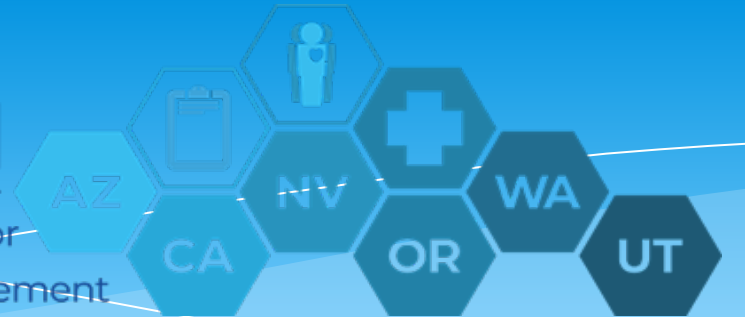


**WRAP-EM**

Western Regional Alliance for  
Pediatric Emergency Management



**Toward the  
way forward  
in Pediatric  
MH Wildfire  
Recovery**

**Merritt Schreiber, PhD**  
Department of Pediatrics,  
Harbor-UCLA Medical Center,  
Lundquist Institute

**David Geffen School of Medicine at UCLA**




# Disclosures

The projects described were made possible by Award Number U3REP190616 from the Administration for Strategic Preparedness and Response (ASPR) of the U.S. Department of Health and Human Services (HHS). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of ASPR, HHS nor the U.S. Government.

Dr. Schreiber maintains copyright and trademark for PsySTART and receives funding from varied federal, state and local governmental agencies including the WRAP-EM Pediatric Center of Excellence and Pediatric Pandemic Network

# Depression, Anxiety, and PTSD Among Southern California Residents After the January 2025 Los Angeles Wildfires

Ryan Lee MPH , Jennifer B. Unger PhD, Daniel W. Soto EdD, MPH, Eric Kawaguchi PhD, Myles Cockburn PhD, Shuvan Paul MS and Frank Gilliland MD, PhD

University of Southern California, Los Angeles, CA, USA

## Fire Impact Area Sample of Adults:

### Evacuated:

- 18.7% high risk for PTSD (AOR=2.4)
- 39.0 % moderate to severe depression

### Non-Evacuated:

- 10.0% high risk for PTSD
- 28.0% moderate to severe Depression



# Mental health impact of the 2025 Los Angeles wildfires among adolescents

Harlow, Alyssa F.<sup>a,\*</sup>; Soto, Daniel W.<sup>a</sup>; Unger, Jennifer B.<sup>a</sup>; Lee, Ryan C.<sup>a</sup>; Barrington-Trimis, Jessica<sup>a</sup>

*Environmental Epidemiology* [10\(3\):p e474, June 2026.](#) | DOI:10.1097/EE9.00000000000000474

- 35.8% of adolescents were worried about the health of family members,
- nearly one-quarter feared for their personal safety (23.1%), personal health (22.3%),
- **Anxious, stressed or depressed (21.9%),**
- **10.4% had a family member or loved one who lost their home.**



# Recovery Stepped Triage to Recovery

- Strengthening evidence-based decision making in wildfire disasters:  
Rapid pediatric mental health triage system (PsySTART WRAP-EM System)
  - Beyond data collection toward **evidence-based decision support** for the psychological “golden month”
  - Strengthen local actionable capacities and capabilities
- Trained in 20 minutes: does not require mental health providers
- Began in SoCal wildfire recovery planning and since used in wildfires in Maui, NorCal and other natural disasters around the US

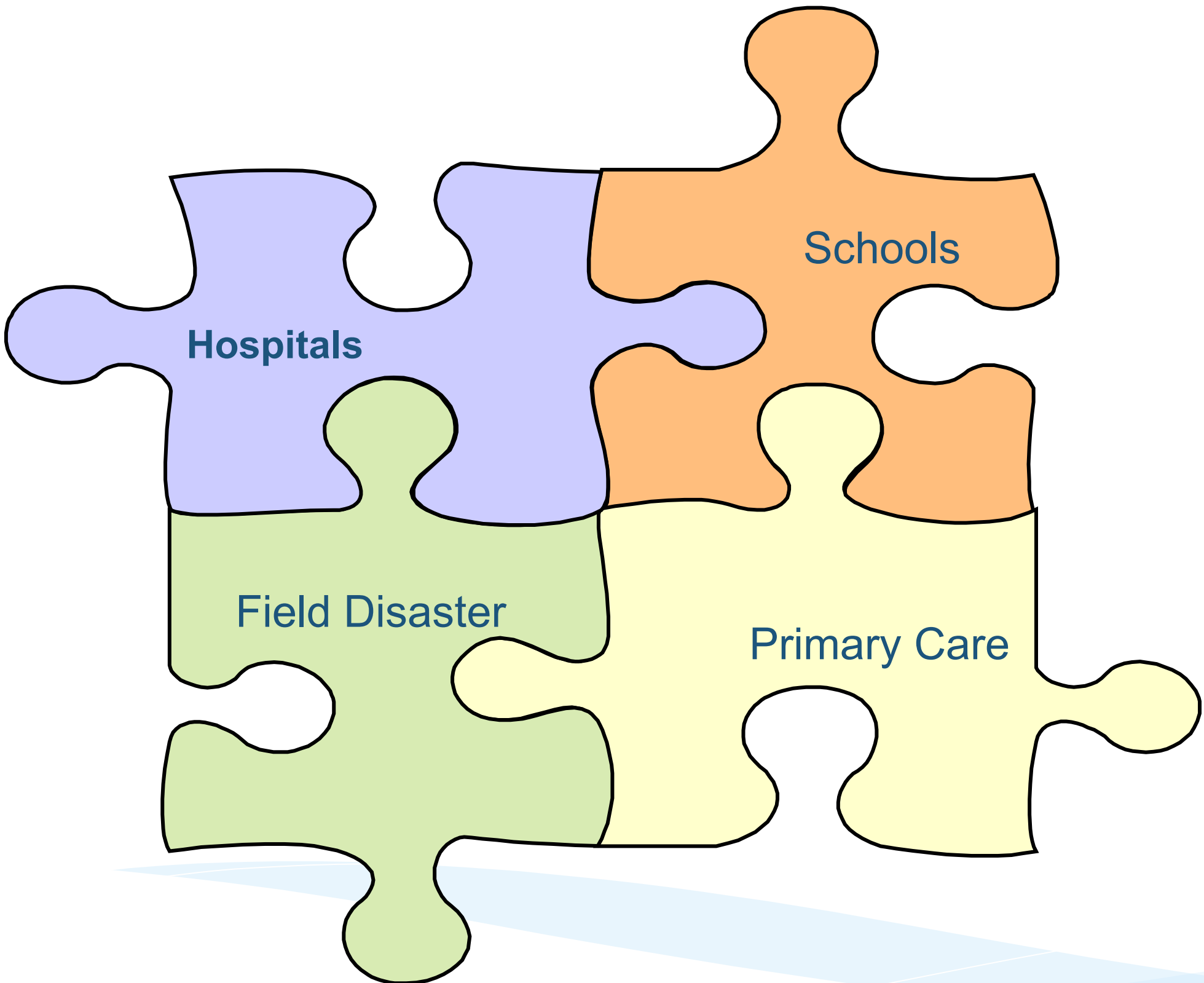
# Rapid Mental Health Triage: What is it ?

