



Highlights of [GAO-04-1068T](#), a testimony before the Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform, House of Representatives

## Why GAO Did This Study

When the World Trade Center (WTC) buildings collapsed on September 11, 2001, nearly 3,000 people died and an estimated 250,000 to 400,000 people who were visiting, living, working, and attending school nearby, or responding to the attack, were exposed to a mixture of dust, debris, smoke, and various chemicals. In the months to follow, thousands of people who returned to the area to live and work, as well as responders who were involved in the search for remains and site cleanup, were also exposed. In addition, people in New York City and across the country were exposed to the emotional trauma of a terrorist attack on American soil.

Concerns have been raised about the short- and long-term physical and mental health effects of the attack. Various government agencies and private organizations established efforts to monitor and understand these health effects.

GAO was asked to describe the health effects that have been observed in the aftermath of the WTC attack and the efforts that are in place to monitor and understand those health effects. GAO searched bibliographic databases such as Medline to determine the pertinent scientific literature, reviewed that literature, and interviewed and reviewed documents from government officials, health professionals, and officials of labor groups.

[www.gao.gov/cgi-bin/getrpt?GAO-04-1068T](http://www.gao.gov/cgi-bin/getrpt?GAO-04-1068T)

To view the full product, including the scope and methodology, click on the link above. For more information, contact Janet Heinrich at (202) 512-7119.

## SEPTEMBER 11

# Health Effects in the Aftermath of the World Trade Center Attack

## What GAO Found

In the aftermath of the September 11 attack on the World Trade Center, a wide variety of physical and mental health effects have been reported in the scientific literature. The primary health effects include various injuries, respiratory conditions, and mental health effects. In the immediate aftermath of the attack, the primary injuries were inhalation and musculoskeletal injuries. During the 10-month cleanup period, despite the dangerous work site, responders reported few injuries that resulted in lost workdays. A range of respiratory conditions have also been reported, including wheezing, shortness of breath, sinusitis, asthma, and a new syndrome called WTC cough, which consists of persistent cough accompanied by severe respiratory symptoms. Almost all the firefighters who responded to the attack experienced respiratory effects, and hundreds had to end their firefighting careers due to WTC-related respiratory illness. Unlike the physical health effects, the mental health effects were not limited to people in the WTC area but were also experienced nationwide. Because most of the information about mental health effects comes from questionnaire or survey data, what is reported in most cases are symptoms associated with a psychiatric disorder, rather than a clinical diagnosis of disorder. The most commonly reported mental health effects include symptoms associated with depression, stress, anxiety, and posttraumatic stress disorder (PTSD)—a disorder that can develop after experiencing or witnessing a traumatic event and includes such symptoms as intrusive memories and distressing dreams—as well as behavioral effects such as increased use of alcohol and tobacco and difficulty coping with daily responsibilities.

Six programs were established to monitor and understand the health effects of the attack, and these programs vary in terms of which people are eligible to participate, methods for collecting information about the health effects, options for treatment referral, and number of years people will be monitored. Although five of the programs focus on various responder populations, the largest program—the WTC Health Registry—is open not only to responders but also to people living or attending school in the vicinity of the WTC site, or working or present in the vicinity on September 11. The monitoring programs vary in their methods for identifying those who may require treatment, and although none of these programs are funded to provide treatment, they provide varying options for treatment referral. Under current plans, HHS funding for the programs will not extend beyond 2009. Some long-term health effects, such as lung cancer, may not appear until several decades after a person has been exposed to a harmful agent.

GAO provided a draft of this testimony to DHS, EPA, HHS, and the Department of Labor. In its written comments, HHS noted that the testimony does not include significant discussion of ways in which mental health symptoms have changed over time. The evidence GAO examined did not support a full discussion of changes in mental or physical health effects over time.