

Disasters & Mental Health: Impact, Vulnerability, and Early Interventions

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Service**

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1645-1745

Presenter

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- Dr. Joshua C. Morganstein is Associate Professor and Assistant Chair in the Department of Psychiatry and Assistant Director of the Center for the Study of Traumatic Stress at the Uniformed Services University of the Health Sciences in Bethesda, MD.
- Dr. Morganstein is Chair of the American Psychiatric Association's Committee on the Psychiatric Dimensions of Disaster and a Captain in the Commissioned Corps of the U.S. Public Health Service.
- He leads the Disaster Mental Health education and consultation services at the Center for the Study of Traumatic Stress and provides disaster mental health subject-matter expertise to federal, national, and global organizations.
- Dr. Morganstein advised on the United Nations' 2015 Sendai Framework for Disaster Risk Reduction and co-authored the first Curriculum Recommendations for Disaster Behavioral Health Professionals.
- He served as a co-author for "Mental Health and Well-Being" chapter in a landmark interagency report, Impact of Climate Change on Human Health in the United States and the American Psychiatric Association's Position Statement and Resource Document on "Climate Change and Mental Health".
- Dr. Morganstein authored a range of articles, chapters, and technical reports on the mental health impact of various disaster events including natural disasters, mass violence, terrorism, pandemics, and nuclear exposure.

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Disclosures

- CAPT Joshua C. Morganstein has no relevant financial or non-financial relationships to disclose relating to the content of this activity; or presenter(s) must disclose the type of affiliation/financial interest (e.g. employee, speaker, consultant, principal investigator, grant recipient) with company name(s) included.
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Learning Objectives

1. Evaluate the type and frequency of disasters.
2. Explain the range of adverse psychological and behavioral reactions to disasters.
3. Describe populations most vulnerable to adverse mental health effects of disasters.
4. Identify important evidence-based early interventions to mitigate adverse mental health effects of disasters.

Have you, or someone you care about, ever been affected by a disaster?

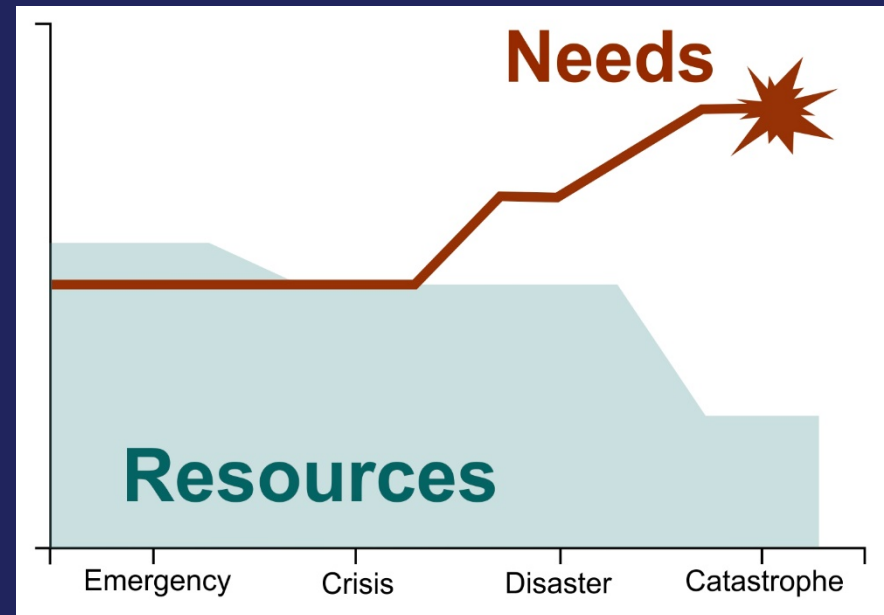
A. Yes

B. No

TYPES, FREQUENCY & DISASTER SYSTEMS

Definition of “Disaster” Varies by Context...

- Severe disruption, ecological and psychosocial, which greatly exceeds the coping capacity of the affected community



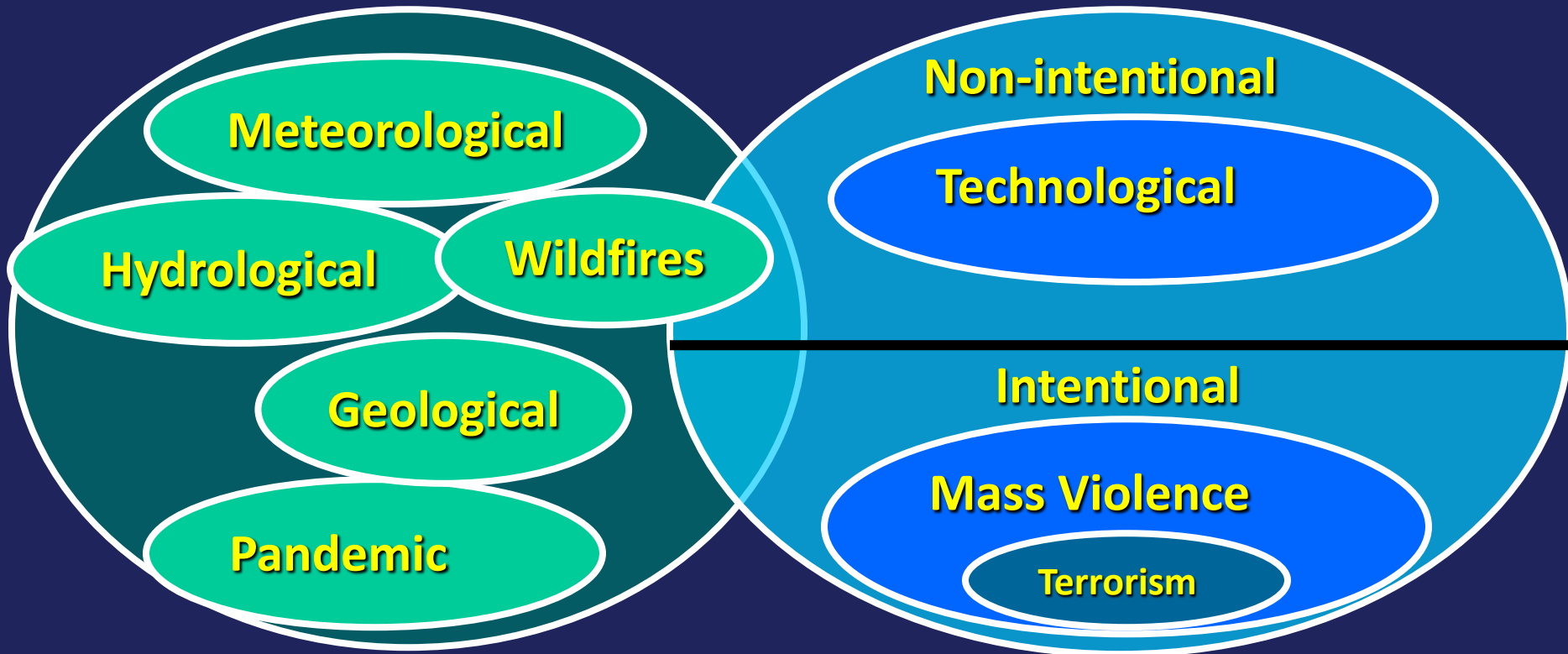
Disaster Mental Health...

- Clinical / Research
 - Natural and human-generated events involving exposure to mass trauma
 - Produce a predictable range of adverse psychological and behavioral responses

