-9/11 helpseeking by New York City parents on behalf of highly exposed young children. *American Journal of Orthopsychiatry*, 76, 167-175.
- Fairbrother, G., Stuber, J., Galea, S., Fleischman, A. R., & Pfefferbaum, B. (2003). Posttraumatic stress reactions in New York City children after the September 11, 2001, terrorist attacks. *Ambulatory Pediatrics*, 3, 304-311.
- Galili-Weisstub, E., & Benarroch, F. (2004). The immediate psychological consequences of terror attacks in children. *Journal of Aggression, Maltreatment & Trauma*, 9, 323-334.
- Hock, E., Hart, M., Kang, M. J., & Lutz, W. J. (2004). Predicting children's reactions to terrorist attacks: The importance of self-reports and preexisting characteristics. *American Journal of Orthopsychiatry*, 74, 253-262.
- Hoven, C. W., Duarte, C. S., Lucas, C. P., Wu, P., Mandell, D. J., Goodwin, R. D., et al. (2005). Psychopathology among New York City public school children 6 months after September 11. *Archives of General Psychiatry*, 62, 545-552.
- Koplewicz, H. S., Vogel, J. M., Solanto, M. V., Morrissey, R. F., Alonso, C. M., Abikoff, H., et al. (2002). Child and parent response to the 1993 World Trade Center bombing. *Journal of Traumatic Stress*, 15, 77-85.
- Pat-Horenczyk, R., Schiff, M., & Doppelt, O. (2006). Maintaining routine despite ongoing exposure to terrorism: A healthy strategy for adolescents? *Journal of Adolescent Health*, 39, 199-205.
- Pat-Horenczyk, R., Abramovitz, R., Peled, O., Brom, D., Daie, A., & Chemtob, C. M. (2007). Adolescent exposure to recurrent terrorism in Israel: Posttraumatic distress and functional impairment. *American Journal of Orthopsychiatry*, 77, 76-85.
- Pfefferbaum, B., Nixon, S. J., Krug, R. S., Tivis, R. D., Moore, V. L., Brown, J. M., et al. (1999). Clinical needs assessment of middle and high school students following the 1995 Oklahoma City bombing. *The American Journal of Psychiatry*, 156, 1069-1074.
- Pfefferbaum, B., Seale, T. W., Brandt, E. N., Jr., Pfefferbaum, R. L., Doughty, D. E., & Rainwater, S. M. (2003). Media exposure in children one hundred miles from a terrorist bombing. *Annals of Clinical Psychiatry*, 15, 1-8.
- Pfefferbaum, B., Stuber, J., Galea, S., & Fairbrother, G. (2006). Panic reactions to terrorist attacks and probable posttraumatic stress disorder in adolescents. *Journal of Traumatic Stress*, 19, 217-228.
- Schlenger, W. E., Caddell, J. M., Ebert, L., Jordan, B. K., Wilson, D., Thalji, L., et al. (2002). Psychological reactions to terrorist attacks: Findings from the National Study of Americans' Reactions to September 11. *The Journal of the American Medical Association*, 288, 581-588.
- Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliott, M. N., et al. (2001). A national survey of stress reactions after the September 11, 2001, terrorist attacks. *The New England Journal of Medicine*, 345, 1507-1512.
- Scrimin, S., Axia, G., Capello, F., Moscardino, U., Steinberg, A. M., & Pynoos, R. S. (2006). Posttraumatic reactions among injured children and their caregivers 3 months after the terrorist attack in Breslan. *Psychiatry Research*, 141, 333-336.
- Stuber, J., Galea, S., Pfefferbaum, B., Vandivere, S., Moore, K., & Fairbrother, G. (2005). Behavior problems in New York City's children after the September 11, 2001, terrorist attacks. *American Journal of Orthopsychiatry*, 75, 190-200.

Fostering Resiliency in Children

Paula A. Madrid, Psy.D.

Director, The Resiliency Program, National Center for Disaster Preparedness

Elizabeth J. Fuller, DrPH

Director, Special Projects, National Center for Disaster Preparedness

Dr. Pfefferbaum's concluding line is a terrific lead in for our discussion, which is how to foster resiliency in children. While some children suffer serious adverse consequences after trauma—consequences that persist for months and years, many children are resilient. We want to explore this topic, so that perhaps more children can be given the tools they need in order to survive and even thrive after traumatic events.

