

Viewpoint

WMD Terrorism in the United States: The Threat and Possible Countermeasures

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Federal Bureau of Investigation (FBI) Director Louis Freeh has called the terrorist acquisition of weapons of mass destruction (WMD) "perhaps the most serious potential threat facing the United States today."¹ The US government has spent billions of dollars in an effort to counter the perceived danger. Public interest in, and fear of, the phenomenon have led to extensive discussion within the media, government, and academia of the vulnerabilities of the United States to terrorism, particularly involving WMD. This increased fear and public awareness of the issue have been accompanied, and fuelled, by a dramatic increase in hoaxes and other low-level incidents, as individuals and groups with a grievance have realized that merely by using a key word they can create considerable disruption and publicity for their cause. This succession of incidents, in turn, has served to strengthen public and governmental concerns, reinforcing the belief that the United States is facing a probable danger paralleled only by the threat of Soviet nuclear weapons during the Cold War.

This viewpoint starts with a discussion of the definition of WMD and then examines the nature of the present threat to the United States from terrorist use of WMD. It suggests that this danger has been overstated and mis-

represented, due largely to a misinterpretation of the significance of the slew of low-level incidents that have characterized terrorism within the United States in the past two years. The viewpoint argues that although the threat posed by chemical and biological agents cannot wholly be dismissed, the more immediate terrorist danger to the United States continues to come from the use of conventional weapons. The paper concludes with a discussion of the implications of this argument for the future of US efforts to counteract the threat of WMD terrorism. Overall, it contends that a more realistic threat assessment will be necessary if counterterrorism programs are to prove sustainable. With respect to specific programs, this viewpoint suggests that some of the funding for improving domestic preparedness for possible attacks involving non-conventional weapons is being directed to national-level programs that are likely either to duplicate or to be less effective than comparable capabilities at the state and local levels. It proposes a strategic vision in which local and state agencies would be primary in responding to most incidents, with federal resources available to supplement these efforts when necessary.

DEFINING WMD

For the purposes of this paper, mass-destructive weapons mean exclusively those weapons capable of causing mass casualties. Although this may seem a controversially narrow definition, it is arguably the only workable one. One of the biggest problems in assessing the likelihood or the possible impact of mass-destructive terrorism within the United States is the very basic, but surprisingly difficult, question of designing a workable definition of weapons of mass destruction. The Advisory Panel to Assess Domestic Response Capability for Terrorist Incidents Involving Weapons of Mass Destruction (also known as the Gilmore Commission, after its chair, James S. Gilmore III), noted in its first annual report to Congress and the president, that not only is there no agreement across the US government on what constitutes WMD, there is not even agreement on a definition of terrorism.²

The definition of WMD matters on at least two levels. First, in order to assess the threat and countermeasures involved in mass-destructive terrorism, it is imperative that there is an understanding of the danger against which the US program intends to defend. Second, a major argument of this viewpoint is that WMD and non-conventional (chemical, biological, radiological, and nuclear [CBRN]) weapons are not synonymous. Therefore, it is important to specify what is intended by a reference to WMD.

The US Domestic Preparedness Program, intended to protect against WMD within the United States today, is based on a fairly limited definition of the issue. The Domestic Preparedness Program (officially The Defense Against Weapons of Mass Destruction Act) was part of the National Defense Authorization Act for Fiscal Year 1997. It, in section 1403, defines WMD as "any weapon or device that is intended, or has the capability, to cause death or serious bodily injury to a significant number of people through the release of toxic or poisonous chemicals or their precursors, a disease organism, or radiation or radioactivity."³ This clearly gives rise to a number of questions: how is "a significant number of people" defined? How is the capability of a weapon determined? Most significantly, the definition in the Domestic Preparedness Program completely excludes conventional weapons as potential weapons of mass destruction.

Other authors and official sources define WMD in slightly different ways. The FBI, although also concerned

with the proliferation of advanced conventional weapons, defines WMD as those involving chemical, biological, or nuclear weapons.⁴ Falkenrath, Newman, and Thayer avoid the problem by discussing nuclear, biological, and chemical (NBC) weapons, rather than WMD.⁵ Hoffman, in his 1998 book, equates WMD with nuclear, chemical, and biological weapons.⁶ Jessica Stern suggests that the term WMD means weapons that are capable of killing many people at one time.⁷

Establishing a definition of WMD raises a number of questions: does it depend on the type of weapon used or on the results achieved with that weapon? What is "mass destruction" in this context: physical destruction, casualties, or disruption? And what is the level of each that would qualify an incident as mass-destructive? Physical destruction is clearly not a defining characteristic of WMD terrorism, although it may be a consequence of it. Neither chemical nor biological weapons cause extensive destruction, yet, conversely, both would obviously be included in any list of potential WMD, however it was defined. Like physical destruction, disruption is a likely result of WMD terrorism, but cannot be used to determine whether an incident should be classified as involving a WMD. By itself, disruption is simply the response to a perceived threat, rather than a judgment on the true nature of the threat itself. A credible threat of an attack may be capable of eliciting the same level of response, and thus cause the same level of disruption, as a genuine attack. As such, disruption alone is not the defining characteristic of WMD terrorism.

Using casualties as the defining characteristic of WMD terrorism is distasteful, since it inevitably requires that one put an arbitrary figure above which an incident would be classified as involving WMD. If one puts that figure at 100 fatalities, for example, does that really mean that an incident involving "only" 99 is somehow less significant? In addition, using casualties as the defining characteristic of a WMD incident limits effective analysis to those incidents where a weapon was *used*. To classify as WMD cases those incidents that did not succeed but *probably* would have resulted in 100 or more fatalities is problematic as it necessitates a considerable degree of speculation. Nevertheless, casualties, as the most obvious consequence of a massive terrorist attack, do need to be at the heart of any definition of WMD terrorism, and, as was noted earlier, are the core of the Domestic Preparedness Program's mission statement. Both considerable destruction and disruption may occur as

the result of an incident, without that incident being considered an example of WMD terrorism. Of the various criteria, only mass casualties are likely to ensure that an incident is classified as involving a WMD.

Does the definition depend also on the type of agent or material used, or solely on the capability of the weapon? Clearly, some types of incident are self-evidently examples of WMD: a detonation of a nuclear-yield weapon or release of a chemical or biological (CB) agent that caused hundreds to die are the most obvious cases. However, suppose exactly the same weapon is not detonated or released, so there are no casualties, but the capability existed; is that WMD terrorism? Most analysts would probably say that it was, suggesting that the potential of the incident to cause mass casualties was the vital factor. Common sense dictates that the classification of an incident has to rest on its results, or at least on its potential results, rather than simply on the type of weapon that is used by terrorists.

This argument leads to two important conclusions: it means that attacks using conventional weapons, provided they are sufficiently lethal, destructive, or disruptive, should be considered examples of WMD terrorism. This is a view shared by some branches of the US Federal Government. Timothy McVeigh, for example, was indicted on numerous charges, including conspiracy to use, and use of, "a weapon of mass destruction, a truck bomb, against persons in this country and against property owned by the United States."⁸ The argument that results of an attack are more important than the type of weapon employed also leads to a second conclusion: that terrorist attacks using non-conventional weapons are not necessarily examples of WMD terrorism. NBC materials do not equate to WMD. This point is emphasized by Ken Alibek, a former Soviet biological weapons scientist, who observed that: "The most virulent culture in a test tube is useless as an offensive weapon until it has been put through a process that gives it stability and predictability. The manufacturing technique is, in a sense, the real weapon, and it is harder to develop than individual agents."⁹ Moreover, certain biological and chemical agents are not designed to cause widespread death: they are used to assassinate individuals or to produce non-fatal illnesses as a means of disruption, so they are also not mass-destructive weapons.¹⁰ It is not the material used, but whether it has been turned into a weapon that could be used effectively to kill many people, that makes the difference.

