



**Environmental Scan of Existing Domains and Indicators to  
Inform Development of a New Measurement Framework for  
Assessing the Health and Vitality of Communities**

**Conducted for the National Committee on  
Vital and Health Statistics**

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# Advancing Community-Level Core Measurement: Proposing a Roadmap for HHS

## *Environmental Scan of Existing Domains and Indicators to Inform Development of a New Measurement Framework for Assessing the Health and Vitality of Communities*

### National Committee on Vital and Health Statistics, Subcommittee on Population Health

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## Background

The mission of the U.S. Department of Health and Human Services (HHS) is to enhance the health and well-being of Americans. In recent years, the National Committee on Vital and Health Statistics (NCVHS) has studied the community health improvement movement and identified a need for a more strategic federal role to support communities accomplish this work. NCVHS is developing the Community Health and Well-being Measurement Framework to help HHS identify potential approaches for improving availability of and access to local data and the capacity to use data to bolster multi-sectoral health improvement efforts at the local level.

The Measurement Framework will include a set of “core” measurement domains that encompass metrics that help describe population health outcomes<sup>1</sup> and well-being of communities<sup>2</sup>. Each domain will include a menu of representative measures that are accessible, and estimate-able or collectible at a sub-county level.

The primary goal of developing the Measurement Framework is to help HHS, other federal agencies, and private-sector partners identify and close gaps in the accessibility of data at a sub-county level, and to support development of estimation methods and data collection tools for use by communities. The NCVHS is proposing a Roadmap for HHS and other Federal Departments that lays out a process, starting with a proposed Measurement Framework, to define Federal data resources and tools that could be better focused and more accessible to support communities in their health improvement work.

A second goal of the Measurement Framework is to offer communities a blueprint of the key issue areas (domains) to stimulate and inform conversations across sectors about barriers and opportunities for improvements. Communities, focusing on geographic communities but also including communities of people with other common attributes, will be able to pick measures or indices that reflect their priorities and resources to estimate the opportunity and measure progress of each intervention. Each sector will be able to see how they are achieving outcomes critical to their performance *and* achieving collective impact on the health of their population and the well-being of their community.

This proposed Framework will be designed so that communities have flexibility in the way that they use it, allowing for not only choice in how many of the measures to use but also the addition of measures as communities see fit. Many existing measurement indices and systems have been designed with the specific purpose of comparing groups, generally across different geographic locations, or across populations. Those frameworks require that the same measures be used from the same sources so that comparisons are possible. The proposed Community Health and Well-being Measurement Framework is not intended to be used for ranking but rather to *create a blueprint to guide and equip communities to better inform multi-sectoral-driven improvement work*. The long-term result will be that communities have improved access to a robust menu of measures, data, and tools to support collective action to improve population health outcomes and community well-being.

As part of its activities to develop the Measurement Framework, NCVHS held a one-day workshop on November 17, 2015, to “identify a balanced and parsimonious set of domains that

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<sup>1</sup> Kindig and Stoddart (2003) define population health as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group.”

<sup>2</sup> Community well-being is defined as the presence of conditions within a community that support the comfort, health, and happiness of its residents.

multi-sectoral local partnerships can use to assess, measure, and improve local health and well-being.” Workshop participants reviewed and discussed a set of “straw” domains drafted by the Public Health 3.0 Initiative of the HHS Office of the Assistant Secretary of Health. One conclusion of the workshop was that additional information and understanding was needed about other similar efforts to develop and use domains and indicators to assess community well-being, especially efforts in non-health sectors. As a result, the Population Health Subcommittee of NCVHS decided to undertake an “environmental scan” to obtain a better understanding of such efforts.

### **Purpose of Environmental Scan**

The primary purpose of the environmental scan is to identify existing measurement frameworks, core domains, indicators, and indicator data sets in health and non-health sectors. A secondary purpose is to identify data sources for sub-county-level measurement of community health and well-being.

This report provides (1) an overview and synthesis of measurement frameworks, domains, and indicators that were identified by the scan; (2) comparative analyses of identified domains presented in table format; (3) examples of data sources for sub-county-level measurement of community health and well-being identified during the scan; and (4) a timeline of selected health measurement frameworks and systems.

### **Approach to Identifying Domains and Indicators**

NCVHS contracted with R. Gibson Parrish, M.D., to conduct the environmental scan under the guidance of the NCVHS Subcommittee for Population Health.<sup>3</sup> Dr. Parrish conducted the scan during January and February 2016 using the following approach:

1. located and reviewed frameworks, indices, and metrics suggested by workshop participants (AARP, HUD, DOJ, DOT, EPA, and a few others; see Appendix D) and by those responding to a subsequent NCVHS Population Health Subcommittee request (see Appendix E);
2. reviewed indices and rankings associated with the frameworks, indices, and metrics identified in step 1 and indicator systems and indices found through Internet searches for indicators related to community well-being and livability;
3. located and reviewed poverty and deprivation indices and indicators; and
4. located and reviewed sector-specific indices, rankings, and indicator systems.

