



# Disaster Research Education and Mentoring Center (DREM)

National Crime Victims Research and Treatment Center, Medical University of South Carolina  
Center for Urban Epidemiologic Studies, New York Academy of Medicine

## Abstract

The Disaster Research Education and Mentoring Center (DREM), funded in June 2004 by the National Institutes of Health, works to improve post-disaster research and to facilitate cross study comparison ([www.disasterresearch.org](http://www.disasterresearch.org)). Since DREM inception we have worked with researchers in Madrid after the March 11 train bombings and in Florida following the 2004 hurricanes. A population-based survey of Madrid, using the same survey instrument used in New York City after the September 11 attacks within a comparable time frame showed that the prevalence of post-traumatic stress disorder (PTSD) one month after the March 11 attacks in Madrid was 1.6%, approximately four times lower than the 7.5% prevalence of PTSD that had been reported in NYC. A second study in Madrid showed that, in a comparable timeframe, the prevalence of PTSD in (a) a subset of Madrid where most of the victims lived was 12.3%, (b) among those injured 44.1%, (c) and among police officers who assisted in the attacks 1.3%. These two studies suggest different prevalences of psychopathology among groups differently exposed to disasters. DREM Center collaborators will explore the nature of resilience across cultures and disasters and have the potential to immeasurably advance our understanding of the burden of disasters.

## What does the DREM Center do?

The DREM Center provides practical education, mentoring, and technical assistance to researchers and governmental and non-governmental agencies interested in research following disasters and terrorism. The DREM Center involves a core of scientists who have a long history of conducting high-quality research after disasters and terrorist attacks. Prior research conducted by these scientists has had a significant impact on the ability of helping professionals to understand and recognize the needs of individuals and communities affected by disasters and terrorism so that their needs can be addressed. One of the major aims of the DREM Center is to provide other researchers with education, training, mentoring, and resources to improve their readiness to conduct high-quality disaster research.

## Why a DREM Center?

Public policy and disaster-response agencies need evidence-based information to identify which disaster and terrorism victims are at greatest risk for disaster-related morbidity and to assess which mental health interventions are most appropriate for victims and survivors.

**The problem:** There are substantial difficulties involved in conducting post-disaster research. Historically, most of the researchers who have carried out post-disaster research have been local researchers, frequently with limited training in the field of disaster research. Furthermore, government and mental and public health agencies may have limited access to up-to-date findings.

**The solution:** The DREM Center will reduce the barriers to successful post-disaster and terrorism research by providing various levels of education and mentoring to researchers and by educating and guiding government officials so that they may benefit from current research tailored to their specific needs.

## Background to the DREM Center

Although large-scale disasters occur less frequently than other types of potentially traumatic events (e.g. interpersonal violence, rape), exposure to disasters (e.g., natural disasters, technological disasters, terrorism) is highly prevalent in the United States. The attacks of September 11, 2001 were a particularly noteworthy example of such a disaster. The attacks resulted in an unprecedented loss of life. Studies conducted after the attacks demonstrated a substantial burden of PTSD, depression, loss of employment and possessions, and other adverse outcomes among individuals living in the vicinity of the attacks. The tremendous number of people affected by the events of September 11, and the threats of mass violence and bioterrorism that followed underscored the need for systematic research that may inform disaster-response efforts.

The DREM Center aims to improve the capacity for high-quality disaster research and accelerate the process for timely data collection in the aftermath of disasters. In addition, we will work to enhance the preparedness of communities, researchers, and collaborative agencies to expedite disaster research. The DREM Center will focus its attention on providing various levels of education and mentoring to researchers and educating and guiding government officials so that they may benefit from current research tailored to their specific needs.