- Uses geo-spatial information management for
- Warm hand-off from response to recovery services when indicated
- Based on “disaster systems of care<sup>1</sup>” ICS connecting hospitals, schools, field disaster teams, mental health, primary care, disaster relief organizations
- Beyond “one size fits all” to the “stepped- care” continuum care model:
  - Benefit to individual and cost savings (DALYs)

# What's different ?

- Visualize and define the gap using immediately available risk metrics
- Empowers local decision making priorities and rational allocation
- Uses “trauma temperature mapping: flexible geospatial intelligence
- Coordinated approach across pediatric disaster systems of care
  - Based on the “National Children’s Disaster MH Concept of Operations”
  - “Whole person screening”: beyond symptoms of distress to immediate needs

# PsySTART/WRAP-EM Pediatric Disaster Systems of Care Model



“Common operating picture” of MH impact across diverse settings in real-time





# Pediatric Disaster Response and Emergency Preparedness

## MGT-439

### Participant Guide

November 2024

Version 3.1



# FEMA



## Pediatric Disaster Response and Emergency Preparedness

### Pediatric Triage Triage Systems Participant Guide

on the tag during an interview. It provides users with a scalable response with respect to mental/behavioral response resources based on available resources identified as existing within the community or region (refer to Appendix F). PsySTART “[links] mental health to [the] disaster system of care through activation of a mental health triage system during disaster. It enables support [professionals] to make critical service need decisions in real time” (Napa County Health and Human Services Agency, 2021, p. 2).

In addition to providing a screening mechanism, the PsySTART triage system provides users with the triage to care continuum (refer to Figure 7.10). Using the continuum, the level of response or intervention intensity employed is scaled. Based on the results of each screening, evaluation staff determines the appropriate level of risk or resilience and the corresponding predetermined levels of intervention.

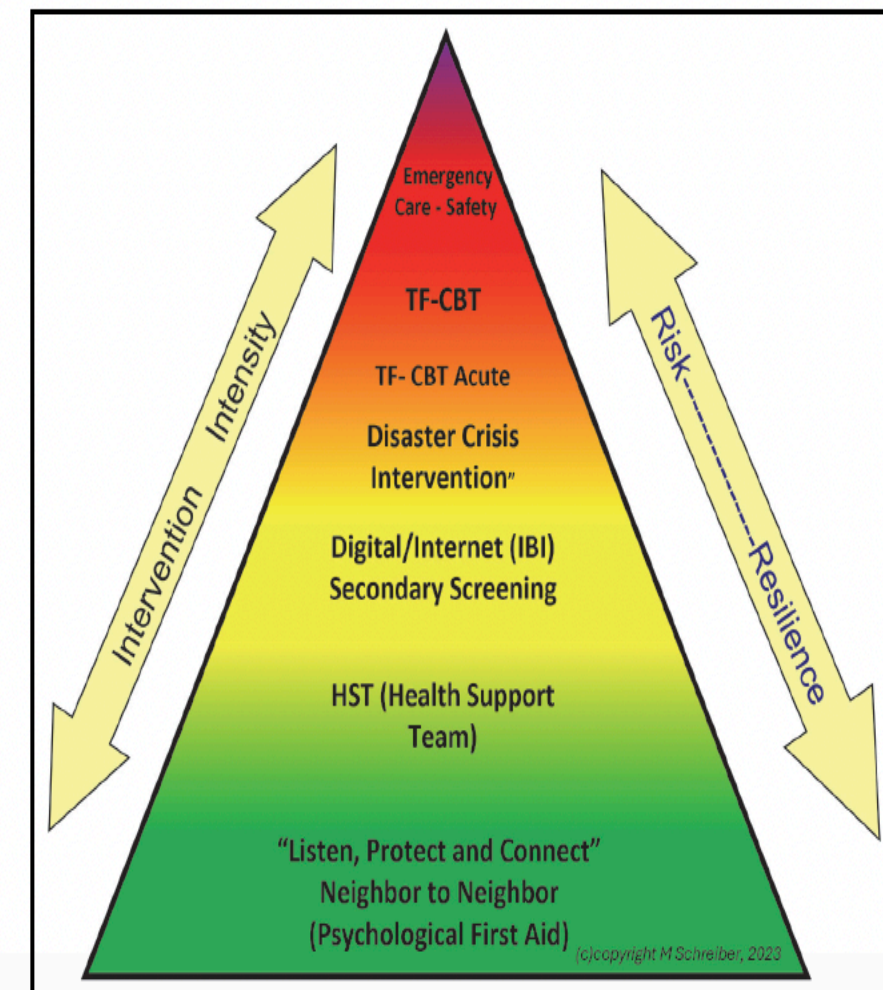
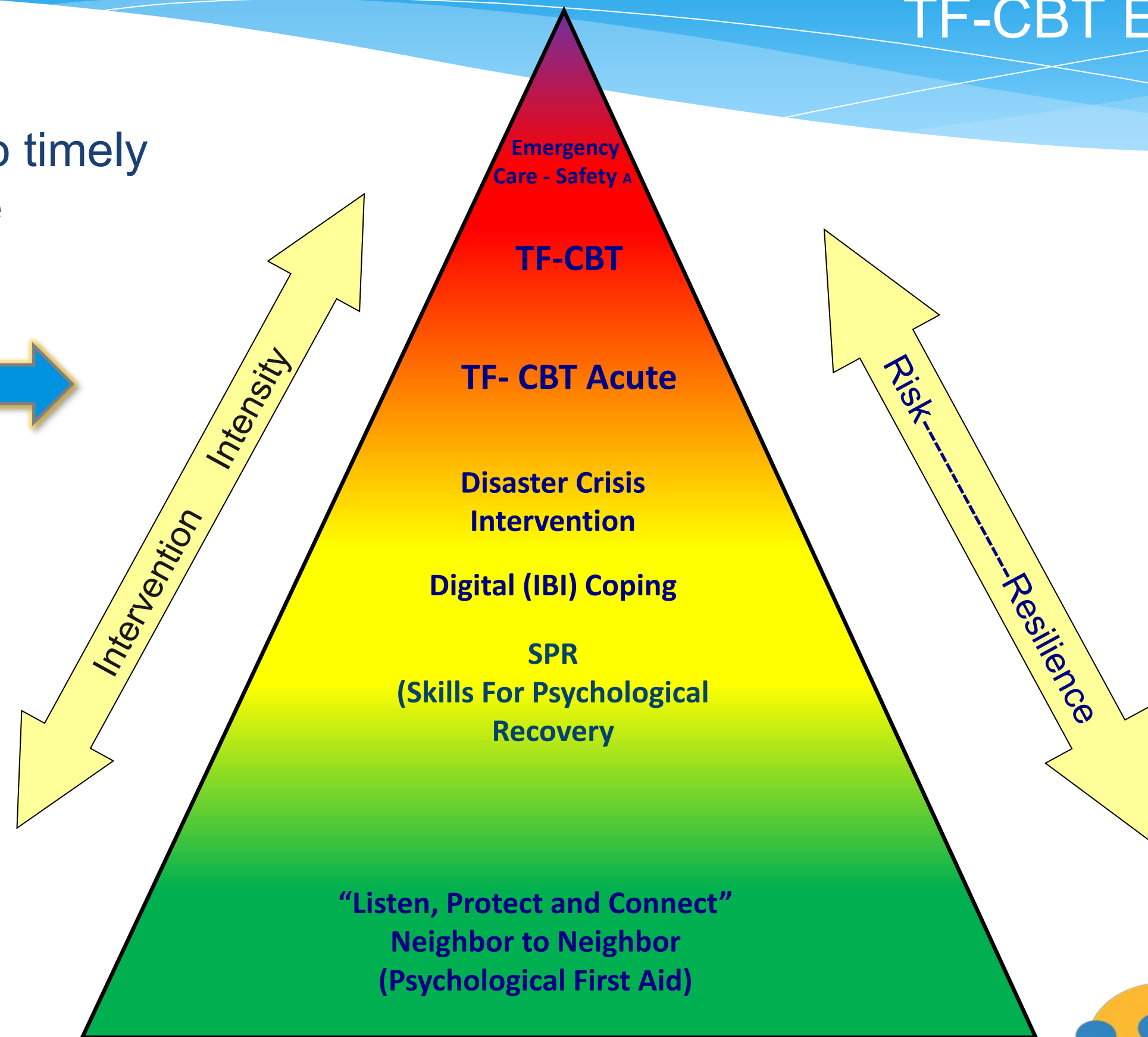
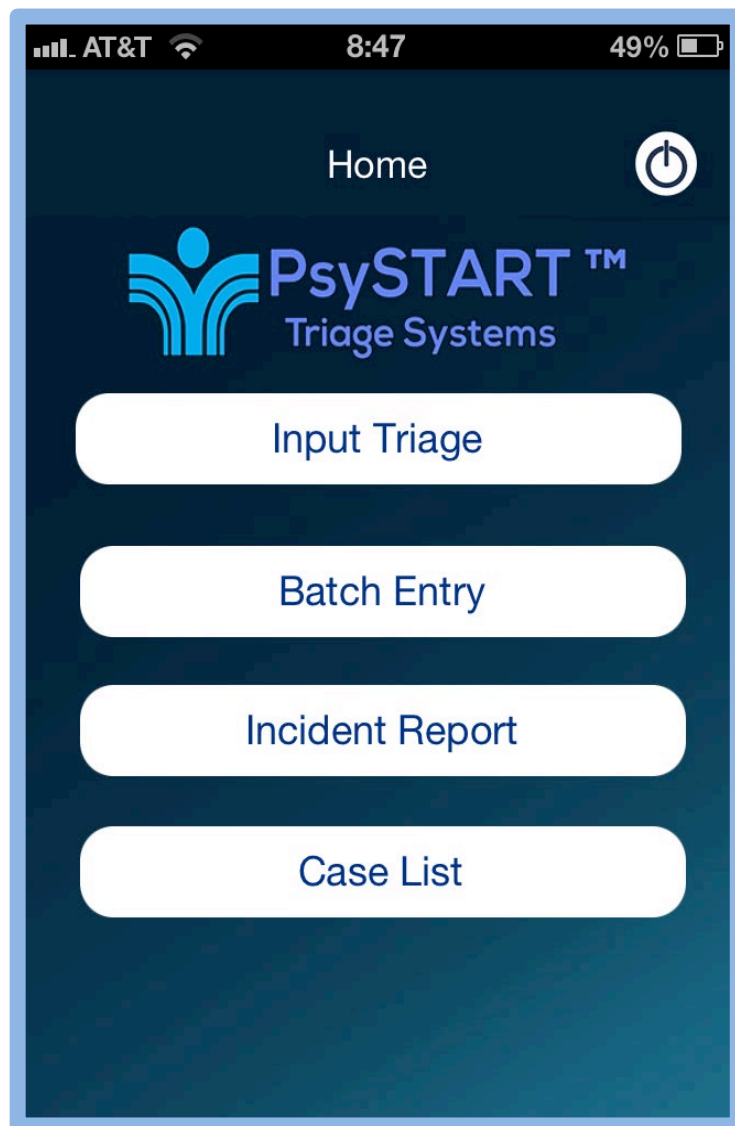


