



University of Hawai'i



UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

Maui Wildfire Exposure Study & HO'ĀLA Model for Maui



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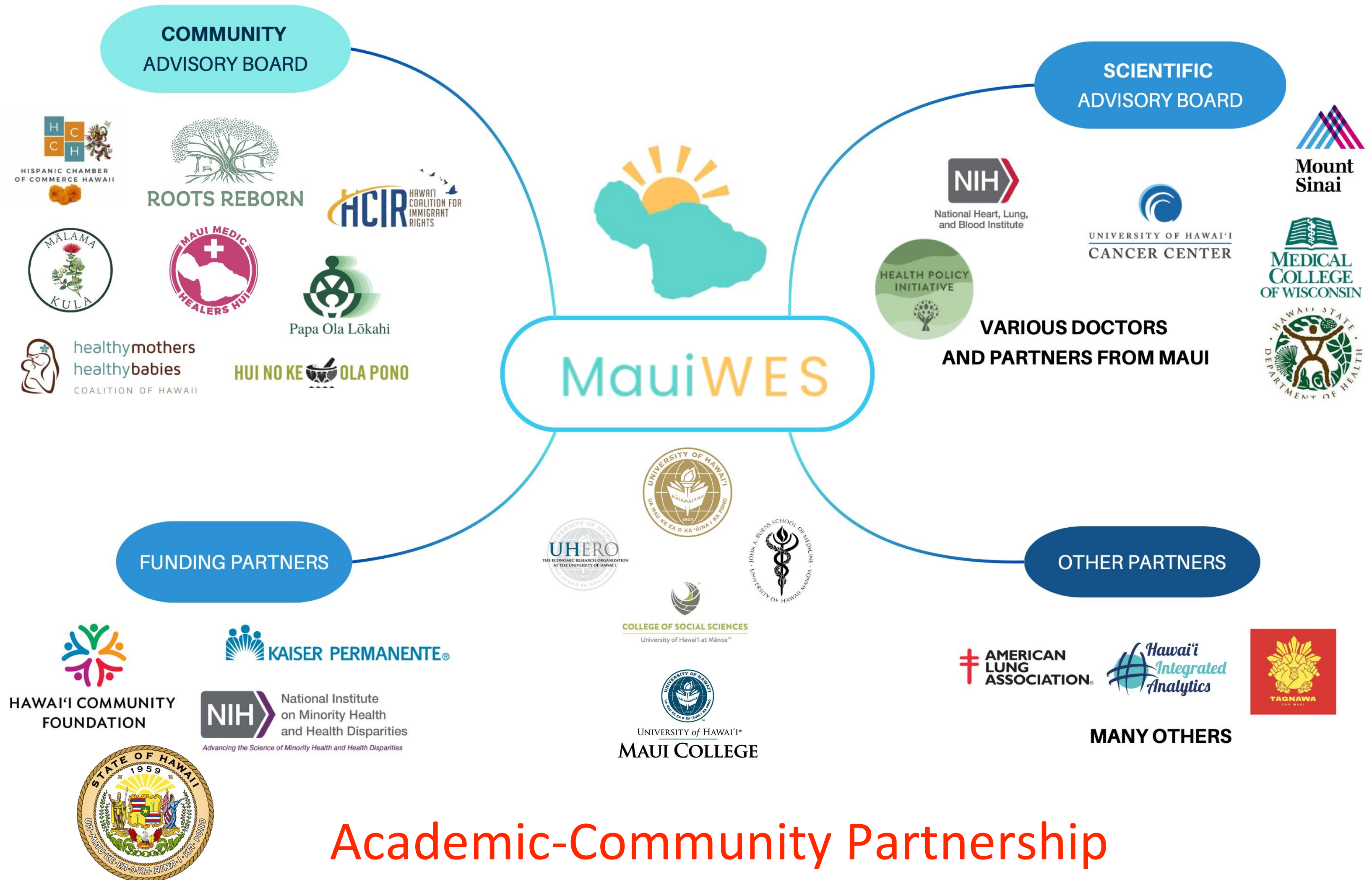
Christopher Knightsbridge, PsyD

MauiWES

State of Hawaii & NIH R61MD019793

MauiWES.org

Maui Wildfire Exposure Study (MauiWES) - Team



Survey, Biomonitoring, and Health Screening

Data Components

Questionnaires

- Demographics
- Housing Stability
- Food Security
- Employment
- Exposure
- Resiliency
- Social Support
- Health Behaviors
- Perceived Trust
- Etc...

