

InCK Marks

*Helping Leaders Advance Child Health Care Transformation*

## Using the CDC Social Vulnerability Index (SVI) To Make the Case for Targeting Investments in the Highest Vulnerability/Opportunity Neighborhoods/Communities Within Your County and State

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The Centers for Disease Control and Prevention (CDC) has produced downloadable data files that provide information – at the county and the census tract level – on the components and overall score on their Social Vulnerability Index (SVI).

CDC describes **social vulnerability** as referring to “the potential negative effects on communities caused by external stresses on human health,” with the CVI using “U.S. census variables to help local officials identify communities that may need support before, during, or after disasters.”

In addition to providing an overall score or index (the SVI), the data files provide information on the fifteen variables from the American Community Survey (ACS) used to make up the index, as well as information on population and geographic size (sq. miles) and percent of the population without health insurance coverage.

The most recent SVI is based upon 2014-2018 ACS data. The SVI data not only can be used to identify which census tracts and counties have high SVI scores, but provide information on their demographics (racial/ethnic composition, proportion of children and seniors, and people with limited English proficiency) and their employment, income, housing, education, and other social characteristics. While not all the relevant information which can be secured from the ACS, the SVI in general is sufficient to give a good overall picture of the geographies across important characteristics of the population.

This information can be very useful to Community-Based Organizations (CBOs) committed to supporting residents in marginalized, high poverty, vulnerable, or disinvested communities within counties (and in some instances, counties themselves) make the case for targeted investments within in those communities. The SVI has been referenced as a primary source for defining targeted communities for the recent HRSA grant opportunity to provide 121 grants of approximately \$1 million each to provide community-based workers to respond to COVID-19 in underserved and high vulnerability neighborhoods.

This guide offers step-by-step instruction on how to make use of the SVI to make the case for such targeting and focus. The result of taking these steps is to create a Table of information like that shown in the Appendix, which uses Seattle and its inner-city neighborhoods in King County, as an example. Any set of census tracts can be combined to yield the information in the first column of this Table. All, or a portion of this Table, can be used to show both the SVI score and the different indicators that make up that score and therefore some of the characteristics of the neighborhoods.

Step 1: Define the neighborhoods and communities within your county(ies) by their census tracts.

Step 2: Download the SVI data for counties in your state and for census tracts in your state and create excerpted spreadsheets to use for your analysis.

Step 3: Produce a table or tables showing the sixteen different indicators, the populations, and the SVI score for each of the neighborhoods and communities you defined.

Step 4: Add, if you want, additional information (from the ACS or other sources you have) to further describe your neighborhoods and communities.

### **STEP 1: DEFINE NEIGHBORHOODS.**

The U.S Census, through the ACS, provides information at different geographic levels – including the county and state levels but also much smaller census tract levels, which vary in size from around 1,500 residents to 9,000 residents, averaging about 4,500 residents.

CBOs often focus their attention on specific neighborhoods or communities within counties (or cities) and recognize that most counties are not homogenous geographically. In some instances, cities or counties have recognized specific geographic areas as particular neighborhoods. Elementary schools often have attendance areas which residents also recognize as a source of affiliation. CBOs often have general geographies of their greatest focus and attention, often aligned with a city or county's definition of geographic areas.

Step 1.A. is for CBOs to produce a map of their city/county/community that includes census tract boundaries and to overlay that with the neighborhoods CBOs regard as most important to them and/or recognized by the larger community as geographic neighborhoods. Maps of geographic areas (counties and cities) can be downloaded from: [xxxx](#). Generally, the city or county has a large map (28 by 42 or larger) that can be used as the master map.

Step 1.B. is for CBOs to approximate their definitions of neighborhoods with the census tracts that go into them. For instance, the "Hopetown" neighborhood might be a combination of census tracts 102, 107, and 115, while the "Ascend" neighborhood might be a combination of census tracts 104, 109, 223, and 257.

