Terrorism and Preparedness: What September 11 and Its Aftermath Mean for Physicians

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In the aftermath of September 11, the people and government of the United States confronted a new reality—so too did the health care community. The attacks revealed a number of vulnerabilities with respect to the health care system's infrastructure and ability to respond to terrorism. Although September 11 represents an unprecedented disaster in the United States, one would shudder to imagine the repercussions if biological or chemical agents, radioactive material, or nuclear weapons had been employed. The truth is, September 11 could have been much worse. Yet in the 3 1/2 years since the attacks, arguably little progress has been made.

Underlying this lack of progress is a pattern of declining public confidence in the health care system's ability to respond effectively to a terrorist incident, and a discernible disconnect to the government's call for individuals and families to be prepared for any major emergency, natural or manmade. Basic steps for individual and family emergency readiness include stocking food, water, and medications; forming evacuation plans and establishing emergency contacts; and possessing battery-operated radios, flashlights, and other equipment. But studies of citizen response to calls for enhancing personal readiness suggest few actually make such arrangements.

To understand the unique dynamics of preparedness for terrorism and for disasters in general, my staff and I at the National Center for Disaster Preparedness at Columbia University's Mailman School of Public Health and the Children's Health Fund have worked to address 3 key questions:

1. How does the American public feel about and respond to terrorism and the government's associated agenda?
2. What does being "prepared" actually mean, and what does this mean in particular for the health care system?
3. How do physicians function in their professional roles and as citizens and members of families in the aftermath of a terrorist event?

Answering these questions requires that we first understand the new realities of the post-September 11 world. The United States is still in what must be considered the immediate aftermath of an unprecedented surprise attack by foreign interests on civilian targets within its continental borders. It is
critical to discern where we are now and to understand how truly unprepared the public, government, and health care system are in the event of another terrorist attack.

The New Reality

The attacks of September 11 were only the beginning of a series of events that cumulatively have changed the US public's sense of vulnerability at home and connection to current and historical events overseas. What actually transpired in this country in the weeks, months, and years following the attacks is worth reviewing.

Just weeks after September 11, an American Airlines flight leaving from John F. Kennedy Airport en route to the Dominican Republic crashed immediately after takeoff into a neighborhood in Queens, a borough of New York City. It was officially concluded that the crash was not related to terrorism. However, both the timing and geographic proximity of the crash to the events of September 11, the coincidence of another tragic incident involving a commercial airliner, and the ambiguity surrounding the official explanations for the crash exacerbated a growing sense of anxiety, uncertainty, and vulnerability among Americans, especially New Yorkers. Government reassurances that this crash was not related to terrorism were greeted, understandably, with considerable skepticism.

If the American Airlines crash was questionable with respect to terrorist origins, there was little doubt about the anthrax mailings shortly thereafter. These were aimed at government and media officials and were undoubtedly a terrorist act, be it by a domestic perpetrator (as speculated) or an international plot. Only a handful of victims were hospitalized or killed, yet a nationwide panic and disruptions to US business and governmental functions, including mail services, ensued. To this day the anthrax case has not been solved—who executed the mailings, where the anthrax spores came from, or if the attacks will occur again remains unknown.

The anthrax mailings helped spur a national reaction—or overreaction, led by the White House—to begin vaccinations against smallpox and increase stockpiles of vaccine, antibiotics, and antidotes against biological and chemical agents. These strategies were pushed hard by the administration during the buildup to the war, while speculation grew as to whether Iraq would use smallpox as a biological weapon against the US public. The smallpox vaccination plan called for a “phase one” of initial vaccinations against smallpox for some 500,000 health care workers. This was to have been followed by vaccinations for emergency responders and a large section of the populace. However, <40,000 vaccinations were actually administered. Health professionals, first responders, and the general public were profoundly skeptical of smallpox prophylaxis because the government failed to make a credible case for the necessity of this drastic step. The flawed vaccination program provided a sobering picture of US vulnerability to biological and chemical terrorism, and the government and public health system's limitations to prepare and protect Americans against such an attack. This failure may have greatly reduced confidence in the government's ability to develop and implement terrorism preparedness plans.

Though the anthrax mailings and American Airlines crash were probably not connected and may not have been related to international terrorism, terrorist attacks in other parts of the world have gone unabated since September 11. From al Qaeda–backed violence in Madrid, Bali, Morocco, and Beslan, Russia, to the ongoing conflicts in Israeli and Palestinian communities, terrorist incidents have increased both in number and scope. In the wake of these incidents—as well as the wars in Afghanistan and Iraq, exceptional events like the Northeast–Midwest blackout in the summer of 2002 and the Washington, DC–area sniper shootings, terror alert fluctuations, and media attention on a wide range of threats and vulnerabilities—a persistent unease and unrest among the American public has emerged.

The fact is, true security, especially in the United States, is impossible to achieve. In a free democratic society, full security cannot be reached without suspension or reduction of the very benefits being defended from terrorism.
However, a level of public, government, and health care system preparedness, and an effective ability to respond in the event of a terrorist attack, must and should be expected. It is in this readiness capacity that our country remains alarmingly lacking.