The difference between the real level of the threat to the United States from CBRN weapons and the potential of these same weapons is an important one. This difference has been widely recognized, but appears to have had relatively little impact on public policy. Assessments of the threat continue to be based on the vulnerability of US society, rather than on the desire or ability of terrorists to use CBRN weapons on civilian populations in the United States. It is undeniable that communities in the United States would be vulnerable to such attacks, should they ever occur. However, these assessments assume a worst-case scenario where terrorists succeed in acquiring and effectively using such a weapon, assumptions not supported by the historical evidence. In fact, terrorist groups or individuals, seeking to cause extensive casualties, have tended to use conventional weapons, such as explosives to achieve their objective. There is good reason to think that this trend will continue.

MASS-DESTRUCTIVE TERRORISM WITH CONVENTIONAL WEAPONS

Several incidents of terrorism involving conventional weapons could be considered mass-destructive. Falkenrath et al. list a dozen such cases within the 20th century, all of which resulted in over 100 fatalities.¹¹ The examples that they cite include only those incidents that might be considered to be terrorism by any definition; they do not include the many systematic massacres that are sometimes regarded as being terroristic, such as those that have occurred repeatedly in Algeria or Cambodia. Moreover, the majority of cases on Falkenrath's list are examples of attacks using a single weapon, usually a bomb containing conventional explosive, rather than being the results of assaults with multiple weapons. An example of the latter is the November 1997 massacre, predominantly using guns, in Luxor, Egypt, of 62 people by members of the Al-Gama'at al-Islamiyya (IG).¹² Clearly, therefore, conventional weapons do possess the capability to result in mass casualties.

Furthermore, if a definition of mass-destructive terrorism hinges on the consequences and impact of an incident, then, certainly within the United States, the bombing, using conventional explosives, of the Murrah Building in Oklahoma City on April 19, 1995, should qualify. As well as killing 168 people and wounding approximately 500 others, no single incident has done more to transform the way the United States views the

problem of terrorism. Although other incidents, such as the 1983 bombing of the Marine barracks in Beirut (with 241 fatalities) or the bombing of Pan-Am Flight 103 over Lockerbie, Scotland, in December 1988 (with 278 fatalities), have been more lethal, none has had the impact of the Murrah Building bombing. It emphasized Americans' vulnerability to terrorism *within* the United States because the attack occurred on US soil and was perpetrated by Americans. The Oklahoma City bombing, along with Aum's attack in Tokyo a month earlier, heightened awareness of the potential consequences of terrorism and raised the specter of terrorism with WMD occurring within the United States. The result has been a heightened focus on all terrorism involving non-conventional weapons.

The problem with this heightened focus is that it involves a conflation of two largely separate concepts: that of mass-destructive terrorism and that of terrorism using non-conventional weapons. Preparations for the former are being justified on the basis of an increased incidence of the latter. However, there is a very considerable difference between the two concepts, and it is far from clear how they relate to one another. The next stage of this paper will argue not only that such mass casualties have failed to materialize as a result of terrorism with non-conventional terrorism, but also that they remain unlikely to occur in the foreseeable future, as a result of these same weapons.

THE REAL THREAT OF TERRORISM USING NON-CONVENTIONAL WEAPONS

That WMD are not synonymous with non-conventional weapons is increasingly recognized. As of December 1999, the "Database of Incidents Involving Chemical, Biological, Radiological, or Nuclear (CBRN) Materials, 1900-Present" at the Center for Nonproliferation Studies, Monterey Institute of International Studies, listed 632 incidents perpetrated since 1900. Of those, only 329 are classified as having been perpetrated by groups or individuals with political or ideological motivations (ideological being taken to include religious motivations), and which could thus be considered sub-state terrorism. The rest consist of criminally motivated acts for economic gain, or were judged to be false (apocryphal) cases. Of the 329 incidents with an apparent terrorist motivation, the overwhelming majority of incidents do not demonstrate any significant escalation in the threat, but rather show a growing interest in non-con-

ventional weaponry among politically and religiously motivated groups and individuals.¹³ Since the 329 incidents include acts such as hoaxes and pranks (124 incidents) or the attempted acquisition of such weapons, the number of incidents that genuinely involve CBRN weapons is much smaller than that figure would suggest. Of these, most incidents resulted in zero or very few fatalities, which were all they were intended to inflict. Of the 205 politically motivated incidents in the database that were not classified as hoaxes, the results of eight attacks were unknown, and 181 incidents resulted in no fatalities. Therefore, of the 329 politically motivated incidents in the database, only 16 resulted in any fatalities.

In sum, the attempt, or even the threat, to cause widespread casualties using non-conventional weapons is unusual. For example, groups such as DIN ("Avenging Israel's Blood"), which in 1946 contemplated killing nearly two million Germans by poisoning the water supplies of four major cities in revenge for the Holocaust, are the exception rather than the rule. DIN did not carry out this attack, but rather a much smaller one against Stalag 13 near Nuremberg.¹⁴ Of the incidents within the CBRN database where the number of fatalities could be confirmed, the most lethal incident was the September 6, 1987, poisoning of new recruits from the Philippines Constabulary. The use of a water-soluble pesticide in water given to the soldiers, by an unknown group near Zamboanga City, resulted in 19 deaths and 140 injuries.¹⁵ However, it is hard to argue reasonably that this qualifies as an incident of mass-destructive terrorism. Clearly, if fatalities are the key factor in defining an incident as mass-destructive, then we have yet to see an example involving non-conventional weapons. The exception might be the case of DIN, which used an arsenic-based agent to poison the bread of thousands of German prisoners-of-war in April 1946, and may have killed hundreds.¹⁶ If injuries are included in the equation, then Aum's attack on March 20, 1995, with estimates of injured people ranging from 3,976 to 5,500,¹⁷ ranks as the most significant terrorist use of non-conventional weapons. In any case, as a possible indicator of future terrorist actions, Aum's action is widely regarded as the most important incident of this type.

As was noted earlier, WMD and non-conventional weapons are not synonymous. The existing unclassified information about terrorism with chemical, biological, or radiological weapons fails to sustain the belief that there is a clear link between present examples of terror-

ism using non-conventional weapons and WMD terrorism. It is far from obvious that the two are part of a continuum, or even that they are related. In fact, it seems more likely that WMD terrorism and terrorism with non-conventional weapons are not only quantitatively different from one another, but also qualitatively so. The motivations for using non-conventional weapons in small-scale terrorist attacks are not identical to those for using such weapons to cause mass casualties. Few of the perpetrators of terrorism with non-conventional weapons, listed in the CBRN Database, have shown any interest in causing mass casualties. In the overwhelming majority of cases, their use of chemical, biological, or radiological weapons, rather than conventional weapons, is a consequence, primarily, of the group or individual's desire to set themselves apart from other, similar, organizations. As Ehud Sprinzak has argued:

There is, in fact, a growing interest in chemical and biological weapons among terrorist and insurgent organizations worldwide for small-scale tactical attacks. [T]he flourishing mystique of chemical and biological weapons suggests that angry and alienated groups are likely to manipulate them for conventional political purposes.¹⁸

The vital question is whether the present examples of terrorism with chemical, biological, or radiological weapons make the likelihood of terrorism with WMD any greater. Clearly, even low-level attacks undermine the norm that terrorists do not use non-conventional weapons. However, it is questionable, in the wake of Aum Shinrikyo's attacks in Japan, how robust that norm was anyway. To make an accurate assessment of how low-level terrorism with non-conventional weapons affects the likelihood of mass-destructive terrorism, it is necessary to consider the motivations of terrorist groups in using these weapons for small-scale attacks.

