

Environmental Health Treats of Flooding Implications for Public Health

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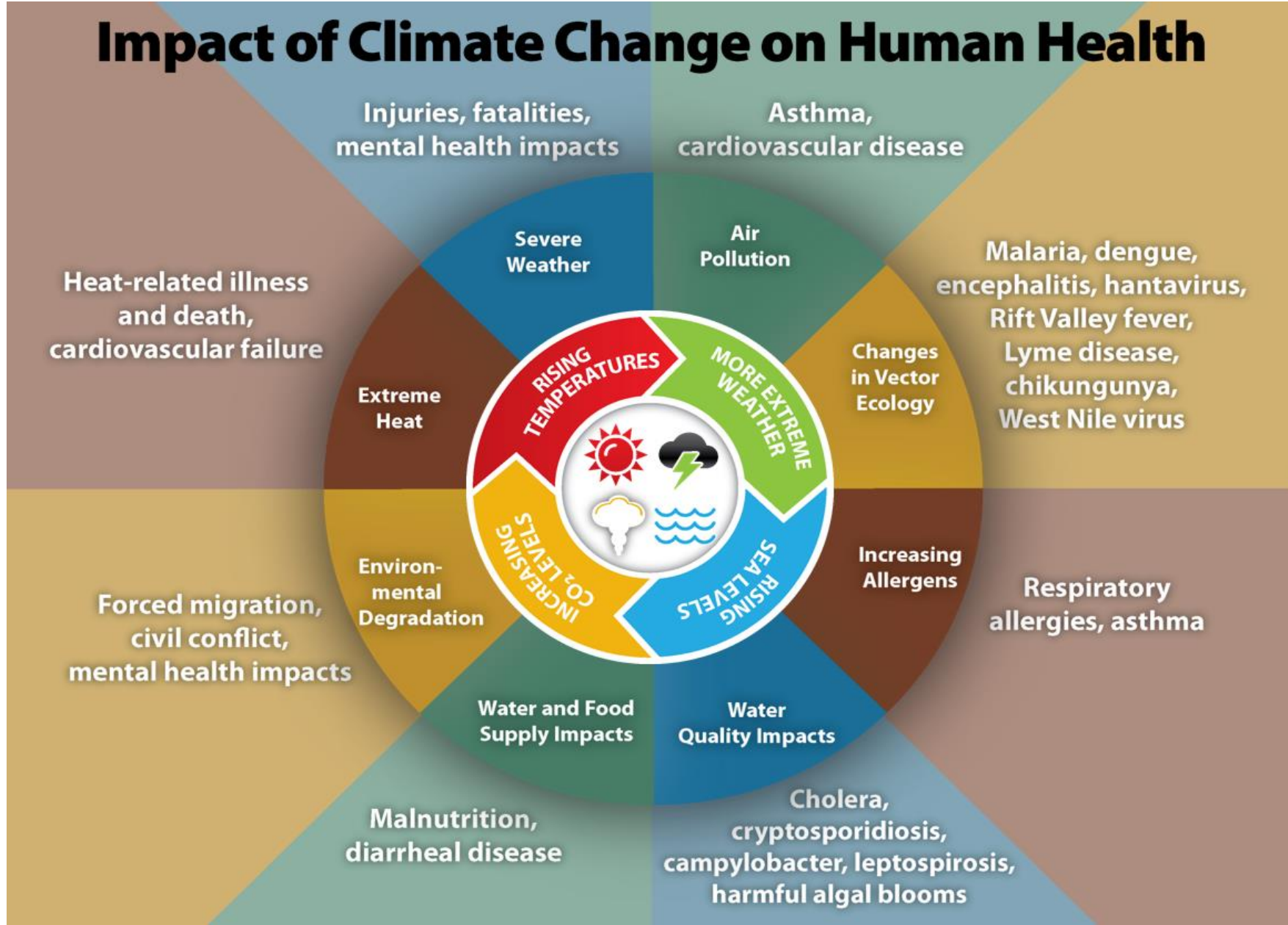
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Presentation Objectives

