

Assessing and responding to mental health needs after a disaster

2006 G.L. Smith Memorial Act grantees
meeting

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National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

"The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention/the Agency for Toxic Substances and Disease Registry and should not be construed to represent any agency determination or policy."

“Sometimes it takes a natural disaster
to reveal a social disaster.”

Jim Wallis, Executive Director of Sojourners

Outline

- Definition of and types of disasters
- What is known (or theorized) about psychological impact of disasters
- Briefly discuss some results from field investigations (Sept 11 terrorist attacks & Florida post 2004 hurricanes)
- What CDC has done with data collection forms

What is a Disaster?

- Any event, typically occurring suddenly, that causes damage, ecological disruption, loss of human life, deterioration of health and health services
- AND
- which exceeds the capacity of the affected community on a scale sufficient to require outside assistance.

Source: Landesman, 2001

Disaster Definition: Key Elements

- Causes large-scale disruption
- Produces ecological destruction
- Impacts vulnerable communities
- Exceeds community's coping capacity
- Requires outside assistance

Classification of Disasters

- Natural disasters – forces of nature
 - Tornadoes, Hurricanes, Typhoons, Earthquakes, Flooding, Landslides, Heat Wave, Winter storm, Drought
- Human-generated disasters
 - Non-intentional
 - Industrial/technological
 - Transportation
 - Environmental
 - Material shortages
 - Mass violence (intentional)
 - wars and civil strife

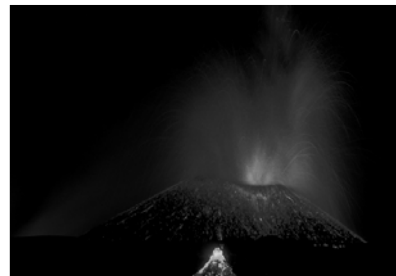
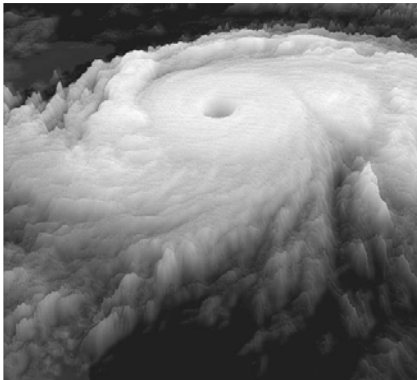
Natural disasters 1994-2004

- 1 million thunderstorms
- 100,000 floods
- Tens of thousands of earthquakes, landslides, tornadoes, and wildfires
- Several hundred thousand hurricanes, tropical cyclones, volcanic eruptions, and tsunamis

