

## Preparing for the Terrorist Threats Requires Accurate Assessment of Risk\*

It is fair to say that a year and a half later, Texans and other Americans are still reeling over the events of September 11, 2001. We continue to struggle to make sense of what happened and try to seize whatever control we may have over events to ensure that it does not happen again. Our oft-cited assertion, "We Will Never Forget" is rendered true by vivid images of planes crashing into buildings that play over and over again metaphorically in our memories and literally in our living rooms. Unfortunately, that very same vividness can interfere with accurate appraisals of risks and appropriate responses thereto.

Psychologists Amos Tversky and Daniel Kahneman--the 2002 Nobel Laureate in economics--extensively studied human decision making and judgment. They found that we use mental shortcuts when we try to estimate probabilities, such as the probability that some risky event will occur. These shortcuts, which Tversky and Kahneman labeled "heuristics" often bias us and lead to inaccurate conclusions. These mistaken beliefs, in turn, can lead us to choose the wrong course of action when we are confronted with multiple options in the face of a given risk.

One of these heuristics, Availability, can mistakenly lead us to assume that risky events are much more likely to occur than they actually are if we can readily call examples to mind. Highway patrol officers, for example, are likely to assume that their children are at much higher risk of dying in an automobile accident than they are in fact because such officers have many (often hundreds, if not thousands of) examples that are available in their memories. Investigators who work sex crimes, by contrast, are likely to over-estimate the probability that their family members will be victimized by sexual predators because of the availability of those examples. The disturbing images of the felling of the World Trade Center Towers, thus, leave a vivid example of terrorism readily available in our memories.

The availability of these images can distort our perceptions of the actual risk to which we are exposed. In fact, the risk of dying in an act of terrorism is relatively low despite the events of 9/11/01. More Americans died on Texas highways in 2001 (3,724) than were killed in international terrorist attacks (3,547). In the five years from 1997 through 2001, Americans were about 40 times as likely to die in highway accidents as to be killed by terrorists. For most of those five years, the likelihood of Americans dying in an alcohol-related accident on Texas highways was several times greater than the likelihood of Americans being killed by terrorists anywhere in the world. Between 1997 and 2001:

- 5,230 Americans (and foreign nationals living here) were killed in 1,661 terrorist attacks.
- 209,092 Americans (and foreign nationals living here) were killed in automobile accidents.
- 82,928 of those fatalities were alcohol related.
- 18,098 of the traffic fatality total were from Texas.
- 8,961 of those were alcohol related.

In making judgments about risk, of course, we must keep in mind that 2001 was a very atypical year in terms of numbers of people killed. If 2001 is excluded from that 5-year period, then the likelihood of dying in a terrorist attack becomes lower than the likelihood of dying from tornados, lightning strikes, and flood waters. If one insists on focusing on 2001, it is worth noting that the risk of dying from smoking-related illnesses was more than 100 times the risk of dying in the 9/11 attacks.

Accurate risk appraisal is important because guarding against risks has costs. As of this writing, military personnel from around the State of Texas and elsewhere are being dispatched to the Middle East in preparation for the forcible disarming Saddam Hussein. This is in response to an assessment of the level of risk he and his regime pose to U.S. interests (an assessment which, incidentally, this writer has neither data nor inclination to challenge). If that level of risk is misunderstood and we do not have a forcible conflict then the costs may be confined to inconvenience, loss of wages for reservists, and loss of time with loved ones. If that level of risk is misunderstood and we do have a forcible conflict, then the costs clearly will be higher.

The stakes need not be quite so high; even misjudging something as mundane as the likelihood of rain can cost one an otherwise-fun-filled day at the beach. Responding effectively to threats, thus, requires an accurate appraisal of the threat itself—that is, the gravity of the harm if the threat occurs and the likelihood that it will occur as well as a fair determination of the costs of guarding against the threat. Sometimes the

costs are so minimal, that taking them nearly always makes sense. For example, although we could create statistical models based on conditions of weather, roadway, population density, speed, vehicle maintenance, driver physiological status and so on to identify the circumstances under which people are at relatively higher risk for automobile accidents, it is much more easy and cost effective to take certain precautions that operate under all circumstances, such as requiring seat belts, air bags, and low blood-alcohol levels.

Although taking precautions against risks has costs associated with it, benefits can also be derived. As we look for ways of restoring our sense of safety and comfort, it is worth remembering that people often feel better about such things if they can *do* something. The medical profession discovered this some time ago and, as a result, they ensure that patients assume a much more active role in promoting their own health. Simply put, patients do better if they are given something to do to help them get better.

This same model can be used in the context of guarding against acts of terrorism. First, we must learn to appraise more realistically the threats to which we are all exposed. Second, we must give citizens something to do to help ensure their own safety. Although it is generic and, thus, not focused directly on terrorism, the Red Cross's publication "Your Family Disaster Plan" (available on the web at: <http://www.redcross.org/services/disaster/beprepared/Fdp.pdf>) is a good start in this direction. Armed with a more realistic view of the problem before us and concrete measures we can take to address it, perhaps we can all rest a little more easy.

2001—3547 killed in 346 attacks	42,116 traffic fatalities, 17,448 etoh-related (TX: 3724/1,789)
2000—405 killed in 423 attacks	41,821 traffic fatalities, 17,380 etoh-related (TX: 3769/1898)
1999—233 killed in 392 attacks	41,717 traffic fatalities, 15,976 etoh-related (TX: 3518/1734)
1998—741 killed in 273 attacks	41,471 traffic fatalities, 15,935 etoh-related (TX: 3577/1792)
1997—304 killed in 227 attacks	41,967 traffic fatalities, 16,189 etoh-related (TX: 3510/1748)

5230 killed in 1661 attacks                      209092 traffic fatalities, 82928 etoh-related (TX: 18098/8961)

If 2001 is excluded from that 5-year period, then one is more likely to be killed in a tornado, lightning strike, or in flood waters than to die in a terrorist attack.

If one insists on focusing on the number of deaths in 2001, then in that year the risk of dying of smoking-related disease was more than 100 times that of the risk of dying in a terrorist attack.

total of 3,547 persons were killed in international terrorist attacks in 2001<sup>1</sup>, the highest annual death toll from terrorism ever recorded. Ninety percent of the fatalities occurred in the September 11 attacks. In 2000, 409 persons died in terrorist attacks. The number of persons wounded in terrorist attacks in 2001 was 1080, up from 796 wounded the previous year. Violence in the Middle East and South Asia also accounted for the increase in casualty totals for 2001.

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