The scan was intended to identify a reasonably representative sample of existing frameworks, domains, and indicators in non-health sectors; due to limited resources and timeframe it was not intended to produce an exhaustive list of all existing sets of domains and indicators.

After identifying existing frameworks, domains, and indicators in non-health sectors, Dr. Parrish next placed each identified index, ranking, or indicator system into one of the following categories, based on its principal purpose or focus:

- Community and neighborhood indicator systems

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<sup>3</sup> Guidance was provided by a four-person team composed of the two co-chairs of the NCVHS Subcommittee for Population Health and two senior scientists from the National Center for Health Statistics.

- Well-being indices
- Poverty, deprivation, and inequality indices and indicator systems
- Livability rankings, indices, and metrics
- Other non-health sector-specific indices

Dr. Parrish then identified a subset of domains frequently used in the identified indices, rankings, and indicator systems and then developed a set of summary tables to indicate which frequently used domains were included in each of the previously identified indices, rankings, and indicator systems. Finally, drawing on the American Community Survey (ACS), resources available through the Urban Institute’s National Neighborhood Indicators Partnership, and information from the identified indices, rankings, and indicator systems, Dr. Parrish compiled a list of sources of sub-county data used for community indicators and metrics.

The Population Health Subcommittee reviewed the initial scan<sup>4</sup> in late January and suggested that examples of health-sector rankings and indicator systems be added to the scan, along with more examples of indicator systems developed by communities. Dr. Parrish updated the scan<sup>5</sup> in early February and presented a summary to the NCVHS at its February 17, 2016 meeting. Based on suggestions made during the meeting and in response to a Population Subcommittee query following the meeting, Dr. Parrish added health indicator sets for children and older adults, the HUD Healthy Communities Index, the Virginia Health Opportunity Index, and the Social Deprivation Index, which brought the total number of indices, rankings, and indicator systems in this report to 45.

## Findings

### Overview

The environmental scan includes 45 indicator systems, indices, and rankings: 32 non-health sector indicator systems, indices, and rankings; and 13 health sector indicator systems, indices, and rankings. The non-health sector indicator systems, indices, and rankings include 10 community and neighborhood indicator systems; 4 well-being indices; 10 poverty, deprivation, and inequality indices and indicator systems; 6 livability rankings, indices, and metrics; and 2 other sector-specific indices. These systems and their respective “domains” are listed by type in Tables 1, 3, 5, 7, and 9, with the exception of the two sector-specific indices (i.e., the Leading Economic Index® and the Environmental Quality Index). A second set of tables provides a high-level comparison of the domains for each of the types of indices and rankings, using a common set of categories in the left-most column of each table (see Tables 2, 4, 6, 8, and 10). A description of each indicator system, index, and ranking—including a brief overview of the system, a list of the system’s “domains” and indicators,<sup>6</sup> and the source(s) used for the information about the system—follows these tables.

The 10 listed community and neighborhood indicator systems just barely scratch the surface

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<sup>4</sup> The initial draft of the environmental scan (25 January 2016) contained 19 indices, rankings, and indicator systems.

<sup>5</sup> The second draft of the environmental scan (7 February 2016) contained 40 indices, rankings, and indicator systems.

<sup>6</sup> The list of indicators for eight of the community and neighborhood indicator systems (e.g., Boston Indicator Project and Data Drive Detroit) and the U.S. Department of Transportation’s Community Vision Metrics consists of examples of indicators rather than a complete listing. The decision to list only examples for these systems was based on the number of indicators and the difficulty of extracting indicators from the indicator systems. A complete list of the indicators used in these systems can be viewed at the source listed for each indicator system.

of what is available. Through this scan, literally hundreds of these systems were identified. The Community Indicators Consortium<sup>7</sup> and the National Neighborhood Indicators Partnership<sup>8</sup> web sites provide links to additional indicator systems for those who are interested in exploring this type of indicator system further. The four well-being indices were selected to be reasonably representative of this type of index. The U.S. EPA reviewed 18 existing well-being indices in 2012, and its review is available for those interested in a more detailed look at this type of index.<sup>9</sup> The list of poverty and deprivation indices is fairly comprehensive, as is the list of livability indices and rankings. The environmental scan includes two examples of sector-specific indices. These are more narrowly focused, and as they appear to be less relevant to the overall project goals, they are not discussed further.

#### *Development of the Indicator Systems, Indices, and Rankings*

All ten of the community and neighborhood indicator systems were developed at the community level by either a local government, a foundation or other non-profit organization, an academic institution, or a combination of these types of organizations. These systems were intended to meet local needs for reliable, impartial information to guide programs, support community building, and facilitate collaboration among stakeholders.<sup>10</sup>

In contrast, well-being indices were typically developed by a one institution or agency as a single summary measure that could be applied to a group of nations (e.g., OECD's Better Life Index), or a group of sub-national geographic or political divisions (e.g., Canadian Index of Wellbeing and EPA's Human Well-being Index) for the purpose of comparison. A similar approach was taken in the development of the ten poverty, deprivation, and inequality indices and indicator systems. Three were developed by the United Nations to compare poverty and gender inequality across countries, and six were developed—typically by government or academic institutions—to assess poverty, deprivation, hardship, or social vulnerability across jurisdictions within a country (e.g., New Zealand, United Kingdom, United States). One was developed as part of a health services research project.

