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## Testimony

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# COMBATING TERRORISM

## Observations on Biological Terrorism and Public Health Initiatives

Statement of Henry L. Hinton, Jr., Assistant Comptroller  
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Division



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Mr. Chairman and Members of the Committee and Subcommittee:

I am pleased to be here to discuss our ongoing work and preliminary observations on the biological terrorist threat and some aspects of the Department of Health and Human Services' (HHS) bioterrorism initiative. As you know, our ongoing work was requested by you in your capacity as the Chairman and Senator Rockefeller as Ranking Minority Member of the Senate Veterans' Affairs Committee; Congressman Shays as the Chairman of the House Government Reform Committee, Subcommittee on National Security, Veterans Affairs, and International Relations; and Congressman Skelton as Ranking Minority Member of the House Armed Services Committee. Over the past 3 years, we have studied and reported on a number of issues concerning federal agencies' programs and activities to combat terrorism. A list of related GAO reports and testimonies is in appendix I.

It is frightening to think that a lone terrorist or terrorist group might be able to improvise a biological weapon or use other means to spread anthrax, smallpox, or other biological agents to cause mass casualties and overwhelm the health care system in the United States. There is no question that it would be unconscionable not to prepare to respond to, if not be able to prevent, such an incident. But some very important questions should be asked and answered as an integral part of any federal decision to invest in medical countermeasures or preparedness initiatives. This is one of those few areas in which national security and public health issues clearly intersect. It is also an area in which many disciplines of expertise must come together to perform the challenging tasks of assessing an emerging threat and focusing our investments on the most appropriate countermeasures and preparedness efforts.

My testimony will address four issues. First, I will briefly discuss intelligence agencies' judgments about the threat of terrorism. Second, I will highlight the importance and benefits of threat and risk assessments to provide a sound basis for targeting the nation's investments in combating terrorism—a widely recognized sound business practice we have discussed in our reports and testimonies.<sup>1</sup> Third, I will share some preliminary

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<sup>1</sup>See Combating Terrorism: Spending on Governmentwide Programs Requires Better Management and Coordination (GAO/NSIAD-98-39, Dec. 1, 1997); Combating Terrorism: Threat and Risk Assessments Can Help Prioritize and Target Program Investments (GAO/NSIAD-98-74, Apr. 9, 1998); and Combating Terrorism: Observations on Federal Spending to Combat Terrorism (GAO/T-NSIAD/GGD-99-107, Mar. 11, 1999).

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observations from our ongoing work on the science behind the biological and chemical terrorist threat, with some focus on biological agents. Finally, I will provide some of our overall observations on public health initiatives that deal with a new national pharmaceutical stockpile and the basis for selecting items to research, produce, procure, and stockpile for civilian defense against terrorism.

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## Summary

The U.S. intelligence community continuously assesses both the foreign-origin and the domestic terrorist threat to the United States and notes that, overall, conventional explosives and firearms continue to be the weapons of choice for terrorists. Terrorists are less likely to use biological and chemical weapons than conventional explosives, at least partly because they are difficult to weaponize and the results are unpredictable. However, some groups and individuals of concern are showing interest in biological and chemical agents. The possibility that terrorists may use biological and chemical materials may increase over the next decade, according to intelligence agencies. While biological and chemical terrorism is still an emerging threat, many agencies have initiated programs and activities—with Congress' support and funding—to combat and prepare for this threat.

We have previously reported on the value of a new, post-Cold War approach of using sound threat and risk assessments performed by a multidisciplinary team of experts for focusing programs and investments to combat terrorism. Without such assessments using sound inputs and a multidisciplinary team of experts, there is little or no assurance that programs and spending are focused in the right areas in the right amounts.

We are looking into the scientific and practical feasibility of a terrorist or terrorist group improvising a biological weapon or device outside a state-run laboratory and program, successfully and effectively disseminating biological agents, and causing mass casualties.<sup>2</sup> Much of the information we have obtained is sensitive, classified, and in the early stages of evaluation. Overall, our work to date suggests that, for the most part, there are serious challenges at various stages of the process for a terrorist group or individual to successfully cause mass casualties with an

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<sup>2</sup>We recognize that some agents are communicable and could be spread without a weapon or device.