- Discuss flooding as an environmental phenomenon, disaster, and a climate driver on health
- Assess the compounded impact of flooding on physical and psychosocial well-being
- Examine next steps to address flooding from a public health perspective



Impact of Climate Change on Human Health



Environmental Impacts of Flooding: United States

Los Angeles Times

CALIFORNIA

‘A town of Hispanics left in the dark’: Planada flooded, now forgotten

A month’s worth of rain in 3 days triggers dangerous flash flooding in Texas and Louisiana

By Mary Gilbert and Rob Shackelford, CNN Meteorologists

⌚ 3 minute read · Updated 2:49 PM EST, Thu January 25, 2024

<https://www.latimes.com/california/story/2023-02-14/planada-california-january-storms-rain-flooding-recovery>

<https://www.desmoinesregister.com/story/weather/2023/04/26/mississippi-river-flooding-in-iowa-could-brake-records-in-some-areas-national-weather-service/70149590007/>

<https://www.cnn.com/2024/01/24/weather/flood-warnings-texas-louisiana-climate/index.html>

Iowa counties along the Mississippi River brace for potentially record-breaking flood levels



Francesca Block

Des Moines Register

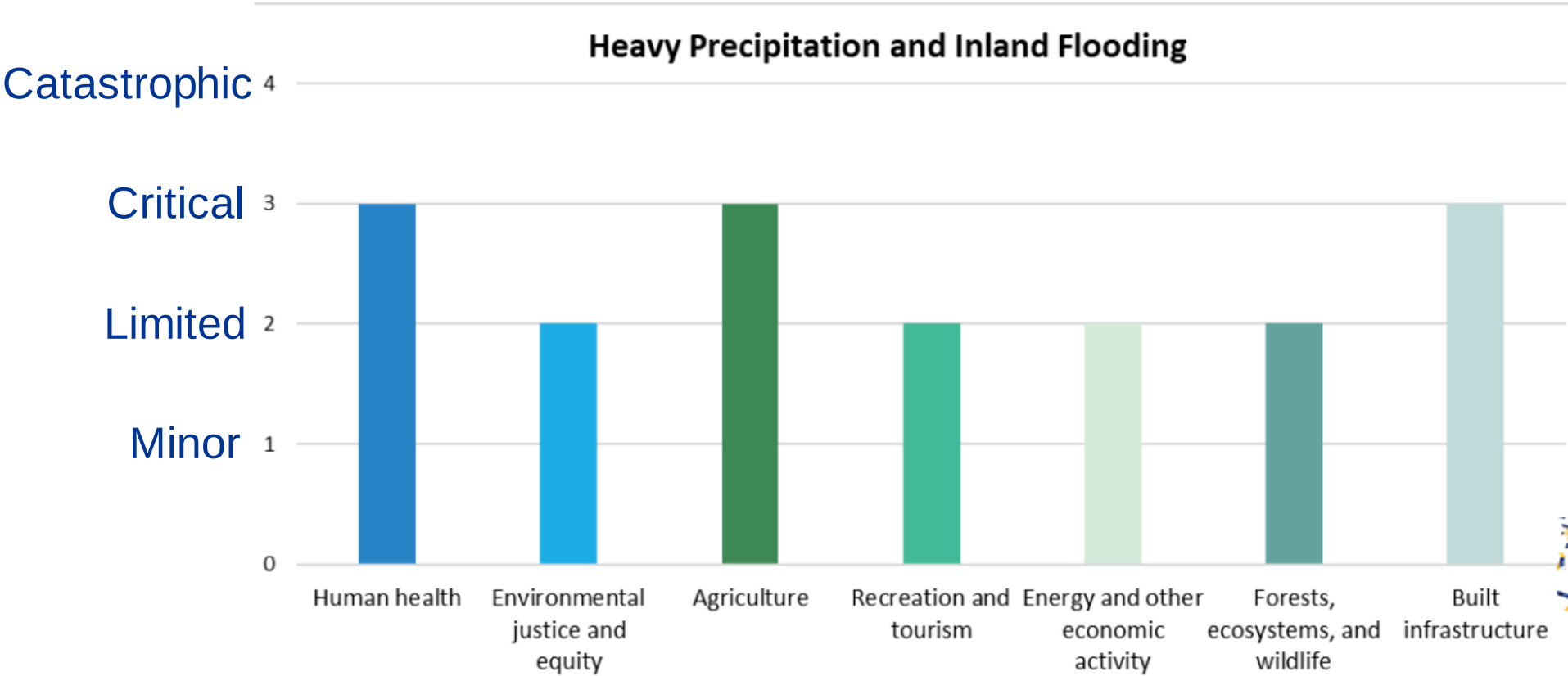
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Celebrating
75 Years!