Before discussing motivations, though, it is worth pointing out that Aum's multiple attacks in 1994 and 1995 have not proved to be the harbinger of a flood of other groups all seeking to cause mass casualties. This was feared to be the case and has been a major impetus in a multiplicity of counter-terrorism measures in a range of countries. It is still too early to claim that Aum Shinrikyo was an anomaly, but certainly not to state that it was exceptional among terrorist organizations.¹⁹ Aum's size and financial resources were of a scale that few other groups, with the exception of Osama bin

Laden's al-Qaida, have been able to match.²⁰ These resources enabled the group to pursue chemical, biological, and nuclear weapons simultaneously, to buy materials and equipment, and to have a significant level of in-house expertise. Despite these advantages, relative to other terrorist groups, Aum failed utterly in its nuclear and biological programs and achieved only the most limited level of success with its chemical weapons program. Furthermore, Aum was certainly exceptional, and may have been unique. No groups, before or since Aum, have possessed its combination of financial strength, technological capability, and apocalyptic intent. Another mixture of motivation and capability might lead to mass-destructive terrorism, since it would be rash to assume that Aum's represented the only possible combination of factors. However, Aum's example does clearly indicate that the technical difficulties of achieving such an attack are considerable and therefore that any group hoping to achieve mass destruction would need time, resources, and technical competence to accomplish their objective. Aum's difficulties were also partly a product of its idiosyncratic proliferation program, and it would be unwise to assume that other groups will be similarly erratic in their efforts.²¹ Nevertheless, the technical difficulties for any organization seeking to acquire and utilize a significant non-conventional weapons capability are substantial and not to be readily dismissed.

There are two key questions that relate to the issue of whether terrorists would cause mass casualties using non-conventional weapons: would terrorists want to cause mass casualties, and, if they did, would they use non-conventional weapons to do so? Non-conventional weapons may have some psychological appeal to terrorist organizations. Chemical and biological weapons carry a caché that could make them attractive to terrorist organizations. Chemical and biological agents are, rightly or wrongly, perceived as a sign of sophistication, as usable in secret, and as extremely dangerous. The last factor, the potential of such weapons, is appealing to many terrorists because it offers them a heightened level of power over their putative victims. In addition, both chemical and biological weapons are likely to be invisible and may be odorless depending on the agent used, reducing the likelihood of detection while the attack is underway. Biological agents are particularly covert since the incubation time, between the release of the agent and the onset of symptoms in victims, may be hours or days, again depending on the type of agent used. Such a delay increases the chances that the group will be able

to escape undetected, a vital factor in many terrorist organizations' tactical choice. Finally, both chemical and biological weapons are perceived as difficult (and potentially dangerous) to acquire, manufacture, and weaponize, certainly compared to conventional weapons. This means that the prestige and self-worth that a group would feel for attaining any of these goals will be proportionately higher than it would be for conventional weapons.

The Minnesota Patriots Council acquired ricin for several of these reasons. The toxin appealed to its members because it was covert, offering them the opportunity to remain undetected. Acquiring the ricin also made them feel that they were in control, powerful, and could not be ignored by the authorities. However, the most important factor in their desire to possess ricin was that it was the agent used by the KGB to assassinate Georgiy Markov in London in 1978. The Council sought the mystique and secretive fellowship that they believed they could achieve by acquiring the same agent used by a major intelligence organization. The Council also acquired ricin at a time when it was widely advertised in the right-wing literature as *the* way to strike back at the US government, because users would never be discovered or held to account.²²

Aum Shinrikyo sought to obtain and use a range of chemical, biological, and even nuclear weapons, motivated by a complicated combination of reasons. Aum's actions were primarily the result of leader Shoko Asahara's personality. Aum was shaped by its leader's agenda and personal interests, which led it to extort money and seek revenge against individuals who crossed it and, eventually, against the wider community that rejected the group. However, the messianic Asahara also provided the vision of a corrupt world that would be imminently destroyed, an event that the cult hoped to hasten by bringing down the Japanese establishment.²³ Yoshihiro Inoue, the cult's "Intelligence Minister," stated at Asahara's trial that "We regarded the world outside as evil, and destroying the evil was salvation."²⁴ The overt rationale for the Aum's members' actions was redemptive: they saw their mission as saving mankind after Armageddon. Perversely though, they believed that in order to achieve this salvation, it was first necessary to destroy the corrupt elements of the world: everyone except themselves. Asahara taught that the United States and Japan would engage in a devastating nuclear exchange sometime between 1999 and 2003, and he was

convinced that he and his cult were being targeted by both the United States and its puppets in the Japanese government. He therefore persuaded the cult's members that the group's existence was threatened and Armageddon was imminent. In doing so, Asahara taught that Aum had no choice but to defend itself against the existential threat being posed by the US and Japanese authorities and that it also had to be willing to attack these enemies in doing so.²⁵ In a similar vein, the Covenant, the Sword, and the Arm of the Lord, a right-wing Christian Identity group, acquired 30 gallons of cyanide in 1981 because "in the future, when the judgment time had arrived, we could dump the cyanide into the water supply systems of major cities, condemning hundreds of thousands of people to death for their sins."²⁶

It should be noted that some of these same attractive characteristics of chemical or biological weapons, such as the difficulties associated with acquiring or using them, also diminish the likelihood of terrorists successfully doing so. This clearly might act as a deterrent to some terrorists. The likelihood of achieving a successful attack is also a factor in terrorists' tactical decisionmaking. This factor may encourage technological conservatism, leading them to rely on weapons that have been used before, that are tried, tested, and trusted.

Conversely, given the covert potential of chemical and biological weapons, terrorist use of non-conventional weapons ensures the group or individuals widespread publicity for themselves and their cause. This is a vital part of many, but by no means all, terrorists' rationale. Attracting such attention proves that the group has to be acknowledged and dealt with. However, attracting this level of attention has grown increasingly difficult to achieve.²⁷ Terrorists thus find themselves with two options: first, they can involve victims of interest to the media, as Tupac Amaru did in 1996 by taking hostage Western and Japanese diplomats at the Japanese Embassy in Lima, Peru. Second, terrorists can commit an act on such a scale or with such widespread implications that it is covered for its own sake. It is currently possible to argue that this latter object can be achieved with massive conventional attacks: the publicity around the World Trade Center (WTC), Oklahoma City, or Marine Barracks bombings, or the destruction of Pan-Am Flight 103, was just as intense as that which surrounded the sarin attack in Tokyo by Aum Shinrikyo. Media coverage was extensive even though there have been several such devastating attacks in the past 20 years.

Ironically, it is more likely that a group that seeks widespread coverage, but does not wish to cause widespread devastation or casualties, might resort to low-level non-conventional weapons as the means of doing so.

Another important factor in assessing the likelihood of non-conventional terrorism is that terrorism is highly influenced by trends. Chemical and biological weapons are the agents *du jour*.²⁸ Bomb threats are being replaced in the United States by hoaxes involving chemical or biological agents, as a means of causing disruption and spreading fear. The present situation is being strongly reinforced by the focus on chemical and biological weapons, and by the attention that each new incident involving them attracts.

There is clear evidence that each "new" high-profile case attracts a wave of copycat attacks. The best example of this is the spate of anthrax hoaxes that occurred throughout the latter part of 1998 and into 1999, particularly in California. The CBRN Database lists 60 incidents of anthrax hoaxes between early October 1998 and January 21, 1999, 18 of which occurred in California, mostly in December 1998. Also, the CBRN Database lists 29 examples of anthrax threats, made against targets on both sides of the abortion debate, across the United States between February 7 and 26, 1999. It is fairly obvious that both radical pro-life and pro-choice activists seized on using anthrax hoaxes as an effective means of disrupting the others' efforts. From the attackers' perspective, such hoaxes have the additional advantage of requiring no weapons capability at all. The tactic has proven effective because it capitalizes on the present publicity and concern surrounding attacks with chemical or biological weapons. In several cases, these hoaxes have involved nothing more complex than sending an unidentified powder through the mail with the warning that the recipient had been exposed to anthrax. Such attacks are easy to accomplish, nearly impossible to trace, and have the almost certain effect of causing fear and disruption, the objective of the attack. Both the recipient and law enforcement agencies have had little option but to take the threat seriously. The necessity of response has meant that the recipients' activities were disrupted, just as the perpetrators intended. The nature of anthrax, added to the current climate of fear about attacks using non-conventional weapons, has ensured that the perpetrators have achieved the additional benefit of receiving extensive publicity for their campaigns and objectives.