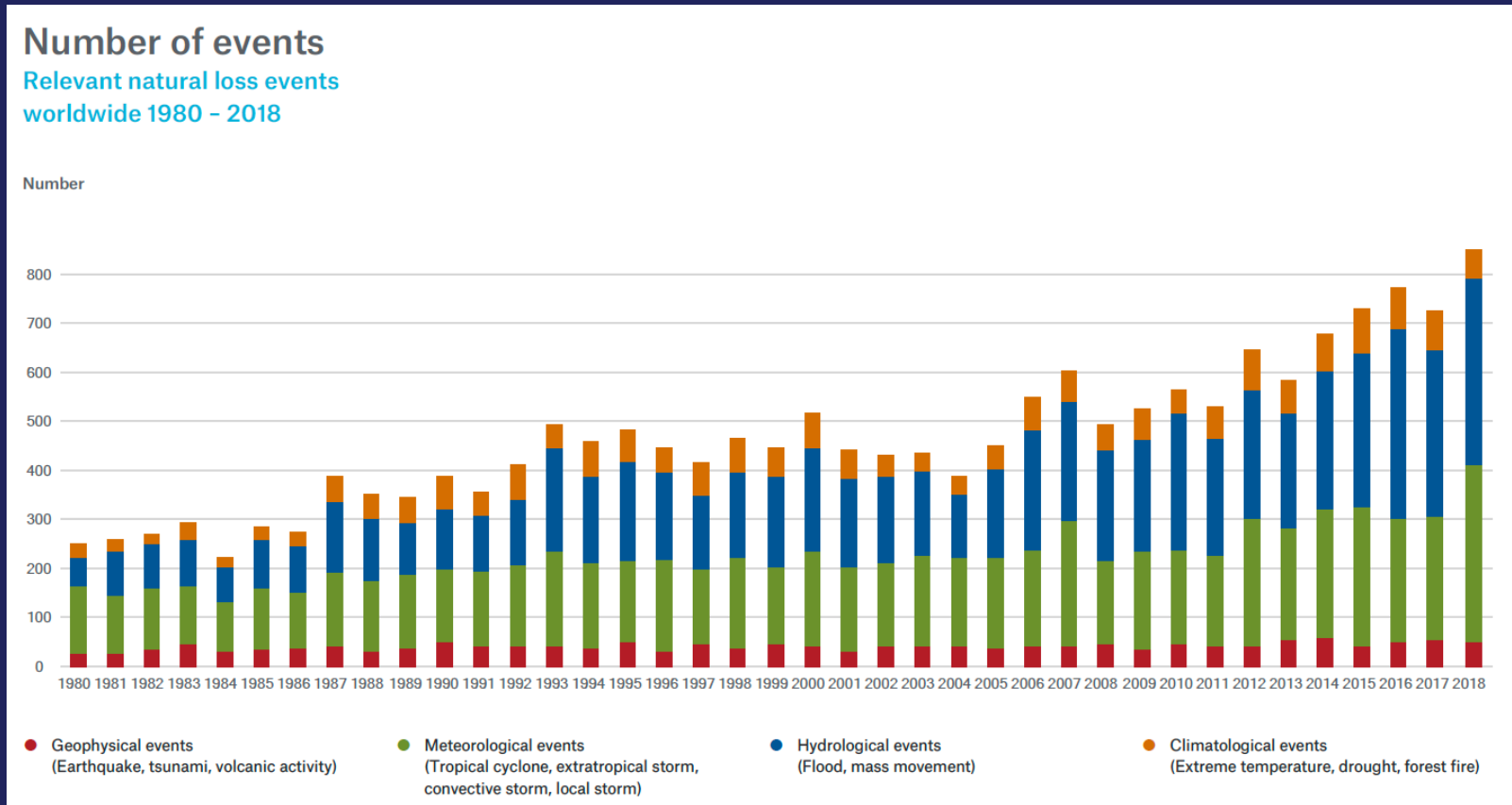
Categories of Disasters

Natural Disasters

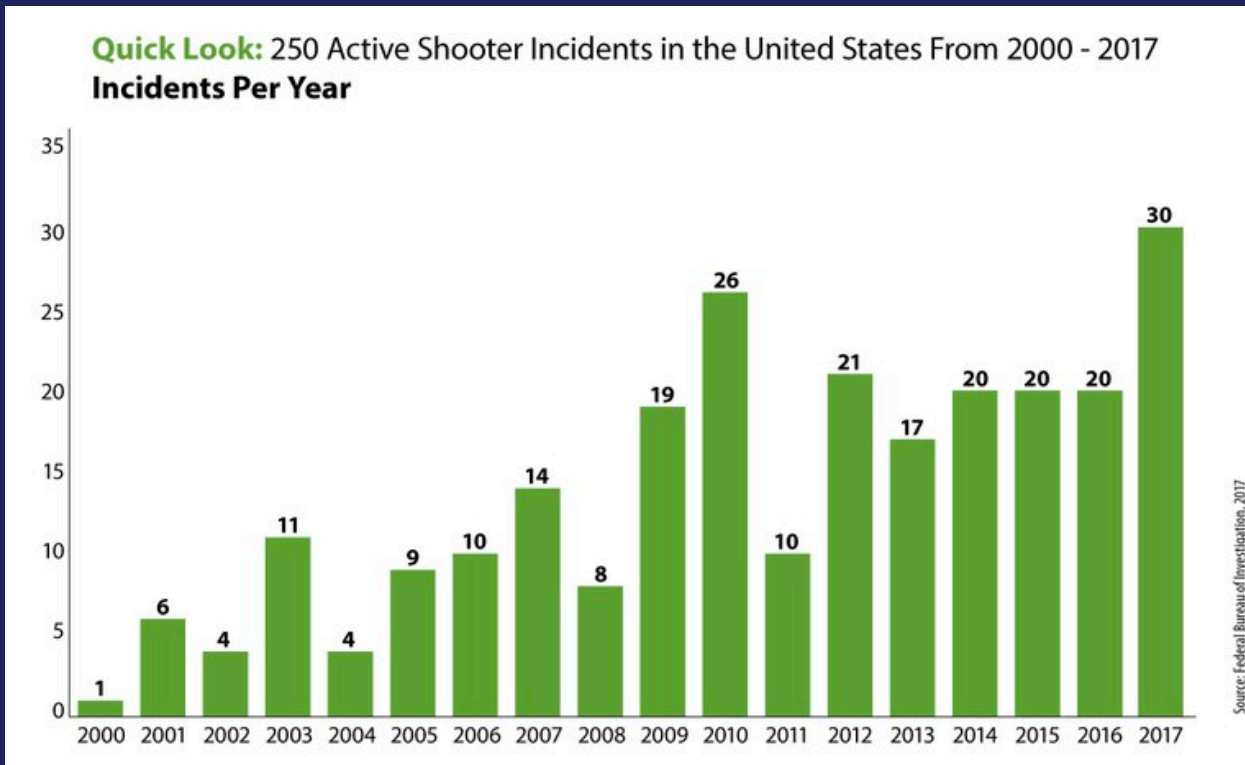
Human-Generated Disasters



Global Climate-Related Disaster (1980-2018)



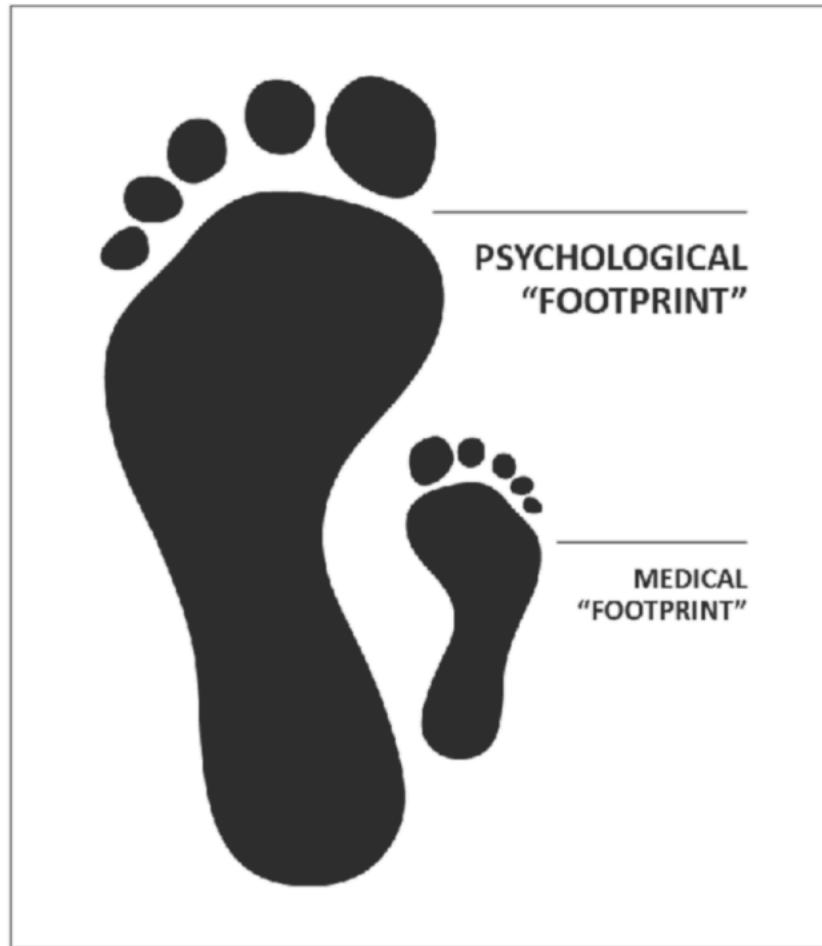
Active Shooter Incidence – Incidents per Year



