

STUDY MOTIVATION AND OBJECTIVE

The September 11 attacks and the anthrax incidents that occurred in autumn 2001 clearly demonstrated to Americans that the possibility of becoming a victim of terrorism is very real. This new awareness has generated considerable interest and concern about how Americans should best prepare for, and respond to, terrorist attacks in the future.

Central to such preparation and response planning are the roles of federal, state, and local government agencies, which include activities ranging from global intelligence gathering to local emergency response. Beginning in the mid-1990s and accelerating rapidly since September 2001, all levels of government have focused on improving their capabilities to foresee, intercept, prepare for, and respond to terrorism in the United States.

The role of the individual citizen is a potentially valuable additional component of our nation's effort to prepare for terrorism. Addressing the role individuals can play in preparing for and responding to terrorist attacks has benefits on two levels. On one level, an act of terrorism will result in an emergency situation and, as with any sort of emergency event, there are a number of preparatory and response activities that individuals can engage in to help protect their safety and health. On another level, because ordinary citizens are a primary target of terrorism, being informed, prepared, and ready to respond is likely to provide an individual with a sense of empowerment and confidence to combat the feelings of violation and despair that are the aims of terrorism. Moreover, if terrorists believe that they are less likely to be successful because of individual preparedness, then that preparedness could also serve to deflect terrorists from attacks against Americans.

Although considerable progress is being made in preparing government agencies to deal with terrorism, comparatively little attention had been paid to preparing the average citizen when this study began in fall 2002. This was

understandable, given the formidable challenges and uncertainties involved. For example, predicting what kinds of terrorist attacks may occur in the future is very difficult, making it hard to advise individuals on a course of action. Questions also exist about how government agencies and other emergency response organizations will respond after an attack and how their activities will interface with what individuals will need to do for themselves.

To fill the gap, the Alfred P. Sloan Foundation asked RAND to undertake a study to examine the steps individuals should take to improve their ability to survive a catastrophic terrorist attack.

STUDY APPROACH

In carrying out the study objective, we used a scenario-driven approach to identify individual preparedness and response actions that enhance the safety and security of individuals in chemical, radiological, nuclear, and biological terrorist attacks.¹ In this way, the analysis and recommendations in this report form the basis for a personal strategy for these types of terrorist attacks. In focusing on the role of individuals, the strategy complements the efforts of the government and private organizations who have critical roles to play. The strategy involves actions an individual would take to prepare and then respond in the event of an actual attack. Steps that individuals are now taking or might take to avoid such attacks are not considered as part of this report.

A strength of this approach is that it uses the effects of terrorist attacks and the resulting needs of individuals to identify potential actions that will result in the best protection for individuals who are victims. Working in the other direction—that is, adapting existing emergency guidelines to terrorist attacks—can lead to overlooked particular needs or can result in ambiguous, unnecessary, or counterproductive guidance.

The report focuses on developing an individual's strategy for large terrorist attacks involving chemical, radiological, nuclear, and biological weapons, which are collectively referred to in this report as unconventional weapons. The strategy combines overarching goals, individual response actions to carry out in the event of an attack, priorities to keep in mind in carrying out these actions, and preparatory steps required to take the actions.

¹Scenarios have been used effectively in designing strategies for mitigating other types of hazards and for establishing property insurance premiums in the cases of earthquakes and floods. They are now being used in government emergency response efforts for terrorist attacks. This report extends this scenario-based approach to address individual preparedness and response to terrorist attacks.

In developing this strategy, we drew on several resources. Our analysis included extensive research on the effects of different potential terrorist attack weapons, review of hundreds of available emergency preparedness guidelines, detailed review of published technical analyses of protective actions and equipment, and review of governmental terrorism preparation and response plans. We also conducted four focus group sessions with citizens to obtain community feedback on our ideas for an individual preparedness strategy and met with a group of emergency responders and emergency planners to gain their insights into how individuals should prepare for future terrorist attacks.

Since this study began in fall 2002, government agencies and other organizations have been devoting increasing attention to terrorism preparedness for individuals. (See, for example, Federal Emergency Management Agency, 2002; U.S. Department of Homeland Security, 2003a.) This is an important and very useful development. This report is intended to complement those efforts by providing a credible analytical basis for generating emergency guidance to individuals. In doing so, it is intended to present guidance that is specific and better linked to the anticipated effects of terrorist attacks, account for important differences between the effects of terrorist attacks as opposed to industrial accidents or natural disasters, and clearly distinguish and emphasize actions that address individuals' immediate and primary safety and health needs. More fundamentally, this report also may contribute to ongoing efforts to understand the potential effects of different types of terrorist attacks and to help identify critical areas of uncertainty surrounding them, ultimately contributing to our ability to plan for and respond to terrorist attacks at all levels.