However, it would be wrong to equate such attacks to an increased likelihood for terrorist use of mass-destructive weapons or even of anthrax. The only similarity between the two is in the choice of agent that the hoaxer claims to possess. The difference between a hoax and a mass-casualty incident is a chasm, in difficulty, objective, motivation, and severity. It would be dangerous to attempt to draw conclusions from one to the other, beyond that they both reflect a current fear and awareness of the potential of chemical and biological weapons. However, a mass-casualty attack would utilize the reality of this potential, the ability of chemical or biological weapons to kill many people; a hoax would utilize public consciousness and perceptions of this potential. It is a significant distinction.

It is important to recognize, moreover, that terrorism has always moved in trends, and it is likely that the present fascination with chemical and biological weapons is simply the latest of these. Although they were regular targets in the 1960s and 1970s, aircraft are seldom hijacked by terrorists now.²⁹ This is partly because fewer states are willing to accept the planes; many states have special forces capable of storming the plane; and controls at airports have made it significantly more difficult to smuggle weapons onto aircraft. Consequently, terrorists have sought easier targets, ones that offer them a better return for their efforts.³⁰

Another significant trend has been the decline in the proportion of bombing incidents, compared to other types of international terrorism. Bombings accounted for 53 percent of attacks in the 1970s. However, in 1996, this figure was just 28.4 percent and in 1995 it was only 23 percent. The numerical decline in bombings has been accompanied by an increase in tactics that more directly cause harm to people. Armed attacks, for example, accounted for 44 percent of incidents in 1995 and 28.8 percent in 1996, compared with an average of only 19 percent throughout the 1980s. These trends are important, not only in their own right, but also because they are indicative of another, more important direction in terrorists' tactics. While the overall number of international terrorist attacks has declined steadily in the latter part of the 1990s, the lethality of these attacks continues to rise. The RAND-St. Andrews Database recorded just 250 incidents of international terrorism in 1996, a 23-year low, but the number of people killed that year, 510, was the fourth highest since 1968. Terrorists are selecting targets that are more likely to cause fatalities and

moving away from the tendency to choose targets that have a purely symbolic importance.

Trends also show that when terrorists seek to achieve numerous casualties, they are using familiar tactics aimed at increasing the likelihood of fatalities (e.g., by using bigger bombs). For example, while in 1995, bombings represented 21 percent of all types of fatal incidents, 48 percent of all fatalities caused by international terrorism were as a result of bombings. In 1996, the figures were 31 percent of fatal incidents, but 48 percent of fatalities.³¹ These findings seem confusing, even contradictory, but can be summarized as follows. While the number of international terrorist incidents has declined over time, the annual number of deaths caused by international terrorism has continued to increase. When terrorists seek to cause numerous casualties, bombings with conventional explosives remain their weapon of choice.

It is instructive to consider that, for example, the bombers of the WTC and the Murrah Building chose to remain at a low technological level. This appears to be an extremely significant difference from the majority of groups currently seeking non-conventional weapons. Whereas the perceived difficulty and sophistication of non-conventional weapons may be attractive to groups pursuing recognition and self-aggrandizement, the tactical choice of the WTC and Murrah Building bombers hinged on the simplicity of the bombs they used and their desire to inflict extensive damage and casualties. Constructing bombs from diesel oil and nitrate fertilizers has several advantages: it is virtually impossible to prevent terrorists from acquiring such materials, and crude homemade devices are also almost certainly the most feasible to build. Based on this reasoning, groups seeking to maximize the casualties they cause, without other objectives that might lead them to choose NBC weapons, are more likely to choose conventional weapons than non-conventional ones.

THE "NEW" TERRORISM

However, the threat of mass-destructive terrorism using non-conventional weapons does exist. It is, as several experts have noted, a low-probability but high-consequence danger.³² A number of factors have substantially increased the level of violence that some terrorist groups are willing to employ. This trend, which is unlikely to change, is in turn a consequence of a shift in the motivational and organizational structure of many groups. Many writers have commented on the develop-

ment of a "new" terrorism, characterized by an increased tendency toward religious motivations, an ad hoc structure, and a heightened technical competence.

In contrast, "traditional" terrorism is stereotyped as more likely to be motivated by nationalist-separatist or purely ideological objectives. Such groups tend to be perceived as well-defined bodies with coherent (although often loose) command and control structures. Examples of such groups would be the Irish Republican Army, *Sendero Luminoso* (Shining Path), the Red Army Faction, or *Euskadi ta Askatasuna* (ETA or Basque Fatherland and Liberty). Dependent on elements of their society for support and perpetrating their violence on behalf of a section of that society, these groups pursue limited (although often extensive) objectives. The level of their violence is thus moderated by the need to retain proportionality with their goals and, more importantly, to maintain support within their community. Brian Jenkins typified the attitude of this type of terrorist group to extreme violence in his now renowned 1975 statement: "terrorists want a lot of people watching, not a lot of people dead."³³ Ten years later, it was still possible for Jenkins to note that for the most part, killing a few people is as effective for achieving group goals as is killing many.³⁴

The changing role of religion as a principal motivation for political violence has been another vital factor in the increasing lethality of terrorism. The implications of religion for the level of terrorist violence are by no means universally agreed upon. David Rapoport, an expert on religious violence, has argued recently that the historical evidence is, at best, equivocal on religion as a justification for extreme terrorist violence.³⁵ Nevertheless, it is undeniable that religious motivations account for a disproportionate level of lethal terrorism. In 1996, religious groups formed only 28 percent of the international terrorist organizations noted by the RAND-St. Andrews chronology, yet were responsible for 10 of 13 terrorist "spectaculars" in that year.³⁶ Between 1982 and 1989, Shia Islamic groups committed eight percent of the incidents, but were responsible for nearly 30 percent of the fatalities caused by international terrorism.³⁷ Religion, with its ability to inspire total loyalty and commitment, enables high levels of violence to be justified, even required. Less limited by the need to maintain audience support for validation, religious groups—with the deity as their primary audience—are less constrained by the political, practical, or moral factors that affect secu-

lar terrorists' actions.³⁸ In secular terrorism, violence usually begins as an instrument and may become an end as a result of organizational and psychological pressures within the group.³⁹ However, in religious terrorism, violence may be an end in itself, a sacramental or divine duty in response to a theological imperative.⁴⁰

Religion as a motivation for violence is not new; indeed, it is probably terrorism's oldest cause. However, within the past 30 years, it has increased markedly as a motivation for political violence. In 1968, none of the identifiable international terrorist groups could be classified as being predominantly driven by religious motives. In 1980, two of 64 groups that committed terrorist acts that year were religious; by 1992, 11 of 48 or nearly one-quarter were; by 1995, the figure was close to one-half, 26 of 56 known groups. In 1996, religious groups formed only 28 percent or 13 of 46 identified international terrorist groups that committed an attack that year. However, as noted earlier, religious organizations continued to account for the majority of major terrorist incidents in 1996.⁴¹