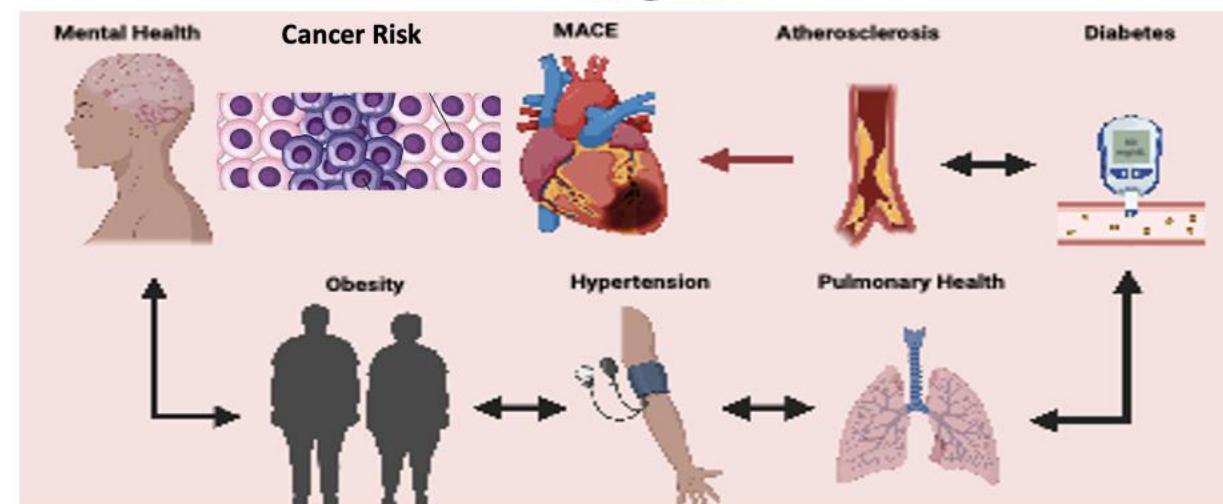
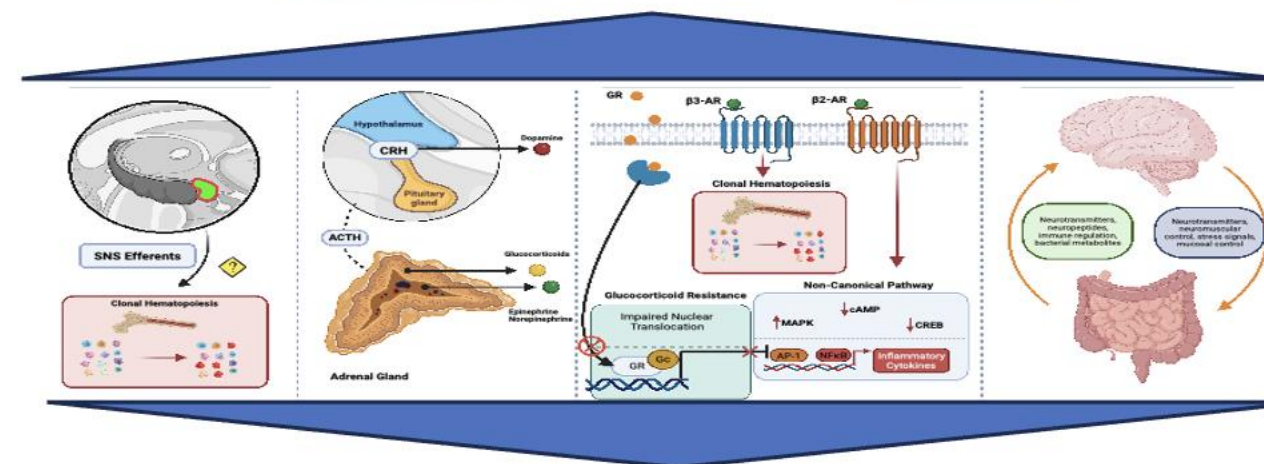