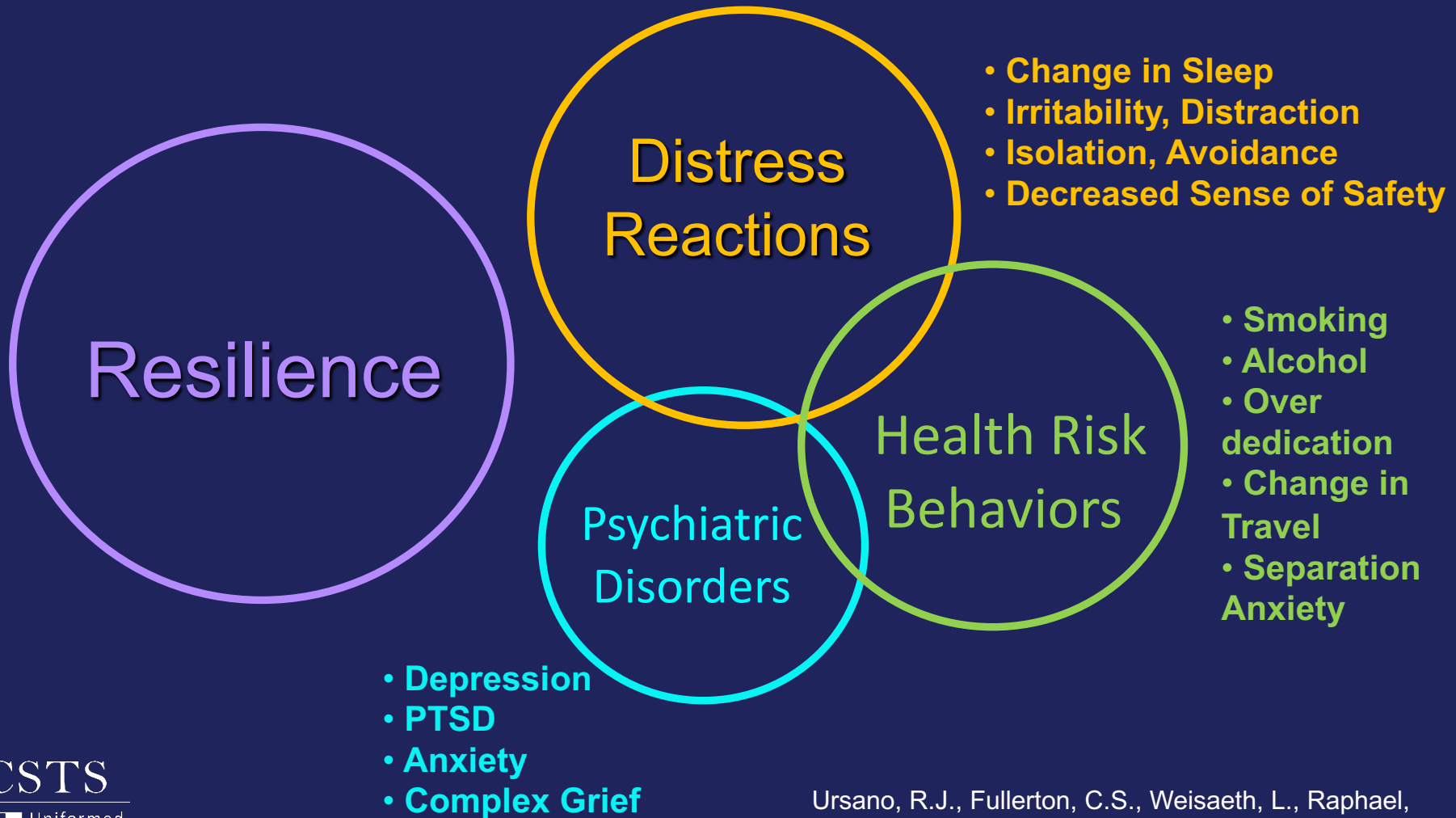
“an individual(s) actively engaged in killing or attempting to kill people in a populated area.”

ADVERSE PSYCHOLOGICAL AND BEHAVIORAL RESPONSE TO DISASTERS

**In a disaster,
the size of the
psychological
“footprint”
greatly
exceeds the
size of the
medical
“footprint.”**



Psychological & Behavioral Responses to Disasters



Exposure & Contamination

- Chem, Bio, Rad, Nuc (CBRN)
- Novel, mysterious
- Invisible, powerful, evil
- Uncertain “site” of event
- Non-specific symptoms
- Conflicting opinions about response
- Isolation and quarantine
- Shortages & scarcity (prophylaxis, antidote, treatment)
- Medically unexplained physical symptoms (MUPS)
 - High rate of somatic sx
 - 50:1 (seek care vs actual exposure)



McCormick et al. (2015). Mental health consequences of chemical and radiologic emergencies: a systematic review. *Emergency Medicine Clinics of North America*, 33(1), 197–211.

Children & Adolescents

- Separation from primary attachment figures
- Parental distraction, preoccupation, strife
- Disruption in schedules and routines
- Induction of fear, erosion of safety
- Self blame, helplessness

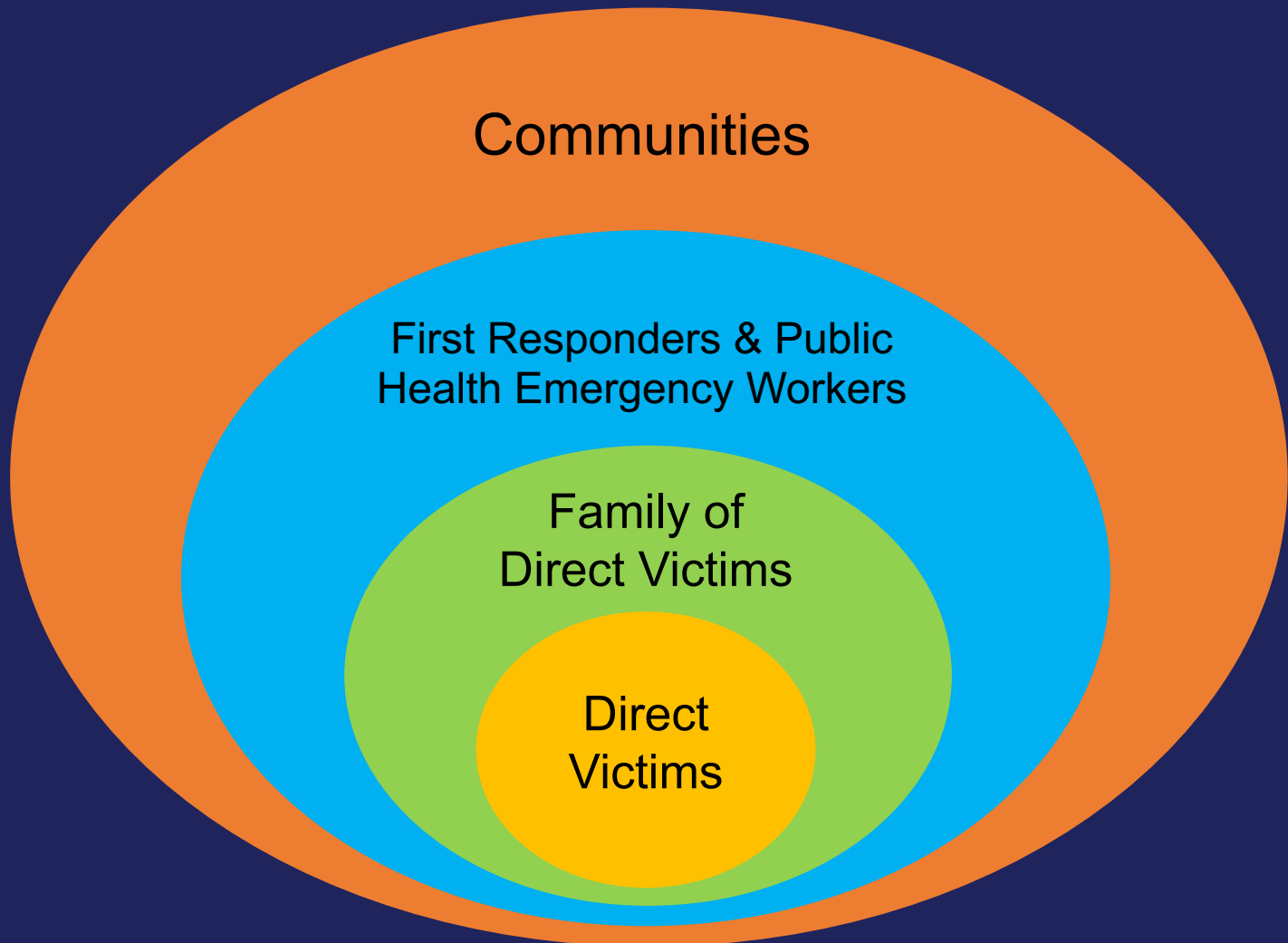
Regression

Diminished
academic
performance

Aggression

Self-blame

Population Exposure to Event



Media
exposure
enhances
transmission
of fear and
distress



<https://www.tvbeurope.com/wp-content/uploads/2019/01/pay-tv-353x199.png>

Fullerton, C. S., Mash, H. B., Morganstein, J. C., & Ursano, R. J. (2018). Active Shooter and Terrorist Event-Related Posttraumatic Stress and Depression: Television Viewing and Perceived Safety. *Disaster Medicine and Public Health Preparedness*.