While these may not be exact, CBOs should be able to provide good approximations, and there may be city or county planning departments which already have done this. In some instances, it may be possible to map the entire city or community into a set of neighborhoods, and in other instances CBOs may decide to describe only their neighborhoods or their neighborhoods and other high SVI neighborhoods.

The key is for CBOs to be able to convey to others why their geographic area of concern is appropriate and does represent a recognizable part of the larger community.

STEP 1.C is to produce a chart providing a name for each neighborhood/geographic area and the census tract numbers that compose it.

**STEP 2. DOWNLOAD AND DEVELOP SPREADSHEETS OF SVI DATA FOR DETAILED ANALYSIS.**

The SVI provides data tables by state at both the county level and at the census tract level. Each should be downloaded separately. Then, each can be further simplified to contain just the information needed for developing a table showing all the indicators and population information at the relevant census tract, county, and state levels.

Step 2.A. Getting the core files from the CDC for your state. Go to the CDC/ATSDR page (<https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>) and then click the “Data & Documentation Download” section.

There are three selections to make:

- Geography (select your state)
- Geography type (counties or census tracts)
- File type (select CVS to get a spreadsheet that can also be converted to Excel)

Download two separate files, one for counties and one for census tracts.

Step 2.B. For each of the files, the rows will include as row 1 an abbreviated description of the data in the row. The county file will have 123 columns, the census tract file will have 124 columns. You will only need a small portion of these columns to develop tables (many of the columns relate to “errors of estimate” or provide standardized scores that are used to develop the SVI index).

Below are the columns needed from each table. You can highlight these (for instance in yellow fill) columns. You also can delete any of the columns you are not going to use, to simplify the table.

Below is a table showing the columns to use in this analysis – first the description on row one of of the spreadsheet, then its fuller name, and then its column location, first for the county spreadsheet and then on the census tract spreadsheet.

<u>Column Name</u>	<u>Full Description</u>	<u>County Column</u>	<u>Tract Column</u>
COUNTY	County name	D	D
FIP	Identification	E (5 digits)	F (11 digits)
LOCATION	Tract, County, State		G
AR_SQ	Area in Square Miles	G	H
EP_TOTPOP	Estimated Total Population	H	I
E_HH	Estimated Total Households	M	N
EP_POV)	Estimated Percent Poverty	AR	AS
EP_UNEM	Estimated Perc. Unemployed	AT	AU
EP_PCI	Estimated Per Capita Income	AV	AW
EP_NOHS	Estimated Perc. No High School Dip.	AX	AY
EP_AGE65	Estimated Perc. 65 and Older	AZ	BA

EP_AGE17	Estimated Perc. 17 and Younger BB		BC
EP_DISAB	Estimated Perc. with Disability BD		BE
EP_SINGPNT	Estimated Perc. Single Parent	BF	BG
EP_MINRTY	Estimated Perc. Minority	BH	BI
EP_LIMENG	Estimated Perc. Limited Engl. Prof.	BJ	BK
EP_MUNIT	Estimated Perc. Multi-Unit Housing	BL	BM
EP_MOBILE	Estimated Perc. Mobile Homes	BN	BO
EP_CROWD	Estimated Perc. Overcrowded Hous.	BP	BQ
EP_NOVEHI	Estimated Perc. No Vehicle	BR	BS
EP_GROUP	Estimated Perc. Group Quarters	BT	BU
RPL_THEMES	Overall Score (0-1.0) on SVI	CT	CU
EP_UNINS	Estimated Perc. Uninsured	DQ	DR

The two spreadsheets should now be ready for analysis to produce tables.

### **STEP 3. CONDUCT DATA ANALYSIS TO PRODUCE TABLE OR TABLES.**

Step 3A. Using the County Data Set – Getting State Information. The easiest way to get state-level data is to use the county data set for the columns shown above. Each of these columns can simple be summed for all the counties represented. Then, for all but the first two, the next step is to establish another row that equals the summed total divided by the number of counties in the state. This will provide the state-level information for a table like that shown for Washington state in the appendix.

Step 3B. Using the County Data Set – Getting County Data. Each of the counties has a row, so getting the county information for the county (or counties) of interest to put in the Table can simply be obtained by getting the information from the designated county for the row.

