

depression or anxiety disorders; and (3) individuals with a more diffuse symptomatology and mental health distress that may not be defined sufficiently so as to be characterized as a clinical condition. The latter two categories of patients may be more appropriately identified and treated based on the psychosocial factors defined in Silove and Steel's ADAPT model (Adaptation and Development After Persecution and Trauma), which include threats to safety and security, disrupted interpersonal bonds, confused identities and roles, and destabilized institutions. The current study examines these psychosocial correlates in a cohort of 1,245 randomly sampled, displaced and heavily impacted households in Louisiana and Mississippi, post-Katrina, and further considers their relationship to emotional and behavioral difficulties experienced by children who were exposed to the disaster. The prevalence of mental health disability among a disaster-exposed cohort, and the potential clinical and social interventions to address them will be discussed.

**Keywords:** disability; displaced persons; Hurricane Katrina; mental health; psychosocial

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### Population Selective Serotonin Reuptake Inhibitor Prescription Rates Following a Terrorist Attack

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In order to determine if mental health service utilization increased following a terrorist attack, changes in population psychoactive drug prescription rates were assessed. The rate of selective serotonin reuptake inhibitor (SSRI) prescription use among enrollees of a public benefit insurance program in New York was measured before and after the terrorist attacks of 11 September 2001. The association between the geographic proximity to the events and the changes in the rate of SSRI prescription use around 11 September 2001 was assessed.

From September to December 2001, there was an 18.2% increase in the SSRI prescription rate compared to the previous eight month period ( $p = 0.0011$ ) among individuals residing within three miles of the attack site. While there was a 9.3% increase in the SSRI prescription rate for non-exposed residents, this change was not statistically significant ( $p = 0.74$ ).

In conclusion, there was a quantifiable increase in the dispensing of psychoactive drugs following the terrorist attacks of 11 September 2001. This effect varied in response with geographic proximity to the events. These findings build on the knowledge of the pervasive effects of disasters and terrorist events on population health, and demonstrate the need to include mental and behavioral health as key components of surge capacity and the public health response to mass traumas.

**Keywords:** medication; mental health; public health; surge capacity; terrorism

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### Emergency Department Utilization for Mental Health Care after a Terrorist Attack

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**Introduction:** The purpose of this study was to assess the utilization of the emergency department for behavioral and mental health conditions in the aftermath of the terrorist attacks of 11 September 2001.

**Methods:** A New York State public benefit insurance program database was analyzed.

Four mutually exclusive geographic areas located at varying distances from the New York City attack site were identified. The data were divided into four time periods. All persons in the files were categorized by their postal codes of residence. Primary emergency department diagnoses were coded for post-traumatic stress disorder, substance abuse, psychogenic illness, severe psychiatric illness, depression, sleep disorders, eating disorders, stress-related disorders, and adjustment disorders.

**Results:** There was a 10.1% temporal increase in the number of emergency department behavioral and mental health diagnoses following the 11 September 2001 terrorist attacks for adult Medicaid enrollees residing within a three mile radius of the attack site. The incidence of these diagnoses declined, relatively in other geographic areas. In population-based comparisons, Medicaid recipients who lived within three miles of the World Trade Center following the terrorist attacks had a 20% increased risk of an emergency department mental health diagnosis (Incidence Density Ratio 1.2; 95% confidence interval 1.1–1.3), compared to those who were non-New York City residents.

**Conclusion:** This may be the first report of a quantifiable increase in emergency department utilization for mental health services among persons living in proximity to a terrorist attack and emphasizes the increasingly complex role that emergency departments play in responding to terrorism and disasters.

**Keywords:** behavioral health; Medicaid; mental health; post-traumatic stress; terrorism

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### Social Support as a Buffering Factor Against Stress Reactions like Post-Traumatic Stress Disorder

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**Introduction:** The impact of Event Scale-Revised (IES-R) is one of the most regularly used forms of questionnaires in epidemiological research on disaster mental health regarding post-traumatic stress disorder (PTSD). The IES-R is used to determine the incidence and frequency of self-reported post-traumatic symptoms, according to the 4th edition of *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* criteria. It is not clear why some people develop PTSD and others do not after experiencing a traumatic event. Also, among those scoring high on the

IES-R, some may not have experienced a traumatic event. The purpose of this study is to clarify the differences between: (1) IES-R-J (the Japanese-language version) high and low scoring groups; (2) IES-R-J high and low scoring groups who had experienced a traumatic event; and (3) those with high IES-R-J scores with and without experiencing a traumatic event.