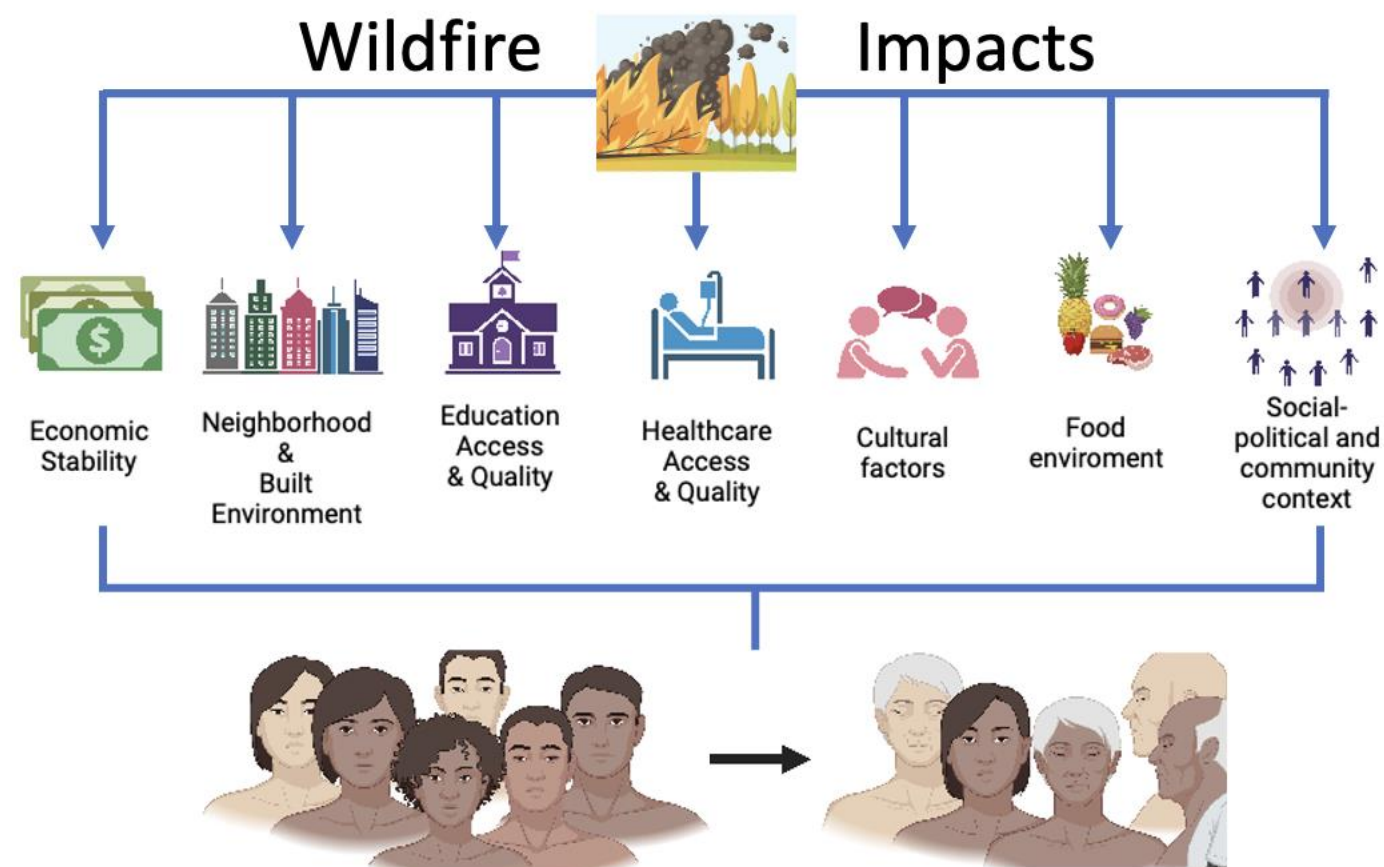
Biospecimens

