EXAMPLE #1

Project Title: Stranger than Family: Guardianship and Ethics of Substitution for People Living with Dementia Going it Alone

Background: Substitute-decision making is critical for people with dementia who can no longer make decisions. While family is an assumed support, not everyone has a family member or friend to turn to. Yet, little research exists exploring how representation is sought, secured, and carried out for older adults facing dementia alone.

Objectives: 1) To describe how people facing dementia alone seek representation. 2) To examine how professionals involved in securing representation, and substitute decision-makers, interpret their roles.

Methods: Interviews will learn from lived experiences of, uniquely, three groups: a) people facing dementia alone; b) care and legal professionals; c) public guardian caseworkers and attorneys for personal care and finance.

Expected Outcomes/Implications: This research examines a critical intersection in health, law, and ethics towards better understanding, and supporting, the underserved group of people facing dementia alone and those involved in representing them. Findings will inform legal aid, care provision, and public health and advocacy.

EXAMPLE #2

Project Title: Precision prebiotics to target the gut microbiome in Alzheimer's disease

Background: The microbes (microbiome) that live in the gut are akin to a factory that produces many compounds (metabolites) important in Alzheimer’s disease (AD). The composition and function of the microbiome is different in AD patients. Recently, it was shown that controlling the levels of specific gut microbiome metabolites can improve cognition.

Objectives: We will assess whether we can tune the composition and function of individual microbiome factories to change the production of specific metabolites implicated in AD.

Methods: Microbiome factories will be collected (fecal sample) from participating patients. Each individual microbiome factory will be assessed for: its parts (microbes; 16S sequencing), their functions (metaproteomics) and whether different nutritional compounds can change specific metabolites produced by the factory (RapidAIM). This will be the first personalized microbiome nutrition approach for AD.

Expected Outcomes/Implications: This is the first step in the development of precision microbiome nutrition for AD patients. Precision microbiome nutrition will empower AD patients as changing diet is under their control. Our research, we hope, will help guide individual nutrition strategy to improve cognition.