**Methods:** The IES-R-J questionnaire was distributed to all firefighters in a local fire department.

**Results:** Of the 157 possible subjects, 131 (83.4%) responded to the questionnaire. All were Japanese males with a mean age of 42 years; most worked a 24-hour shift.

In general, those who scored high on IES-R were unhealthy, stressed, and received little social support. Those who had experienced a traumatic event and received social support received low IES-R scores, that is, they experienced few PTSD symptoms. Respondents who had experienced traumatic events and received little social support, scored high on the IES-R.

**Conclusions:** Social support is a key buffering factor against the development of PTSD.

**Keywords:** firefighters; impact of event scale-revised (IES-R); Japan; post-traumatic stress disorder (PTSD); social support

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### An Online Tsunami System

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The goal of this study was to create an online Tsunami survivor directory for the purposes of community-building and research. Over a 14-month period, that began two weeks after the 2004 Tsunami, 129 Dutch Tsunami survivors visited a Website that utilized online, self-report measures assessing peri-traumatic mental status, post-traumatic stress, and depression.

A cross-sectional analysis demonstrated that 80% of the Website visitors suffered from  $\geq 1$  dissociative symptom during or shortly after the Tsunami. Fifty-five percent of the Website visitors suffered from symptoms of post-traumatic stress.

**Keywords:** mental health; online; post-traumatic stress; tsunami; Website

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### Session 4

*Chairs: T. Levanon; M. del Rocio Saenz*

### Disaster Mental Health Training Programs in New York City following 11 September 2001

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Following large-scale disasters, the need for mental health care resources to provide both acute and long-term services to the community is well-documented. However, data on

the effectiveness of communities in meeting the post-disaster mental health needs of those affected are sparse. In order to improve post-disaster mental health care in New York City, the New York City Department of Health and Mental Hygiene, in collaboration with the Columbia University National Center for Disaster Preparedness assessed the quality of mental health care available in the aftermath of the 11 September 2001 World Trade Center disaster in New York City by conducting a review of the disaster mental health training programs provided by community-based, professional, hospital and government agencies. Results indicate that while a considerable number of mental health training programs were provided, the programs varied greatly in a number of respects. In particular, a lack of standardization regarding disaster mental health training curriculum and learning objectives was noted. Record keeping and trainer credentialing inconsistencies were common across agencies. Most of the training programs offered are no longer available. Key recommendations for improving the status of disaster mental health training in New York City, and perhaps elsewhere, include establishing criteria for all essential aspects (e.g., trainers, curriculum, assessment, etc.) to improve the overall quality of these programs and provide an essential, post-disaster service.

**Keywords:** 11 September 2001; disaster; mental health; psychosocial; training

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### Post-Traumatic Stress Disorder in the Firemen Corporation of Portalegre, Portugal: Prevention and Treatment

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This presentation concerns the presence of Post-Traumatic Stress Disorder (PTSD) among Firemen between 16 and 60 years of age in the District of Portalegre, Portugal. Post-Traumatic Stress Disorder is particularly relevant because these workers constantly face stressors.

The authors intended to identify the type of personality that is more susceptible to the development of PTSD, the existence of manifestations indicative of PTSD, and possible vulnerability to stress. They also assessed the presence of somatic symptoms.

The following evaluation instruments were used: (1) The Big Five Inventory (BFI) of John, Donahue, and Kentle (1991); (2) PTSD-Anxiety Disorders Association (1994); (3) Escala de Vulnerabilidade ao Stress of (QVS) Adriano Vaz Serra (2000); and (4) General Health Questionnaire (GHQ) of D. Goldberg (1978). These instruments were used to determine the presence of factors that could lead to PTSD.

It was verified that 20% of the participants displayed manifestations indicative of PTSD. It also was verified that 30% of the participants displayed a high amount of stress vulnerability.

**Keywords:** fire department workers; Portugal; post-traumatic stress disorder (PTSD); stress vulnerability; stressors

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