STUDY SCOPE

The terrorist attacks in 2001 indicate that the intent and capability of terrorists has increased and that the once-speculative threat of attacks with unconventional weapons in this country is now real. Still, terrorists face numerous challenges in carrying out such attacks, and many uncertainties surround what they may be able or willing to do.

The fact that this report focuses on terrorist attacks using unconventional weapons does not imply anything about the probability of such attacks occurring. Indeed, numerous recent terrorist attacks in the United States, including those in Oklahoma City and at the World Trade Center and the Pentagon, used conventional weapons with catastrophic effects. Although the risks of attacks using unconventional weapons may be small compared to the risk of those using conventional weapons or even natural disasters, providing individual guidance for such terrorist attacks is still important for several reasons. First, such attacks create conditions that can be extremely hazardous, so it is essential

to know what protective actions to take to avoid injury or death. Second, the effects of unconventional weapons are unfamiliar to most people; as a result, potential victims may find themselves in situations where their instincts and conventional wisdom may be unproductive or even dangerous. Finally, the recent heightened concern over terrorism has spurred demands for individual guidance for attacks involving unconventional weapons.

The study began with the goal of addressing catastrophic terrorist attacks. Several different definitions of catastrophic terrorism have been proffered, typically relating to the type of weapon used, the number of casualties involved, and the extent to which services are disrupted.² However, it soon became apparent that the scale of a terrorist attack is largely irrelevant in determining the best course of action an individual could take. Most of the steps that an individual can take will be equally effective or ineffective regardless of the size of an attack. Therefore, while our study has centered around “large” terrorist attacks, it made no rigorous effort to distinguish terrorist attacks on the basis of scale. Thus, the use of the term “catastrophic” throughout this report refers to large terrorist attacks involving unconventional weapons that create circumstances in which individuals would need to be concerned with protecting their safety and health and, perhaps, even with survival.

ORGANIZATION OF THIS DOCUMENT

This report presents our approach and resulting individual’s strategy to prepare for, and respond to, catastrophic terrorist attacks. In Chapter Two, we describe the steps in our approach, including the information that we collected or created, the analysis we conducted, and the most important findings that emerged for the design of an individual’s strategy. This discussion is supported by detailed descriptions of each of the terrorism scenarios (Appendix A), a comprehensive list of the emergency preparedness guidelines reviewed as background for developing the individual’s strategy (Appendix B), and a description of the structure, purposes, and results of the four focus groups that RAND convened to obtain community feedback on our individual ideas for an individual preparedness strategy (Appendix C).

In Chapter Three, we present the individual’s strategy. For each type of terrorist attack, we introduce the response actions with a brief description of the characteristics of these attacks—i.e., the context in which an individual would need to act and the information that will be available. The response actions are then

²*The National Strategy for Homeland Security*, for example, defines catastrophic terrorism as “a chemical, biological, radiological, nuclear terrorist attack involving large numbers of casualties, mass psychological disruptions, and contamination, that could overwhelm local medical capability” (Office of Homeland Security, Office of the President, Washington D.C., July 2002, p. 89).

defined, beginning with the overarching goal that would guide an individual's actions. The actions are followed by a discussion of why the recommended actions were chosen and why other actions were not. This is followed by the priorities an individual should have in responding to catastrophic terrorist attacks. The chapter then describes the steps individuals should take in advance to be prepared to take these response actions, including ways individuals can increase the level of "passive protection" from covert biological attacks through barrier and filtering strategies. The chapter concludes by discussing several ways in which the government and businesses can improve the ability of an individual to carry out this strategy or improve the strategy itself.

Chapter Four presents our overall conclusions, the most important one being that *individuals can take simple actions that can save lives, even in catastrophic terrorist attacks*. This chapter describes the critical aspects of our recommended strategy, including how it helps prepare individuals to deal with the uncertainties that will necessarily accompany any future terrorist attack. A brief overview of the risk perception and risk communication literatures, which is critical to effective dissemination and implementation of the strategy, is given in Appendix D. The chapter then describes how our individual's strategy differs from the actions recommended in the current U.S. government terrorism guidelines. The report concludes with a brief description of how the study approach can be used in the future when strategies for specific populations need to be developed, when the terrorist threat changes, or when new response actions become available.