

KEY TAKEAWAY: Floods may disproportionately increase cardiovascular and mental health risk among Asian Americans in New Jersey as social and structural barriers likely amplify disaster-related harm.

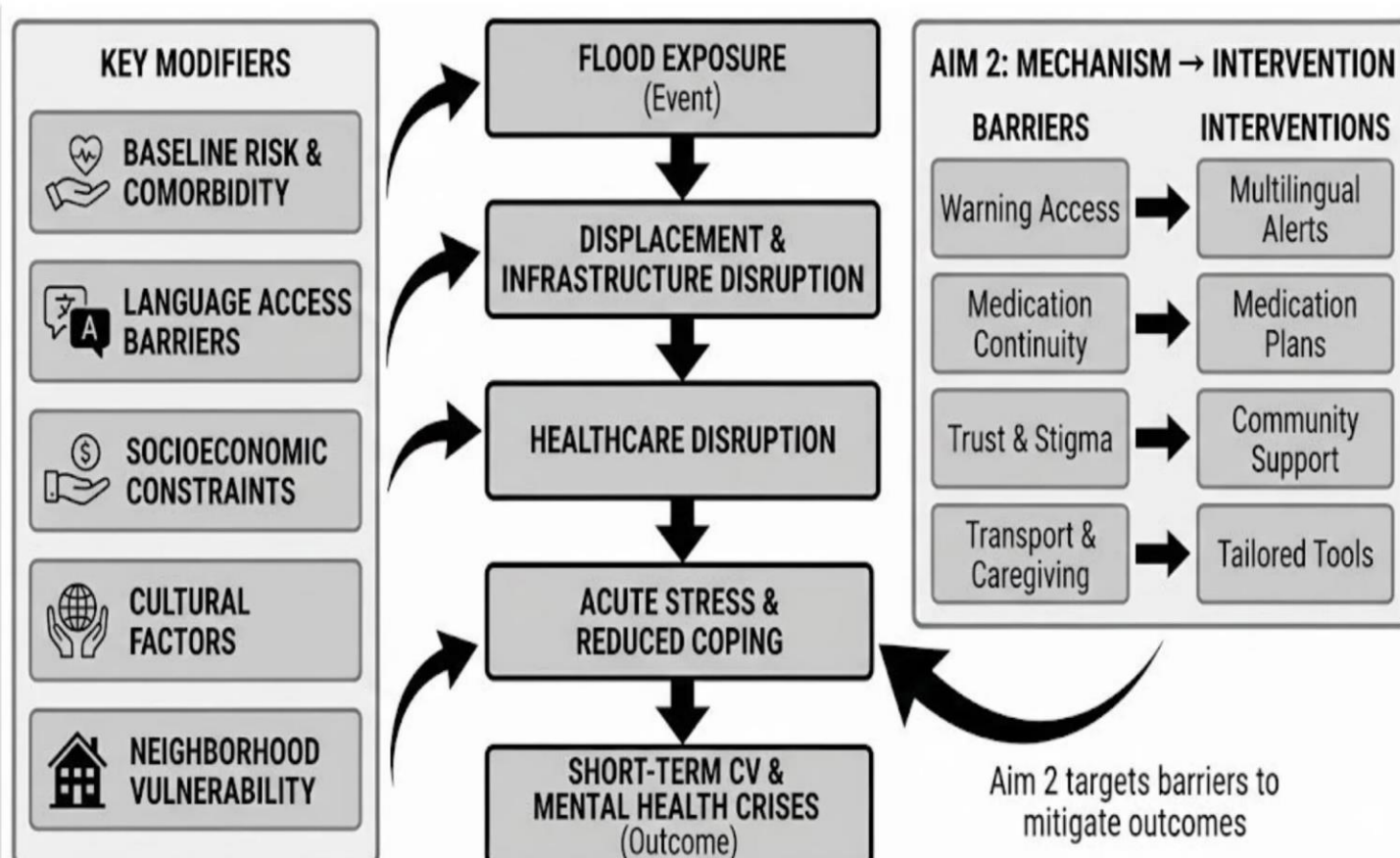
Impacts and Potential Strategies for Floods on Cardiovascular and Mental Health Risks Among Asian Americans in New Jersey's Flood Prone Areas

Ashwaghosha Parthasarathi, MBBS; Soko Setoguchi, MD, DrPH; David Robinson, PhD; Zeyuan Qiu, PhD; Rachael Shwom, PhD; Keith Chan, PhD

Background

- New Jersey ranks 4th nationally in flood risk
- Floods increase cardiovascular hospitalizations by 25-27%
- Up to 8-fold increase in depression and post-traumatic stress disorder
- Asian Americans are the fastest-growing population in New Jersey
- Higher baseline cardiovascular risk in several Asian American subgroups
- Nearly 50% of Asian immigrants have limited English proficiency
- No New Jersey study has examined flood-related cardiovascular or mental health risk in Asian Americans

Theoretical Framework



Aims

Aim 1: Assess short-term risk of cardiovascular and mental health hospitalization/death following flood exposure among Asian Americans vs non-Hispanic White adults in New Jersey using Medicare and Medicaid claims.

Target Population: Medicare and Medicaid beneficiaries (18 years), Asian American and non-Hispanic White adults in New Jersey with 12 months enrollment, with and without baseline cardiovascular or mental health conditions.

Aim 2: Characterize flood-risk perceptions, cultural beliefs, and preparedness barriers among South Asian, Chinese, and Filipino communities living in high-risk flood zones.

Target Population: South Asian, Chinese, and Filipino adults (15-20 per subgroup) residing in high-risk New Jersey flood zones.

Methods / Pilot Design

Aim 1

Retrospective cohort of Medicare and Medicaid beneficiaries in New Jersey

- Link satellite-derived flood exposure (Global Flood Database) to claims at the ZIP code level
- Identify Asian American and non-Hispanic White adults with 12 months enrollment
- Define outcomes:
 - Cardiovascular or mental health hospitalization/death
 - 1-7 days and up to 30 days post-flood
- Adjust for demographics, comorbidities, medication use, health care utilization, and area-level socioeconomic factors
- Estimate relative risks using modified Poisson regression

Aim 2

- Recruit South Asian, Chinese, and Filipino adults in high-risk flood zones
- Conduct semi-structured interviews
- Explore flood risk perception, preparedness practices, language barriers, and care disruption
- Analyze transcripts using thematic coding to identify intervention targets

Assessing Impact

Outcome Measures

- Short-term (1-7 day and 30-day) cardiovascular and mental health hospitalization or death following flood exposure
- Risk comparison between Asian American and non-Hispanic White adults
- Identification of subgroup-specific preparedness and recovery barriers

Implementation Measures

- Successful linkage of flood exposure and claims data
- Recruitment and retention of South Asian, Chinese, and Filipino participants
- Completion of native-language interviews
- Identification of culturally specific preparedness gaps

Potential Barriers and Challenges

- ZIP-level exposure misclassification
- Language and cultural barriers
- Mental health stigma
- Community trust and recruitment challenges

Key Messages

- Floods may disproportionately increase cardiovascular and mental health risk among Asian Americans in New Jersey
- Language, cultural, and socioeconomic barriers likely amplify disaster-related harm
- Culturally tailored preparedness and care-continuity strategies are urgently needed
- This pilot establishes the foundation for equity-focused climate health interventions

Contact

Ashwaghosha Parthasarathi, MBBS
Rutgers Health-RWJBarnabas Health Center for Climate, Health, and Healthcare
Email: ap2320@rwjms.rutgers.edu
Phone: 609-255-8144