Source: CDC and EK Noji. The Public Health Consequences of Disasters

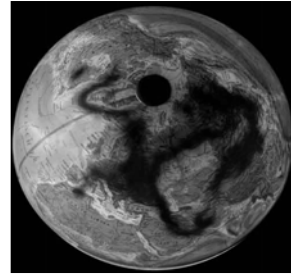
Classification of Disasters

Natural



Classification of Disasters

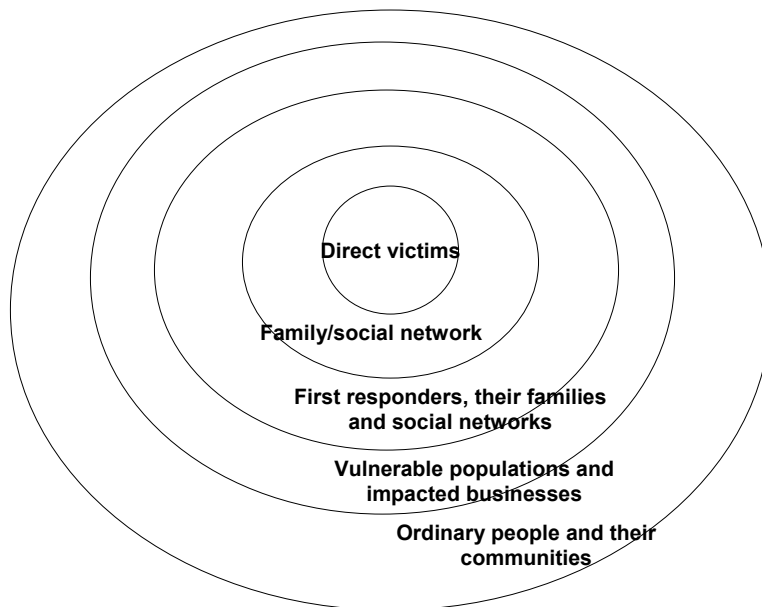
Human-generated



Possible consequences of disasters

Morbidity and Mortality	<ul style="list-style-type: none"> • Injury • Disease • Death
Material Losses	<ul style="list-style-type: none"> • Damage • Destruction • Economic loss
Social Disruption	<ul style="list-style-type: none"> • Disruption of activities • Population displacement • Impact on health services
Psychosocial Impact	<ul style="list-style-type: none"> • Distress response • Behavior change

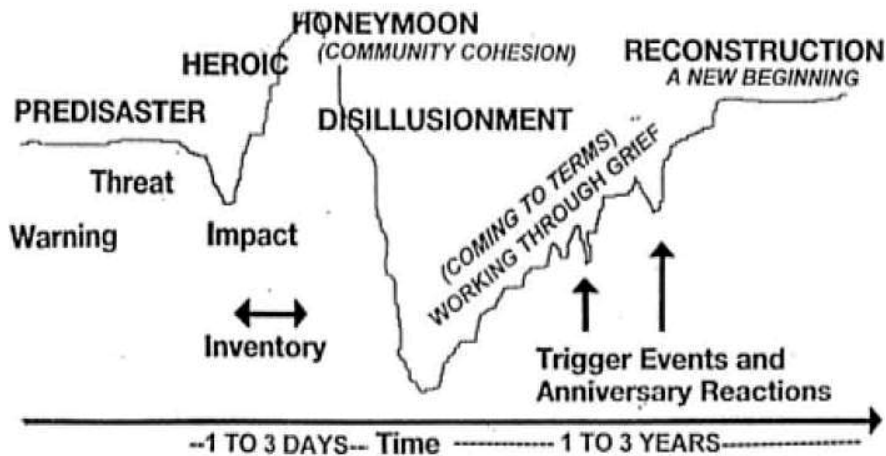
Impact layers in a Disaster



Vulnerable populations

- Elderly
- Children
- Medically ill
- Mentally ill
- Isolated
 - culturally
 - geographically
- Impaired or intoxicated
- Disabled
- Injured
- Resource limited
- Incarcerated

Phases of community psychological response to disaster



Common Responses to a Traumatic Event

Cognitive	Emotional	Physical	Behavioral
Poor concentration	Shock	Nausea	Suspicion
Disorientation	Numbness	Dizziness	Irritability
Short attention span	Depression	Headaches	Withdrawal
Memory loss	Fear of harm to self and/or loved ones	Poor sleep	Increased alcohol or substance use or abuse
Confusion	Volatile emotions	Hyperarousal	Increased cigarette smoking
Difficulty making decisions	Feeling abandoned	Rapid heart rate	Increased or decreased eating

Factors that Determine the Stressfulness of a Disaster

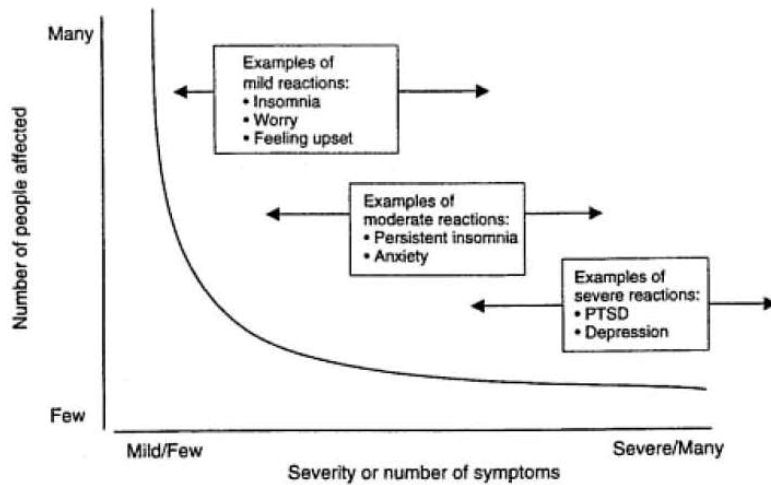
- Characteristics of the disaster
 - Suddenness
 - Intensity
 - Avoidability
- Characteristics of the individuals
 - Actual losses (and threat of loss)
 - Previous experience with similar events
 - Effectiveness of one's coping mechanisms
- Characteristics of the community or society
 - Amount of damage done
 - Community's experience with such an event
 - Availability of resources to rebuild