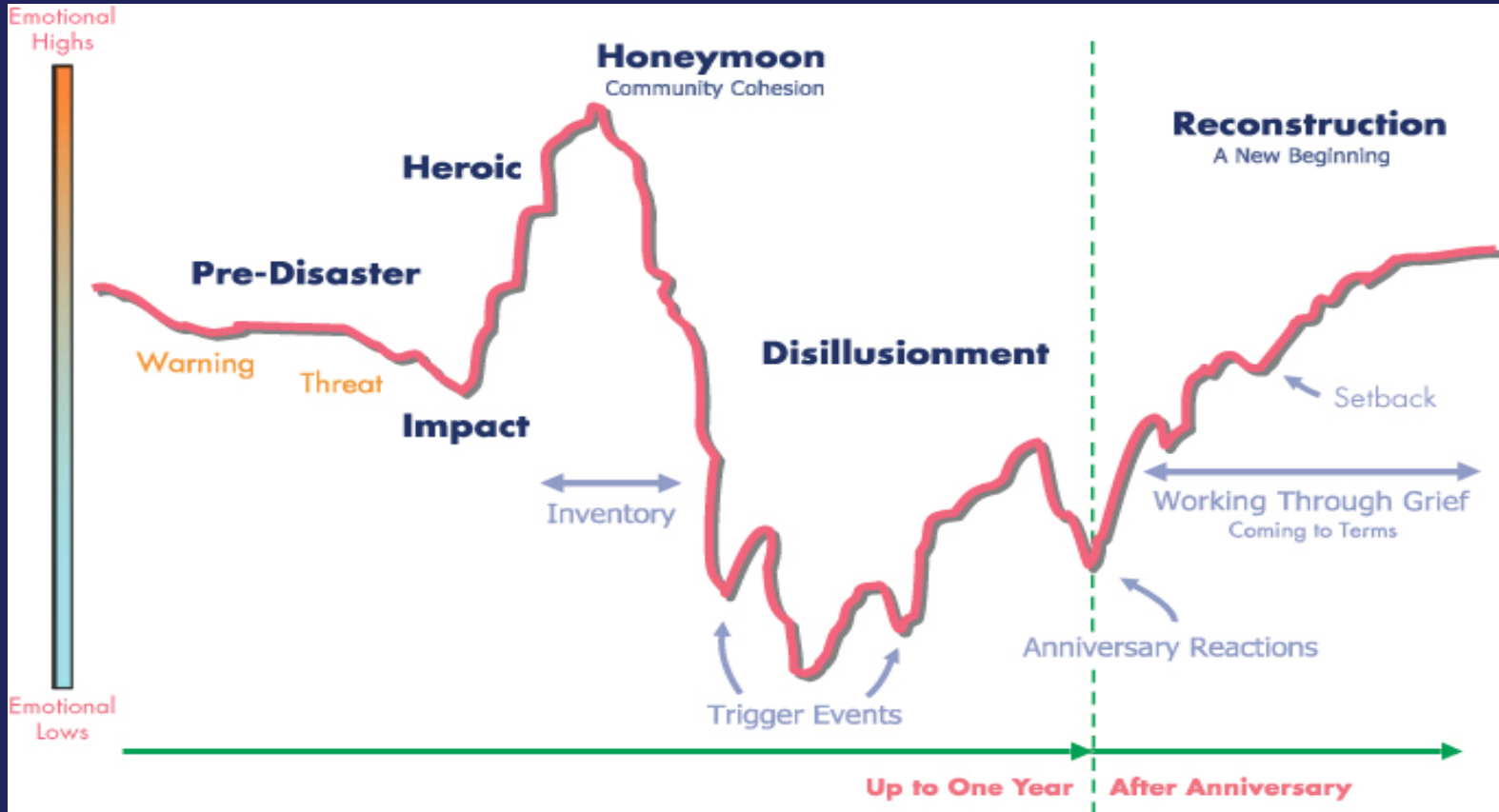
Pfefferbaum, B., Newman, E., Nelson, S. D., Nitiéma, P., Pfefferbaum, R. L., & Rahman, A. (2014). Disaster Media Coverage and Psychological Outcomes: Descriptive Findings in the Extant Research. *Current Psychiatry Reports*, 16(9), 464.

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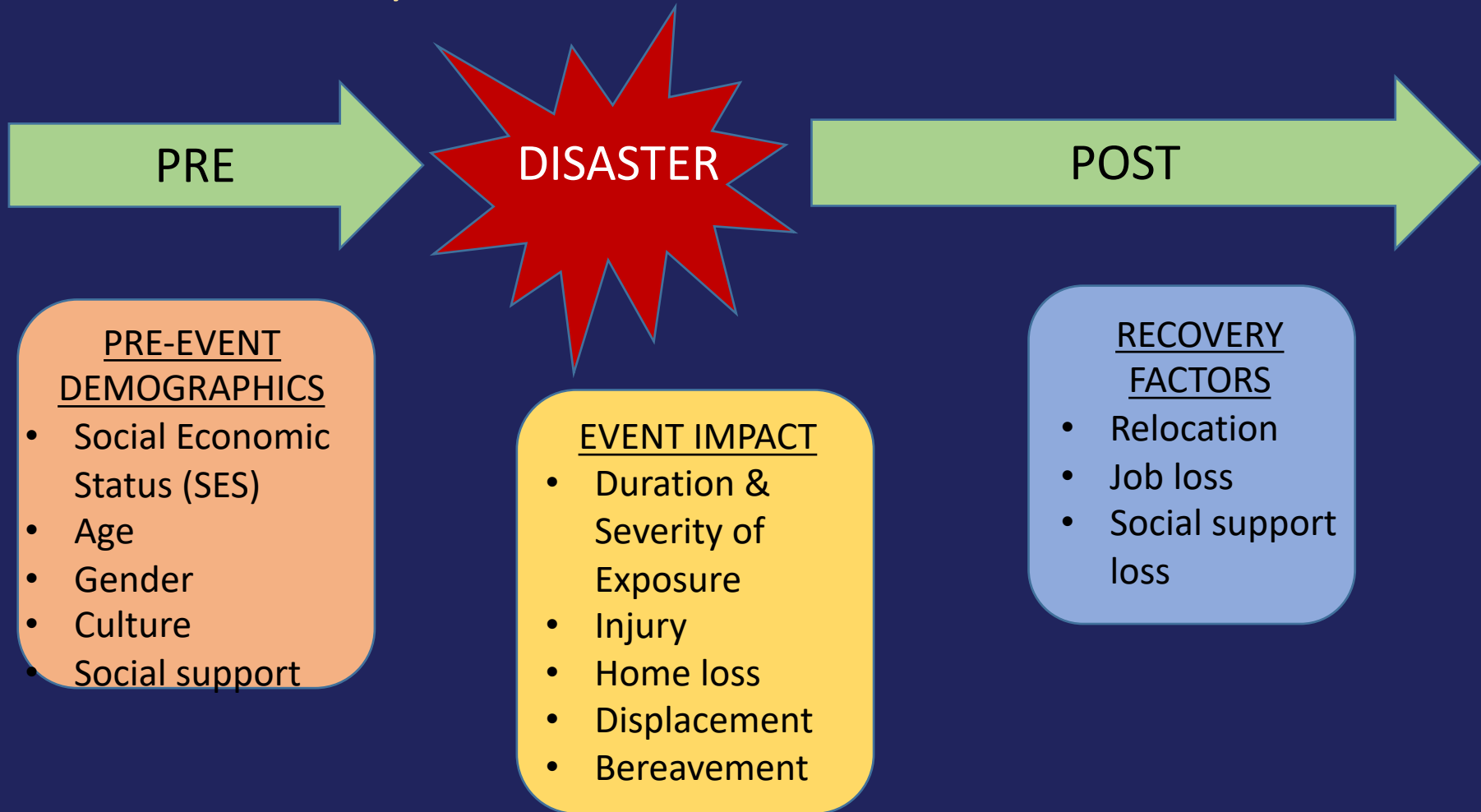
Community Phases



It's six months after the California Camp Fire and residents of Paradise remain without basic services or housing. They were previously very optimistic and tended to band together in their communities to help each other. Now there is significant anger toward the government for failing to restore utilities. What phase of psychological response to disaster is occurring?

- A. Honeymoon
- B. Reconstruction
- C. Heroic
- D. Disillusionment

Vulnerability to Disasters due to...



Special Populations

Dependence
on Systems of
Care

Cognitive &
Mobility
Impaired

Children &
Adolescents

Migrants &
Refugees

Economically
Disadvantaged;
Homelessness

Pregnancy &
Postpartum

First
Responders

Look for strengths/resilience in everyone...