## Who are we?

The DREM Center is a collaboration of academic and business partners. Together we have been involved in disaster research for more than fifteen years. We are:

**National Crime Victims Research and Treatment Center (NCVC):** A division of the Medical University of South Carolina (MUSC). NCVC has expertise in epidemiological analysis of, and interventions related to, the mental health consequences of a wide variety of traumatic events, including violent crime, natural disasters, and civil disturbances. <http://www.musc.edu/ncvc>

**Center for Urban Epidemiologic Studies (CUES):** A division of the New York Academy of Medicine (NYAM). CUES has been actively engaged in studying the consequences of disasters since the September 11, 2001 terrorist attacks in New York City. CUES is interested in the mental health consequences of disasters on adults and children and in the role of the social and economic context in shaping the consequences of disasters. <http://nyam.org/urbanstudies>

**Schulman, Ronca, and Bucavilas, Inc. (SRBI):** A survey research firm with extensive experience and expertise in the area of post-disaster research. NCVC and CUES have collaborated with SRBI in the past on a total of more than ten studies. <http://www.srb.com>

## A closer look at research conducted by the DREM faculty

### Past Post-Disaster Studies by DREM Faculty



The DREM Center faculty have been involved in disaster research for more than fifteen years. Much of this work inspired the creation of the DREM Center in June 2004. Here we highlight some of the findings from previous DREM Center Faculty studies.

#### Pan Am flight 103 December 21, 1968

A terrorist bomb exploded on Pan Am flight 103 over Lockerbie, Scotland. 270 people were killed. DREM faculty members recruited participants from Office of Victims of Crime registries and surveyed participants over two survey waves. 48% of participants had emotional or behavioral problems that were sufficiently bad that they considered seeking mental health treatment, but only 36% actually sought treatment. Of those who actually received mental health treatment 57% rated their treatment as very helpful and 27% as somewhat helpful.



#### Hurricane Andrew August 24, 1989

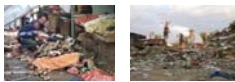
Hurricane Andrew hit South Florida before traveling to the Gulf of Mexico and the Louisiana Coastline. In total 40 people died and there was \$30 billion in property damage. DREM faculty members conducted a random-digit dialing survey of adolescent-parent pairs in high- and low-impact areas within Dade County, FL 6 months after Hurricane Andrew. Approximately 3% of males and 9% of females met criteria for PTSD.



#### The Los Angeles riots April 1992

The LA riots occurred after the trial of the police officers charged with the beating of Rodney King. 50 people died, 4 were injured, 12,000 were arrested, and there was over \$1 billion in property damage. DREM faculty members used random-digit dialing methodology to identify a household probability sample of 1,200 adults (age 18 or older) from L.A. County. Higher rates of PTSD were found among respondents who reported disturbance-related experiences.

## Disaster Synthesis



Natural, technological, and human-made disasters occur on a regular basis throughout the world. They often happen with little or no warning. They sometimes go undetected, but more often they result in physical and psychological injury as well as property damage. Because disasters frequently occur in different contexts, the DREM faculty believe it is important to understand the role that underlying context plays in shaping the consequences of disasters.

Guided by a model of underlying population vulnerabilities and capacities the DREM faculty is conducting an analysis of disasters (earthquakes, hurricanes, and floods) that occurred between 1950 and 2000 throughout the world. Our synthesis of these disasters attempts to collect information about each disaster and the areas affected as well as examine the various vulnerabilities, capacities, and protections in each affected region at the time of the disaster.

While no society will be able to prevent all negative consequences of disasters, we hope that this synthesis will help us identify different disaster preparedness strategies that a population can develop which will help to minimize the negative consequences of a disaster.

### Terrorist attacks in New York City, September 2001



The September 11 terrorist attacks in New York City are the largest human-made disaster in US history. Approximately 2,800 people died, approximately 12,000 relatives of those who died. The attacks disrupted telecommunications, transportation, and aspects of daily living.

A series of epidemiological studies conducted by DREM faculty focused primarily on the population living in NYC and the surrounding metropolitan area. A major finding from the initial reports was that the prevalence of estimated current PTSD among those living in Manhattan south of 110th street was 7.5%, 1.7%, and 0.6% one month, four months, and six months after September 11, 2001.