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improvised biological or chemical weapon or device. More specifically, our preliminary observations are that

- a terrorist group or individual generally would need a relatively high degree of sophistication to successfully and effectively process, improvise a device or weapon, and disseminate biological agents to cause mass casualties;
- a weapon could be made with less sophistication, but it would not likely cause mass casualties;
- some biological agents are very difficult to obtain and others are difficult to produce; and
- effective dissemination of biological agents can be disrupted by environmental (e.g., pollution) and meteorological (e.g., sun, rain, mist, and wind) conditions.

For its part of domestic preparedness initiatives for combating terrorism, HHS received about \$160 million in fiscal year 1999. These funds are intended for a variety of related preparedness efforts, including research and development and a new national stockpile for pharmaceuticals, millions of doses of vaccines for smallpox and anthrax, antidotes for chemical agents, and other items. For fiscal year 2000, HHS has requested \$230 million for public health initiatives for dealing with bioterrorism. Our preliminary observations follow:

- HHS has not yet performed a documented, formal, methodologically sound threat and risk assessment with a multidisciplinary team of experts to derive, prioritize, or rank—in accordance with the most likely threats the nation will face—the specific items it plans to have researched, developed, produced, and stockpiled.
- Several of the items HHS plans to procure seem to be geared toward the worst-possible consequences from a public health perspective and do not match intelligence agencies' judgments on the more likely biological and chemical agents a terrorist group or individual might use.
- It is unclear from the HHS fiscal year 1999 operating plan whether and to what extent the Department has fully considered the long-term costs, benefits, and return on investment of creating and sustaining the production and inventory infrastructure for such an initiative.

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## The Foreign and Domestic Terrorism Threat in the United States

The bombings of the World Trade Center in 1993 and the federal building in Oklahoma City, Oklahoma, in 1995, along with the use of a nerve agent in the Tokyo subway in 1995, have elevated concerns about terrorism in the United States—particularly terrorists' use of chemical and biological weapons. The U.S. intelligence community, which includes the Central Intelligence Agency, the Defense Intelligence Agency, the National Security Agency, the Federal Bureau of Investigation, and others, has continuously assessed the foreign-origin and domestic terrorist threats to the United States. According to intelligence agencies, conventional explosives and firearms continue to be the weapons of choice for terrorists. Terrorists are less likely to use chemical and biological weapons, at least partly because they are more difficult to weaponize and the results are unpredictable. However, some groups and individuals of concern are showing interest in chemical and biological weapons. According to the FBI, there were 4 confirmed incidents of terrorism in the United States in 1992, compared with 12 in 1993, zero in 1994, 1 in 1995, 3 in 1996, and 2 in 1997. These incidents involved the use of conventional weapons.

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## Threat and Risk Assessments Can Help Define Requirements and Prioritize and Focus Program Investments

We have pointed out that sound threat and risk assessments can be used to define and prioritize requirements and properly focus programs and investments in combating terrorism. Soundly established requirements could help ensure that specific programs and initiatives and related expenditures are justified and targeted, given the threat and risk of validated terrorist attack scenarios as assessed by a multidisciplinary team of experts.

Several public and private sector organizations use formal, qualitative threat and risk assessments to manage risk and identify and prioritize their requirements and expenditures. For example, the Defense Threat Reduction Agency, the Department of Energy, and the Federal Aviation Administration use such assessments in their programs. In addition, the President's Commission on Critical Infrastructure Protection<sup>3</sup> recommended in its final report that threat and risk assessments be performed on the nation's critical infrastructures, such as telecommunications, electric power, and banking and finance systems. In fact, the Federal Emergency Management Agency strongly endorses the

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<sup>3</sup>The Commission, a government-private sector body established in 1996, was to develop a national strategy to protect the nation's critical infrastructures from physical and computer-based threats.

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concept of risk assessment, as it is the key to predisaster hazard mitigation—the foundation of emergency management. Moreover, the Department of Energy has stated that domestic preparedness program equipment purchases should be delayed until a risk assessment is completed to ensure that appropriate equipment is obtained.