- Stress Response
- Inflammation
- Environmental Toxicants

Health Exam

- Lung Health
- Cardiovascular Health
- Metabolic Health
- Mental Health
- Cancer Risk (EMR)

Participant Involvement



Jan. 2024 – Jan. 2025: First health screen since fires for many.

Cohort size: 2000+ adults and children (10-17 y/o).

Comprehensive Screening based in Lahaina, Wailuku, and had various Mobile Clinics in Kihei & Kula



From Response to Commitment

2,000+

People served in Year 1

Maui residents affected by the 2023 fires

1,200+ Returned in Year 2

A signal of trust, need, and sustained impact

**Year 3 begins later this month, and we
are seeking to expand services to 3,000 people**

Health Impacts 6–18 Months After the Maui Wildfires



Overall Health Decline

46% report worse health than before the fire



Mental Health

1 in 5 PTSD • 1 in 2 depression
• 1 in 4 anxiety



Lung Function

25% reduced FEV₁; steepest declines in burn zone



Toxic Exposures

Antimony >10× • Mn 5× •
Arsenic ~3× vs NHANES

Juarez & Maunakea et al, *JAMA Network Open* 2025 & other reports available at [MauiWES.org](https://mauiwes.org)

Who Suffers the Most?

Inequity — Not Exposure Alone — Predicts Health Outcomes



Housing Displacement

- 1.45× more likely anxiety
- 1.20× more likely depression
- >60% of harm mediated by housing + income loss



Income Loss

- 1.6× more likely depression
- 1.8× more likely anxiety
- Major driver of long-term distress



Poverty

- ~33% moderate/severe anxiety
 - 6% suicidal ideation
- 1.3x more likely lung issues



Geography & Access

Lahaina and Kula: closest to the burn zone and farthest from care:

10% severe depression (Maui's highest)

14% severe anxiety (≈2× Kihei/Wailuku)

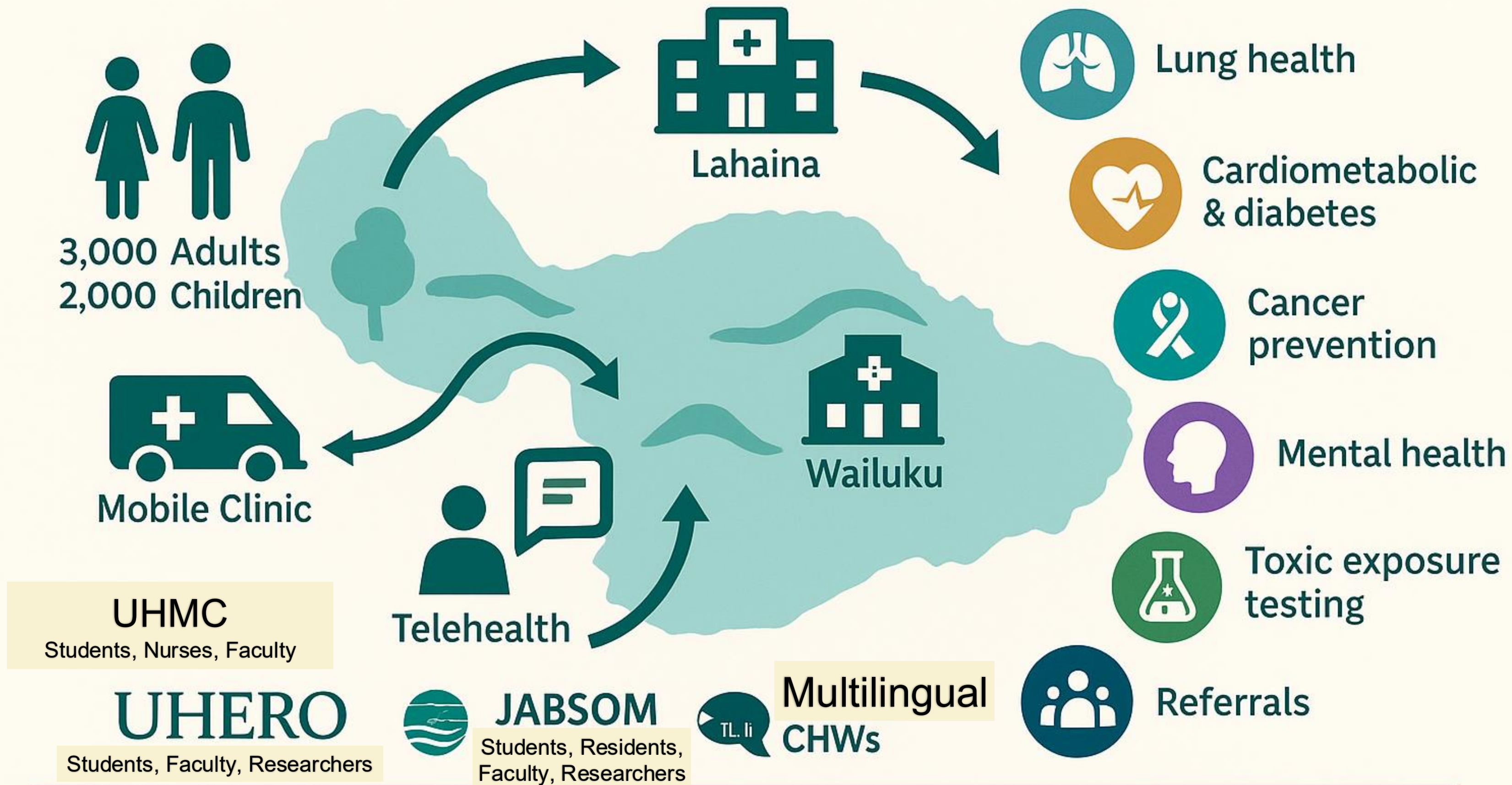
PTSD levels about 2× higher than Kihei/Wailuku

