

# Study provides fuller picture of the human cost from terrorist attacks

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Terrorist attacks injure far more people than they kill, leaving victims with lost limbs, hearing loss, respiratory disease, depression and other issues. But little research has measured the impact of that damage

beyond the number of people who are hurt.

New research from The University of Texas at Dallas provides a more complete picture of the suffering caused by terrorist [attacks](#). The study, published in the journal *Public Choice*, estimates the number of years of healthy life—years free of the injuries or disabilities caused by terrorist attacks—that victims lost due to injuries.

The study was led by Dr. Daniel G. Arce, Ashbel Smith Professor and program head of economics in the School of Economic, Political and Policy Sciences.

"By examining [terrorism](#) through the lens of deaths and injuries, we can better understand the devastating impact terrorist attacks have on survivors," said Arce, who specializes in terrorism and conflict. "This information can help us determine the most effective way to spend our limited resources to confront terrorism."

An average of 8,338 people died and 10,785 people were injured every year in domestic and international [terrorist attacks](#) between 1970 and 2016, according to an international terrorism database that Arce used for his analysis.

Arce analyzed the percentage of attacks that were bombings, mass shootings, intentional vehicular assaults or other types of attacks. He also examined the distributions and types of injuries based on hospital admissions.

Using that data, Arce applied a methodology developed by the World Bank and World Health Organization to rank major diseases in terms of lives lost. The methodology allowed him to use one metric to estimate the overall impact of terrorism from deaths plus losses from injuries.

When including the number of healthy years of life that victims lost, Arce's study puts the annual toll at 12,628 years of life lost to terrorism.

The formula assigns different values to reflect the impact of various types of injuries on victims. For example, an individual with profound hearing loss experiences 77 percent of optimal health, while a person with major depressive disorder experiences 35 percent.

When possible, Arce also calculated the years of life lost by those who died in the Oklahoma City bombing in 1995, the Norway mass shootings in 2011 and vehicular assaults in Israel. Data was not available to apply the same analysis to victims in other attacks.

One of the goals of the research was to help decision-makers put the human consequences of terrorism in context when compared to the burden of diseases. The study compared the number of healthy years of life lost due to terrorism to that of various diseases and other causes of death. Heart disease was the top cause of death and years of healthy life lost. By contrast, terrorism ranked in the bottom 10 percent of the list, highlighting the low probability of someone becoming a victim of an attack.

"You want to put these things in context so people fear terrorism less," Arce said.

The research also can help emergency rooms better prepare for the types of likely injuries in the aftermath of different attacks, Arce said. His analysis includes findings about the types of injuries caused by different types of attacks.

"In an emergency situation, you have to know what to be prepared for," Arce said. "The answer is, it depends."

**More information:** Daniel G. Arce. On the human consequences of terrorism, *Public Choice* (2018). [DOI: 10.1007/s11127-018-0590-9](https://doi.org/10.1007/s11127-018-0590-9)

Provided by University of Texas at Dallas

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