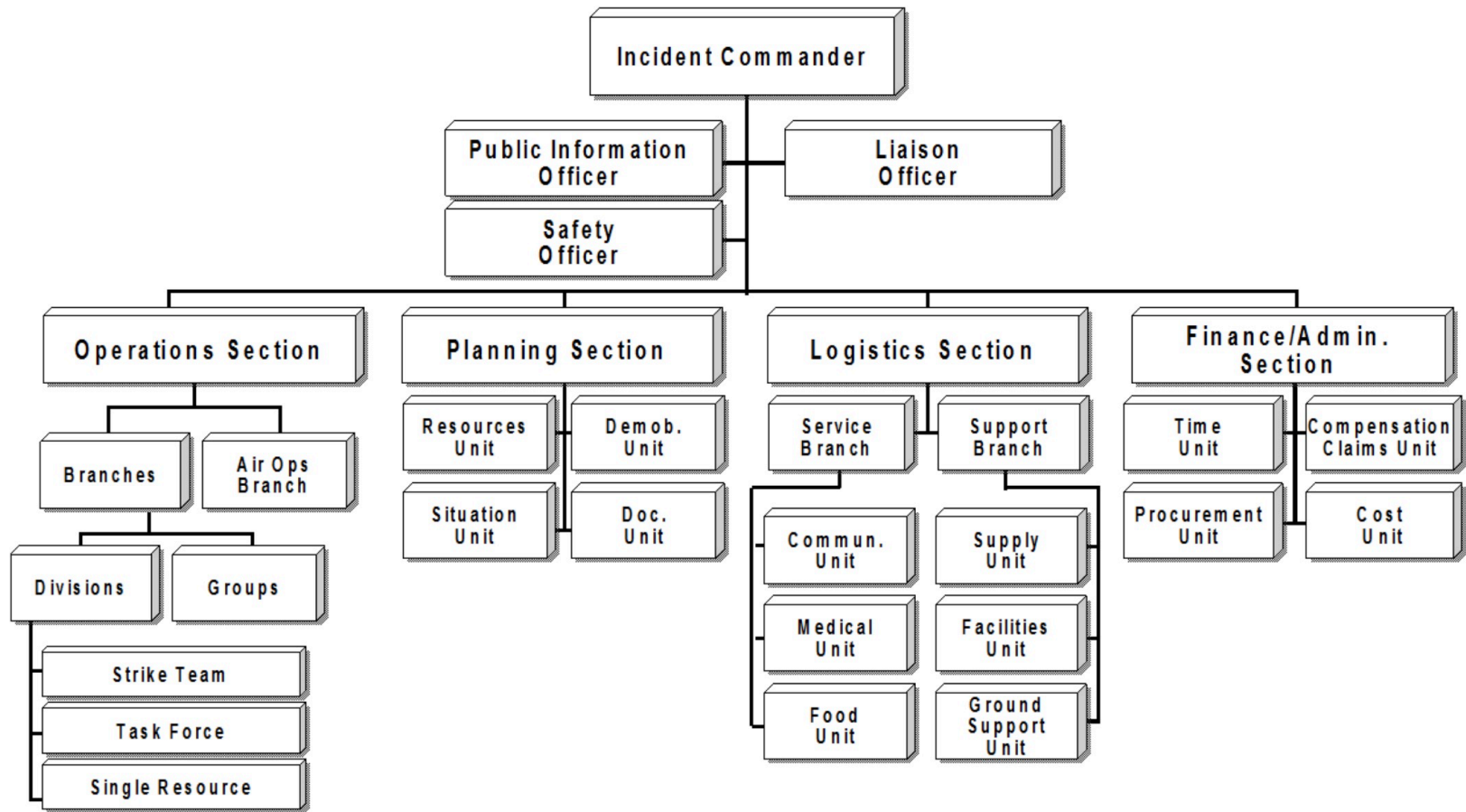
Cognitive Impairment,
Mobility Limitations,
Reliance on Medical
Equipment

Life Experience,
Stress Resilience,
"Proven Product"

ELDERLY

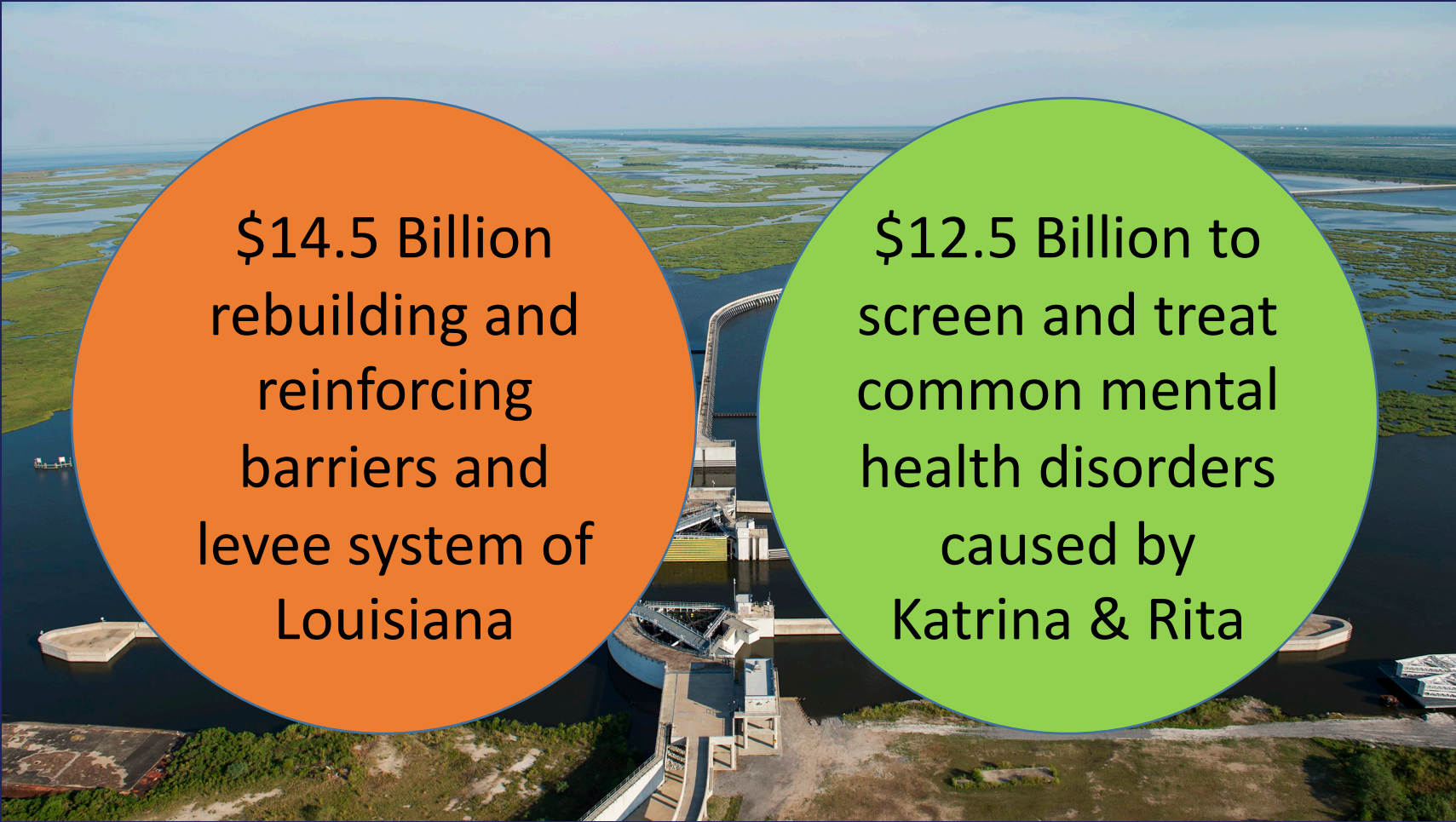
INTERVENTIONS FOLLOWING DISASTERS

Incident Command System



Disaster Cycle / All Hazards Planning





\$14.5 Billion
rebuilding and
reinforcing
barriers and
levee system of
Louisiana

\$12.5 Billion to
screen and treat
common mental
health disorders
caused by
Katrina & Rita

John Burnett. NPR. August 28 2015.
Accessed 01Apr2018.
<https://www.npr.org/2015/08/28/43205926>
1/billions-spent-on-flood-barriers-but-new-orleans-still-a-fishbowl.

Schoenbaum, M., Butler, B., Kataoka, S., Norquist, G., Springgate, B., Sullivan, G., et al. (2009). Promoting mental health recovery after hurricanes Katrina and Rita: what can be done at what cost. *Archives of General Psychiatry*, 66(8), 906–914.

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Psychological Debriefings (CISD/CISM)

This review concerns the efficacy of single session psychological “debriefing” in reducing psychological distress and preventing the development of post traumatic stress disorder (PTSD) after traumatic events. Psychological debriefing is either equivalent to, or worse than, control or educational interventions in preventing or reducing the severity of PTSD, depression, anxiety and general psychological morbidity. There is some suggestion that it may increase the risk of PTSD and depression. The routine use of single session debriefing given to non selected trauma victims is not supported. No evidence has been found that this procedure is effective.

Rose, et al. (2002). Psychological debriefing for preventing post traumatic stress disorder (PTSD). *The Cochrane Database of Systematic Reviews*, (2), CD000560.