**If we only focus on exposure, we miss half the story.
The real disaster is the inequity that shaped every outcome.**

Health Outreach & 'Āina-based Lifecourse Alliance (HO'ĀLA)



“Launching first on Maui to serve Lahaina and Upcountry.”



Maui's First Permanent Rural Prevention System

Meeting urgent recovery needs while preparing for future disasters.

Appreciate WASSP Support

1 Support SB2969

Hearing Today at 1:00 PM

Enables the first step of the Year 3 expansion & sustains care for wildfire-impacted families

2 Submit Testimony & Consider Co-Funding Expansion

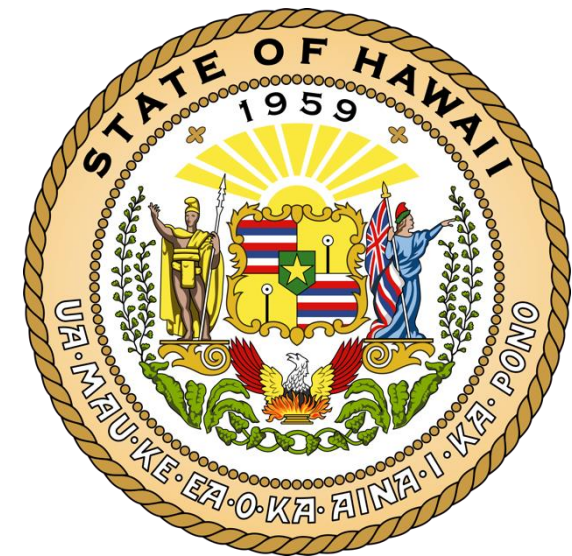
Your partnership turns a study into long-term recovery infrastructure

**This is the moment to move from response
to sustained recovery**

2,000+ served • 1,200+ returned • Year 3 launching this month



Mahalo to Our Partners and Funders



NIH R61MD019793

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WASSP Committee

From: Ruben Juarez <rubenj@hawaii.edu>
Sent: Sunday, February 8, 2026 12:39 PM
To: WASSP Committee
Cc: Clarissa L. MacDonald; Christopher Knightsbridge
Subject: Slides for WASSP Committee Meeting 2/9/25
Attachments: MauiWES_HOALA_Model2025_WASSP.pdf; MauiWES_HOALA_Model2025_WASSP.pdf

Aloha,

See the slides for the meeting tomorrow (if still going online) or later.

Mahalo, Ruben

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