### Madrid train bombings, March 2004



The March 11 Madrid bombings were 10 terrorist bombs that exploded on a number of early-morning commuter trains. Over 191 people died and more than 1,800 people were injured. DREM faculty have been working closely with two research teams in Madrid, providing guidance throughout the research process.

One of the studies DREM has been involved with in Madrid shows that, 1-2 months after March 11, the prevalence of PTSD in (a) a subset of Madrid where most of the victims lived was 12.3%, (b) among those injured 44.1%, (c) and among police officers who assisted in the attacks 1.3%. This finding suggests different prevalences of psychopathology in differentially exposed populations within the same geographic area.

### Florida hurricanes, 2004



Florida was hit by four devastating hurricanes in the late summer and early fall of 2004. Hurricanes Charley, Frances, Jeanne, and Ivan caused an immense amount of physical damage to several Florida counties as well as killed and injured many individuals in the United States and the surrounding islands.

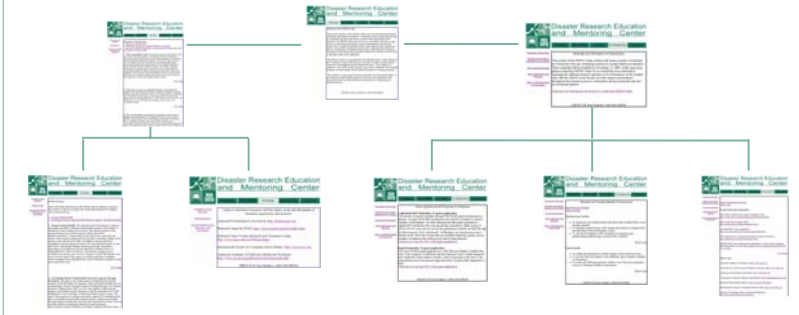
DREM has actively worked with local researchers interested in conducting research studies on the mental health consequences of the four hurricanes. DREM faculty have now started research to assess the mental health consequences of these hurricanes among the elderly.

### September Space, 2005



September Space is a non-profit organization started in New York City after the September 11, 2001 World Trade Center terrorist attacks. September Space serves a large and diverse constituency of persons who were affected by the September 11 terrorist attacks and addresses the individual need for alternative approaches to healing. The DREM Center is currently helping September Space evaluate their services by assessing the long-term burden of psychopathology among persons who make use of September Space services as well as the relationship between psychopathology and use of traditional and nontraditional services.

## A glance at the DREM website <http://www.disasterresearch.org>



## DREM Center faculty

- Dean Kipatrick, PhD, Director of NCVC and a Professor at MUSC, Co-Director of DREM Center.
- Sandro Galbraith, MD, DPH, Medical epidemiologist and Associate Director of CUES at NYAM, Co-Director of DREM Center.
- Ron Romano, PhD, Associate professor at MUSC.
- Connie Best, PhD, Professor at MUSC.
- Joseph A. Basciarro, PhD, MPH, Senior scientist in the Division of Health and Science Policy at NYAM.
- Michael J. Bucavilas, PhD, Senior partner at SRBI Inc.
- Alan Fischman, MD, Ethics Advisor at National Children's Study, NICHD, Senior Advisor at NYAM.
- Neil Rosenberg, PhD, Professor at MUSC.
- Kenneth Ruggiero, PhD, Instructor at MUSC.
- David Vlahov, PhD, Director of CUES at NYAM, Vice President of Research at NYAM.

## How to contact the DREM Center

National Crime Victims Research and Treatment Center  
Sarah Maliano, MA  
DREM Site Coordinator  
Email: [smaliano@ncvc.musc.edu](mailto:smaliano@ncvc.musc.edu)  
Phone: 843.792.2946  
Fax: 843.792.3388

Center for Urban Epidemiologic Studies  
Suzanne Rutenfranz, BA  
DREM Site Coordinator  
Email: [srutenfranz@nyam.org](mailto:srutenfranz@nyam.org)  
Phone: 212.822.7274  
Fax: 212.419.3612

DREM Toll Free Number 1.866.630.DREM

Supported by funding from NIMH and NINR R25 MH070552