American Psychiatric Association Practice Guidelines

Practice Guideline for the Treatment of Patients With Acute Stress Disorder and Posttraumatic Stress Disorder

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**GUIDELINE WATCH (MARCH 2009):
PRACTICE GUIDELINE FOR THE TREATMENT OF PATIENTS WITH ACUTE STRESS DISORDER AND POSTTRAUMATIC STRESS DISORDER**

David M. Benedek, M.D.
 Minsheng J. Friedman, M.D., Ph.D.
 Douglas Zatzick, M.D.
 Robert J. Ursano, M.D.

APAs Practice Guidelines for the Treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder was published in October 2008. Since that time, a number of well-designed randomized controlled trials of pharmacological and psychosomatic interventions for post-traumatic stress disorder (PTSD) have been conducted in various populations exposed to trauma. Numerous case reports, small case series, and open trials have also been reported, but they will not be the focus of this guideline watch. While early intervention studies for acute stress disorder (ASD) are currently in progress, no major research on the treatment of ASD has been completed since publication of the 2008 guideline.

Factors predicting development of ASD or PTSD have still not been established. A 2008 study by Bryant et al. (1) found that ASD was a poorer predictor of getting PTSD than just having PTSD criteria alone in the acute stage. In response to increased attention on U.S. military operations concerning Iraq and Afghanistan, the Institute of Medicine has also reviewed and summarized the evidence supporting treatment for PTSD (2). The 2007 report recognizes that there is evidence for the pharmacological treatment of combat-related PTSD, but states that this evidence is most strong in the evidence for treatment of war trauma-related PTSD. In particular, the report notes that large randomized controlled trials, consid-

For the period from October 2007 to October 2008, Dr. Benedek reports on competing interests. Dr. Friedman reports receiving honoraria from AstraZeneca for participating in a symposium. Dr. Zatzick reports on competing interests, and Dr. Ursano reports on competing interests. The Editors' Committee on Practice Guidelines has reviewed this watch and found no evidence of influence from these relationships.

The American Psychiatric Association's (APAs) practice guidelines are developed by expert work groups using an explicit methodology that includes rigorous review of available evidence, and peer review of draftive drafts, and final approval by the APA Assembly and Board of Trustees. APA practice guidelines are intended to assist practitioners in clinical decision making. They are not intended to be a standard of care.

The editors indicate regarding particular clinical procedures or treatment plans must be made by the practitioner in light of the clinical data presented by the patient and the diagnosis and treatment options available. Guidelines watches summarize significant developments in practice area guidelines (or APA practice guidelines). Watches may be updated and revised as the experts associated with the original guideline development effort and are approved for publication by APA's Executive Committee on Practice Guidelines. Thus, watches represent opinions of the authors and approval of the Executive Committee but are not policy of the APA. This guideline watch was published in March 2009. Copyright © 2009 American Psychiatric Association. All rights reserved.

VA/DOD CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF POSTTRAUMATIC STRESS DISORDER AND ACUTE STRESS DISORDER

Department of Veterans Affairs
 Department of Defense

QUALIFYING STATEMENTS

The Department of Veterans Affairs and the Department of Defense guidelines are based upon the best information available at the time of publication. They are designed to provide information and assist decision making. They are not intended to define a standard of care and should not be construed as one. Neither should they be interpreted as prescribing an exclusive course of management.

This Clinical Practice Guideline is based on a systematic review of both clinical and epidemiological evidence. Developed by a panel of multidisciplinary experts, it provides a clear explanation of the logical relationships between various care options and health outcomes while rating both the quality of the evidence and the strength of the recommendation.

Variations in practice will inevitably and appropriately occur when clinicians take into account the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Every healthcare professional making use of these guidelines is responsible for evaluating the appropriateness of applying them in the setting of any particular clinical situation.

These guidelines are not intended to represent TRICARE policy. Further, inclusion of recommendations for specific testing and/or therapeutic interventions within these guidelines does not guarantee coverage of civilian sector care. Additional information on current TRICARE benefits may be found at www.tricare.mil or by contacting your regional TRICARE Managed Care Support Contractor.

Version 3.0 – 2017



Psychological First Aid (PFA)

The Five Elements:

Sense of safety

Calming

Sense of Self- and Community Efficacy

Connectedness

Hope

Landmark article:

Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence
Psychiatry, 70(4), 2007

Authors: Steven Hobfoll plus 19 other disaster mental health experts



Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., et al. (2007). Five essential elements of immediate and mid-term mass trauma intervention: empirical evidence. *Psychiatry, 70(4)*, 283–315–discussion 316–69.

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What is PFA?

- What it IS...
 - Analogous to other forms of “First Aid”
 - Population-based response “framework”
 - “Do no harm” approach; resilience vs. disease
- What it is NOT...
 - Cure or treatment for illness
- What it MAY be...
 - Mitigation strategy; reduce distress, decreases illness

Basis for PFA

- Safety – decrease perceived threat
- Calming – reduce arousal/anxiety
- Efficacy – belief in one's ability to manage
- Connectedness – increase social support
- Hope / Optimism – better things are possible

Safety

- It's the "C" in CAB for basic life support
- Enable people to correctly perceive future threat
- Get to a safe place and recognize it as safe
- Accurate information on continued threats
- Accurate information on safety of loved ones



CAB= Circulation, Airway, Breathing

Safety



- DC Sniper shootings 02-24 October 2002; survey May 2013
- 1204 random residents of Washington, DC and Maryland
- Phone survey; Response rate 56.4%
- Decreased safety >>> Increased PTSD, Depression, Alcohol use

Table 2. Perceived safety in community settings ($n = 1205$, except for workplace category where $n = 876$)

Degree of safety	In neighborhood % (95% CI)	At workplace and surrounding area % (95% CI)	At other public places % (95% CI)	At gas stations % (95% CI)
A lot less safe	21.5 (18.7–24.2)	22.7 (19.2–26.1)	30.6 (27.5–33.7)	38.6 (35.4–41.9)
A little less safe	35.7 (32.4–38.9)	31.5 (27.9–35.4)	35.3 (32.1–38.5)	31.1 (27.9–34.2)
As safe as usual	42.4 (39.0–45.8)	45.6 (41.6–49.5)	32.0 (28.8–35.2)	26.8 (23.7–30.0)
“Don’t know” and refusals	0.5	0.2	2.1	3.5

CI, confidence interval.

Fullerton, C. S., Herberman Mash, H. B., Benevides, K. N., Morganstein, J. C., & Ursano, R. J. (2015). Distress of Routine Activities and Perceived Safety Associated with Post-Traumatic Stress, Depression, and Alcohol Use: 2002 Washington, DC, Sniper Attacks. *Disaster Medicine and Public Health Preparedness*, 9(5), 509–515.

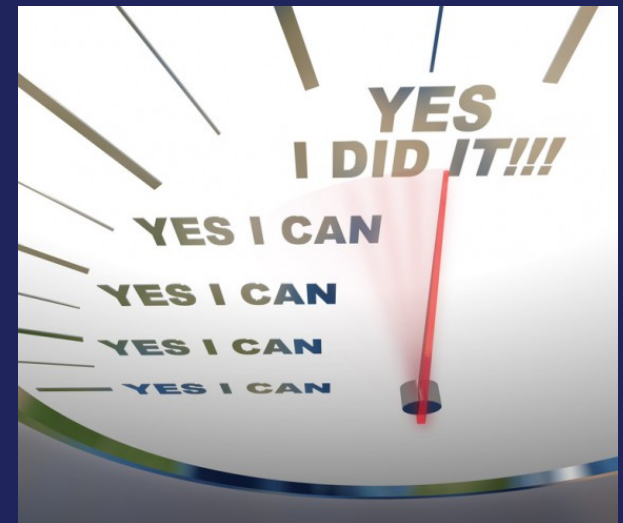
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Schulden, J., Chen, J., Kresnow, M.-J., Arias, I., Crosby, A., Mercy, J., et al. (2006). Psychological responses to the sniper attacks: Washington DC area, October 2002. *Amepre*, 31(4), 324–327.

