Understanding Socioeconomic and Environmental Factors Underlying Cancer Disparities Among African Americans: A Comparative Analysis of Baylor College of Medicine and University of Chicago Medicine Catchment Areas

A. Oluyomi, O. Rosales, A. Fadiel, W. Akmal Butt, S. Fadel

The University of Chicago Medicine Comprehensive Cancer Center

1. Background
- Four specific cancers of focus: breast, prostate, ovary, and liver
- Geographic scope: 14 counties - 9 from Baylor College of Medicine and 5 from University of Chicago
- Importance of racial/ethnic disparities in multiple groups
  - Non-Hispanic (NH) white
  - NH Black
  - Hispanic
  - NH American Indian/Alaskan Native
  - NH Asian/ Pacific Islander
  - NH Other/Unknown Race

2. Goals
- Compare of cancer incidence rates across selected ethnic/racial populations
- Social determinants of health assessment at county level
- Cancer burden patterns among the two diverse geographies
- Collect baseline information for future interventions

3. Solutions and Methods
- Dataset used:
  - Catchment area definitions from NCI
  - SEER
  - Stat for cancer incidence
  - Social determinants of health (county-level)
- Analysis approach:
  - 14 counties with complete data
  - Comparative analysis of 2 catchment areas
  - Statistical methodology for missing data handling

4. Outcomes
- To be completed with data, but structure will include:
  - Comparison of:
    - Urban versus rural counties
    - Various racial/ethnic groups
    - Two distinct geographic regions
    - Four types of cancers
  - Using:
    - Linear regressions
    - Random forest models
    - Clustering techniques (k-means)

5. Lessons Learned and Future Directions
- Problems with accessing data and possible solutions
- Positives of collaboration between institutions
- Integration of standardized data collection
- Future directions for complete data coverage