Percentage of citizens with severe psychological impairment

Mass Violence > **Technological Disasters** > **Natural Disasters**

Source: Norris et al., 2002

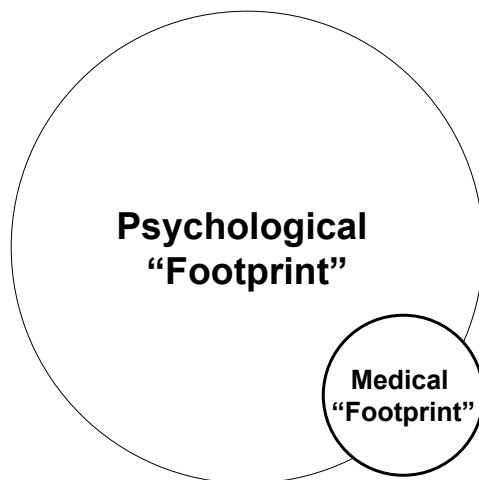
Severity of Psychological Reaction



Sources: Ursano, 2002; Institute of Medicine, 2003

Psychological vs. Medical “Footprint”

The size of the psychological “footprint” exceeds the size of the medical “footprint” — often by a factor of 10 or more



**Medical effect vs. psychological effect --
World Trade Center, 2001**

	Medical	Psychological Distress
Killed	3,000	
Injured with Medical Care	7,500	7,500
Environmental exposures		
Downtown professionals	100,000	100,000
Residents close to WTC	100,000	100,000
Rescuers	17,500	17,500
Loss of workplace—WTC		32,000
Loss of workplace—other		31,000
Displaced/property damage		100,000

**Medical effect vs. psychological effect
-- World Trade Center, 2001**

	Medical	Psychological Distress
Family members of:		
Killed		12,000
Injured		30,000
Rescuers		70,000
Manhattan residents below 110th St (800,000)		200,000
NYC residents (7 million)		1,000,000
US Residents (5-80 years) (206,000,000)		10,300,000
Total	228,000	12,000,000