Figure 7.10: PsySTART Triage to Care Continuum  
Image courtesy PsySTART Mental Health Triage System/Merritt

# “Seamless” Stepped Triage to Care Continuum: TF-CBT Example

## Goal:

Getting children to timely  
continuum of care



The goal of this approach is to offset a wide range of downstream trauma impacts, such as serious pediatric mental health disorders by intervening in the trauma cycle early.

- Lower cost, reduced morbidity



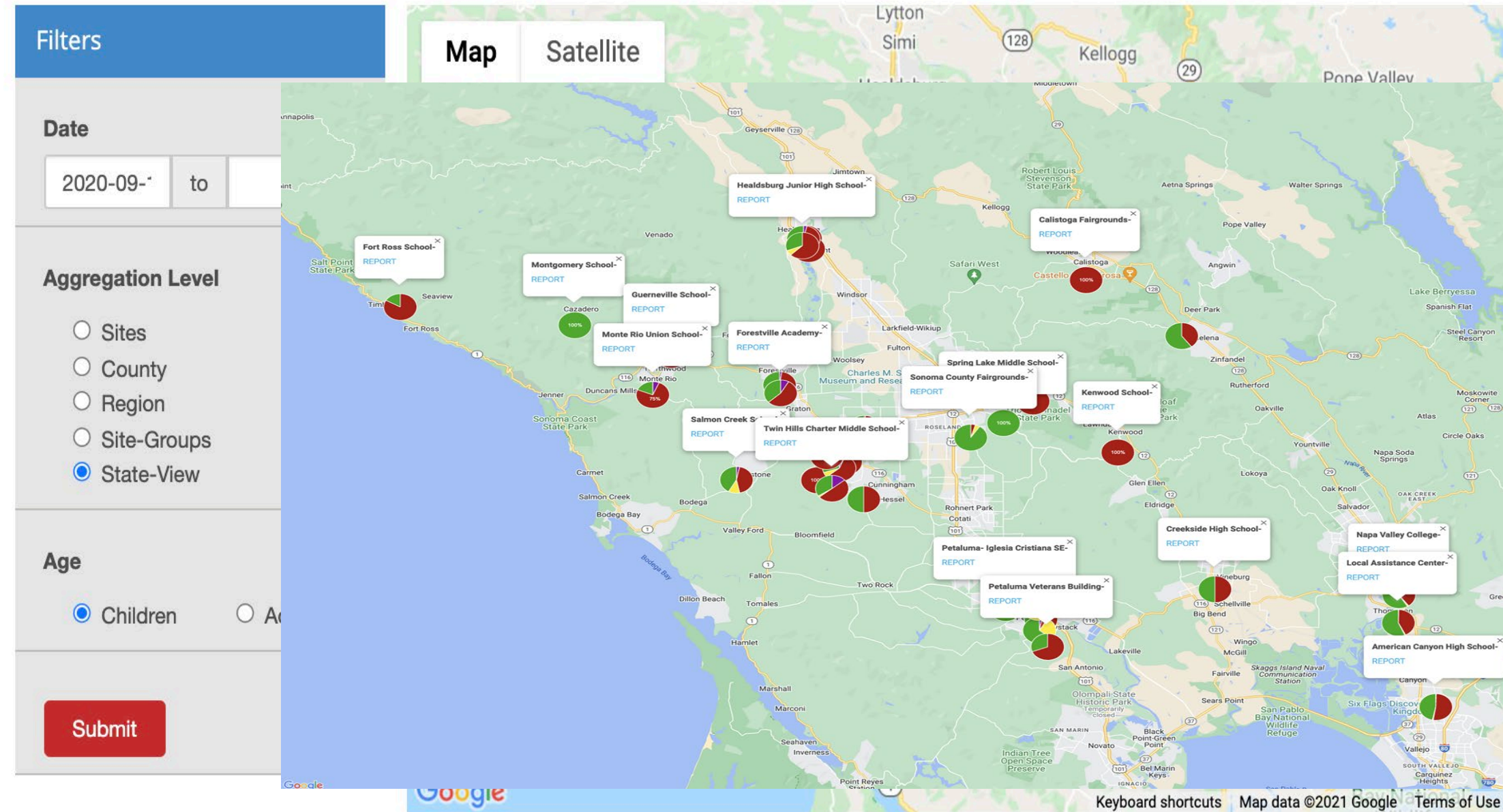
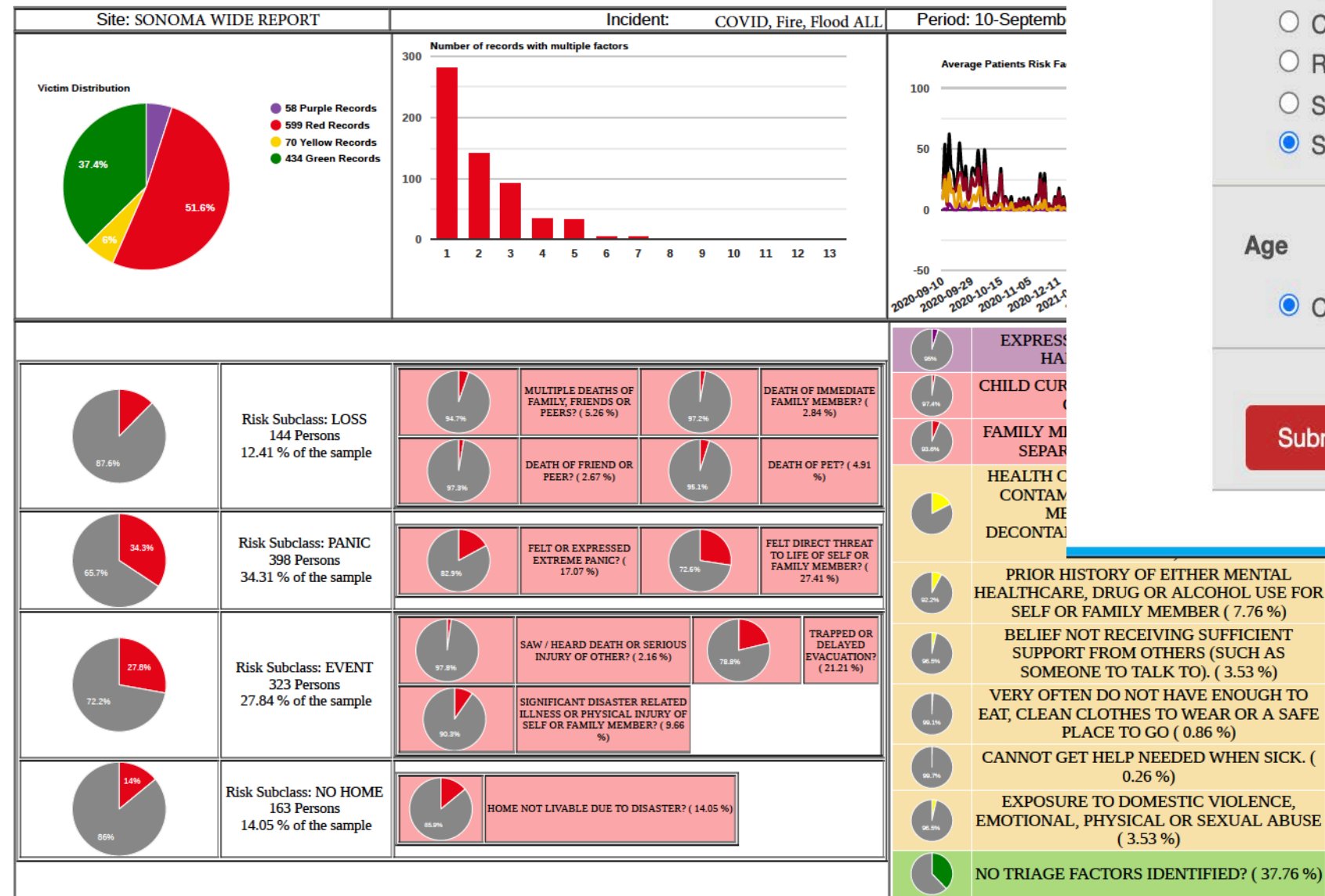
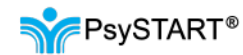
Source: Public Health Sudbury & Districts [www.phsd.ca](http://www.phsd.ca)

Irving Zola's "Upstream-downstream parable";



