UAB SDH CORE DIGEST

The Social Determinants of Health (SDH) Core enables UAB investigators to measure the effect of social and environmental risks for disease etiology, progression, and outcomes, and test interventions that ameliorate their effect.

HIGHLIGHTS

Geocoding Computer

Need **HIPAA-compliant** geocoding? We got you! Every Tuesday, you can use the SDH Core geocoding computer at BDB 863. Reserve now with this

NEW Area-Level Measures

Average Temperature, calculated from the Multispectral Landsat Data developed by the US Geological Survey and the National Aeronautics and Space Administration, years 2015–2024, is now available for the State of Alabama at the Census tract level. Temperature data is derived using thermal infrared sensor to capture the heat emitted from the Earth's surface. Average temperature is calculated using the average summer surface temperatures for the months of June, July, and August. Data are calculated using spatial analysis and zonal statistics as table tools in ArcGIS Pro, then displayed as the minimum, maximum, and mean surface temperatures for each Census tract in the State of Alabama. The measure was developed by Liz Baker, PhD, Core Co-Director, with help from Katie Sweeney, PhD student in Medical Sociology.

Did You Know?

Tracts vs. ZIP Codes, Census geographic units are polygons that are perfectly nested within each other: all blocks fit within block groups, all block groups fit within a tract, all tracts fit within a county, and all counties fit within a state. The boundaries of census tracts and block groups are updated with every decennial census as areas become more or less populated. In contrast, ZIP codes are not Census geographic units with well-defined boundaries but a collection of postal routes.

For calculating area-level U.S. Census statistics, ZIP codes can be changed into polygons called ZIP Code Tabulation Areas (ZCTAs). Still, there are multiple issues with using ZIP codes/ZCTAs in research. Some of them are listed below:

1. ZCTAs are not strictly analogous with ZIP Codes; there isn't a ZCTA for every ZIP Code;

2. Tracts and block groups do not fit perfectly within ZIP codes/ZCTAs: ZCTAs may include parts of multiple tracts, and a tract may be in multiple ZCTAs (see figure).

3. ZIP codes vary tremendously in size, shape, and population;

4. ZIP codes may change frequently for the needs of mail delivery; analyzing data at the ZIP Code/ZCTA level over time is therefore difficult to impossible;

For these reasons aggregation to a ZIP-code/ZCTA level is not recommended for most area-level indices (see our training topic on different area-level measures). As much as possible, investigators should use full addresses to calculate index scores.

If full addresses are not available and you must rely on ZIP codes, you can use a crosswalk produced by the U.S. Housing and Urban Development (HUD) and updated quarterly. This crosswalk file contains multiple entries for both ZIP codes and Census tracts and contains the proportion of addresses in each ZIP code that come for each tract. You can weight estimates from the area-level indices measured at the tract or block group level by weighting these values to the proportion of ZIP code addresses that come from that tract.

CONGRATULATIONS to SDH CORE USERS!

Grants:

Emily Johnston, MD received funding for her first NIH R01 grant, *Examining the role of structural racism in quality of end-of-life care for children.* Dr. Johnson is Assistant Professor in Pediatric Hematology/Oncology.

Publications and presentations:

Mackenzie Fowler, PhD, Assistant Professor in the School of Public Health, published a paper, *The association between social vulnerability and geriatric assessment impairments among older adults with gastrointestinal cancers—The CARE Registry*, in the journal Cancer.

Other:

Elizabeth Brown, PhD, MPH, received the 2024 Graduate Dean's Award for Excellence in Mentorship. Dr. Brown in Endowed Professor of Cancer Pathobiology, Division of Molecular and Cellular Pathology, and Associate Director for Population Science, O'Neal Comprehensive Cancer Center.

Elizabeth Baker, PhD, was honored as one of ten 2023 UAB Graduate Dean's Excellence in Mentorship Award. Dr. Baker is Associate Professor in the College of Arts and Sciences, Department of Sociology, and Co-Director of the SDH Core.

Lucia Juarez, PhD, MS was selected to the NHLBI Summer Institute and participated in The University of Arizona Health Sciences AZ-PRIDE, *Arizona Approaches to Equity: Pandemics, Lung and Sleep (AAPLS),* a mentoring initiative that facilitates team science career development. Dr. Juarez, Assistant Professor in Preventive Medicine, is the Director of Data Analytics and Statistical Support at the SDH Core.

To share your good news complete this form. For more information email jrledvina@uabmc.edu.