Step 3C. Getting Census Tract Information Specifically for the County/Counties of Interest. The census tract spreadsheet will contain information from all the census tracts in the state. Initially, these are arranged by the SVI scores in column CU (some at the very top may be tracts without any people in them and have -.999 in most of their columns – these rows can be ignored or deleted).

These first need to be rearranged by county, so you can find the census tracts of interest to you in your county. This can be achieved by sorting (from A-Z or Z-A) by column D. Make sure that the sort is expanded and included sorting all columns, not just the one column.

It is then best to delete all the census tracts that are not in the county/counties of interest.

Step 3D. Developing information on neighborhoods (tracts or combinations of tracts of interest). This can be done for as many different neighborhoods as desired, but each one needs to be done separately. From Step 1, you have a chart showing the neighborhoods and their census tract numbers. It now is necessary to separate the rows into groups that include the tracts that make of the neighborhood/neighborhoods of interest to you.

Particularly if you are doing multiple neighborhoods, one way to do this is to assign a number (e.g. 1,2,3,...) to each of the neighborhoods. Then, create a new column A and put in the neighborhood number for each of the census tracts in the neighborhoods you have identified. Then, you can use the

sort function (again, making sure to expand to sort entire rows) to group the census tracts by their neighborhoods.

Step 3E. Like getting the state-level information from the county spreadsheet, the next step is to sum the columns for each of the neighborhoods and then add a second row to calculate the average for the tracts as a whole.

First, it is best to create four blank rows in between each neighborhood grouping. Then, sum each of the columns for the rows in the neighborhood. Then create an additional row that divides that summed number by the number of rows.

The result will be information for the specific neighborhood to put in the table.

#### **STEP 4. ADD ADDITIONAL INFORMATION.**

CBOs may have additional information about the neighborhoods and communities to add. Many of the country's largest cities have National Neighborhood Indicators Partners which can provide augmented information.

The American Community Survey also has additional information at a census tract level as well as county and state level that can be added.

Probably the most useful additional data to add relates to the overall racial and ethnic composition of the neighborhoods. Knowing that the neighborhood is 75 percent "minority" does not provide information on what different racial and ethnic groups constitute that 75 percent. In some neighborhoods, they could be almost entirely African American, or Native American/American Indian, or Hispanic. In other neighborhoods, they might be a mix and include a sizeable Asian and Pacific Islander population (perhaps one related to a specific Asian grouping). CBOs usually know and reflect the mix of racial and ethnic populations in their service areas, but accessing this data and getting more precise numbers can help make their case. This requires accessing other 2014-2018 data from the ACS. Often, this work already has been done by NNIP partners of city or county offices.

While the Table itself is sufficient to show contrasts between the specific neighborhoods of concern and the larger county and state populations, as well as to provide the SVI, the narrative itself can go into more detail on the composition of the neighborhoods and the CBO knowledge and experience working there to reflect the opportunities for engaging and supporting those communities and the residents in them to respond to pandemics, natural disasters, and existing economic and social vulnerabilities.

## APPENDIX: Targeting Underserved and High Vulnerability Communities: King County and Washington State as an Example of the Need to Look within Counties to Neighborhoods and Focus Upon Children and Communities of Color

Funding that is directed to establishing a public health/community health workforce in “underserved” or “high vulnerability” communities represents a key opportunity not only to “build back better” but also to reduce health inequities and disparities and improve population health outcomes. Doing so, however, also must recognize the following:

- A. These “underserved” or “high vulnerability” communities largely represent specific parts (neighborhoods) within counties and targeting or focusing resources must be directed below the county to the neighborhood level and recognize the specific characteristics of those neighborhoods.
- B. These “underserved” or “high vulnerability” communities are much younger than the population as a whole, with much larger proportions of children (and young children in particular) and fewer proportions of seniors (those over 65). From both an engagement and a population health perspective, a significant share of resources should be devoted to addressing the development of children in the context of their families.
- C. These “underserved” or “high vulnerability” communities are very disproportionately communities of color which have been marginalized from sources of support. A strong equity and community-building focus is needed to respond effectively and doing so is critical to eliminating inequities, particularly for the next generation.