An important trend within this growth of religious-inspired violence has been the increase in terrorism perpetrated by cults and millenarian groups. This is especially relevant within the United States where many of the most dangerous domestic terrorist groups have been motivated by a combination of factors including Christian Identity beliefs. This racist and ultimately apocalyptic theology is mixed with virulent (and violent) antipathy towards both the government and other "undesirable" sections of society. Such belief systems have played a central role in motivating the actions of a number of terrorists within the United States who have shown interest in nuclear, chemical, or biological weapons. These include, for example, the Covenant, the Sword and the Arm of the Lord, the Minnesota Patriots Council, and Larry Wayne Harris, a former member of the Aryan Nations who acquired the plague bacterium *Yersinia pestis* in 1995 and possessed anthrax vaccine in 1998. It is also clear that connections to this belief community played an important role in Timothy McVeigh and Terry Nichol's bombing of the Murrah Building on April 19, 1995.⁴²

Cults or millenarian groups are also more likely than other types of religious groups to resort to high-level violence, although many such organizations direct this violence inwards rather than at external bodies. Cults are more likely to be controlled by a single leader and to

be isolated from external moderating influences. Such undiluted authority may have a profound impact both on members of the group and on the wider world. Millenarians believe that the end of the world is coming because God has promised that it is. When the end comes, those who are spiritually worthy will be separated from the rest of humanity. Millenarian belief systems can be derived from more mainstream religious beliefs: Christianity, Judaism, and Islam all contain millenarian elements in their histories.

Such beliefs may lead to high levels of violence in two ways. If adherents come to believe that they must "prove" their faith, then this, combined with the short time believed to remain before Armageddon, may cause the believer to act against the enemies of their faith. The other cause of violence arises when believers are convinced that they can affect the timing or occurrence of the end of the world. If, for example, a faith teaches that Armageddon, and the accompanying paradise for true believers, can occur only when the world has been cleansed, then this also provides a powerful impetus for millenarians to attack corrupting influences in society. By believing that the role of Man is critical to the timing of the appearance of a redeemer or messianic figure, which will coincide with the end of the world and salvation, millenarian groups increase the importance of destroying any elements in the world that threaten this process. On an individual level, given the need to prove their faith when their eternal life is directly involved, such individuals may be willing to use high levels of violence.

It would be a grave mistake to equate all religious terrorism with high levels of violence and all secular terrorism with low levels of violence. Such a sweeping generalization is clearly inaccurate. Many secular terrorist groups, such as the Liberation Tigers of Tamil Eelam (Tamil Tigers) or the Kurdish Workers Party (PKK), have been responsible for massacres. Nevertheless, religion does more readily offer a justification for highly destructive terrorism than do secular motivations.

The changing motivations for terrorism have been accompanied by a significant move towards an ad hoc organizational structure and increased professionalism and technical competence. The February 1993 bombing of the WTC by Ramzi Yousef's group signaled a new development in terrorism. The group was formed for the specific operation and was intended to disband immediately afterwards. The groups' members were connected

by similar frustrations, friends, and religious beliefs. They were only loosely tied to a controlling body, authorized by a *fatwa* issued by Sheikh Omar Abdel-Rahman, and they may have been connected to Osama bin Laden's al-Qaida organization. This made it extremely difficult for law enforcement agencies to preempt the bombers' attack. With the exception of the professional terrorist, Ramzi Yousef, the bombers of the WTC were amateurs, their attack being their first terrorist act.

Al-Qaida itself is a network of like-minded organizations, rather than a single group with a coherent structure and a clearcut or unified command framework. Instead, it is a multinational movement with pan-Islamic objectives, rather than the narrower nationalistic or religious agenda of more closely linked groups. As such, apart from a core of supporters around bin Laden, al-Qaida's structure is decentralized, diffuse, and flexible. It is effectively organized into largely self-contained cells that receive funding from bin Laden, share some personnel, and possess a similar strategic vision. This development is extremely significant. First, this structure makes it much harder for law enforcement agencies to detect and then destroy such groups. Second, terrorists once had to learn tactics through trial and error, or rely on tactical and weapons training in terrorist training camps provided by state-sponsors or other sympathetic groups. The sponsors of today's terrorists may be less obvious and can include individuals as well as states.

Many of the same points could be made about the Oklahoma City bombers, Tim McVeigh and Terry Nichols. Their bombing of the Murrah Building was their first act of terrorism. Although they were friends, a common belief system only loosely tied them to the wider American radical right movement. This loose affiliation, within a common belief community, is characteristic of the radical right in the United States today. It is also the product of a deliberate strategy of "leaderless resistance," a term first coined by Louis Beam, leader of the Aryan Nations, in 1992.

Moreover, terrorists may receive their practical education from the abundance of books and Internet sources that claim to explain everything from how to organize a group to how to build a nuclear-yield bomb or an anthrax-dissemination device. These new sources of information make terrorism more accessible: an increased number of groups and individuals theoretically are able to commit high levels of violence, using crude weap-

ons.⁴³ This applies particularly to terrorist use of conventional weapons. The Oklahoma City bombers, for example, used a weapon constructed of nothing more advanced than nitrate fertilizer and diesel fuel.

It is not so obvious that the same trend applies to non-conventional weaponry. Although many sources purport to describe how to weaponize chemical or biological agents, the feasibility of successfully implementing these descriptions is dubious. Aum Shinrikyo, for example, used numerous publications in its quest to develop a weapon of mass destruction. The means for terrorism, as a whole, may have become more accessible, but they have become so based on the experience of other groups. Previous campaigns of violence separated the tactics and weapons that were effective from those that were not. Mass-destructive terrorism has yet to be achieved, using chemical, biological, radiological, or nuclear weapons, so the theory involving such weapons has remained just that. The technical barriers to developing such a weapon remain high. Chemical and biological weapons are difficult to weaponize and are likely to have unpredictable results. Neither characteristic makes them ideal for terrorists, with little previous experience of manufacturing such weapons, seeking to cause mass casualties. Finally, and significantly, the chemical and biological agents that could be most effectively used in mass destructive terrorism, such as VX gas or virulent varieties of anthrax, are precisely those that are likely to be most difficult for terrorists to acquire.

Conversely, terrorists have also become "better" at building and using conventional weapons. Fuelled by their access to information, terrorists have maintained a struggle with law enforcement officials for technological supremacy. The best example of this is the IRA's repeated improvements to their bomb-making capability.⁴⁴ Most established terrorist groups prefer off-the-shelf weaponry with which they are familiar and comfortable, although many have also become adept at improvising or adapting their weapons, emphasizing the "amateur" nature of such groups. Such flexibility increases these groups' operational options, using conventional weapons, and thus also the opportunities for success.

Furthermore, significant developments in tactics and weaponry may be seen in methods "traditional" terrorist groups use. While it is true that religion offers the most likely motivation for future groups' use of mass-destructive weaponry, some nationalist-separatist

groups have also supposedly used non-conventional weapons. The extreme violence of the PKK and Liberation Tigers of Tamil Eelam was noted earlier; both are also alleged to have used chemical weapons on at least one occasion. However, in each case, the use of non-conventional weapons was for a small-scale tactical attack, not an act of mass-destructive terrorism. On March 28, 1992, the PKK poisoned three water tanks of a Turkish Air Force base outside Istanbul. The water was foamy, and, when tested, was found to be contaminated with cyanide. The tanks contained 50 milligrams (mg) of cyanide per liter, a lethal dose.⁴⁵ On August 27, 1996, detectives discovered a container of sarin and 20 containers of mustard gas in Istanbul. Emin Ekinici, a member of the PKK, was arrested for having the agents in his possession.⁴⁶ The group is also alleged to have used chemical grenades in an attack on Ormancik, a village in southeastern Turkey, on January 21, 1994.⁴⁷ The Liberation Tigers of Tamil Eelam have also resorted to non-conventional weapons. On June 18, 1990, the Sri Lankan Army reported that the group had attacked a Sri Lankan Army encampment with canisters filled with an unidentified poison gas, later identified as chlorine.⁴⁸ Allegedly, the group has perpetrated several other, similar attacks. On November 24, 1995, Tamil rebels supposedly used poison gas during a siege of a Sri Lankan base where Tamil rebels were being held prisoner. On November 26, 1995, there was an attack by the Tamil rebels, allegedly using poison gas, on advancing Sri Lankan forces outside of Jaffna.⁴⁹ The Tamil Tigers also apparently attacked a police station with poison gas, probably on July 20, 1995.⁵⁰

The principal consequence of the aforementioned trends has been to make terrorism less predictable. The increased accessibility of terrorist tactics has enabled small groups and even individuals with no previous experience of terrorism to acquire rapidly some level of technical competence. Such organizations and individuals may thus pose a real and credible threat to their enemies. In the past, because of the relative inaccessibility of terrorist tactics and weaponry, lone perpetrators such as the Unabomber were exceptional. This may no longer be the case. Anyone with a grievance can now more plausibly threaten violence and compel their audience to take the threat seriously. The recent spate of incidents involving chemical and biological agents has been a part of this trend. However, as noted already, this does not equate to an increased number of groups or individuals seeking to cause mass destruction.