Self & Community Efficacy

- Reinforce the belief that actions can lead to positive change
- Recognize existing skills to overcome threat and solve problems
- Facilitate connection to necessary resources
- Self-sufficiency and self-government
- Community conceived & implemented ideas (religious activities, meetings, rallies, rituals)



https://goodthinkinc.com/wp-content/uploads/2014/06/achievement_gauge.jpg

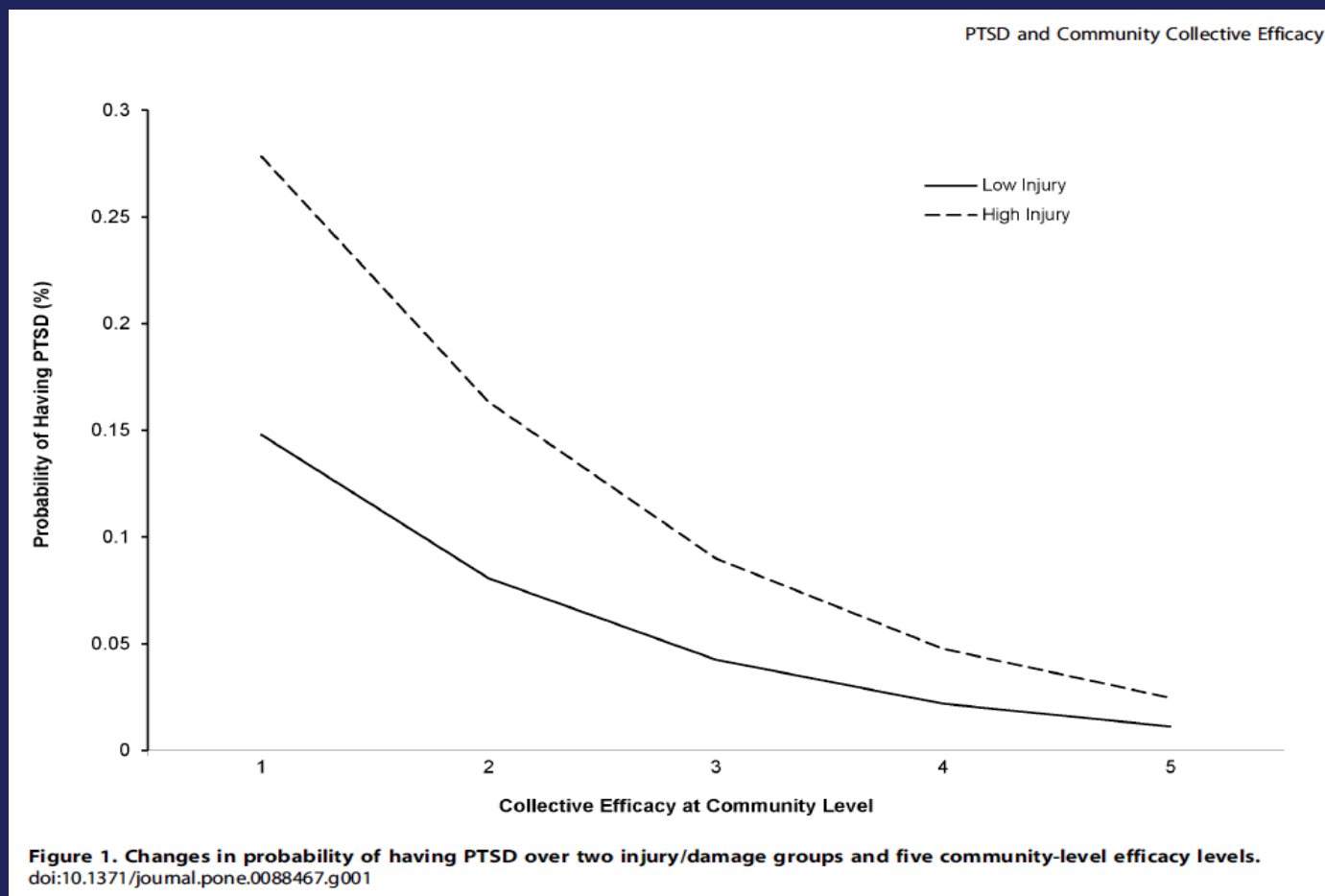
Self & Community Efficacy

- Community Collective Efficacy (CE) – “Willingness of community members to intervene for the common good.”
 - 2,249 Florida DOH workers s/p 2004 Florida Hurricanes
 - Age, gender, marital status, storm damage/injury
 - CE, depression, PTSD
 - Higher CE a/w decreased Depression and Post Traumatic Stress Disorder (PTSD)

Fullerton, C. S., Ursano, R. J., Liu, X., McKibben, J., & Wang, L. (2015). Depressive symptom severity and community collective efficacy following the 2004 Florida hurricanes. *PLoS ONE*. <http://doi.org/10.1371/journal.pone.0130863.t002>

Ursano, R. J., McKibben, J., Reissman, D. B., & Liu, X. (2014). Posttraumatic stress disorder and community collective efficacy following the 2004 Florida hurricanes. *PLoS ONE*. <http://doi.org/10.1371/journal.pone.0088467.t006>

Self & Community Efficacy

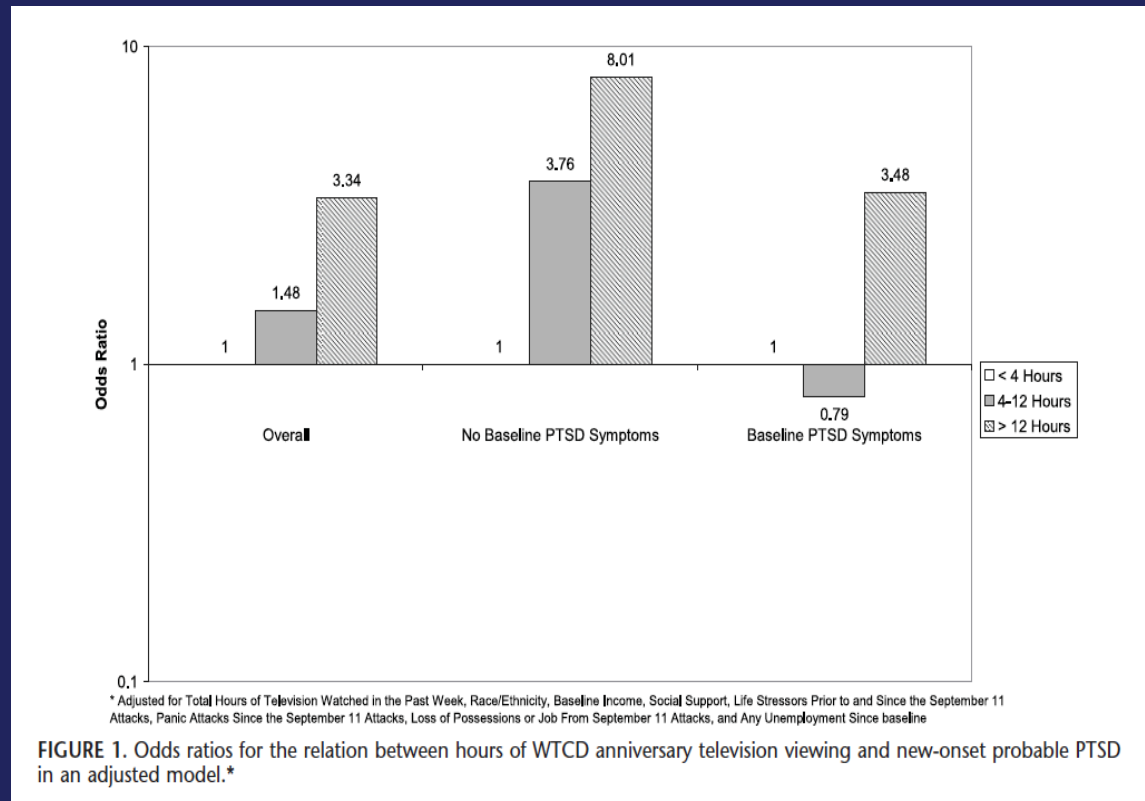


Calming

- Reduce physiologic arousal
- Promote realistic cognitive appraisal of situations and threats
- Problem-focused coping
- Grounding, breathing, relaxation
- Sleep hygiene +/- sleep aids
- Managing media exposure
- Psychoeducation: normal reactions & warning signs; health risk behaviors; where to get help

Calming

- 1787 New York adults
- Multiple assessments post 9/11
- Study outcome = probable PTSD
- Exposure was hours watching the 9/11 “1-yr anniversary” media coverage



Social Connectedness



- Facilitate (re)connection with family/community
- Allows for:
 - Emotional understanding
 - Shared problem solving
 - Mutual instruction on coping
- Positive vs. negative support

Social Connectedness

- Discuss support-seeking
 - Identify possible support persons
 - Discuss what to do/talk about
 - Explore reluctance to seek support
- Promote reconstitution of pre-existing social structures or new equivalents
- Address extreme isolation



**We build
too many walls
and
NOT ENOUGH
BRIDGES.**

- Sir Isaac Newton

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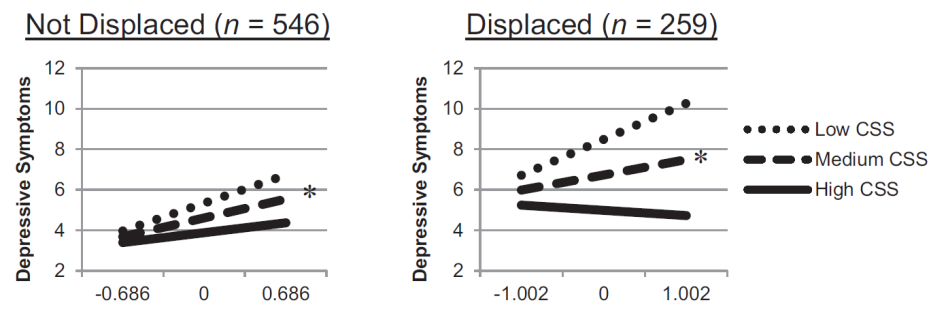
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Social Connectedness