PA Statewide Heavy Precipitation and Inland Flooding Consequences

Consequence Rating



Hurricane Katrina: Mold and Childhood Asthma

- Extensive, long-term flooding in the city resulted in widespread mold infestation of the built environment where children live, learn, and play.
- Flood waters, affecting 80% of the city, remained for 2 to 6 weeks and led to environmental conditions never before experienced indoors or out.
- The pre-Katrina prevalence of childhood asthma in New Orleans was among the highest nationally.
- A diverse community–academic partnership used a community-based participatory research (CBPR) approach to implement the Head-off Environmental Asthma in Louisiana (HEAL) study.



Flooding as an Environmental Health Phenomenon

- Physical Impacts
 - Mold, loss of homes, forced migration, chemical exposures, food insecurity
- Psychosocial Impacts
 - Stress, anxiety
 - Increases if the floods are a repeated phenomenon
- Individuals at risk for chemical and non-chemical stressors
 - Example: HEAL study; United Homa Nation
 - LUST

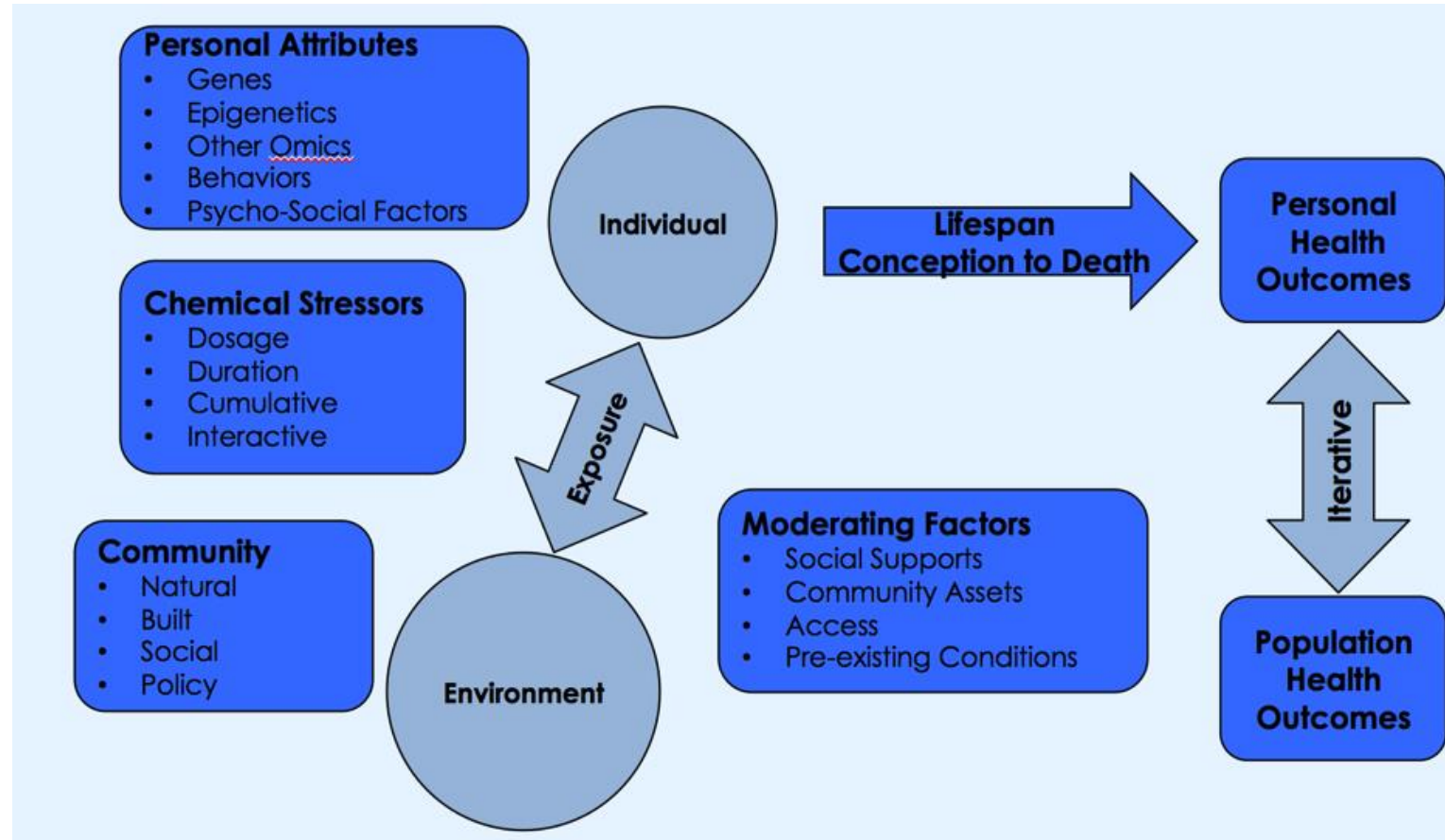


United Houma Nation: Floods vs Culture

- State-recognized tribe in SE Louisiana, ~19,000 tribal citizens
- Cultural identity tied to social networks and sense of place
- Tribal Center extensively damaged by hurricane winds
- Estimated that 11,000 tribal citizens (60%) suffered damage to their homes – many are displaced, some are camping on their properties
- Tribe organized robust response and recovery efforts
- Hampered by lack of federal recognition