**Addressing the Key Questions**

I began these remarks outlining 3 key questions with respect to public attitudes about preparedness, what preparedness actually means, and what the challenges are for physicians in the age of terrorism. The answers, like the questions themselves, continue to evolve.

**How does the American public feel about and respond to terrorism and the government’s associated agenda?**

Since September 11, the National Center for Disaster Preparedness and the Children’s Health Fund have been surveying the US public as well as a subsample of New York City residents on terrorism, preparedness, and the government’s associated agenda. The first survey was conducted about a month after September 11, and subsequently administered 6 months, 1 year, 2 years, and 3 years later by the Marist College Institute for Public Opinion, Poughkeepsie, New York.4

In the most recent survey in August 2004, three quarters (75%) of the US public described themselves as “concerned” about ongoing terrorism, exactly the same percentage found in the previous year. Despite high levels of concern, 63% of respondents reported not having made even the most basic of disaster preparations, including having stocks of food, water, and medications; forming evacuation plans and establishing emergency contacts; and obtaining battery-operated radios, flashlights, and other necessities for emergencies.

In addition to not being personally prepared, the public expressed declining confidence in the government’s ability to protect against a terrorist attack. In 2003, 62% believed that the government would be able to protect their community in the event of a terrorist attack; in 2004 that number declined to 53%. When asked about specific elements of national preparedness, confidence was also low and declining. An exception to this was the increasing confidence the public had in the government’s ability to protect airports, with 61% of those surveyed expressing confidence in this function, an increase from 59% in 2003 and 55% in 2002. Virtually all other areas showed decreasing levels of confidence, including the government’s ability to protect buses, trains, and nuclear facilities, and to prevent radiological “dirty” bombings. For all of these functions, public confidence levels were ≤50%, a decline from previous years.

This lack of confidence contributes to the alarming results of repeated surveys: more than half of the respondents have stated that they would not cooperate with official directions to evacuate if ordered to do so. This underscores a fundamental flaw in crisis planning at all levels: disaster preparedness for terrorist events has not fully considered the issues that actually drive people’s behavior in emergency situations. Our surveys have found a great reluctance among people, at least when asked in advance, to obey official demands to evacuate until the whereabouts or condition of children, other family members, or friends can be accounted for. This may be due in part to the low levels of confidence the public has in government, along with a sense of incompetent handling of major public efforts such as solving the anthrax mystery or vaccinating against smallpox in 2002.

In addition to their loss of confidence in government generally, Americans report ever-decreasing levels of confidence in the health care system’s ability to prepare for and respond to a terrorist event—and these levels are falling faster and lower than we observed for any other preparedness sector. In 2002, the public’s confidence level in the ability of the health care system to respond to a chemical, biological, radiological, or nuclear attack was 53%; in 2003 that figure decreased to 46%, and by 2004 it was 39%. This protracted decline represents a critical and disturbing trend in public perception. The consequences of low confidence levels—in tandem with heightened concern about future terrorist attacks and poor acceptance of
official exhortations to "prepare" for disasters—
represent a unique challenge for government
and the health care system.

Still another factor at play may affect the pub-
lic's confidence in and compliance with basic
preparedness planning. Although the United
States is a nation at war, very little has been
asked of the public in terms of sacrifice, which
has been true of virtually all other periods of
major conflict in US history. The government
has neither established a military draft nor cre-
ated rationing programs, and there is no public
financial burden. In fact, taxes during the cur-
rent war period have been dramatically cut
twice. Essentially the government is saying: "We're
at war, the terrorist threat is real, but don't panic
and here's a tax refund." These are unusually
mixed signals that undermine the government's
message for the public to be prepared and vigi-
lant, and exacerbate lower confidence levels in
public strategies for homeland security.

What does being "prepared" actually
mean, and what does this mean in
particular for the health care system?

With the exception of populations living in
areas prone to natural or weather-related disas-
ters, emergency preparedness is an unfamiliar
and potentially unsettling challenge for most
individuals and families. The very definition of
what it means to be prepared is problematic.
"Prepared" is a relative, indistinct concept that
includes a spectrum of behavior ranging from
extreme complacency to an almost paranoid
sense of danger and readiness. Somewhere be-
tween these 2 extremes is where the public
needs to be. An optimal level of preparedness is
based on awareness of risk: thinking about and
planning ahead for the safety and whereabouts
of family members, and practical preparations
for "sheltering in place" or moving rapidly from
an area of danger. In the event of either a terror-
ist attack or a natural disaster, people should be
prepared to be without external sources of food
and water, working utilities, or essential medica-
tions for at least 3 days.

Personal and family preparedness can never
be perfect. Even those who are well prepared
could have their plan rendered useless if, for
example, they are on vacation when a terrorist
event occurs. In Israel, where gas masks are issued
to every family, concerns have been raised about
the practicality of such a program. What if the
attack occurs when a person is walking on the
beach or in a park? Must citizens carry the masks
everywhere? And how will a mask protect
against a radiological device? Should radiation
suits and Geiger counters be issued? Of course,
none of this is reasonable. A point is reached
where preparedness becomes an impossible ex-
rcise as a result of the infinite scenarios that
may occur. The goal for the public must be to
ensure that each individual and family is per-
sonally organized for short-term subsistence.
The rest is in the hands of the government, first
responders, and the health care system.