- Hurricane Katrina
- 810 adults surveyed
- 18-24 months after
- Stronger social support (Crisis Support Survey) at 2 months associated with lower depressive symptoms for same exposure



https://www.history.com/image/c_limit%2Ccs_srgb%2Cfl_progressive%2Ch_2000%2Cq_auto%2Cg_ood%2Cw_2000/MTU4MDczOTQxNTc4MTYzNzE2/10-hurricane-katrina-54243759.jpg



Hope & Optimism

- Activities that restore a sense of “normal”
- “I’m here. You’re not crazy. Things will get better.”
- De-catastrophizing
- Develop/publicize problem-solving programs
- Support rebuilding of local economies
- Role for community leaders:
 - Encourage link-up w/ resources, cooperation
 - Coping behaviors & hope thru role modeling
 - Memorializing and creating meaning
 - Accepting necessary life & environmental changes

Hope & Optimism

- 2011 Tornado outbreak in Mississippi & Alabama
- 3,216 participants
- Examine relationship between:
 - Optimism
 - Quality of Life self-report
 - Mental Health outcomes
- Increased optimism ->
 - Improved Quality of Life (QOL)
 - Decreased Depression
 - Decreased PTSD



<https://oceanservice.noaa.gov/news/weeklynews/may11/tornado.jpg>



https://www.weather.gov/images/safety/phil_campbell_al2011-noaa-txt.png

Carbone, E. G., & Echols, E. T. (2017). Effects of optimism on recovery and mental health after a tornado outbreak. *Psychology & Health, 32*(5), 530–548.

PFA for Children & Adolescents

- Developmentally appropriate
- Needs may be less clear (behaviors >>> words)
- Heavily impacted by parental well-being

Keep with
attachment
figures

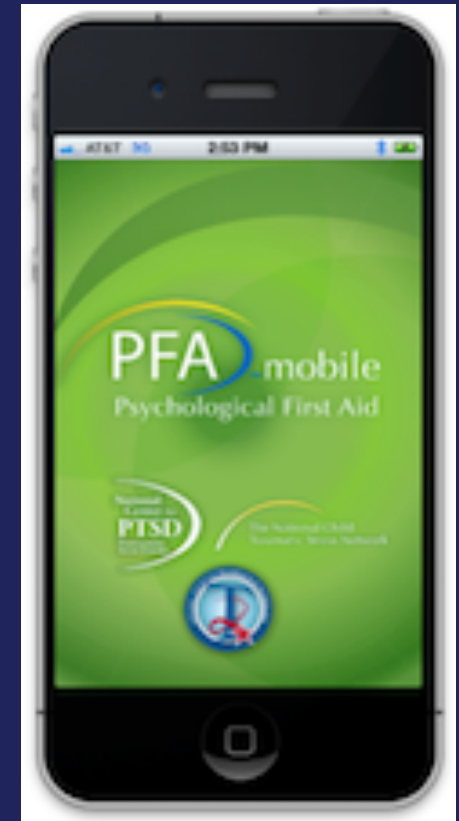
Provide
supervision
at all times

Focus on
efficacy for
parental
figures

Re-establish
routines
whenever
possible

Mobile Resource

- PFA Mobile app (Free)
 - Summaries of the 8 core PFA actions
 - Match PFA interventions to specific stress reactions of survivors
 - Get mentor tips for applying PFA in the field
 - Self-assess to determine your own readiness to conduct PFA
 - Assess and track victims' needs to simplify data collection and referrals



Leadership PFA Resource

- PFA Training for Leaders and Supervisors

The screenshot shows the NACCHO website. At the top left is the NACCHO logo with the tagline "National Association of County & City Health Officials". To the right, there is a sign-in prompt: "Please [Sign In](#) or [Create User Profile](#)". Below the logo is a navigation menu with links for Home, Support, FAQs, System Requirements, and Contact Us. A search bar is located on the right side. The main content area features a "Media Library" section with a list item: "Public Health Infrastructure and Systems". A large teal banner highlights a featured article: "Public Health Preparedness >> Building Workforce Resilience through the Practice of Psychological First Aid >> Building Workforce Resilience through the Practice of Psychological First Aid – A Course for Supervisors and Leaders".

Immediately following a mass shooting at a mall, first responders gather a group of people without injuries. What is the most helpful intervention s/he could do at this time?

- A. Ask each member of the group to describe their current emotional state.
- B. Reassure the group that the shooter has been stopped and there is no further threat.
- C. This group does not need attention as they have no injuries.
- D. Lead the group in a session of relaxation breathing.

Communication

“Better than any medication we know, information treats anxiety in a crisis.”

Source: Saathoff, 2002

Communication is a
behavioral health intervention

Communication - Rationale

The behavioral choices people make to stay in place, evacuate, seek or not seek medical care, search for loved ones, etc. are very real life and death decisions.



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Reynolds, B. S., & Seeger, M. (2012). Crisis and Emergency Risk Communication. Centers for Disease Control and Prevention⁵¹

Communication - Focus

**What People Want To Know
In Addition To
What We Want Them To Know**

“Therapeutic rapport” on a population level

Leadership Consultation

- Grief Leadership - Anticipate, identify, support
- Stress Management - “Your own oxygen mask first”
- Communication - What, when, how



Birkeland, M. S., Nielsen, M. B., Knardahl, S., & Heir, T. (2015). Time-lagged relationships between leadership behaviors and psychological distress after a workplace terrorist attack. *International Archives of Occupational and Environmental Health*.

Jones, N., Seddon, R., Fear, N. T., McAllister, P., Wessely, S., & Greenberg, N. (2012). Leadership, cohesion, morale, and the mental health of UK Armed Forces in Afghanistan. *Psychiatry*, 75(1), 49–59. <http://doi.org/10.1521/psyc.2012.75.1.49>

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PREPAREDNESS: PROVIDERS & PATIENTS

“Fortune favors the
prepared mind.”
- Louie Pasteur



Curriculum Recommendations for Disaster Health Professionals Disaster Behavioral Health

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Target Audience: Educators and trainers working with health professionals

Purpose: To plan education and training activities on behavioral health factors in disasters

Introduction

The world has long been aware that a wide variety of extreme events produce psychological, social, and biological sequelae that today we label with terms such as stress, trauma, grief, and bereavement. These consequences are visited upon individuals, families, workplaces, schools, communities, and nations. They can result from a wide variety of causal factors that are both natural, human-generated or a combination of both.

For the purposes of this document, focus will be on the general topic of exposure to disasters. Disasters are defined as extreme events in which needs of the impacted population and/or area exceeds the local response and recovery resources and external resources must be utilized. Disasters can include such naturally occurring events such as floods, hurricane, fires, tsunamis, epidemics, and pandemics. They can also be human generated in terrorism, war, community unrest, mass shootings, and industrial accidents. Some disasters involve both natural and human-generated elements. Examples include a plane crash caused by wind shear, a flood caused by a dam collapse, or a wildfire sparked by an arsonist.

The field of disaster behavioral health continues to evolve following the classic paradigm of synergistic interactions among research, training, and services (Figure 1). Fundamentally the questions driving the field are:

- What do we know about the individual and collective impact of disasters?
- What approaches and interventions, to accomplish what, provided by whom, and in what contexts are most efficacious?
- How can we ensure that those involved in disaster preparedness, response, and recovery have the knowledge and skills necessary to produce optimal results?

Figure 1



Disaster Behavioral Health Curriculum

Mobile Resource

- SAMHSA Behavioral Health Disaster Response app (Free)
 - Pre-event preparation, on-the-ground assistance, post-event resources, more
 - Share resources (like tips for helping survivors cope) with others
 - Find local behavioral health services
 - Self-care support for responders



Preparing an Organization

- Clarify your role(s)
 - Treatment, Leadership Consultation
- Organizational management
 - American Psychological Association (APA) District Branch, Non Profit Organization (NPO), other
 - Internal Expertise, Clear Messaging
- Establish partnerships
 - Healthcare, Aid / Relief Organizations
 - Community Services
- Disaster exercises/drills

Readying Your Practice

- Identify most vulnerable patients
- Ensure adequate medication supply
- Safety of & access to health records
- Contact info for patients/personnel after disaster
- Establish links w/ primary & emergency care
- Disaster exercises/drills

Individual Preparedness (Patients & Providers)

- Develop / practice Family Emergency Plan
- Know Work / School Emergency Plans
- Have / use trusted sources of information
- “Emergency Go Kit”
 - <http://www.redcross.org/get-help/prepare-for-emergencies/be-red-cross-ready/get-a-kit>



Not an endorsement, an option!!!

Key Takeaways

- Increasing frequency of human-generated and natural disasters increase the need for disaster mental health care
- Distress reactions and health risk behaviors predominate after disaster
- Early interventions reduce adverse impacts for individuals and communities
- Education & preparation decrease distress and enhance effectiveness of community response and recovery

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QUESTIONS

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