Threat and risk assessments are grounded in a new, post-Cold War approach to thinking about and dealing with security issues called risk management. Risk management is the deliberate process of understanding “risk”—the likelihood that a threat will harm an asset with some severity of consequences—and deciding on and implementing actions to reduce it. Risk management principles acknowledge that (1) while risk generally cannot be eliminated it can be reduced by enhancing protection from validated and credible threats and (2) although many threats are possible, some are more likely to occur than others. Threat and risk assessment is a deliberate, analytical approach that results in a prioritized list of risks (i.e., threat-asset-vulnerability combinations) that can be used to select countermeasures to create a certain level of protection or preparedness. Generally, because threats are dynamic and countermeasures may become outdated, it is sound practice to periodically reassess threat and risk.

The critical first step in a sound threat and risk assessment process is the threat analysis. The analysis should identify and evaluate each threat in terms of capability and intent to attack an asset, the likelihood of a successful attack, and its consequences. To perform a realistic threat assessment, a multidisciplinary team of experts would require valid foreign and domestic threat data from the intelligence community and law enforcement. The intelligence community’s threat reporting on foreign-origin terrorism is often general and, without clarification, could be difficult to use. However, a multidisciplinary team of experts can use the best available intelligence information on foreign-origin and domestic threats to develop threat scenarios. The intelligence community could then compare the threat scenarios to its threat reporting and validate or adjust the scenarios with respect to their realism and likelihood of occurrence as appropriate.

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## Our Ongoing Work Examining the Biological and Chemical Terrorist Threat

On the basis of information we obtained and analyzed to date, a terrorist group or individual<sup>4</sup> would generally need a relatively high degree of sophistication to successfully and effectively process, improvise a device or weapon, and disseminate biological agents to cause mass casualties. John Lauder, Special Assistant to the Director of Central Intelligence for Nonproliferation, recently testified that “the preparation and effective use of biological weapons by both potentially hostile states and by non-state actors, including terrorists, is harder than some popular literature seems to suggest.”<sup>5</sup> Because we are in an open forum and our work is sensitive and preliminary in nature, my discussion will remain limited.

Our ongoing synthesis of information and technical data from recognized experts suggests that some exotic biological agents—such as smallpox—are difficult to obtain, and others—such as plague—are difficult to produce. Processing biological agents for effective dissemination to cause mass casualties requires specific, detailed knowledge and specialized equipment. Moreover, improvising a device or weapon that can effectively disseminate biological agents to cause mass casualties may require certain items that are not readily available. In addition, successful and effective dissemination of biological agents in the right form requires the proper environmental and meteorological conditions and appropriate energy sources.

That is not to say that casualties would not occur if less sophisticated means were used. For example, if an agent were dispersed in a less effective form using less effective equipment, some casualties might occur. However, under these circumstances, the potential incident would be less likely to cause mass casualties. What we have learned is that capability is a critical factor. Terrorists have to handle risk, overcome production difficulties, and effectively disseminate a biological agent to cause mass casualties.

We continue to gather and evaluate data on these matters and plan to report to our requesters this summer.

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<sup>4</sup>For the purposes of our work, we define terrorist(s) as a non-state actor not provided with a state-developed weapon.

<sup>5</sup>Unclassified statement by Special Assistant to the Director of Central Intelligence for Nonproliferation on the Worldwide Biological Warfare Threat to the House Permanent Select Committee on Intelligence, March 3, 1999.

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## Preliminary Observations on HHS' Public Health Initiatives Related to Bioterrorism

On June 8, 1998, the President forwarded to Congress a fiscal year 1999 budget amendment that included a proposal to (1) build—for the first time—a civilian stockpile of antidotes and vaccines to respond to a large-scale biological or chemical attack, (2) improve the public health surveillance system to detect biological or chemical agents rapidly and analyze resulting disease outbreaks, (3) provide specialized equipment and training to states and localities for responding to a biological or chemical incident, and (4) expand the National Institutes of Health's research into vaccines and therapies. The Omnibus Consolidated and Emergency Supplemental Appropriations Act (P.L. 105-277) included \$51 million for the Centers for Disease Control and Prevention to begin developing a pharmaceutical and vaccine stockpile for civilian populations. The act also required that HHS submit an operating plan to the House and Senate Committees on Appropriations before obligating the funds. The fiscal year 2000 request for HHS' bioterrorism initiative is \$230 million, including \$52 million for the Centers for Disease Control and Prevention to continue procurement of a national stockpile.

