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Using Geographical aggregation and statistically reliable health data for local policy development

Radley Remo, MPH¹, Thomas Bryant III, MSW¹, Rebecca Filipowicz, MPH, MS, CHES¹, and William Livingood, PhD². (1) Institute for Health, Policy and Evaluation Research, Duval County Health Department, 900 University Blvd. North, Suite 604, Jacksonville, FL 32211, 904-630-3236, radley_remo@doh.state.fl.us. (2) Institute for Health, Policy and Evaluation Research & Pediatrics Department, Duval County Health Department & Univ of Florida, 900 University Blvd, Suite 604, Jacksonville, FL 32211

Policy should be evidence and data driven, but available health data is typically reported at the national, state and county levels. This is not very helpful for local communities especially those with large geographical areas and culturally diverse populations. County level data mask possible differences within the area, making it difficult to ascertain the issues specific to subgroups within the community.

The Duval County Health Department Institute of Health, Policy and Evaluation Research (the Institute) faced similar issues in Jacksonville, FL when analyzing predefined geographic levels such as census tracts and zip codes. Data at the census tract and zip code levels proved to be unreliable due to the small number of events (less than 5 cases). Using a simple statistical/research function of collapsing categories, zip codes, sub-county units of analyses (called Health Zones) were created.

Health zones were grouped by geographical location/barriers, historically defined areas, population size and social economic factors. Consequently six health zones were defined with varying racial backgrounds and population sizes. There are many sources of readily available data (U.S. Census, Vital Statistics and local GIS) to help guide the creation of the geographical units of analysis. The development of the sub-county units allows for more robust analysis and helps with identifying target areas. GIS software (ARC View 9.1) was utilized to identify the zip codes to create the health zones. The use of these geographically mapped data to inform local policy development is illustrated with a number of health issues such as infant mortality, heart disease, HS graduation rates, diabetes mortality, breast cancer mortality, and violence.

Learning Objectives:

- Describe reasons for the development of sub county (community) units
- Explain ways to develop geographical units for analysis
- Identify sources of data and GIS tools for sub county analysis.