# Sonoma Wildfires “Community Trauma Temperature”

Mobile sites (without specific locations) will be mapped to its parent site



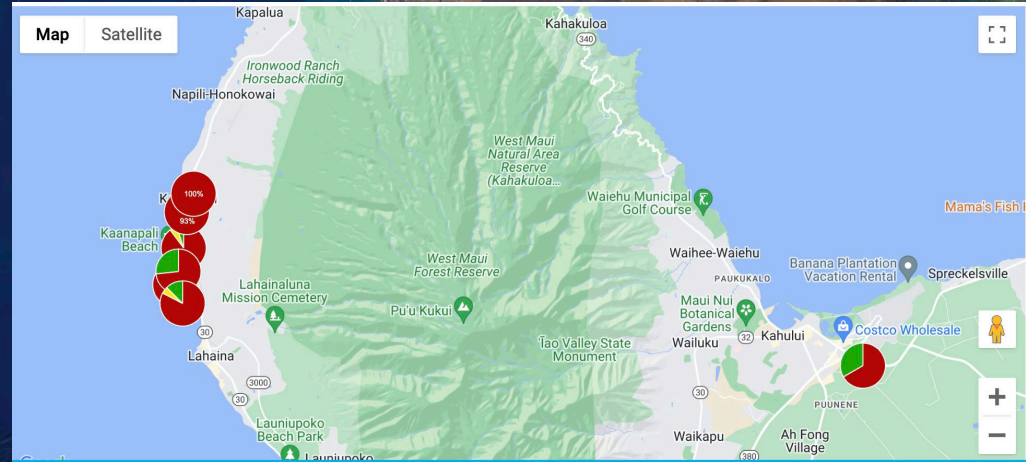
Filters

**Date**  
 2023-08-22 to 2024-07-22 16:00:41

**Aggregation Level**  
 Location  County  
 Region  Site-Groups  
 State

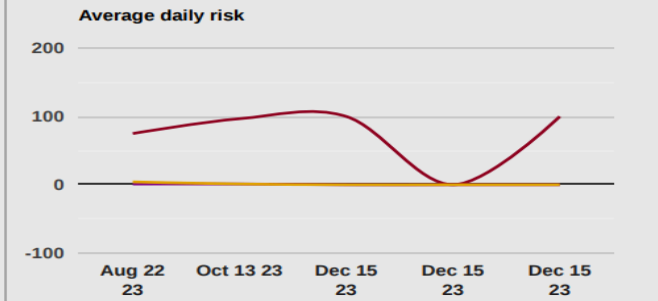
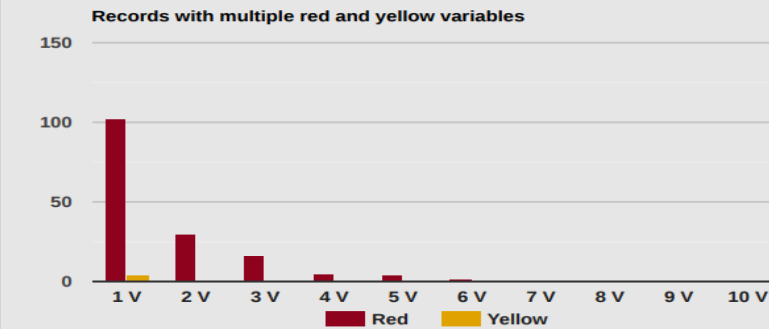
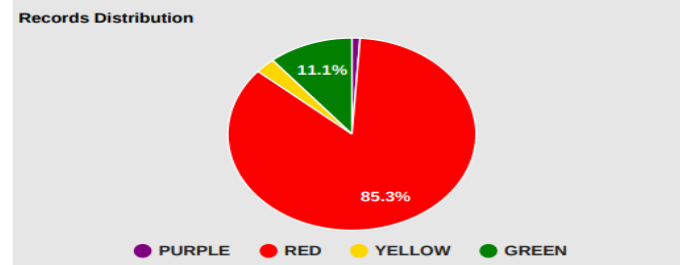
**Age**  
 Adult  Older\_adult  
 Unknown  Child\_13-17\_years  
 65\_74\_years  45\_64\_years  
 25\_44\_years  18\_20\_years  
 75\_years\_and\_over  21\_24\_years  
 Child\_4-7\_years  Child\_8-12\_years

**Incident**  
 Default incident



# WRAP -EM Support: Maui Wildfire SAMHSA R9/ASPR/HI

Site: State Incidents: Default incident Report Period: 22-Aug-23 - 08-Feb-24

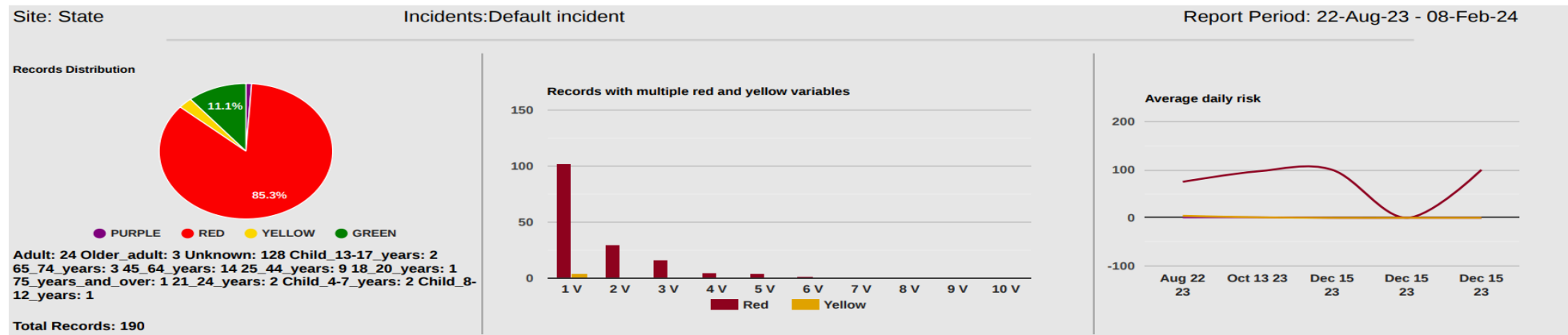


Total Records: 190

<p><b>LOSS</b></p> <p>12% none</p>	<p>6% none</p> <p>MULTIPLE DEATHS OF FAMILY, FRIENDS OR PEERS?</p>	<p>4% none</p> <p>DEATH OF IMMEDIATE FAMILY MEMBER?</p>	<p>1% n...</p> <p>EXPRESSED THOUGHT OR INTENT TO HARM SELF/OTHERS?</p>
<p><b>PANIC</b></p> <p>18% none</p>	<p>5% none</p> <p>DEATH OF FRIEND OR PEER?</p>	<p>2% none</p> <p>DEATH OF PET?</p>	<p>1% n...</p> <p>CHILD CURRENTLY SEPARATED FROM ALL CAREGIVERS</p>
<p><b>EVENT</b></p> <p>17% none</p>	<p>12% no...</p> <p>FELT OR EXPRESSED EXTREME PANIC?</p>	<p>16% none</p> <p>FELT DIRECT THREAT TO LIFE OF SELF OR FAMILY MEMBER?</p>	<p>1% n...</p> <p>FAMILY MEMBERS WHO ARE CURRENTLY SEPARATED OR MISSING</p>
<p><b>HOME</b></p> <p>80% none</p>	<p>10% none</p> <p>SAW / HEARD DEATH OR SERIOUS INJURY OF OTHER?</p>	<p>5% no...</p> <p>SIGNIFICANT DISASTER RELATED ILLNESS OR PHYSICAL INJURY OF SELF OR FAMILY MEMBER?</p>	<p>2... n...</p> <p>JOB LOSS DUE TO WILDFIRE</p>
	<p>8% no...</p> <p>TRAPPED OR DELAYED EVACUATION?</p>		<p>1... n...</p> <p>PRIOR HISTORY OF EITHER MENTAL HEALTHCARE, DRUG OR ALCOHOL USE FOR SELF OR FAMILY MEMBER</p>
	<p>80% none</p> <p>HOME NOT LIVABLE DUE TO DISASTER?</p>		<p>6% n...</p> <p>BELIEF NOT RECEIVING SUFFICIENT SUPPORT FROM OTHERS.</p>
			<p>2% n...</p> <p>VERY OFTEN DO NOT HAVE ENOUGH TO EAT, CLEAN CLOTHES TO WEAR OR A SAFE PLACE TO GO</p>
			<p>3% n...</p> <p>CANNOT GET HELP NEEDED WHEN SICK.</p>
			<p>1% n...</p> <p>EXPOSURE TO DOMESTIC VIOLENCE, EMOTIONAL, PHYSICAL OR SEXUAL ABUSE</p>
			<p>1... n...</p> <p>NO TRIAGE FACTORS IDENTIFIED?</p>