THE THREAT OF MASS-DESTRUCTIVE TERRORISM

Terrorism has become more violent, more accessible, and less predictable. These trends have been accompanied by a growing fascination with non-conventional, and especially chemical and biological, weapons. The result has been an increased number of minor incidents involving such agents, and a growing fear, among the government, the public, and the media, that an act of mass-destructive terrorism is increasingly likely within the United States. The reality is currently more nuanced and far less straightforward than such perceptions suggest. The dichotomy between perception and reality, in turn, has had an impact on way that the threat is being countered.

Terrorism with chemical, biological, or radiological materials is likely to occur in the United States. Nuclear terrorism is unlikely to do so: it is simply too difficult, both to acquire fissile material and to construct a viable weapon. Low-level terrorist incidents involving chemical, biological, or radiological materials have already taken place, and they will continue to do so. Such attacks are relatively easy to accomplish and offer clear opportunities for their perpetrators to set themselves apart from other groups, to attract attention to themselves and their cause, and to take advantage of the other attractions of such weapons. However, this is not to suggest that mass-destructive terrorism using such weapons is likely in the United States. Although acquiring small quantities of non-conventional material has proven relatively straightforward for terrorists, acquiring enough to cause mass casualties while remaining undetected by law enforcement agencies is likely to be more challenging, although probably not impossible. The Covenant, the Sword, and the Arm of the Lord acquired 30 gallons of cyanide four years before they were apprehended, for example. However, since this case occurred in the early 1980s, it might be possible to argue that with heightened awareness of the threat and increased controls on some chemicals and biological agents, a repetition would now be tougher. More difficult still for a terrorist group is the problem of effectively weaponizing and disseminating their chemical, biological or radiological agents. This author is technologically unqualified to judge the ease with which terrorists might attempt this weaponization. Nevertheless, it is worth noting that while Aum Shinrikyo probably came closest, no group or individual has obviously succeeded. This leads to the con-

clusion either that terrorists do not want to use chemical, biological, or radiological weapons to cause mass casualties, or else that they have been unable to do so. Either explanation is extremely significant. There can be little doubt that most terrorist groups have no desire to cause mass casualties. Those that do seek to cause mass casualties, have, within the United States, been those least likely to succeed in doing so using chemical, radiological, or biological weapons, due to their small size and lack of resources. This dichotomy between motivation and capability has been noted by a number of authors.⁵¹ It seems likely that the greatest threat of mass-destructive terrorism continues to come from attacks using conventional weapons, such as explosives, as the bombers of Oklahoma City used. If this is so, it raises questions about the appropriateness of current and planned preparations for possible terrorism involving non-conventional weapons.

Part of the reason for the temptation to overcompensate for the danger of WMD terrorism is that the extent of the threat is essentially "unknowable," as Falkenrath has noted.⁵² The problem of "knowability," as it applies to terrorist attacks, is amply demonstrated by the examples of the bombings of the US Embassies in Nairobi and Dar es Salaam on August 7, 1998. The Accountability Review Boards, established to investigate the circumstances of the bombings, found that there had been no intelligence failure and no tactical warning of an attack. Admiral William J. Crowe, who chaired the Boards, noted that the US State Department alone receives around 30,000 threats each year. Although each threat is carefully evaluated, those made against the Nairobi Embassy in 1997 were extremely vague and general, and they changed repeatedly. They were further discounted as time passed and no incident occurred. Crowe stated that:

To this day, after the explosion, we still have no evidence that those particular warnings were connected in any way with the attack.... The fact is that in the state of intelligence today, and in the state of how complex these [terrorist] organizations are, and the difficulty of deriving what they're doing, that it's just not within our reach to have tactical warning. We may have it sometimes, but that's a bonus, not something we can depend on. We've got to assume that we will be without tactical warning and proceed on other bases.⁵³

It would be comforting to believe that, given the technical factors involved in acquiring and using weapons of mass destruction, there would be an increased likelihood of warning prior to such an attack. However, this would be an unwise assumption. The Iraqi case suggests that even the enrichment of nuclear material and subsequent construction of a nuclear-yield device might be difficult to detect. The production of chemical, biological, or radiological weapons would be far easier to keep covert, and these are more likely terrorist weapons than a nuclear-yield weapon. Despite the observations of Admiral Crowe, an intelligence failure remains a possibility too. Aum Shinrikyo manufactured a range of chemical and biological agents, launched numerous attacks prior to their March 20, 1995, use of sarin in the Tokyo underground (including one in June 1994 in Matsumoto in which seven people died), yet they "were not on anyone's radar screens."⁵⁴ It is possible to hope that, in the current climate of heightened awareness and fear about the specter of mass-destructive terrorism, such an oversight could not recur. The example of al-Qaida might even support this assumption, since it does appear that there was intelligence directed against its proliferation activities before it could acquire such weapons, let alone use them. It would be imprudent, however, to believe that this is possible in all cases, since the sheer scale of the task, as well as the legal difficulties of monitoring the plethora of potentially threatening groups in the United States alone, is overwhelming.

Given the "unknowability" of the threat and the potential results of an act of WMD terrorism, it is clearly desirable to over-estimate rather than under-estimate the danger. In the former case, the consequences of being wrong are predominantly financial; in the latter, there is a very real human cost. Nonetheless, the present over-estimation of the danger poses genuine difficulties of its own. To sustain the Domestic Preparedness Program established in fiscal year (FY) 1997 will require substantial commitments, most obviously in maintaining the equipment and training needed by local "first responders." For this purpose, any inclination to "cry wolf" is dangerous. It may be that, in doing so, there is a risk of being ignored, when the threat of attack is more obvious and immediate than at present.

This is not to suggest that there is no threat and therefore the United States should abandon all efforts to counter the danger of mass-destructive terrorism. The vital point is that although the threat does exist, it is not

presently obvious or immediate. Moreover, the likelihood of mass-destructive terrorism using non-conventional weapons seems less plausible presently than the likelihood of another conventional attack of the variety seen at the WTC or the Murrah Federal Building. Thus, the United States should be pursuing countermeasures to terrorism with non-conventional weapons that are proportionate to the danger as it is currently perceived. Such an approach is vital in ensuring that spending is maintained, at appropriate levels and wherever it is needed, to effectively counter this substantial future threat. However, this in turn requires regular and honest assessments of spending programs, in order to determine not only where more funding is needed, but also where money is being squandered. Such waste may occur either as a consequence of programs that are not working effectively to achieve their intended objective, or of inadequate analysis of the threat so that a program has no prospect of ever achieving its objective.