First, a quick definition of resiliency: resiliency is a dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma. At the Preparedness and Resilience program, we see resiliency as a process-- a process that can be experienced by any child, if he or she is given the correct tools. That is an important statement because there is a theory of the "resilient child", that there is a special class of child who inherited personality traits of optimism and high locus of control which enables resiliency. Temperament, cognitive functioning, self-efficacy and intelligence are examples of internal resources often cited as related to positive outcomes. In addition, enhancement of self-esteem and generalized efficacy, improved communication and conflict mediation skills, and other domains of cognitive problem-solving skillfulness are related to increased resiliency. We believe that internal resources are extremely valuable—but they are only a part of the picture. A combination of positive

internal resources, family system functioning, and external resources all work together to promote healthy functioning and recovery following a traumatic event. What seems to make a significant difference is how these aspects function both individually and collectively to influence a child's future functioning.

So now let's talk about how children responded to the trauma on 9/11.

The Children's Health Fund, a national organization committed to medically underserved children and families, commissioned a series of polls from the Marist Institute to assess the impact of the 9/11 on children and families three weeks, three months, six months and one year later. Standard survey design was used in each to randomly select parents of ~450 NYC children aged 4-18 years. Poll results from a made it very clear that potentially problematic child reactions to the events of 9/11 were not restricted to those who lived or went to school near the World Trade Center site. For the first six months after the attacks, reported increased child concern about safety was stable at 52%; with about the same percent concerned that another terrorist attack was imminent. Concern was consistently highest children of lower income families, who were more likely to show school-related problems including school refusal.

The greatest degree of impact on children was noted for the city's poorest borough, the Bronx, which is 48% Hispanic, 36% African-American, and 15% white. The median household income is \$24,031 with 42% children living in poverty (U.S. Census Bureau, 2000).

During the six month period, behaviors suggestive of depression, and sleep disturbance declined while more subtle signs of distress increased - regressive behavior (34% to 37%) and somatic complaints (15% to 19%). There was minimal variation based on child age, borough of residence, or family income, although consistently the borough with the lowest median household income (the Bronx) had the highest degree of concern about safety (62% at six months after 9/11). The most frequently cited source of support was other family members (55%) followed by place of worship (32%). Parents looked primarily to schools for help about their children's reactions (70%) while only 29% reported receiving any special help from that source.

That parents looked to schools to help after the terrorist attacks was not surprising. Many experts agree that schools are a natural connection to communities and an important part of nurturing resilience in children. Werner and Smith's (1989) study, covering more than 40 years, found that among the most frequently encountered positive role models in the lives of resilient children (outside of the family circle), was a favorite teacher who was not just an instructor for academic skills for the youngsters but also a confidant and positive role model for personal identification. (Benard, 1995). "Resilient youth take the opportunity to fulfill the basic human need for social support, caring, and love. If this opportunity is unavailable to them in their

immediate family environment, it is imperative that the school give them a chance to develop caring relationships" (Benard, 1993).

A positive relationship with even one adult has been shown to foster resiliency in children who are exposed to chronic community violence. Children exposed to violence have a risk of becoming depressed, anxious and/or violent themselves. However, studies have shown that exposed children who have a positive relationship with at least one adult tend to fare better than children who are exposed yet do not have a positive relationship.

Because significant evidence shows that a child's ability to succeed occurs with the presence of one positive adult role model, it is important to facilitate as many naturally occurring healthy adult-child relationships as possible. There are many school based resiliency programs which are designed to assist children, parents and teachers. Unfortunately, going into detail about them is beyond the scope of this short discussion. In the Center's forthcoming publication, "Fostering Resiliency in Children", we discuss the merits of several programs and attempt to put them in developmental and cultural contexts. There is one thing that we believe any school based program should have as its base: an emphasis on empowerment. The program should draw and build upon children's strengths, capabilities and self sufficiency.

On a policy and professional level, it is important to insure that children with pre-existing mental health conditions are not excluded from eligibility for mental health care after a major disaster or crisis. Such children may be especially vulnerable to post-traumatic stress reactions and a range of

other mental health problems after a wide scale event.

Finally, we believe that professionals who care for children need to be trained to understanding mental health issues impacting children post disasters. This includes having a better understanding and practice with differential diagnosis in particular of disorders such as PTSD, ASD, Adjustment Disorders and other anxiety and mood disorders.

Speakers

Irwin Redlener, M.D.