The Table on the next page presents data from King County and Washington state that illustrates these points.

The Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) enables state, counties, and communities to identify at both the county and the census tract level areas of general vulnerability. The Table uses the SVI to provide information on the highest vulnerability census tracts (above .9) in King County and compare that with King County and Washington state as a whole and with the four counties whose vulnerability scores are above .9. Although King County has a low SVI score overall, it has 39 census tracts with SVIs over .9, representing over 165,000 people, in a roughly contiguous set of tracts, that actually make up a number of different neighborhoods, but here are presented together. If criteria are established only by county to determine vulnerability, these people and their neighborhoods would not be considered. At the same time, the census tracts they represent not only have high SVIs; the indicators making up the SVI show the importance of doing so from a racial equity perspective and the importance of focusing significant attention on children and their families.

SOCIAL VULNERABILITY INDEX AND INDICATORS -- 2014-2018				
WASHINGTON, KING COUNTY, AND .9+ SVI COUNTIES AND KING CENSUS TRACTS				
	King Co. .9+SVI CTs	King County Total	State of Washington	Counties .9+ SVI
Population	178,469	2,163,257	7,294,336	317,991
Households	65,704	865,627	2,800,423	108,805
Percent Minority*	64.4%	39.6%	24.1%	45.8%
Percent Lim. Engl. Prof.	11.9%	4.6%	3.7%	8.7%
Percent 65 and older	13.0%	12.7%	19.7%	17.2%
Percent 17 and younger	24.9%	20.6%	21.7%	26.5%
Percent Poverty	23.1%	9.5%	14.2%	20.7%
Percent Unemployed	7.3%	4.5%	6.1%	6.8%
Median Per Capita Income	\$ 25,473	\$ 49,298	\$ 29,279	\$ 22,303
% 25+ No High School Dipl.	20.3%	7.0%	11.2%	23.2%
% Disability	14.3%	9.5%	16.5%	16.9%
% Single Parent Family**	13.6%	6.2%	7.9%	11.8%
% Uninsured	11.2%	5.7%	7.9%	9.6%
% Multi-Unit Housing	36.5%	27.9%	6.9%	3.6%
% Mobile Homes	5.0%	1.9%	12.1%	16.6%
% Overcrowded	10.0%	3.7%	3.4%	7.6%
% Group Quarters	2.6%	1.0%	2.8%	2.7%
% No Vehicle	18.0%	10.1%	5.2%	5.3%
SVI Score	0.953	0.315	0.500	0.096

\* Minority is used by CDC for the SVI but really is a misnomer. This refers to individuals not designated as both White Only and Nonhispanic. There are 141 possible racial (White, African America, Asian and Pacific Islander, Native American/American Indian, Other, and Two or more) and ethnic (Hispanic) categories.

\*\* Single Parent Family (with children) percentages is the percentage of single parent families of all households. More commonly used as an indicator is the percentage of single parent families with children of all families with children. Using such a measure would increase the percentage approximately three-fold, so the King County SVI tracts likely have a single parenting rate of 40 percent or higher.

NOTE: There also is information at the tract level available through the ACS that includes other measures which often are used to characterize vulnerability/resiliency/socio-economic factors – percent of owner-occupied housing units (home ownership), percentage of adults with at least a college diploma, percentage of households on public assistance, percentage of households with rent, interest, or dividend income, and percent of renters paying more than 30 percent of income in rent.

In addition, there are further demographic breakouts which can be made that are useful, particularly for children and families: percent of children 0-4 of total population, percentage of children in poverty, percent of children uninsured, and percent of children with disabilities.

Finally, the ACS provides racial and ethnic breakouts beyond “minority” population (e.g. not White, non-Hispanic) that include Hispanic, African American NH, Asian and Pacific Islander NH, Native American/American Indian NH, Other NH, and two of More Races, NH. These are available for both the total population and the child population.