Community Health data platform

Neighborhood Deprivation Index (NDI)

Background and computation methods

The Neighborhood Deprivation Index measures obstacles to achieving good health, such as unemployment and poverty. The index is intended to reflect disparities within communities around lack of opportunity related to longstanding structural inequities.

The advantages of the NDI are that it:

- Includes key social factors: poverty, employment, housing
- Was created through a rigorous process that took into account relationships across a wide range of potential indicators using factor analysis
- Was validated by comparing it with birth outcomes
- Allows for neighborhood-level comparisons

The indicators that make up the NDI, all available nationally at the census tract level, are:

Income/poverty:
    % of household with public assistance income
    % of households with income below $30,000
    % of population below poverty
    % of families with female headed households with dependent children

Education:
    % of adults with less than a high school education

Employment:
    % unemployed
    % of males in management

Housing:
    % of households with more than 1 person/room

Details about the construction and computation of the NDI are described in Messer et al.[1] Briefly, factor analysis is used to create a combined index of the eight variables listed above (a "factor score"). The factor score is normalized to have mean 0 and standard deviation=1. Higher values indicate greater deprivation.

[1] Messer LC, Laraia BA, et al. The Development of a Standardized Neighborhood Deprivation Index. *Journal of Urban Health* 2006 83(6):1041-1062. https://pubmed.ncbi.nlm.nih.gov/17031568/

Questions about the NDI? Email chna-kp@kp.org