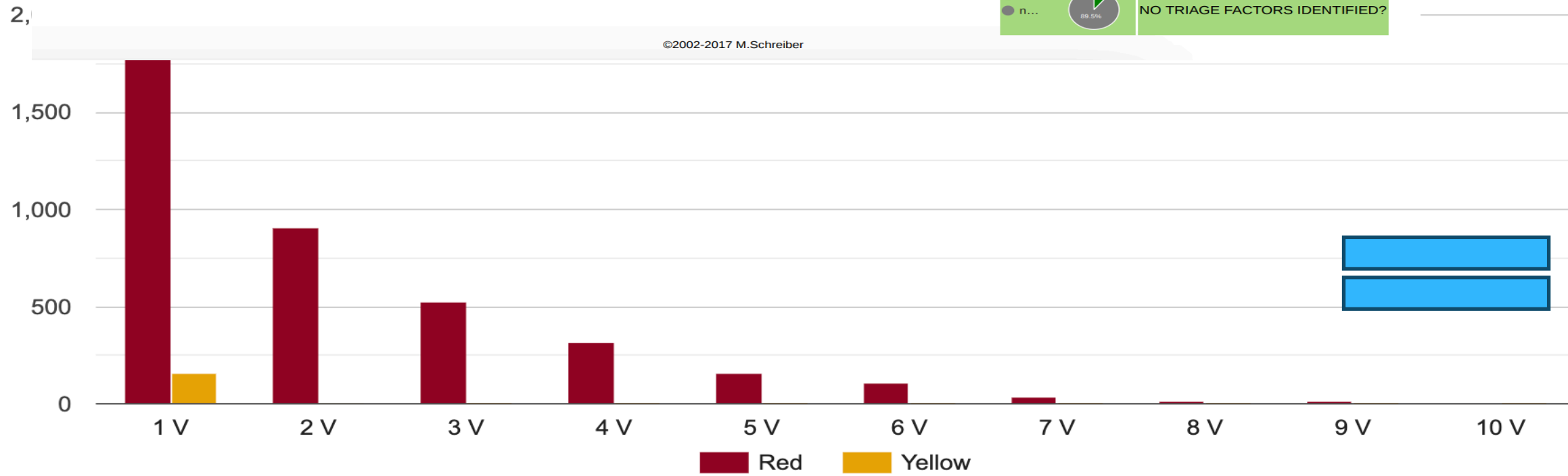
©2002-2017 M.Schreiber





Total Records: 190

<b>LOSS</b> 88.4% 12% none	6% none MULTIPLE DEATHS OF FAMILY, FRIENDS OR PEERS? 94.2%	4% none DEATH OF IMMEDIATE FAMILY MEMBER? 96.3%	1% n... EXPRESSED THOUGHT OR INTENT TO HARM SELF/OTHERS? 98.9%
<b>PANIC</b> 18% none	5% none DEATH OF FRIEND OR PEER? 95.3%	2% none DEATH OF PET? 98.4%	1% n... CHILD CURRENTLY SEPARATED FROM ALL CAREGIVERS? 99.5%
<b>EVENT</b> 82.6% 17% none	10% none SAW / HEARD DEATH OR SERIOUS INJURY OF OTHER? 90%	5% no... SIGNIFICANT DISASTER RELATED ILLNESS OR PHYSICAL INJURY OF SELF OR FAMILY MEMBER? 95.3%	1% n... FAMILY MEMBERS WHO ARE CURRENTLY SEPARATED OR MISSING? 99.5%
<b>HOME</b> 80% 80% none	8% no... TRAPPED OR DELAYED EVACUATION? 91.6%	16% none FELT DIRECT THREAT TO LIFE OF SELF OR FAMILY MEMBER? 84.2%	2... n... JOB LOSS DUE TO WILDFIRE? 95.5%
	80% none HOME NOT LIVABLE DUE TO DISASTER? 80%		1... n... PRIOR HISTORY OF EITHER MENTAL HEALTHCARE, DRUG OR ALCOHOL USE FOR SELF OR FAMILY MEMBER? 98.9%
			6% n... BELIEF NOT RECEIVING SUFFICIENT SUPPORT FROM OTHERS? 93.7%
			2% n... VERY OFTEN DO NOT HAVE ENOUGH TO EAT, CLEAN CLOTHES TO WEAR OR A SAFE PLACE TO GO? 97.9%
			3% n... CANNOT GET HELP NEEDED WHEN SICK? 97.4%
			1% n... EXPOSURE TO DOMESTIC VIOLENCE, EMOTIONAL, PHYSICAL OR SEXUAL ABUSE? 98.9%
			1... n... NO TRIAGE FACTORS IDENTIFIED? 99.5%



# National Children's Disaster Mental Health Concept of Operations

Merritt Schreiber, Ph.D.



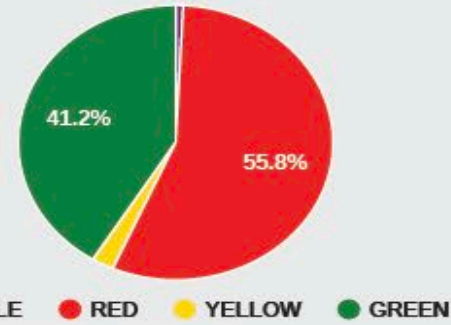
TDC Terrorism and Disaster Center University of Oklahoma Health Sciences Center  
 PARTNER IN NCTSN The National Child Traumatic Stress Network

## PsySTART Floating Triage Algorithm Decision Support:

- Targeted stepped care choice points:
- Cutoff at 4 and above= x
- Cutoff at 3= x
- Cutoff at 2= x