THE PUBLIC HEALTH EXPOSOME: UNRAVELING CHEMICAL- AND NON-CHEMICAL STRESSORS



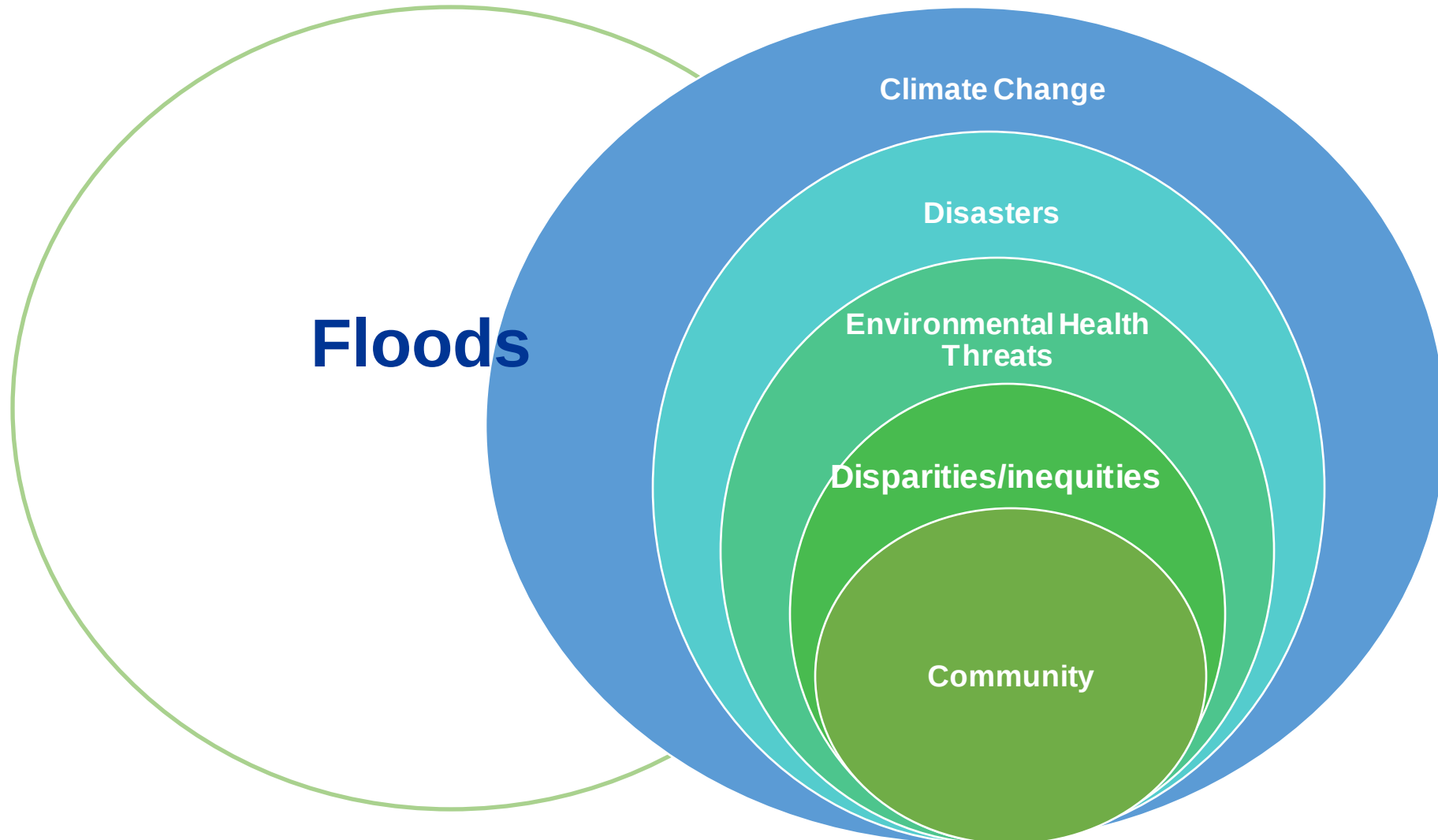
How Do We Do This?

Precision Public Health (PPH)