No defined national standard exists as to how
the health care system should prepare for a ter-
rorist attack, partly because of the range of pos-
sible acts. However, benchmarks must be estab-
lished so that funding can be developed and
measurements of progress—and shortcomings—
can be determined. Huge sums are being allocat-
ed even in the absence of clear definitions of
what health care system preparedness is. As bil-
ions of dollars are funneled into random pro-
grams of health preparedness, other basic ongo-
ing public health needs may be shortchanged.
HIV/AIDS prevention and treatment, vaccina-
tion programs, and access to basic health care,
to name a few examples, still need substantial
public and government support. Many public
health professionals are concerned about the
diversion of funds from these long-standing
needs to the ill-defined, resource-intensive new
efforts to create some level of preparedness for
terrorism in the United States.

Clearly, many complex barriers make it diffi-
cult to establish an effective level of prepared-
ness for the health care system. Its sheer size
and complexity are important factors. "The
system" includes the entire public health infra-
structure as well as the nation's 5000 hospi-
tals, thousands of community health centers and
nursing homes, and individual practicing physi-
cians. There is no single overriding authority
and there are many impediments to organizing effective emergency planning, including jurisdic-
tional conflicts and the lack of both consist-
tent, knowledgeable, designated spokespersons
and clear strategies for managing major disas-
ters in many communities. Until recently, most
public health preparedness planning has been
developed in metaphorical “silos,” with bodies
and institutions for the most part planning in
isolation from each other. A successful prepared-
ness plan will require greater collaboration to
reach a level of coordination among public
health bodies. Only through a coordinated sys-
tem will issues such as surge capacity and redund-
dancy be addressed, and true preparedness
be achieved.

How do physicians function in their
professional roles and as citizens and
members of families in the aftermath
of a terrorist event?

A terrorist event presents a special challenge
for physicians, whose professional responsibili-
ties to respond to a major emergency may well
be in conflict with the natural and appropriate
need to ensure the safety of family and loved
ones. It cannot be assumed that all physicians
would respond to a terrorist attack or remain at
work if an attack occurs during work hours. Nor
should it be assumed that doctors would aban-
don their posts or responsibilities. Such situations
are deeply unfamiliar and terrifying for the vast
majority of medical professionals who have not
been trained to work under such conditions or
have not experienced them firsthand. Studies
conducted by Qureshi et al2 suggest that a third
or more of a hospital’s professional staff may
not report to or remain at work after a serious
bioterror attack.

The reality is that physicians’ behaviors in
the aftermath of terrorism will be highly vari-
able and dependent on a number of factors,
including specific family or home-community
responsibilities and the nature of the attack.
Another consideration is the physician’s per-
ception of his or her role within the medical
profession. A practicing primary care doctor,
an infectious disease specialist, or an emer-
gency room physician may each perceive
different obligations and have different views
of professional responsibility. Fear of the un-
known and literally being in harm’s way may
be key determinants for many doctors facing
terribly difficult options in the extreme emer-
gency of a terrorist attack.

Physicians have a duty to serve, but they are
also parents, spouses, and children. Moral clarity
may not be readily apparent. Imagine a doctor in
a hospital that must be evacuated. In that hospita-
tal may be 25 infants on respirators in the neonatal
intensive care unit and a dozen adult patients
in the coronary care unit. Imagine further that
there is only enough time and resources to evacu-
ate some of these patients. How will decisions be
made, and by whom? An unlimited number of
extraordinary moral dilemmas may follow in the
wake of terrorism, many directly in the purview
of doctors struggling to do the right thing.

When I am asked how physicians can per-
sonally address these matters, I suggest not
waiting until a major crisis occurs to begin the
process. Discussions with family members and
friends should cover plans for safeguarding
themselves, locating and gathering children,
and understanding communication and evacu-
ation strategies. When devising a family emer-
gency plan, contingencies should be consid-
ered to account for the physician needing to
remain on duty or report to work. Developing
a family disaster plan is essential for the popu-
lation at large, but critical for families of physi-
cians. With such a plan, a physician can be
mentally prepared to make decisions under cri-
sis conditions, from both a personal and a pro-
fessional perspective.

CONCLUSIONS

Our country has much work to accomplish
before achieving an optimal level of prepared-
ness for major disasters and terrorism. As the
public remains unprepared and expresses di-
mminishing confidence in the government and
health care system, billions of dollars continue
to be spent on preparedness planning. Yet “pre-
pared” is still undefined, with no benchmarks
to measure actual progress.
In the event of a terrorist attack, the challenges for physicians will be extraordinary. Understanding one's roles and responsibilities as a doctor and as a member of a family during such a situation requires thoughtful consideration long before the crisis actually occurs.

REFERENCES