Director, National Center for Disaster Preparedness; Associate Dean, Columbia University

Dr. Redlener is Associate Dean and Professor of Clinical Population and Family Health, Mailman School of Public Health and Professor of Clinical Pediatrics, Columbia University College of Physicians and Surgeons. He founded and directs Columbia's National Center for Disaster Preparedness (NCDP). In this capacity he speaks and writes extensively on national disaster preparedness policies. Dr. Redlener created Operation Assist in the aftermath of Hurricane Katrina. This program, a collaboration of the NCDP and The Children's Health Fund, is providing extensive medical assistance and public health support in devastated areas of Mississippi and Louisiana. NCDP runs one of the nation's largest programs for training public health workers in emergency preparedness. Other major initiatives focus on public health and preparedness strategies, a pediatric preparedness program, The Resiliency Project and school-based preparedness. The Center also conducts extensive research in public opinion and attitudes regarding a wide range of issues pertaining to terrorism, personal preparedness and confidence in government. Center researchers are also studying long-range affects of September 11 on children, high-rise emergency evacuation, ability and willingness of health care workers to report for duty in the event of terror attacks and the effectiveness of community-based preparedness programs. Under the auspices of the NCDP, Dr. Redlener is also president and co-founder of The Children's Health Fund, a philanthropic initiative that develops and supports healthcare programs for medically underserved children. The Fund was co-founded with singer/songwriter Paul Simon. From 1986 to 1987, Dr. Redlener was Director of Grants and Medical Director of USA for Africa and Hands Across America. Dr. Redlener received his M.D. from the University of Miami School of Medicine, and pediatric training at Babies Hospital of the Columbia-Presbyterian Medical Center in New York City, the University of Colorado Medical Center, and the University of Miami-Jackson Memorial Hospital in Miami. He holds an honorary Doctor of Science degree from Hunter College of the City University of New York.

Christopher J. Farrell

Director of Investigations and Research, Judicial Watch

Christopher J. Farrell joined Judicial Watch in 1999 as the organization's Director of Investigations & Research, and has been a member of the Board of Directors since September 2003. Chris is a native of Long Island, New York. He was a Distinguished Military Graduate from Fordham University with a B.A. in History, whereupon he accepted a Regular Army Commission and served as a Military Intelligence Officer - specializing in Counterintelligence and Human Intelligence. His intelligence work netted six foreign intelligence agents conducting espionage against U.S. Army Europe, resulting in Chris being awarded the Meritorious Service Medal (with two Oak Leaf Clusters), among other awards and decorations. Chris is a graduate of the Military Intelligence Officers' Basic and Advanced Courses, the U.S. Army Advanced Counterintelligence Training Course, the Combined Arms Services Staff School of the U.S. Army Command and General Staff College, the Defense Intelligence Agency's Military Operations Training Course, and the *Haus Rissen Institut für Politik und Wirtschaft* in Hamburg, Germany. He has pursued additional graduate studies in national security affairs, specializing in unconventional warfare and terrorism. Following command and staff assignments that included three tours of duty in the Federal Republic of Germany, and one tour at Supreme Headquarters Allied Powers Europe, Chris has authored numerous articles and lectured on government corruption issues, terrorism and intelligence matters. He has appeared on CNN, MSNBC, National Public Radio and other national media.

Gregory A. Thomas**Director, Program for School Preparedness and Planning, Columbia University**

As the Director of the Program for School Preparedness and Planning in the National Center for Disaster Preparedness at the Columbia University Mailman School of Public Health, Gregory Thomas assists schools around the nation in the assessment and improvement of their current level of emergency preparedness. He has co-authored three books on school safety for the Janes Information Group, including what has been called the most comprehensive book published to date on school safety - the 450 page *Janes Safe School Planning Guide for All Hazards*. He is also the author of the soon to be released book from Random House publishers entitled *Freedom from Fear: A Guide to Safety, Preparedness and the Threat of Terrorism*. has served for six years as the Executive Director of the Office of School Safety and Planning with the New York City Department of Education (during the terrorist attacks of September 11, 2001) as an Assistant Commissioner with the New York City Fire Department, as Associate Director of the City University of New York/New York City Police Department Cadet Program at John Jay College of Criminal Justice, as a Senior Investigator and member of the executive staff with the Mollen Commission, the mayoral commission that investigated corruption within the New York City Police Department, and as a First Deputy Inspector General with the New York City Department of Investigation. Born and raised in Brooklyn, New York, Gregory completed public school in New York City, and attended college at the University of Maryland, Eastern Shore where he received his Bachelor of Arts Degree in Sociology and the Brooklyn Campus of Long Island University (L.I.U.) where he received his Master of Science Degree in Criminal Justice. Gregory currently resides with his family in Brooklyn, N.Y.

