

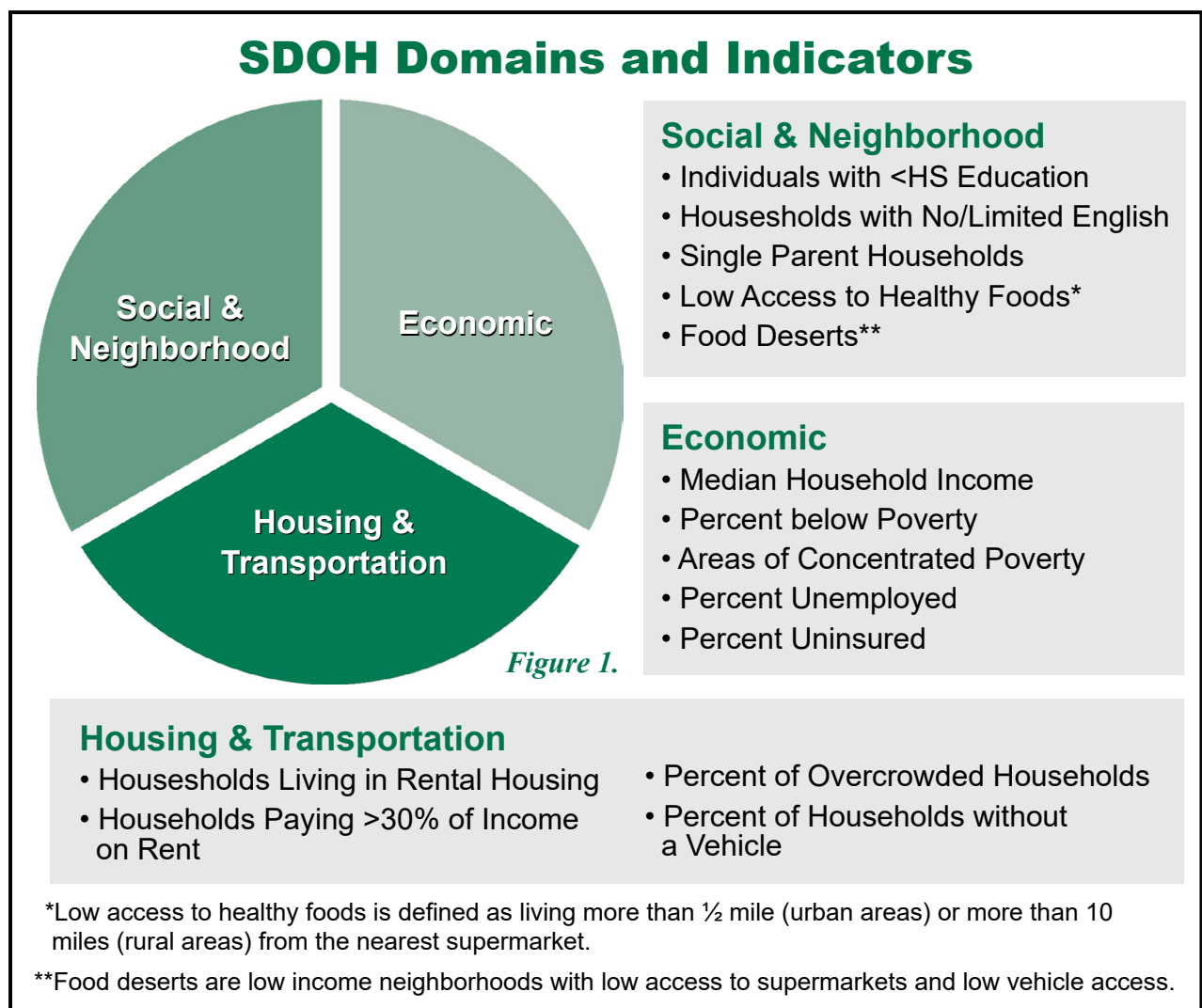
The Social Determinants of Health: Mapping Healthy Opportunities

Background

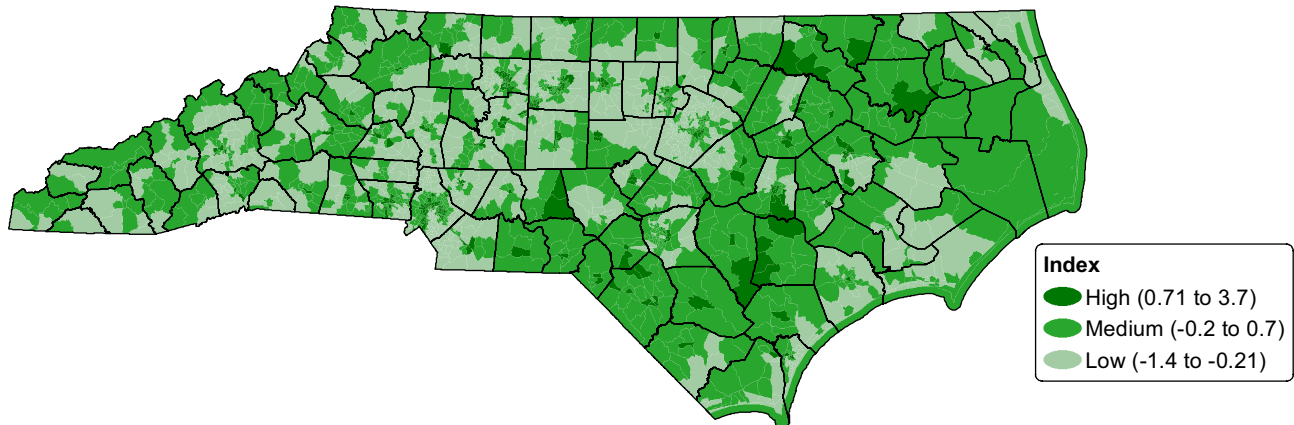
The Social Determinants of Health (SDOH) are the economic, social and environmental conditions where people live, learn, work, and play, which affect a wide range of health outcomes. Conditions such as food insecurity, housing instability, unmet transportation needs and poverty have a deep impact on a person's health and on healthcare use and costs [1,2].

SDOH Interactive Map at SCHS

In 2018, the North Carolina State Center for Health Statistics created Story Maps, an interactive web portal through which users can access regional maps presenting Social Determinants of Health data across three categories: Economic, Housing & Transportation, and Social & Neighborhood.



The Social Determinants of Health: Mapping Healthy Opportunities



These maps are based on work first done at the University of North Carolina-Chapel Hill and Carolinas HealthCare System using data from the American Community Survey collected by the U.S. Census Bureau and from the USDA Food and Nutrition Service. Indicators associated with each of the domains are shown in *Figure 1*.

Putting it all together: SDOH Index

One way to classify areas of greater need is to map an index derived from the 14 SDOH. As the SDOH are measured on a variety of scales, an index requires standardization. Standardizing transforms them to the same metric which we refer to as z-scores where:

$$Z - score = \frac{(Tract Value) - (State Average)}{(State Standard Deviation)}$$

A positive z-score indicates a value higher than the North Carolina average; a negative z-score indicates a value lower than the state average.

The sum of the SDOH z-scores is an Index combining the three domains. This Index indicates the extent to which the SDOH in a census tract differs from the state average. Thus, a higher SDOH Index suggests greater need.

References:

1. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *Social Determinants of Health: Know What Affects Health*. Retrieved January 29, 2019, from: <https://www.cdc.gov/socialdeterminants/>
2. N.C. Department of Health and Human Services. *About Healthy Opportunities*. Retrieved February 7, 2019, from: <https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/about-healthy-opportunities>