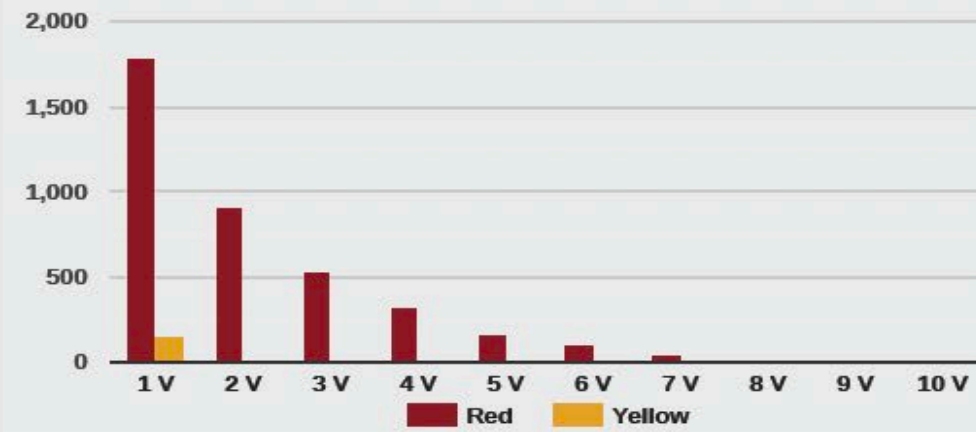


Records Distribution

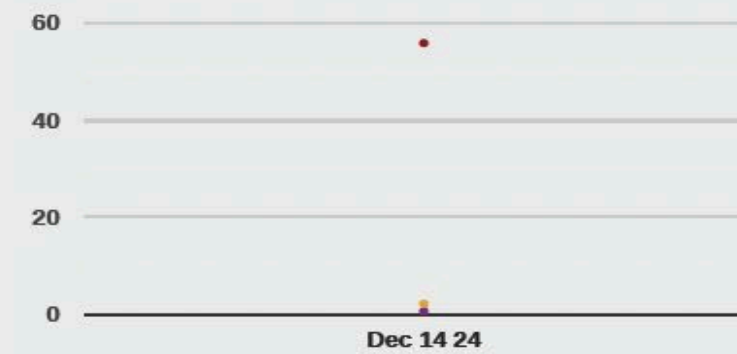


Total Records: 6932

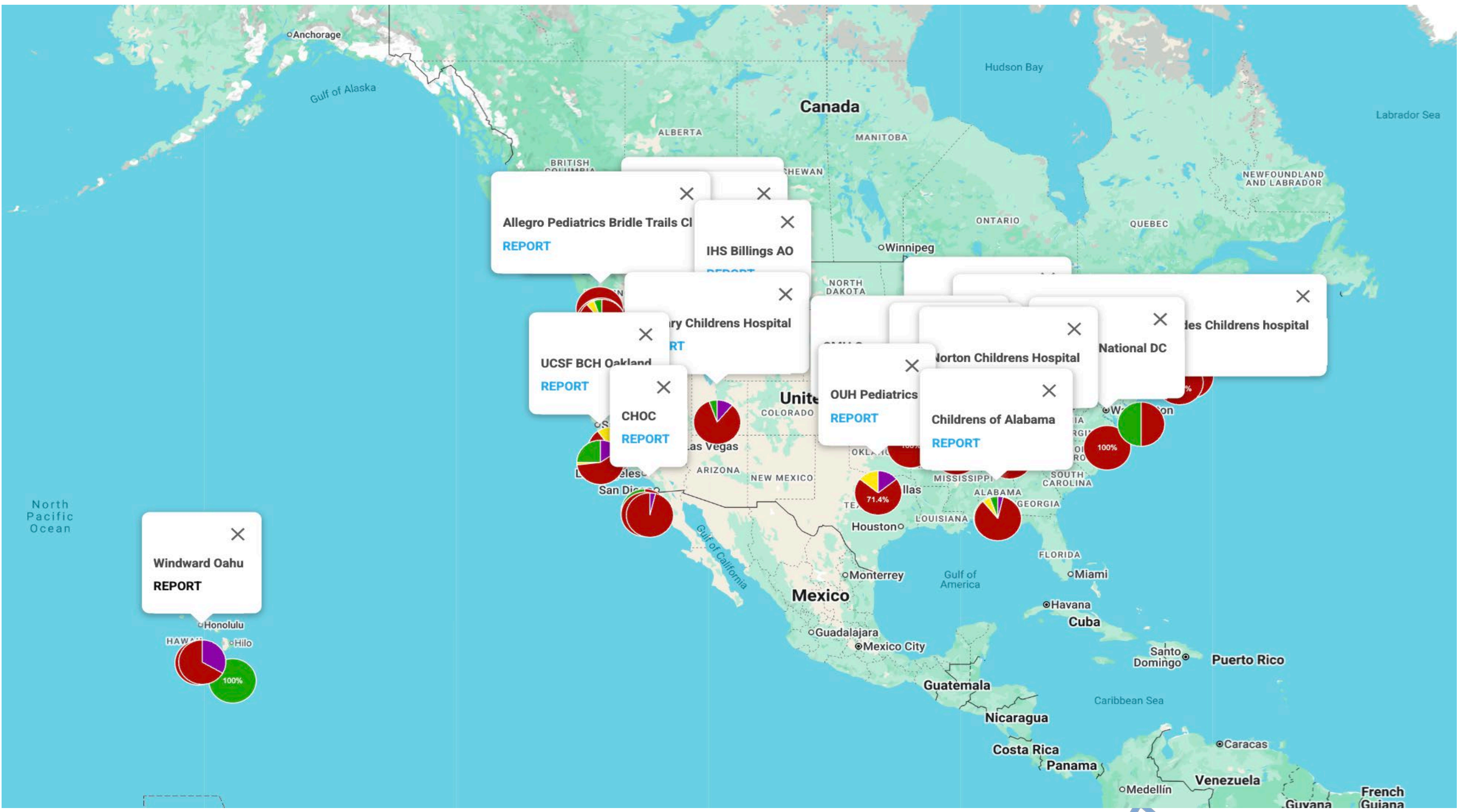
Records with multiple red and yellow variables