Our preliminary work suggests that an ad hoc interagency health care group led by HHS has not yet performed a formal, documented threat and risk assessment to establish its list of biological and chemical terrorist threat agents against which it should stockpile. In fact, several of the items HHS plans to procure do not match intelligence agencies' judgments, as explained to us, on the most likely chemical and biological agents a terrorist group or individual might use. According to HHS officials, the group identified its list through a process of evolutionary consensus among federal and nonfederal health experts. Because HHS did not document its process or methodology, we have difficulty evaluating its soundness and comprehensiveness.

According to HHS officials, the interagency participants identified the list based on

- agent characteristics such as transmissibility and stability,
- likely impact on population (i.e., can it cause mass casualties),
- availability of treatment, and
- whether the agent could be weaponized.

The group chose four biological agents for HHS' stockpiling initiatives— inhalation anthrax, pneumonic plague, smallpox, and tularemia

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(a bacteria)—because of their ability to affect large numbers of people (create mass casualties) and tax the medical system.

On the basis of our discussions with HHS officials, it is unclear to us whether and to what extent intelligence agencies' official written threat analyses were used in their process. According to the Joint Security Commission's 1994 report on Redefining Security, without documented threat information, countermeasures are often based on worst-case scenarios. Valid, current, and documented threat information is crucial to ensuring that countermeasures or programs are not based solely on worst-case scenarios and are therefore out of balance with the threat. While HHS officials told us that they obtained information from various experts, including intelligence analysts, the ad hoc interagency group making the decisions comprised representatives only from the health and medical community. As a result, we have not seen any evidence that the group's process has incorporated the many disciplines of knowledge and expertise or divergent thinking that is warranted to establish sound requirements for such a complex and challenging threat and to focus on appropriate medical preparedness countermeasures.

As required in the appropriations act I mentioned earlier, HHS prepared an operating plan for its fiscal year 1999 bioterrorism initiative. The plan discusses numerous activities on which the fiscal year 1999 appropriations will be spent within four areas:

- deterrence of biological terrorism,
- surveillance for unusual outbreaks of illness,
- medical and public health responses, and
- research and development.

We have reviewed the unclassified version of the operating plan. On the basis of our review of the plan, it is unclear whether and to what extent HHS has fully considered the long-term costs, benefits, and return on investment of establishing the production and inventory infrastructure for such an initiative. The reason I raise the issue of return on investment is that, until a valid threat and risk assessment is performed, we question whether stockpiling for the items on the current HHS list is the best approach for investing in medical preparedness. In addition, the HHS plan does not clearly address issues surrounding (1) the long-term costs of maintaining an inventory of items with a shelf life or (2) the safety and efficacy of expedited regulatory review of new drugs and vaccines.

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## Conclusions

We see many challenges ahead for HHS as it continues to decide how to target its investments for this emerging threat. Many frightening possible scenarios can be generated. But the daunting task before the nation is to assess—to the best of its ability—the emerging threat with the best available knowledge and expertise across the many disciplines involved. The United States cannot fund all the possibilities that have dire consequences. By focusing investments on worst-case possibilities, the government may be missing the more likely threats the country will face. With the right threat and risk assessment process, participants, inputs, and methodology, the nation can have greater confidence that it is investing in the right items in the right amounts. Even within the lower end of the threat spectrum—where the biological and chemical terrorist threat currently lies—the threats can still be ranked and prioritized in terms of their likelihood and severity of consequences. A sound threat and risk assessment could provide a cohesive roadmap to justify and target spending for medical and other countermeasures to deal with a biological and/or chemical terrorist threat.

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Mr. Chairman, Members of the Committee and Subcommittee, that concludes my prepared remarks. I would be happy to answer any questions you may have.

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# Related GAO Products

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Combating Terrorism: Observations on Federal Spending to Combat Terrorism (GAO/T-NSIAD/GGD-99-107, Mar. 11, 1999).

Combating Terrorism: FBI's Use of Federal Funds for Counterterrorism-Related Activities (FYs 1995-98) (GAO/GGD-99-7, Nov. 20, 1998).

