

# Life Course Indicators Tip Sheet: Concentrated Disadvantage (LC-06)

## About AMCHP

The Association of Maternal & Child Health Programs (AMCHP) is a national resource, partner and advocate for state public health leaders and others working to improve the health of women, children, youth and families, including those with special health care needs.

## Life Course Indicators

AMCHP launched a project designed to identify and promote a set of indicators that can be used to measure progress using the life course approach to improve maternal and child health. This project was funded with support from the [W.K. Kellogg Foundation](#).

To find more tools and resources to help you use the life course indicators, visit:

### Life Course Metrics Project:

[amchp.org/programsandtopics/data-assessment/Pages/LifeCourseMetricsProject.aspx](http://amchp.org/programsandtopics/data-assessment/Pages/LifeCourseMetricsProject.aspx)

### Life Course Indicators Online Tool:

[amchp.org/programsandtopics/data-assessment/Pages/LifeCourseIndicators.aspx](http://amchp.org/programsandtopics/data-assessment/Pages/LifeCourseIndicators.aspx)

## What tables and variables should I use from the Census and American Community Survey (ACS)?

The table below shows the table and variable names we recommend for calculating concentrated disadvantage. If you are using different tables or variables, please make a note when presenting your estimates.

Data Element	Table(s)	Variable(s)
Percent of individuals below the poverty line	S1702 - ACS; for 2010 estimate, use 5-year ACS ending in 2012; table indicates it is for families but variable description does not specify families; this is the table / variable we have been recommending	HC02_EST_VC01
Percent of individuals on public assistance	B09010 - for 2010 estimate, use 5-year ACS ending in 2012	HD01_VD02 – this count includes cash assistance, SSI and food stamps/SNAP; divide by HD01_VD01 to get percentage
Percent female-headed households	DP-1 - Census DP02 - ACS	HD02_S157 - Census HC03_VC11 - ACS
Percent unemployed	S2301 - ACS	HC04_EST_VC01
Percent less than age 18	S0101 - ACS	Total population under five yrs, HC01_EST_VC03; total population aged five to 14 years, HC01_EST_VC23; and the total population aged 15 to 17 years, HC01_EST_VC24. Each is the percent of population in the specified age group. The sum should give you the percent less than 18
Households with individuals <18 years	DP-1 – Census DP02 - ACS	HD01_S152 - Census HC01_VC06 - ACS

## **Where can I get some help in calculating the standard deviation?**

To calculate concentrated disadvantage (CD), you will need to calculate a standard deviation for each percent using the entire distribution of the percents (across all of the census tracts). You can use an excel function for standard deviation or you can calculate it in a statistics program like SAS, STATA, or SPSS. If you want to calculate it in steps, this is a quick primer on the formula that might be helpful – [mathsisfun.com/data/standard-deviation-formulas.html](https://mathsisfun.com/data/standard-deviation-formulas.html)

## **How is the Z-score calculated? Is it the percent for the indicator of interest (e.g. % below poverty)?**

The equation to do the Z-score transformation is:  $Z = (\text{score} - \text{mean}) / \text{standard deviation}$ . Calculate a z score for each of the five percents from the census data individually, and then average across the five z-scores to come up with the final z-score. It might be useful to do this in a spreadsheet or using a statistical program so you can track each step of the CD calculation.

## **What do you do with counties that have missing Z-scores because, for example, a value was suppressed in the table?**

When calculating CD using census tract information, we recommend using the ACS five-year estimates in order to avoid missing data. If you are missing one or more of the five components of CD, you should exclude the census tract from the calculation. When you are missing data from suppression of values, it is helpful to examine the areas where there are missing data; they are often tracts that contain airports, open fields, or other places where no one actually lives. If this is the case, they can be excluded from the calculation but the county can be included if there are other census tracts with valid data. If you exclude census tracts because the denominator is zero or missing, you should not include the data for those census tracts in the numerator calculations.

## **Can you calculate concentrated disadvantage as a count/sum of the risks?**

The original methodology for CD includes a more complicated process of identifying a large number of economic variables and conducting a factor analysis to see which factors are “loaded” then the CD is calculated for those variables as we put into the methodology; to create a more standard (and attainable) CD, we pre-selected five factors that were used most often and then followed the methodology of z-score transformation and using percentiles on the average score. There are other measures of disadvantage and deprivation that have been used. If you decide you want to do something different from the specified calculation, you certainly could, but you would need to note that it is no longer comparable to the methodology listed and would need to be interpreted differently (and not compared across states).

## **What should I include in my interpretation if I calculate concentrated disadvantage differently than what is recommended above?**

As noted above, there are other methodologies for calculating measures of CD. If you use an alternate calculation from the one recommended in the narrative or use different tables or variables than described above, we recommend adding the following text to your interpretation: “While this indicator is similar to the Life Course Indicator Concentrated Disadvantage (LC-06), this indicator was calculated with the following modifications (list here) that deviate from the recommended methodology for the Life Course Indicator.”

## **How comparable are concentrated disadvantage estimates generated from different geographies?**

In the indicator narrative, we note that even when you use the methodology outlined for your geography, the values for CD are only valid for that geography because the percentiles are developed internally. To truly compare CD across states, or across counties from different states, the percentiles would need to be established using the entire nation’s data; to date, we are not aware that anyone has completed this level of analysis. Therefore, estimates of CD generated across states should not be directly compared. In your interpretation, we recommend adding the following text: “While this indicator was calculated with the recommended methodology for the Life Course Indicator Concentrated Disadvantage

(LC-06), it should not be directly compared with Concentrated Disadvantage estimates from geographies outside of this state.”