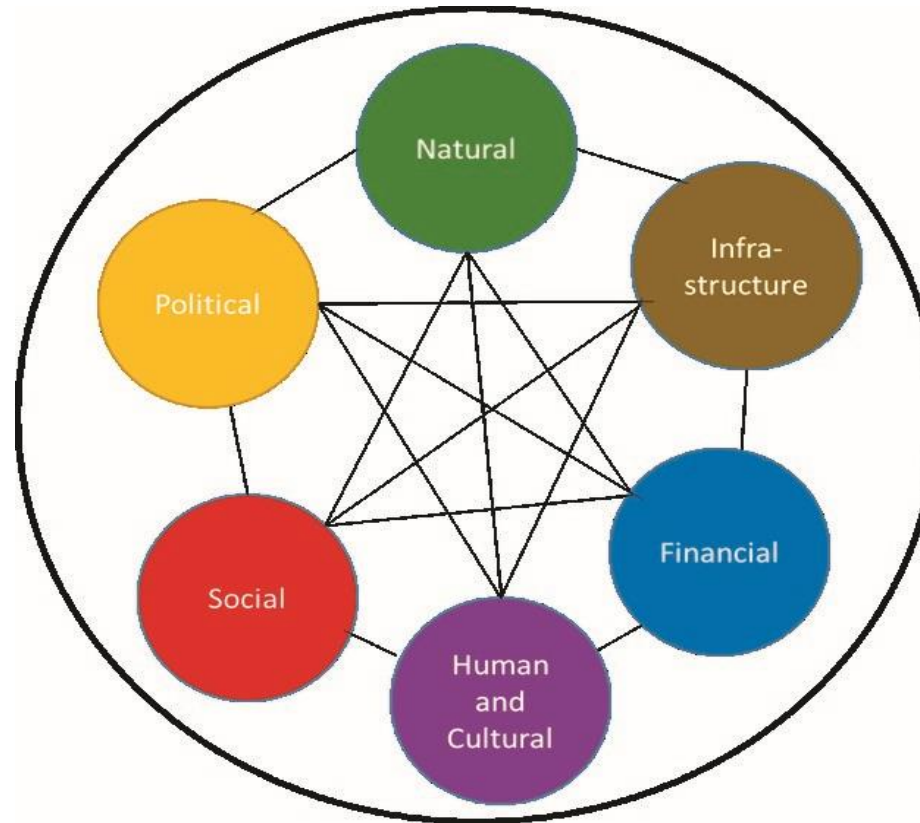
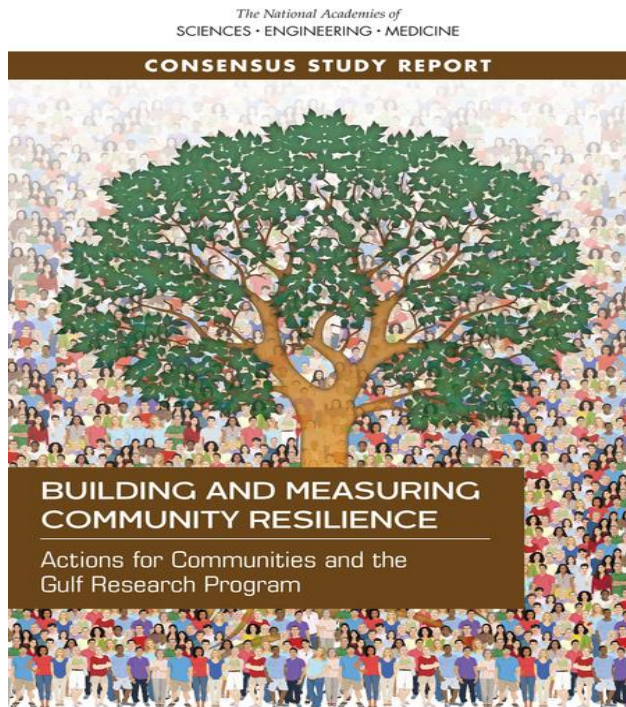
PPH seeks to deliver “the right intervention to the right population at the right time.”



