01/27/23 Meeting Notes

Epigenetics

* Gene Environment Interplay influences DNA expression throughout our life course
* Social Epigenetics: Uncovering social influences on biological pathways and later life disease vulnerability
  + How does systematic social adversity influence biology in protracted armed conflict and a worsening climate crisis for communities stuck in extreme poverty?
  + How can technology be optimized to short-circuit these pathways for better health outcomes?
  + How can we build better data to uncover these challenges?
* Pre-Covid 19
  + Non-Communicable Disease Explosions
    - Diabetes, Cardiovascular Disease
    - Climate change worsening food security
    - Dwindling money for traditional aid response
    - Very modest evidence to support current intervention strategies
    - One of the most heavily invested nutritional support is Iron vs. Anemia Outcomes
* Hypothesized Pathways
  + What are the exact mechanisms? Maternal microbiota, abnormal development of serotonin system, “Leaky Gut” theory leading to neuroinflammation, environmental stressors creating imbalances in gut bacteria
* Food Insecurity vs. Nutrition Insecurity
  + Food Insecurity: Environmental determinants of mental health, high energy/low nutrient foods, intra-household food distribution, neighborhood/community food access influenced by geography, restricted movements, politics of agriculture and food systems
  + Nutrition Insecurity: Environment influencing the activation or silencing of genes at an individual level, brain-gut axis, acceleration or mitigation of mental health disorders,

Audience is the Civil Socity Organizations, how can we develop tools to help NGO’s support their local communities?

Important to deal with how data is transferred, centralized vs. decentralized data servers