Study of the Tsunami Aftermath and Recovery (STAR)

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Longitudinal survey of individuals, families, and communities
Indonesia: before and after the 2004 Indian Ocean tsunami

Baseline: N~26,000, ages 0-80+
96% of survivors interviewed at least once, original communities (N=487) span continuum of damage

Biological components: height, weight, blood pressure, Hb, dried blood spots (hsCRP)
subsample: HbA1c, hsCRP, HDL & total cholesterol (POCTs)

Survey domains: hh composition, economic resources, education, migration, work, fertility, psychosocial health
tsunami shocks, loneliness, sleep, social support and networks
Mortality between 2004 and 2005
By Age, Gender, and whether the community was heavily damaged or not

Existing Biomarkers

Follow-ups:
Yr1: No biomarkers
Yrs 2, 3, 4: height, weight, waist, hip, blood pressure, hemoglobin, dried blood spots (hsCRP on going)
Yr 13 (POCT subsample): added hsCRP, HbA1c, cholesterol (total, HDL), body composition
Planned Biomarkers:

Q: What is temporal path of biological health risks following a major exogenous shock?
   Extend on-going work develop panel of hsCRP post-tsunami using stored DBS
   Repeat extended biomarker and cognition assessments
      hsCRP, hbA1c, cholesterol, blood pressure, anthropometrics
   Add other biomarkers using stored DBS for which long-term panel scientifically valuable
   Limitations: Assess biomarkers in home (POCTs) or in labs in Indonesia
      Develop mechanism to transport specimens out of Indonesia
      (epigenetics, RNA)

Q: Can we contribute to understanding dementia and ADRD after a major shock?
   Develop protocol for clinical diagnoses, key biomarkers, MRIs

Q: Are there inter-generational impacts of stresses
   Investigated in utero effects
   Extend to effects on child born before and after tsunami
Cognition

Word recall, pattern recognition since 2008
Mini mental state, mini-cog in three recent rounds
Executive function on tablets:
  spatial planning ("tower of London")
  emotional reactivity and control

The Future:
  repeat what we have done before
  expand tablet based executive function measures to subdomains
  more extensive Alzheimer’s work up (with MRI) for subsample