Community Vulnerability and Environmental Health Practice

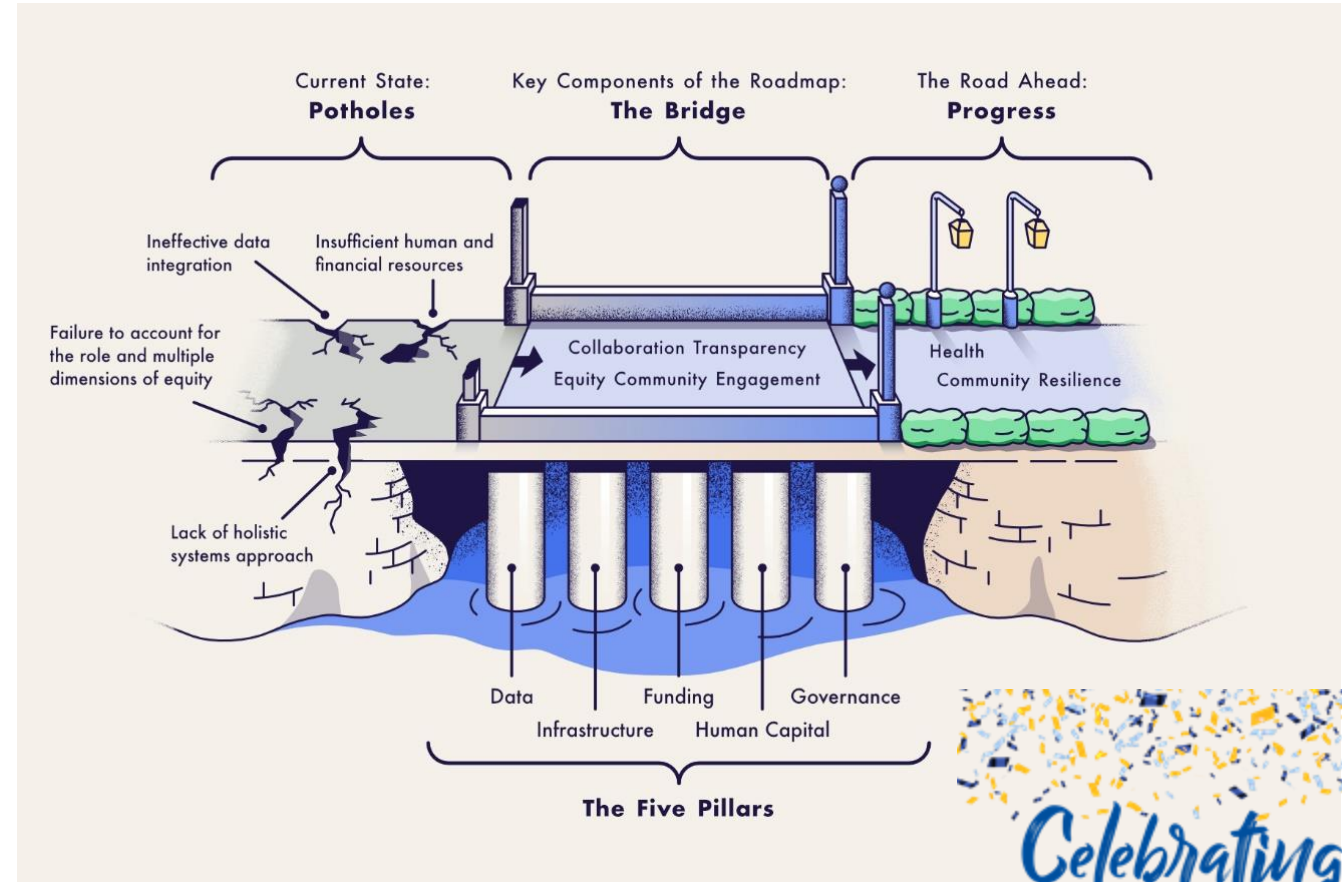


Community Resilience: “Capital Investment”



Undergirding Resilience: invest in the bridge pillars

- Data
- Infrastructure
- Funding
- Human capital
- Governance



What Do We Do Moving Forward?

- Target individual and community vulnerability
 - Individual
 - Focus on vulnerable populations: physical and psychosocial health
 - Community
 - employ precision public health strategies to strengthen social capital
- Invest in strengthening the bridge pillars *during in the inter-disaster period*
- Require community engaged scholarship to bolster resilience



A celebratory graphic featuring a stylized yellow-orange bridge (resembling the Golden Gate Bridge) in the background. The bridge is set against a bright yellow background filled with falling blue and white confetti. Overlaid on the bridge is the text "Celebrating 75 Years!" in a large, blue, cursive script font.

Celebrating 75 Years!

Acknowledgements

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