Combating Terrorism: Opportunities to Improve Domestic Preparedness Program Focus and Efficiency (GAO/NSIAD-99-3, Nov. 12, 1998).

Combating Terrorism: Observations on the Nunn-Lugar-Domenici Domestic Preparedness Program (GAO/T-NSIAD-99-16, Oct. 2, 1998).

Combating Terrorism: Observations on Crosscutting Issues (GAO/T-NSIAD-98-164, Apr. 23, 1998).

Combating Terrorism: Threat and Risk Assessments Can Help Prioritize and Target Program Investments (GAO/NSIAD-98-74, Apr. 9, 1998).

Combating Terrorism: Spending on Governmentwide Programs Requires Better Management and Coordination (GAO/NSIAD-98-39, Dec. 1, 1997).

Combating Terrorism: Efforts to Protect U.S. Forces in Turkey and the Middle East (GAO/T-NSIAD-98-44, Oct. 28, 1997).

Combating Terrorism: Federal Agencies' Efforts to Implement National Policy and Strategy (GAO/NSIAD-97-254, Sept. 26, 1997).

Combating Terrorism: Status of DOD Efforts to Protect Its Forces Overseas (GAO/NSIAD-97-207, July 21, 1997).

Chemical Weapons Stockpile: Changes Needed in the Management Structure of Emergency Preparedness Program (GAO/NSIAD-97-91, June 11, 1997).

State Department: Efforts to Reduce Visa Fraud (GAO/T-NSIAD-97-167, May 20, 1997).

Aviation Security: FAA's Procurement of Explosives Detection Devices (GAO/RCED-97-111R, May 1, 1997).

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Aviation Security: Commercially Available Advanced Explosives Detection Devices (GAO/RCED-97-119R, Apr. 24, 1997).

Terrorism and Drug Trafficking: Responsibilities for Developing Explosives and Narcotics Detection Technologies (GAO/NSIAD-97-95, Apr. 15, 1997).

Federal Law Enforcement: Investigative Authority and Personnel at 13 Agencies (GAO/GGD-96-154, Sept. 30, 1996).

Aviation Security: Urgent Issues Need to Be Addressed (GAO/T-RCED/NSIAD-96-151, Sept. 11, 1996).

Terrorism and Drug Trafficking: Technologies for Detecting Explosives and Narcotics (GAO/NSIAD/RCED-96-252, Sept. 4, 1996).

Aviation Security: Immediate Action Needed to Improve Security (GAO/T-RCED/NSIAD-96-237, Aug. 1, 1996).

Passports and Visas: Status of Efforts to Reduce Fraud (GAO/NSIAD-96-99, May 9, 1996).

Terrorism and Drug Trafficking: Threats and Roles of Explosives and Narcotics Detection Technology (GAO/NSIAD/RCED-96-76BR, Mar. 27, 1996).

Nuclear Nonproliferation: Status of U.S. Efforts to Improve Nuclear Material Controls in Newly Independent States (GAO/NSIAD/RCED-96-89, Mar. 8, 1996).

Aviation Security: Additional Actions Needed to Meet Domestic and International Challenges (GAO/RCED-94-38, Jan. 27, 1994).

Nuclear Security: Improving Correction of Security Deficiencies at DOE's Weapons Facilities (GAO/RCED-93-10, Nov. 16, 1992).

Nuclear Security: Weak Internal Controls Hamper Oversight of DOE's Security Program (GAO/RCED-92-146, June 29, 1992).

Electricity Supply: Efforts Underway to Improve Federal Electrical Disruption Preparedness (GAO/RCED-92-125, Apr. 20, 1992).

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**Appendix I**  
**Related GAO Products**

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Economic Sanctions: Effectiveness as Tools of Foreign Policy  
(GAO/NSIAD-92-106, Feb. 19, 1992).

State Department: Management Weaknesses in the Security Construction Program (GAO/NSIAD-92-2, Nov. 29, 1991).

Chemical Weapons: Physical Security for the U.S. Chemical Stockpile  
(GAO/NSIAD-91-200, May 15, 1991).

State Department: Status of the Diplomatic Security Construction Program  
(GAO/NSIAD-91-143BR, Feb. 20, 1991).

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