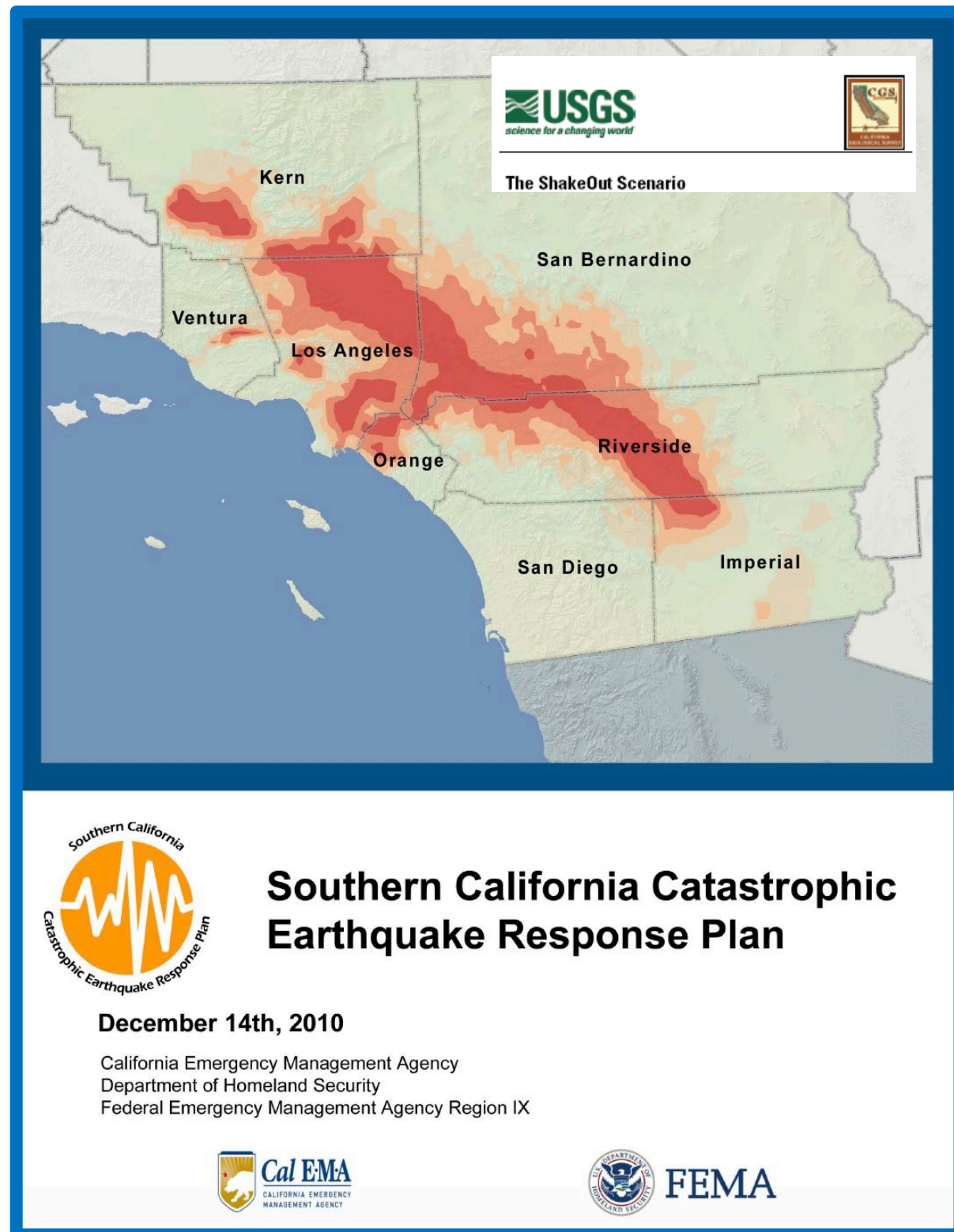
Average daily risk



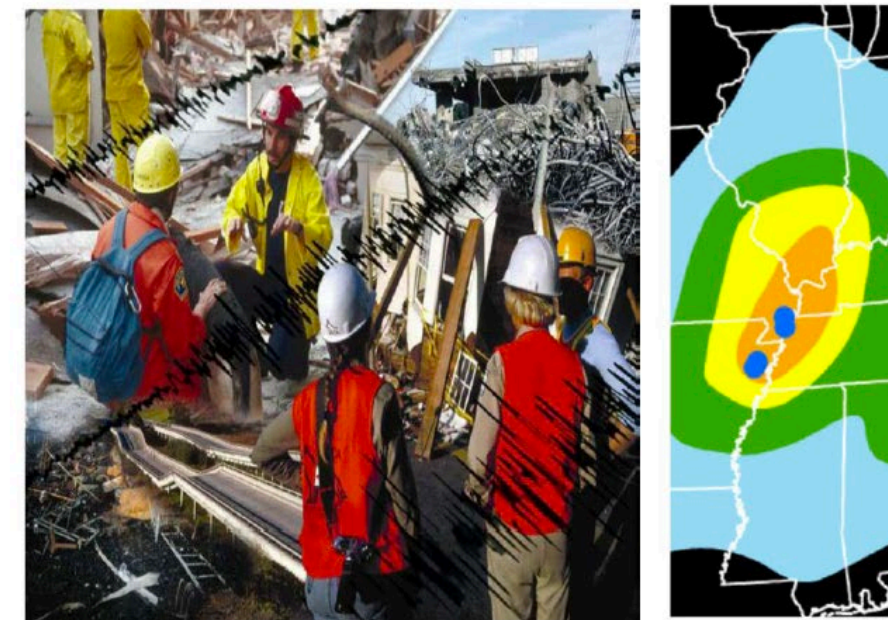
<b>LOSS</b> 	<p>MULTIPLE DEATHS OF FAMILY, FRIENDS OR PEERS?</p>	<p>DEATH OF IMMEDIATE FAMILY MEMBER?</p>	<p>EXPRESSED THOUGHT OR INTENT TO HARM SELF/OTHERS?</p>	
	<p>DEATH OF FRIEND OR PEER?</p>	<p>DEATH OF PET?</p>		<p>CHILD CURRENTLY SEPARATED FROM ALL CAREGIVERS</p>
	<p>FELT OR EXPRESSED EXTREME PANIC?</p>	<p>FELT DIRECT THREAT TO LIFE OF SELF OR FAMILY MEMBER?</p>		<p>FAMILY MEMBERS WHO ARE CURRENTLY SEPARATED OR MISSING</p>
	<p>SAW / HEARD DEATH OR SERIOUS INJURY OF OTHER?</p>	<p>SIGNIFICANT DISASTER RELATED ILLNESS OR PHYSICAL INJURY OF SELF OR FAMILY MEMBER?</p>		<p>HEALTH CONCERNS DUE TO EXPOSURE OR CONTAMINATION</p>
<b>PANIC</b> 	<p>TRAPPED OR DELAYED EVACUATION?</p>	<p>VERY OFTEN DO NOT HAVE ENOUGH TO EAT, CLEAN CLOTHES TO WEAR OR A SAFE PLACE TO GO</p>	<p>PRIOR HISTORY OF EITHER MENTAL HEALTHCARE, DRUG OR ALCOHOL USE FOR SELF OR FAMILY MEMBER</p>	