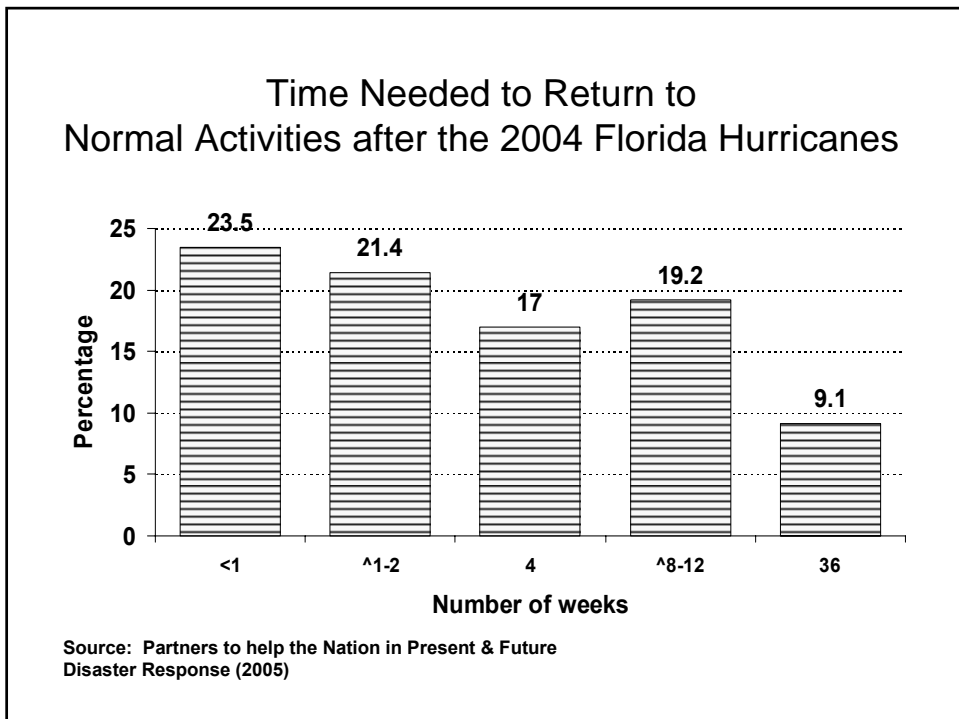
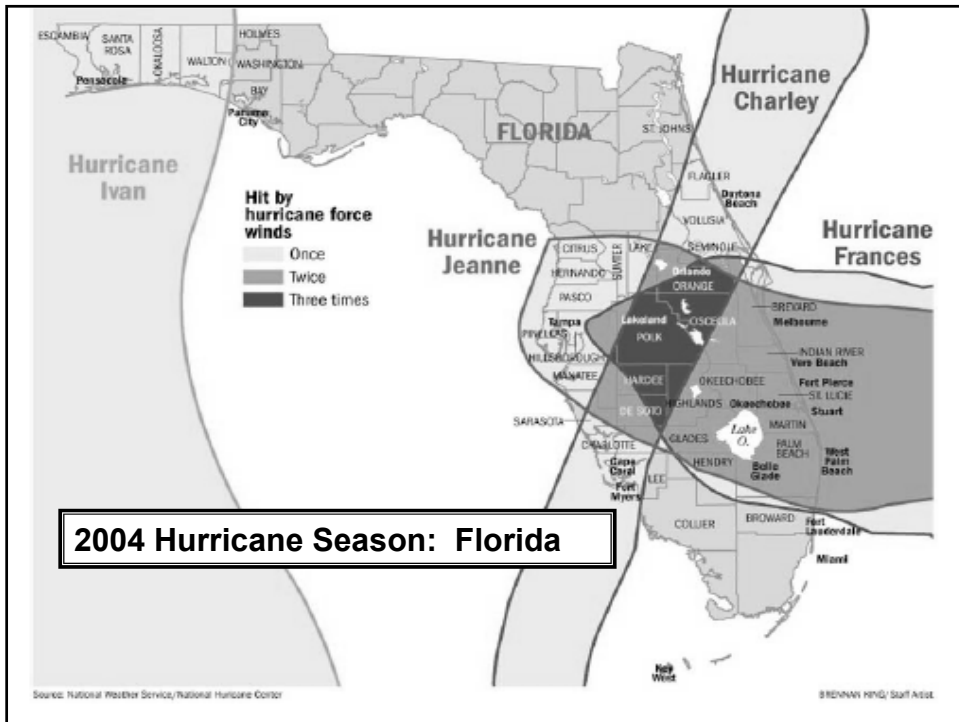
Behavioral risk factor surveillance system (BRFSS) examples

- Health Related Quality of Life
- Adaptable to meet immediate health needs
- New York City added Kessler 6 – Emotional distress measures

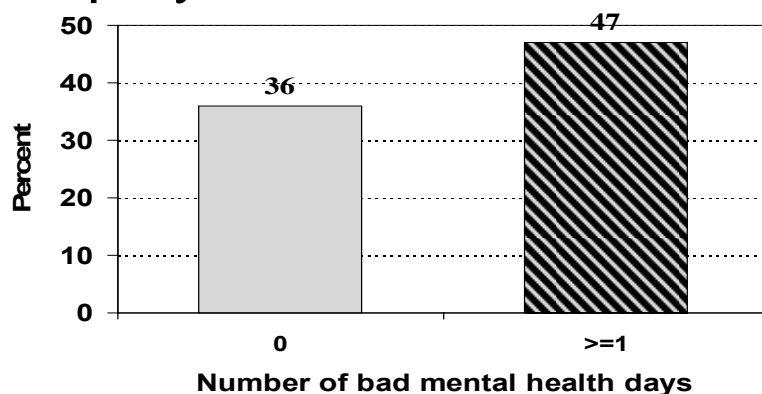
Percentage of persons who reported impact or problems due to Sept. 11 attacks on World Trade Center by type of impact or problem – 3 states, BRFSS, 2001

	Connecticut	New Jersey	New York
Was a victim or knew a victim	29.8	39.6	34.6
Attended a funeral or memorial services for person killed in attack	8.2	12.2	13.5
Anger	49.8	44.9	48.8
Sleep problems	14.5	10.0	14.9
Hopelessness	6.9	4.4	8.6
Received help for problems	7.6	10.7	13.3
Drank more alcohol since attacks	2.4	3.1	3.3
Any problem	72.9	73.3	75.6