IMPLICATIONS FOR COUNTERMEASURES

Uncertainty about the possibility of detecting and thus preventing a terrorist attack using WMD encourages the belief that the best option is consequence mitigation efforts, of which the Domestic Preparedness Program is a key example. However, to maintain such a program, both the US public and policymakers must understand the true risk and thus be willing to sustain, at a proportionate level, the prolonged, even open-ended, commitment of resources that such a consequence mitigation effort requires. Interest in and concern over this threat cannot be allowed to wane in the face of constant bombardment with alarmist threat assessments that, so far, have failed to materialize. There have been a number of reports indicating that the American public may be becoming blasé about the threat of WMD terrorism and believe that "it is not going to happen in my town." This sentiment appears especially prevalent in small towns where the assumption may be that terrorism is a big city issue. Such a belief is clearly false; as antiterrorism measures in major cities take effect, it is increasingly likely that terrorists will focus on softer targets, as offered by small towns.⁵⁵

The US response program should be tailored to the threat. That means that national assets should be available to assist in dealing with a catastrophic attack, but that the local- and state-level responses should be capable of dealing with the more likely medium-conse-

quence event. Such a division is imperative due to the importance of responding rapidly and effectively to an incident. This division is almost certainly the intended aim of the US response program, but is difficult to achieve effectively because of the scope for duplication and the need to view the problem strategically when deploying assets. The connections between local- and national-level response, along with the allied problems of co-ordination and sustainability, have been at the core of the difficulties that have hindered response programs in the United States.

The objectives of the Domestic Preparedness Program are laudable, and it is essential that the problem of mass-destructive terrorism be recognized and addressed. However, the US government response to the issue largely has been to throw money at the situation, and it is not clear that it is doing so in a way that reflects either the threat or strategic planning. This situation may improve with the release of the first stage of the report by the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction (the Gilmore Commission). One of the panel's central recommendations was:

That the United States needs to have a viable national strategy to guide the development of a clear, comprehensive, and truly integrated national domestic preparedness against CBRN terrorism, one that recognizes that the Federal role will be defined by the nature and severity of the incident but will generally be supportive of state and local authorities, who traditionally have the fundamental responsibility for response.... [The United States needs] a strategy that clearly delineates and distinguishes Federal, state, and local roles and responsibilities and articulates clear direction for Federal priorities and programs to support local responders.⁵⁶

The FY 2000 budget includes \$10 billion to defend against terrorism, including terrorism with WMD.⁵⁷ Of this \$10 billion, \$8.6 billion is for combating terrorism, including that involving WMD, and \$1.4 billion is for critical infrastructure protection.⁵⁸ This is a continuation of the measures, first funded in FY 1997, which included a five-year effort to equip and train first responders in the 120 largest cities in the United States. In 1998, Congress approved an additional \$300 million for preparedness against WMD. Initiatives included the im-

provement of the public health surveillance system, so that medical staff would be better able to recognize and deal with the effects of a release of a biological agent. Another step was the establishment of a civilian medical stockpile, intended to offer vaccines and treatments to those exposed to chemical or biological weapons.⁵⁹

Several aspects of these programs have been criticized, such as the feasibility of providing vaccines or treatments in sufficient quantities for the spectrum of possible chemical or biological agents. However, the overarching and most important issue arising from these efforts is the problem of sustainability. For example, how will the training of first responders be maintained? Presumably, to be effective, this training needs to be regularly updated and refreshed. Yet, of the 120 cities identified to receive training, only about one-third had received initial training from the Department of Defense by the end of 1998, two years into the program. How realistic is it, therefore, to hope to maintain a high level of first responder competence across the board? Furthermore, by focusing on the 120 most populous metropolitan areas, the first responders program leaves entire states with no training, while California and Texas have, between them, 30 cities due to receive training.⁶⁰

An equal problem is that of the equipment relating to the Domestic Preparedness Program. The present plan calls for the federal government to lend expensive and often highly complex equipment to cities for five years. The cities are responsible for repairing, maintaining and, after five years, purchasing replacement equipment. The Federal Emergency Management Agency (FEMA) has estimated that it will cost the average city between \$800,000 and \$1 million, simply to equip itself.⁶¹ The question that must be considered, and then addressed, is: what happens after 2001 when the training of first responders is supposed to be completed and the five-year loans of equipment to cities are finished? Will cities find themselves with little or no useful equipment and first responders who have half-remembered training for dealing with a WMD incident? Or will the federal government be willing to continue to fund these programs at their present level? It seems certain that the previous good work will not be permitted to be lost, that continued funding will be found, probably from the federal government. Nevertheless, such issues are emblematic of the uncertainties and confusion that continue to plague the Domestic Preparedness program.

In part, such difficulties stem from the need to respond to a threat demanding an effort that spans multiple agencies and levels of government. A really major incident would involve officials from local, state, and federal government departments, many with overlapping jurisdictions. The response to an attack would obviously vary, depending on whether it was chemical or biological weapons that were involved. However, it is likely that many levels of the health, emergency response, and law enforcement communities would be involved. In extreme cases, it is envisaged that the military or National Guard might also be required to assist. The Gilmore Commission found that, "despite recent improvements, too much ambiguity remains about the issue of 'who's in charge' if an incident occurs" and recommended "that efforts be accelerated to develop and to test agreed-on templates for command and control under a wide variety of terrorist threat scenarios."⁶²

A central problem with the entire response program within the United States is that there is no overarching co-ordination. No single person or even independent agency oversees the whole effort, assessing its effectiveness and determining the most pressing needs for more funds. The Gilmore Commission, issuing its first annual report in December 1999, noted that "the country's seeming inability to develop and implement a clear, comprehensive, and truly integrated national domestic preparedness strategy means that we may still remain fundamentally incapable of responding effectively to a serious terrorist attack."⁶³

Although many have doubtless requested money for their organizations for the best of reasons, Congress has been beset by demands for fresh funds to deal with mass-destructive terrorism. Ehud Sprinzak has even gone so far as to describe the allocation of funds to combat and research the nature of the threat as a "grave train."⁶⁴ Whether through an inability or unwillingness to judge competing demands for money, the result has been unsurpassed largesse on the part of Congress. Mark Gebicke, director of the National Security Preparedness division of the General Accounting Office, was recently quoted as saying: "It is time to take stock, sort out what we need vs. what we have and make sure we get the right programs funded in the right amounts." He added, "It's an easy way for federal agencies to get dollars now, so they jump on the bandwagon. We see quite a bit of duplication. Somebody's got to get a grip."⁶⁵

It is even likely that some programs, presently being funded, are largely superfluous. An often-cited example is the National Guard's Rapid Assessment and Initial Detection (RAID) teams. Their specified role is three-fold: to assess the situation in the event of an incident involving chemical, biological, nuclear, or radiological weapons; to advise civilian responders on appropriate actions; and to aid in the identification and movement of federal military assets to the incident.⁶⁶ However, their functions closely duplicate those of other bodies on the local, state, and federal levels. Moreover, since they are state-level assets and any request for assistance from the National Guard would have to go through the state governor's office first, RAID teams are likely to arrive at the scene of an incident only after other, similar teams have already done so. In spite of this, the FY 1999 budget allocated \$52 million for the establishment, training, and equipping of the first 10 of 54 RAID teams. In FY 2000, \$38 million was requested for the continued support of these 10 teams and the establishment of five more. It is also envisaged that RAID (Light) teams will be established in states without a full RAID team. Such teams would consist of four members with a limited response capability.⁶⁷ The question is how useful, in reality, such a team would be, given that RAID teams would be required to respond only to incidents of high severity.