Joseph F. LeViness**Coordinator of Disaster Mental Health Services, New York State Office of Mental Health**

As the Coordinator of Disaster Mental Health Services Mr. LeViness has provided a leadership role improving disaster mental health services from an after thought to a major component of any disaster response in New York State. In an effort to institutionalize that role. Mr. LeViness successfully lobbied the State Emergency Management Office and the New York State Legislature to amend the state law and make the Office of Mental Health a full member of the Disaster Preparedness Commission in New York State. Mr. LeViness has also worked with the Center for Mental Health Services and FEMA to allow alternative funding streams for crisis counseling monies that streamline the cash flow to disaster agencies providing services. In doing this, NYSOMH was able to quickly contract with various agencies more efficiently and provide services to disaster victims more quickly. At Mr. LeViness's request and encouragement, the New York State Office of Mental Health provided seed money to Disaster Psychiatry Outreach INC. realizing what a vital asset this organization would be as disaster responders and a clinical asset in assisting in developing the New York State Comprehensive Mental Health Plan. Additionally, in the past fourteen years Mr. LeViness has directed and assisted in providing crisis counselors to a myriad of disaster's including the Ice Storm of 1998, Flight 800, both World Trade Center attacks and a host of other natural and man made disasters.

Robert Kanter, M.D.**Director of Critical Care and Inpatient Pediatrics, SUNY Upstate Medical Center**

Dr. Kanter is presently researching the capacity of the existing hospital system to accommodate surges in pediatric care during major emergencies. Based on empirical data from New York State, determine the normal daily variation in pediatric and adult hospital occupancy, factors associated with such variation, and discretionary reduction in regional occupancy that occurred immediately after September 11, 2001. Additionally, using empirical occupancy data, explore in simulations the regional capacity of hospitals to accommodate various emergency scenarios, and the relative outcomes resulting from responses that attempt to provide normal standards of care, compared with modified standards of care. Dr. Kanter has previously studied the existing system of hospital resources in NY State, including levels of capability for pediatric care;

the relative quality of care at pediatric and other hospitals; the overall utilization and regional variation in utilization of pediatric hospital resources; and historical trends and geographical variation in characteristics of hospitalized children. Dr. Kanter was awarded his doctorate from the University of Pennsylvania and did his residency in pediatrics and Upstate Medical University, Syracuse. He holds an M.A. in Public Administration from the Maxwell School at Syracuse.

Arthur Cooper, M.D.

Director of Trauma & Pediatric Surgical Services, Harlem Hospital

Doctor Cooper was born in Brooklyn, New York in 1949. He obtained his baccalaureate at Harvard College and his doctorate at the University of Pennsylvania School of Medicine. He was trained in general surgery at the Hospital of the University of Pennsylvania and in pediatric surgery and surgical critical care at the Children's Hospital of Philadelphia - and is certified by the American Board of Surgery in all three specialties. He is currently Associate Professor of Clinical Surgery at the Columbia University College of Physicians & Surgeons - from which he also holds a master's degree in human nutrition - and is Director of Pediatric Surgical Services and Director of the Trauma Center for the Columbia University Affiliation at Harlem Hospital Center. He is a member of numerous professional and academic societies, has edited six books and written more than one hundred fifty scientific articles, textbook chapters, and policy statements, serves on a variety of national and regional expert and advisory committees, and is a recognized authority in the fields of pediatric surgical nutrition, critical care, trauma, and emergency medical services for children - particularly pre-hospital emergency care and trauma systems development - as well as physical child abuse, and the surgical care of children with human immunodeficiency virus infection.