	<p>EVENT  </p>	<p>HOME NOT LIVABLE DUE TO DISASTER?</p>	<p>BELIEF NOT RECEIVING SUFFICIENT SUPPORT FROM OTHERS.</p>	
<b>HOME</b> 	<p>CANNOT GET HELP NEEDED WHEN SICK.</p>	<p>EXPOSURE TO DOMESTIC VIOLENCE, EMOTIONAL, PHYSICAL OR SEXUAL ABUSE</p>	<p>NO TRIAGE FACTORS IDENTIFIED?</p>	



# PsySTART NexGen: Predicting impact before it happens



## NMSZ PsySTART PSYCHOLOGICAL IMPACT MODELING



## NMSZ Behavioral Health Impact Modeling For Region V

Harbor-UCLA Medical Center  
Department of Pediatrics  
David Geffen School of Medicine at UCLA  
Merritt D. Schreiber, PhD



**DRAFT// DO NOT DISTRIBUTE**  
**New Madrid Seismic Catastrophic Impact Modeling**

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Developed by M. Schreiber, PhD  
David Geffen School of Medicine at UCLA  
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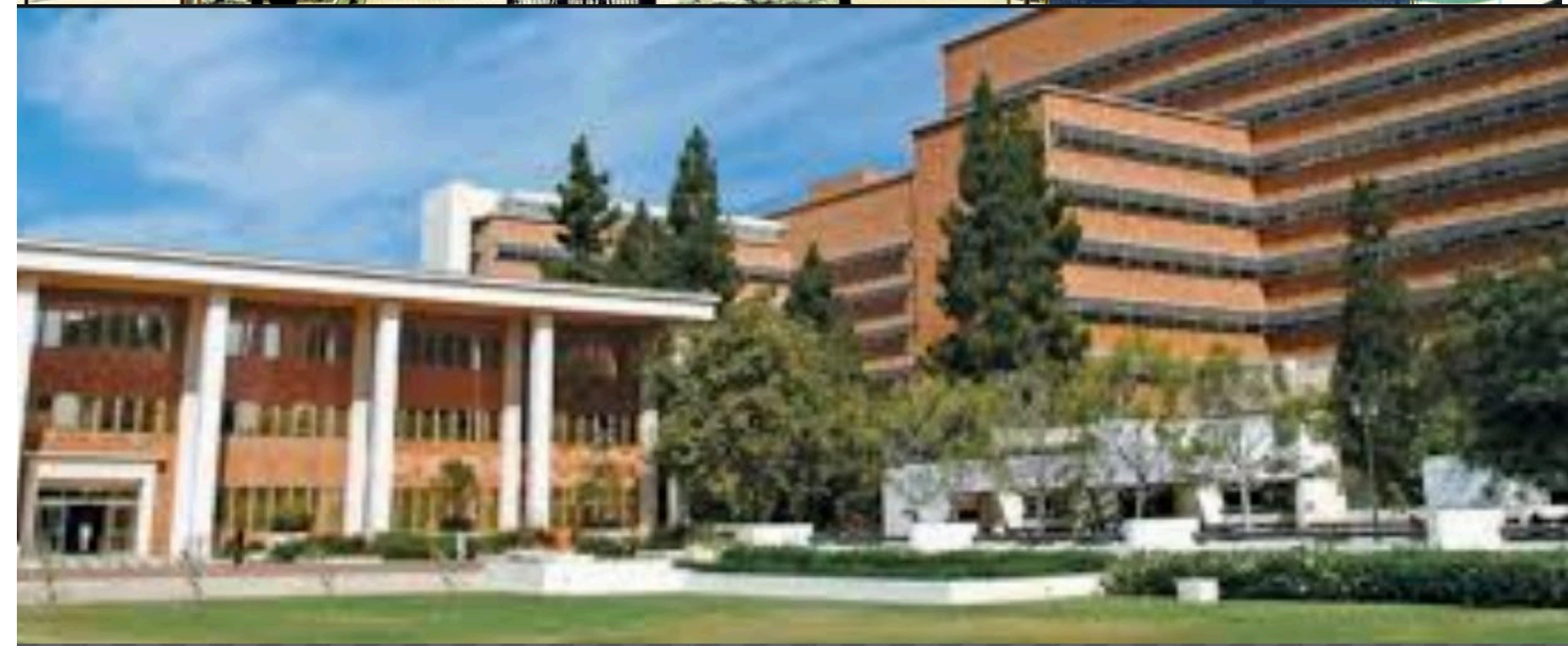


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949 424 9178



David Geffen  
School of Medicine

Shaping the Future