Source: Melnik TA et al. Psychological and Emotional Effects of the September 11 Attacks on the World Trade Center — Connecticut, New Jersey, and New York, 2001. *MMWR*. 2002; 51:784-786



Bad mental health days 9 months post hurricanes by employees* – Florida, 2005



Source: Partners to help the Nation in Present & Future Disaster Response (2005)
* >4 weeks to return to work

Disaster Mental Health Guiding Principles

- No one who experiences a disaster is untouched by it.
- Most people pull together and function during and after a disaster, but their effectiveness is diminished.
- Mental health concerns exist in most aspects of preparedness, response and recovery.

Disaster Mental Health Guiding Principles

- Disaster stress and grief reactions are “normal responses to an abnormal situation.”
- Survivors respond to active, genuine interest and concern.
- Disaster mental health assistance is often more practical than psychological in nature (e.g. listening, reassuring, comforting).
- Disaster relief assistance may be confusing to disaster survivors.

Disaster Response Model

- **Traditional disaster response model is:**
 - Short-term
 - Mass-care ≈ “one-size-fits-all”
 - Externally supported
 - Focused on emergency, disaster-caused needs
 - Designed for persons with adequate resources
- **Community based disaster response model is:**
 - Long-term
 - Specialized
 - Internally supported
 - Focused on ongoing needs
 - Designed for various needs of community

Hurricane morbidity Report Form

<http://www.bt.cdc.gov/disasters/hurricanes/asccs.asp>

Form 10-1
REV 10/12/00

Hurricane Morbidity Report Form

For Active Surveillance in Clinical Care Settings

Complete one form per patient. Use category or categories that best describe the reason the patient is currently seeking care.

Part I - VISIT INFORMATION

1. LOCATION & NAME OF FACILITY: _____

2. DATE OF VISIT: _____

3. TIME OF VISIT: _____

Part II - PATIENT INFORMATION

4. MEDICAL RECORD NUMBER (if available): _____

5. DATE OF BIRTH: _____

6. AGE (YEARS): _____

7. RACE/ETHNICITY (check all that apply):

White Black/African American Hispanic or Latino Asian Other _____

8. SEX: Male Female

9. If Female, PREGNANT? Yes No Unknown

Part III - REASON FOR VISIT

Circle check all categories related to patient's current or past care seeking care. Specify "Other" as appropriate.

INTENT

Bite / sting, specify: _____

Burn, specify: _____

Cut / scratch by or against, specify: _____

Foreign body (e.g., in eye, splinter) on open wound

Hemorrhage, specify: _____

Infection, specify: _____

Irritation, specify: _____

Poisoning, specify: _____

Rash, specify: _____

Skin / soft tissue, specify: _____

Syncope

Trauma, specify: _____

Undetermined

Other, specify: _____

ACUTE MEDICAL SYNDROMES

Acute neurological syndrome (e.g., absent mental status)

Cold-related illness (e.g., rhinorrhea)

Compartment syndrome / eye irritation

Fever, specify: _____

Gastrointestinal illness, specify: _____

Headache

Heat-related illness or dehydration

Infection, specify: _____

Meningitis / encephalitis, suspected

Pain, specify: _____

Rash, specify: _____

Respiratory illness, specify: _____

Skin / soft tissue, specify: _____

Syncope

Other, specify: _____

EXACERBATION OF CHRONIC ILLNESS

Cardiovascular disease, specify: _____

Diabetes

Hematologic disease (e.g., PE)

Infectious disease, specify: _____

Neurological disease / stroke

Respiratory disease, specify: _____

Other, specify: _____

PSYCHIATRIC / BEHAVIOR

Agitated or frantic behavior

Disoriented to person, place, or time

Drug/alcohol intoxication or withdrawal

Seeing/hearing things that aren't there

Suicidal thoughts or attempt

Unable to care for self or dependents

Violent behavior / threatening violence

Other, specify: _____

OBSTETRICS / GYNECOLOGY

Routine pregnancy check-up

Complication of pregnancy (e.g., bleeding, abdominal pain, fetal distress)

In labor with/without complications

Premature birth complications (vaginal or cesarean)