William Modzeleski

Associate Assistant Deputy Secretary, U.S. Department of Education

Mr. Modzeleski currently serves as Associate Deputy Secretary in the U.S. Department of Education's Office of Safe and Drug Free Schools. The Office of Safe and Drug Free Schools has broad responsibility in three broad areas: school safety, including alcohol, drug and violence prevention; school health, mental health, and environmental health; and, character, civic and correctional education programs. The Office also has responsibility for initiatives dealing with mentoring, and physical fitness, and with issues related to preparing schools for possible attacks for terrorists. In this latter role, Mr. Modzeleski, has responsibility for the Center for School Preparedness. This Center has responsibility for developing programs to assist schools prepared for, respond to, and recover from possible terrorist attacks. Mr. Modzeleski has been involved in juvenile justice and school safety issues for over 25 years. He has served at the county level and Federal levels, working both at ED and U.S. Department of Justice. Over the past several years Mr. Modzeleski has been involved in several major initiatives related to school safety and preparedness. These include; development and implementation of the Safe Schools/Healthy Students Initiative; collaboration with the U.S. Secret Service on the issues of school shooters and threat assessment; and preparing schools to respond to crisis and emergencies. Mr. Modzeleski has been involved in helping communities that have suffered tragedies ranging from school shootings, to serial suicides cope with and recover from their tragedies. Mr. Modzeleski received the rank award of Meritorious Executive in 2001; the Presidential Award for the National Association of School Psychologists in 2001; and the U.S. Secret Service Director's Recognition Award in 2002. His is the co-author of several articles and publications dealing with shootings and co-authored a study on the source of firearms used in school associated violent deaths.

Steve Simon, Ph.D.

Senior Analyst, RAND

Steven Simon specializes in Middle Eastern affairs at the RAND Corporation and is adjunct professor at Georgetown University. He came to RAND from London, where he was the deputy director of the International Institute for Strategic Studies and Carol Deane Senior Fellow in U.S. Security Studies. Before moving to Britain in 1999, Mr. Simon served at the White House for over 5 years as Director for Global Issues and Senior Director for Transnational Threats. During this period he was involved in U.S. counter-terrorism policy and operations as well as security policy in the Near East and South Asia. This followed an array of State Department assignments, including Director for Political-Military Plans and Policy and acting Deputy Assistant Secretary for Regional Security Affairs. He has a BA from Columbia University in Classics and Near Eastern Languages, MTS from Harvard Divinity School, MPA from Princeton, was a University Fellow at Brown University and International Affairs Fellow at Oxford University. Mr. Simon has published in TIME, the New York Times, Financial Times, Wall Street Journal, Christian Science Monitor, Washington Times, Foreign Affairs, the New Republic, New York Review of Books, Survival, The National Interest, World Policy Journal and other academic journals. He is a frequent guest on CNN, BBC, ABC, Sixty Minutes, Nightline, Lehrer News Hour, Fox and NPR. He is the co-author of *The Age of Sacred Terror* (Random House 2002/3), which won the Council on Foreign Relations 2004 Arthur Ross Award for best book on international affairs, and co-editor of *Iraq at the Crossroads; State and Society in the Shadow of Regime Change* (Oxford University Press/IISS 2003). He is co-author of a new book, *The Next Attack*, to be published by Henry Holt/Times Books in October, 2005.

Conference Attendees

J. Lawrence Aber, Ph.D.

Professor of Applied Psychology and Public Policy, New York University

David A. Berman

Senior Policy Analyst, National Center for Disaster Preparedness, Columbia University

Angelo Bellomo

Director of Environmental Health and Safety, Los Angeles Unified School District

Christopher Broderick

Captain, School Safety Division, New York Police Department

Mordecai Z. Dzikansky

Detective First Grade, New York Police Department

Tarine Fairman

CEO, National Security and Intelligence Society

Elizabeth Fuller

Director of Special Projects, National Center for Disaster Preparedness, Columbia University

Ramon F. Garcia

Director, Patrol Operations School Safety Division, New York Police Department

Roy Grant

Director of Research, The Children's Health Fund

Christina Hoven, Dr. PH.

Assistant Professor of Epidemiology, Columbia University

Dennis Johnson

Director of Policy, National Center for Disaster Preparedness, Columbia University

Kerry Kinirons

Council, Office of Congressman Peter King

Paula Madrid, Psy.D.
Director, The Resiliency Program, Columbia University

Sara Jo Nixon, Ph.D.
Professor of Psychology, Director, Neurocognitive Laboratory, University of Kentucky

Barbara J. Pettitt, M.D., FACS, FAAP
Chief of Surgery, Department of Surgery, Emory University

Anjuli Srivastava
Assistant Director of Constituent Affairs Office of Senator Hillary Clinton

Robert A. Rubenstein
Professor of Anthology and International Relations, Maxwell School, Syracuse University

Marlene Wong, Ph.D.
Director, Crisis Counseling and Intervention Services, Los Angeles Unified School District