The Marines' Chemical-Biological Incident Response Force (CBIRF) is a similar example of a well-intentioned organization being of dubious value in the US civilian response. CBIRF's primary role is military force protection, a vital responsibility for which it is eminently well suited. However, as a result of its undoubted technical and medical expertise, it is also envisaged that CBIRF could play a role advising and assisting the civilian response in the event of a catastrophic attack with non-conventional weapons. Its purpose is to provide the necessary reconnaissance, detection, and decontamination of casualties from the deployment of chemical or biological weapons.⁶⁸ There are CBIRF teams on stand-by, ready to respond, on a six-hour window, around the clock. However, since they are based at Camp Lejeune, North Carolina, it is clear that the time between an incident occurring and CBIRF arriving at the scene of the attack will be several hours more. Their response time to an incident in California, for example, is likely to be well over 10 hours. The problem is exacerbated by the difficulties, within the United States, of using a military force to respond to a civilian

incident. CBIRF would be deployed by order of the secretary of defense, following a request for assistance from the governor of the state in which the incident occurred. This too would add to the delay between an incident occurring and CBIRF arriving at the scene. Therefore, CBIRF's primary role in responding to a civilian incident is likely to be decontamination of people and critical equipment, a vital job, but less than is presently envisaged for the team. One of CBIRF's most effective roles has been as the model and trainer for other response and consequence management forces. They have worked with civil disaster managers, the FBI, and FEMA, among others, to enhance civil response to an incident involving chemical or biological agents.⁶⁹ It is this teaching and advising role of CBIRF, before an incident occurs, that should be promoted most actively since it is the local- and state- level forces that will have to provide the bulk of the response.

Analysis of agents would most likely occur federally at either Fort Detrick, Maryland, or at the Centers for Disease Control and Prevention (CDC) in Atlanta. However, both are research, rather than testing, facilities and have had difficulties gearing up to provide the rapid turnaround of samples that would be required in the event of a suspected attack with chemical or biological weapons. This problem was amply demonstrated in the example of the testing of West Nile Fever samples from New York City in September 1999. Although in this case the outbreak was not terrorist-induced, it did show how relatively slow it might be to get a clearcut answer on the nature of a disease. This is a major potential problem if the disease involved is particularly contagious. Serologic tests, such as that for plague, have only a two-hour turnaround time, but are not available throughout the country. Blood and body fluid culture tests have a 24 to 48 hour turnaround time, and viral testing requires specialized facilities. Clearly, it would be helpful if there were more local facilities to increase bio-surveillance capabilities. There have been proposals, within California for example, for state or regional centers of excellence for testing, rather than a dependence on national-level assets for testing. Such a scheme would, for example, allocate money to upgrade Level 3 facilities to Level 4 ones.⁷⁰ This is a proposal that makes eminent sense and should be promoted in other aspects of the response efforts since speed as well as quality are vital in dealing with incidents involving chemical and biological weapons. The aim should be for local- and state- level authorities to be capable of dealing with all

but the most catastrophic incident, without recourse to national assets. This is also in line with the true terrorist threat, since a medium-consequence attack is far more likely than a mass casualty, ultra-high consequence, one. Local- and state-level response should be geared to dealing with this medium-level threat.

One of the most critical failures of the entire program has been the lack of agreement on the nature of the threat. For example, the Department of Health and Human Services uses 1,000 casualties, both dead and injured, as the critical level for planning purposes, but this represents an arbitrary assumption, rather than an official definition. FEMA, the Department of Defense, and the Department of Justice all also have no single definition of mass casualties that they have agreed upon internally, let alone on an inter-agency level. Representatives of several agencies unofficially define mass casualties as the number required to overwhelm local response efforts.⁷¹ However, this would vary enormously from region to region and is a questionable definition anyway. Does being overwhelmed mean that the healthcare system is unable to tend patients, to even reach them, or simply that there are no beds remaining for incoming patients? The point at which federal assets are to become involved must be made clearer.

Finally, it is essential for responders and policymakers to remain aware that the likelihood of a catastrophic attack involving chemical, biological, radiological, or nuclear materials is substantially less than that of a massive attack with conventional weapons. Much of the \$10 billion, allocated in FY 2000, to counterterrorism is as applicable to dealing with the conventional threat as the non-conventional one. The use of intelligence to track terrorist groups, for example, requires similar techniques and assets irrespective of whether the terrorist organization plans to use conventional or non-conventional weaponry. However, there are measures that are specific to alleviating the impact of massive conventional attacks. The most obvious of these relate to target hardening. Buildings cannot be made totally impervious to massive explosions, but it is possible to reduce some of the consequences of such attacks. At the most basic level, this means installing shatter-proof glass and establishing perimeter defenses that limit the ability of truck bombers to drive up to, or into, a building. At a more advanced level, this means constructing reinforced buildings that are less likely to crumple floor upon floor. Such measures are not always possible: the cost of con-

structing new buildings or reinforcing existing ones is considerable, and even establishing perimeters can be difficult when the vulnerable building is close to other buildings. Nonetheless, such target hardening is already occurring. It is obviously impossible to effectively harden every conceivable target: even the cost of protecting every US embassy would be immense. Hoping to protect every federal building in the United States would clearly be impossible. However, given that the conventional threat is the more likely one, it is vital that these target hardening measures continue and are increased. There needs to be continual assessments of the most vulnerable US facilities and subsequent action to alleviate this vulnerability. Such measures are, and will remain, less publicized or spectacular than those dealing with non-conventional weapons, but they are at least as vital in the effort to minimize casualties.

CONCLUSION

Trends are useful only as a guide, rather than a prophecy, for the future. However, it does seem clear that the lethality of terrorism is increasing, that terrorism is becoming less predictable, and that there is an increased interest by terrorists in weapons with the potential to cause mass casualties. All of these factors contribute towards an increased likelihood of WMD terrorism. However, we are not yet in a position where WMD terrorism is imminent or likely, but at a stage where it could rapidly become so. This threat will be present for the foreseeable future. Conventional weapons are more likely than non-conventional ones to be used for such an attack. However terrorist attacks with non-conventional weapons are not only likely, but have also occurred already, albeit at a low level. It is therefore imperative that countermeasures to this danger be sustained and consistently prioritized; this means being willing to make more realistic risk assessments of the true threat and to respond proportionately to those assessments. The goal should be a local-level response able to deal with all but the most catastrophic of attacks. That, in turn, requires recognition that the response must be prioritized to ensure the maximum achievable security over a prolonged period.

⁷¹ US Senate, Judiciary Committee, "US Government's Response to International Terrorism," *Statement of Louis Freeh, Director, Federal Bureau of Investigation, Before the Judiciary Committee, 105th Cong., 2nd Session, September 3, 1998*, <<http://www.fbi.gov.congress.terror.html>>.

- ² First Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, *1: Assessing the Threat*, December 15, 1999, pp. 58-9, RAND Corporation website, <<http://www.rand.org/organization/nsrd/terrpanel/terror.pdf>>.
- ³ Cited in United States General Accounting Office, *Combating Terrorism: Threat and Risk Assessment Can Help Prioritize and Target Program Investments*, GAO/NSIAD-98-74, April 1998, p. 1, n. 2.
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- ¹⁷ It is worth noting that the majority of these casualties were self-reported. Fred Sidell, a member of the US medical team that attended the casualties from the March 20 attack, reported that the group was told that there had been 5,510 casualties. Of these, 12 were fatalities; 17 people were critically injured; 37 were severely injured; and 984 were moderately injured. This leaves over 4,000 casualties who reported to medical facilities who appeared to have nothing wrong with them. Whether these 4,000 are counted as casualties depends on whether one is assessing the actual injuries caused by the attack or the impact of the attack both psychologically and in the need for healthcare provision. Fred Sidell, "U.S. Medical Team Briefing," *Proceedings of the Seminar on Responding to the Consequences of Chemical and Biological Terrorism*, Sponsored by the US Public Health Service, Office of Emergency Preparedness, Conducted at The Uniformed Services University of Health Sciences, Bethesda, MD, July 11-14, 1995, pp. 2-32 - 2-33.
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