## Pulling tables from American FactFinder

Go to American FactFinder ([factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml](http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml)), select “Advanced Search,” and search for the table name in the “topic or table name” box. When you get to a screen like that of Figure 1 below, select your desired geography from the menu on the left (see notes in Figure 2). Check the box next to the table you want, and then select download to get as zip file for the full set of census tracts. Figure 3 shows what an individual table looks like – you do not want to be copying these down one tract at a time.

**Figure 1. List of tables from America FactFinder**

The screenshot shows the American FactFinder website interface. At the top, there is a navigation bar with links for MAIN, COMMUNITY FACTS, GUIDED SEARCH, **ADVANCED SEARCH**, and DOWNLOAD CENTER. Below this is a search bar with the text "Search - Use the options on the left (topics, geographies, ...) to narrow your search results".

On the left side, there is a "Your Selections" panel with a search box containing "DP-1" and a filter for "All Census Tracts within Nebraska". Below this are several filter categories: Topics, Geographies, Race and Ethnic Groups, Industry Codes, and EEO Occupation Codes.

The main content area shows "Search Results: 1-7 of 7 tables and other products match 'Your Selections'". It includes a "Refine your search results:" section with a search box and a "GO" button. Below this is a table of results with the following columns: ID, Table, File or Document Title, Dataset, and About. The first row is selected, and the "Download" button is visible.

ID	Table, File or Document Title	Dataset	About
<input type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 American Indian and Alaska Native SF	<a href="#">?</a>
<input checked="" type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 Demographic Profile SF	<a href="#">?</a>
<input type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 SF1 100% Data	<a href="#">?</a>
<input type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 SF2 100% Data	<a href="#">?</a>
<input type="checkbox"/>	DP-1 Profile of General Demographic Characteristics: 2000	2000 SF1 100% Data	<a href="#">?</a>
<input type="checkbox"/>	DP-1 Profile of General Demographic Characteristics: 2000	2000 SF2 100% Data	<a href="#">?</a>
<input type="checkbox"/>	DP-1 Profile of General Demographic Characteristics: 2000	2000 SF4 Sample Data	<a href="#">?</a>

**Figure 2. Example of selecting census tract geography**

**Select Geographies**

List | Name | Address | Map

Select geographies to add to Your Selections ?

Select from:  most requested geographic types  all geographic types

Select a geographic type:

Select a state:

Select a county:

Select one or more geographic areas and click Add to Your Selections:

**ADD TO YOUR SELECTIONS**

Select your state and then select "All census tracts within state."  
 Click: Add to your selections.  
 Tip: do not select an individual county

Figure 3. Example of a table for a single census tract

Subject	Number	Percent
<b>HOUSEHOLDS BY TYPE</b>		
Total households	447	100.0
Family households (families) [7]	343	76.7
With own children under 18 years	148	33.1
Husband-wife family	175	39.1
With own children under 18 years	81	18.1
Male householder, no wife present	53	11.9
With own children under 18 years	20	4.5
Female householder, no husband present	115	25.7
With own children under 18 years	47	10.5
Nonfamily households [7]	104	23.3
Householder living alone	82	18.3
Male	59	13.2
65 years and over	10	2.2
Female	23	5.1
65 years and over	16	3.6
Households with individuals under 18 years	222	49.7
Households with individuals 65 years and over	138	30.9

This is what the table looks like for a single census tract.

Select the table you want (check the box) and then choose **Download** to get the final file with all census tracts.

Tip: clicking on the table name displays one tract at a time

1 Selected: [View](#) [Download](#) [Compare](#) [Clear All](#) ?

ID	Table, File or Document Title	Dataset	About
<input type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 American Indian and Alaska Native SF	?
<input checked="" type="checkbox"/>	DP-1 Profile of General Population and Housing Characteristics: 2010	2010 Demographic Profile SF	?

**What are some ways that I can talk about concentrated disadvantage?**

As a measure of community well-being, CD adds more information than looking at income rates. High CD is linked to low social capital. Communities with high CD have less ability to improve conditions in their neighborhoods, limit neighborhood violence, and intervene in the community for the common good than neighborhoods without high CD.

Indicator narratives for 4th grade proficiency (LC-57), incarceration rate (LC-58), and voter registration (LC-59), can be referenced to further expand on the concept of social capital and the effects of social capital on health over the life course.

Certain poor health outcomes are linked to CD. The indicator narrative discusses how CD affects equity, public health, and individual health. Outcomes that have been linked to CD include:

- Decreased verbal ability in children
- High school drop out
- Teen pregnancy
- Adolescent delinquency
- Decreased overall health
- Mental health/risk taking behaviors
- Community level adverse health outcomes – infant mortality rate, low birth weight and child maltreatment
- Future individual mortality

It can be difficult to highlight health impacts tied to CD without seemingly putting blame on the people in the affected communities. Use techniques such as place-based language and highlighting the bidirectional relationship between health and wealth to stress the impact community well-being has on health outcomes. It also may help to point out that areas with high CD may be areas with low social capital that are in need of resources to achieve better health and economic outcomes.

To learn more, please contact Caroline Stampfel, associate director, epidemiology and evaluation, at [cstampfel@amchp.org](mailto:cstampfel@amchp.org) or (202) 775-0436.

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