



On September 11, 2001, more than 2,750 people were killed in the World Trade Center attacks. A further 14,000 evacuated New York's twin towers to safety. Now those survivors' stories are helping to build a safer future.

Words: Nina Morgan

# Survivors' stories

The 9/11 terrorist attacks on the World Trade Center not only changed attitudes towards security forever, they also encouraged many people to look at safety in a new way. "The attacks on the World Trade Center towers brought home to the world the importance of providing an adequate and robust means of evacuation in high rise buildings," explains Ed Galea, professor of mathematical modelling and director of the Fire Safety Engineering Group at the University of Greenwich. "The evacuation of the World Trade Center complex after the 9/11 attacks was one of the largest full-scale evacuations of people in modern times. This provides a useful vehicle for understanding human behaviour under extreme conditions. Over 14,000 people escaped from the buildings, and their experiences can provide a key to understanding how to design a safer built environment."

To make the most of this unique pool of information Professor Galea is leading a group of psychologists and experts in fire safety engineering drawn from the Universities of Greenwich, Liverpool and Ulster in an EPSRC-funded research project – High-rise Evacuation Evaluation Database (HEED). A major aim of the project, which ended in April 2008, was to collect and analyse first-hand accounts from 9/11 survivors.

"The concept behind HEED was to go to the World Trade Center with a team of trained research psychologists and interview survivors ourselves," explains Professor Galea. "In that way we hoped to extract as much relevant information as possible from those who had actually lived through the experience."

Collecting data by means of personal interviews was difficult to arrange. Getting in touch with survivors and gaining ethics approvals from a wide variety of agencies were just some of the huge practical challenges the team faced.

In the end, a team of six psychologists carried out four different interviewing campaigns in New York. As well as developing suitable

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interview protocols to ensure the maximum amount of information could be collected from survivors in a sensitive way, the team also had to find ways to make it possible for interviewees to recall the sequences and timing of events. In addition, the psychologists had to be carefully trained to ensure they had the fire engineering knowledge to ask the right questions.

Information was collected about timing of actions and events, and physical characteristics, such as fitness and body mass index. The group also wanted to determine other factors such as the survivors' perception of risk, the attributes – such as fear of injury or loss of life – that were driving the risk and the effect of changes in risk perception on behaviour during the evacuation.

Each interview could last for up to three hours. "We didn't believe that people would want to talk to us for as long as they did," says Professor Galea.