GYN condition not associated with pregnancy or postpartum period

Other, specify: _____

Part IV - WORKER / VOLUNTEER STATUS INFORMATION

10. Did condition occur as a result of work (paid or volunteer) involving hurricane? Yes No Unknown

11. OCCUPATION / SUPPORT ROLE: _____

12. ACTIVITY AT TIME OF INJURY / ILLNESS: _____

Part V - DISPOSITION

Discharge to self-care

Died

Admit / refer to hospital

Unknown

Refer to other care (e.g., clinic, physician, urgent care)

Left before being seen

Shelter morbidity report form

Participating Active Surveillance in Facilities, Services, or Shelters

SUBMIT THIS FORM DAILY via email, fax, or phone.

Please call your state or local health authority if unable to fax, or email, or to report unusual disease occurrences.

Facility name: _____ Phone: _____ Fax: _____

City: _____ State: _____ CURRENT FACILITY CENSUS: _____ AGE: 52 y _____ 55 y _____

RACE: White _____ Black _____ Am Ind _____ Asian _____ Other _____ HISPANIC ETHNICITY: _____

24 hr reporting period: Date: _____ Time: _____ with previous 24 hr _____ Time: _____ with 24 hr _____

Try to be as specific as possible. For example, if you suspect measles, classify as such; otherwise classify as rash illness (not a meningitis) (specify if question has more than one appropriate category). Diseases may be counted more than once. At a minimum, please complete the "Total Number of Patients" counts for each syndrome category (shown on far left).

Total Number of Patients

Fever >100.4° F (38° C) ALONE without localizing signs/symptoms - Total

Gastrointestinal Illness - Total

Infectious Respiratory Illness - Total

Other Infectious Illnesses - Total

Rash Illness - Total

Mental Health / Psychological Problems - Total

Injury - Total

Chronic Disease - Total

Dehydration - Total

Are you concerned about a possible outbreak? Yes (1) No (2) (Please describe): _____

Total number of patients treated in past 24-hour period: _____ Total number of deaths during past 24 hours: _____

Do you need assistance with or additional resources for: staffing, medications, environmental assessments? Yes (1) No (2) If so, please specify: _____

V12.0 04/12/00

Report form categories

- **Patient Demographics**
 - Age, sex, ethnicity
- **Facility Information**
 - Name, date and time of treatment
- **Patient symptoms**
 - Injury, illness, or mental health condition
- **Method of arrival**
- **Disposition**
- **Injury specific**
 - Description of injury event
 - Intent of injury
 - Mechanism of Injury
 - Nature of Injury

Personal and family emergency plans

- **Communication with your Family**
- **Do you have a:**
 - Family Disaster Plan
 - Personal Emergency Plan
- **Make provisions for:**
 - Child(ren)
 - Spouse/Partner
 - Parents
 - Pets
 - Others

Conclusion

- Morbidity and mortality from disasters is high in the United States
- Disadvantaged communities are often at increased risk for harm due to lack of resources
- Many response plans do not address vulnerable populations or mental health issues
- Disaster preparedness and response is a joint effort between public and private organizations and can be effective

References

For additional information:

- Academic & Specialty Centers for Pub Health Preparedness
<http://www.phppo.cdc.gov/owpp/cphp.asp>
- American Psychiatric Association
<http://www.psych.org/disasterpsych/>
- Carter Center Mental Health Program
<http://www.cartercenter.org/healthprograms/program6.htm>
- CDC National Center for Injury Prevention and Control
<http://www.cdc.gov/ncipc/default.htm>

References

- Defense Threat Reduction Agency (DOD)
<http://www.dtra.mil/>
- The National Center for Post-Traumatic Stress Disorder (Dept of Veterans Affairs)
<http://www.ncptsd.org>
- The National Child Traumatic Stress Network

http://www.nctsnet.org/nccts/nav.do?pid=hom_main
- Potomac Institute/National Defense University

<http://www.potomacinstitute.org/academic/index.cfm>

References

- RAND Corporation (a non-profit institution)

<http://www.rand.org/health/researchareas/military.html>
- Uniformed Services University of the Health Sciences

<http://www.usuhs.mil/psy/traumaticstress/newcenter.html>
- US Dept of Health and Human Services, Substance Abuse and MH Services Administration
<http://www.mentalhealth.samhsa.gov/publications/allpubs/ADM90-537/Default.asp>

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