Four of the six livability rankings and indices were developed as summary measures for ranking the livability of geographic entities—usually cities or towns—but, in contrast to other indicator systems, three of these indices were developed by media or for-profit groups.<sup>11</sup> Community Vision Metrics, one of the two remaining indices in the livability category, was developed as an offshoot of the Partnership for Sustainable Communities, which was formed in 2009 by the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation, and the U.S. Environmental Protection Agency. The final index in the livability category, the Healthy Communities Index, was designed to be part of a community assessment tool and is in the final stages of development and testing by HUD's Healthy Communities Transformation Initiative.

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<sup>7</sup> Community Indicators Consortium. About the Community Indicators Consortium [Internet]. Available at: <http://communityindicators.net/about>.

<sup>8</sup> National Neighborhood Indicators Partnership [Internet]. Available at: [www.neighborhoodindicators.org/](http://www.neighborhoodindicators.org/)

<sup>9</sup> Smith, L. M., Case, J. L., Smith, H. M., Harwell, L. C. and J. K. Summers. (2013). Relating ecosystem services to domains of human well-being: Foundation for a US index. *Ecological Indicators* 28: 79-90.

<sup>10</sup> National Neighborhood Indicators Partnership. Kingsley TG, editor. Building and Operating Neighborhood Indicator Systems: A Guidebook. Washington, DC: The Urban Institute; 1999, page 6.

<sup>11</sup> The three livability indices developed by media or for-profit groups are America's 50 Best Cities to Live, Best Places to Live 2015, and Top 100 Best Places to Live 2015.

Another attribute that distinguishes the indicator systems, indices, and rankings is the extent to which their development was informed principally by “experts,” or by members of the public and community groups. Many of the community and neighborhood indicator systems, the AARP’s Livability Index, and Gallup-Healthways Well-Being Index included significant community involvement or input in the development of at least some aspect of the system or index. For example, the AARP Institute and Gallup used population surveys to assist in the selection of specific domains and indicators for their indices. In contrast, the development of many of the other indices and rankings was guided principally by academic, national, or international experts.

A third attribute that distinguishes the development of indicator systems, indices, and rankings is whether the intended use of individual indicators is to serve as components of a single, summary ranking or index, or to stand alone for either assessing particular aspects of a community’s well-being or for monitoring the performance of community programs. Examples of indicators serving as components of a ranking or index include OECD’s Better Life Index, UNDP’s Multidimensional Poverty Index, and AARP Institute’s Livability Index. Community and neighborhood indicator systems don’t typically generate an overall score or index, instead using their indicators for monitoring specific community conditions, quality of life, or progress on community goals; or for informing local decision-making and policies.

### *Terminology*

The terms used to designate the levels of each indicator system, index, or ranking are shown in italics at the top of each system’s list of indicators. The designation for these levels varies among the systems and indices, especially at levels above (i.e., less granular than) indicators and metrics/measures. In addition to *domain*—which is frequently used by well-being and deprivation indices—terms for the highest level of these systems include *topic*, *sector*, *dimension*, *category*, *element*, *theme*, *component*, *priority*, and *area*.<sup>12</sup>

At the more granular level, *indicator* is the most common term. It is sometimes used synonymously with *metric*, but more often an *indicator* is less specific than a *metric*. Metric is usually the full specification of what is measured, how it is measured, how the measure is expressed, and what data source is used for the metric. For example, an indicator might be “violent crime,” and its associated metric might be “the annual number of FBI UCR Part 1 crimes per 100,000 population.” In some indicator systems, a single indicator is associated with more than one metric. A specific indicator may also be used in more than one domain. For example, educational attainment (e.g., the percent of the population with a high school diploma) might be cited in the demographics, education, and economy domains.

### *Frequently Used Domain Names*

Appendix B.1 lists the domain names and their frequency of occurrence in the non-health sector indicator systems, indices, and rankings. The conceptual level of domains varies from global (e.g., societal, well-being elements) to specific (e.g., receipt of means-tested benefits, political and administrative boundaries), with most falling into a smaller number of topical categories that fall between the global and specific. The most frequently used domain names in the non-health sector indicator systems, indices, and rankings are listed below and in Appendix B.2:

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<sup>12</sup> In this report, we use *domain* to represent all of the terms used to designate high-level (i.e., broad) categories of indicators and measures.

- Amenities
- Arts & Culture
- Crime
- Demographics
- Economy
- Education
- Environment
- Health
- Housing
- Income
- Living standards
- Public Safety
- Safety and Security
- Social cohesion
- Technology
- Transportation
- Unemployment

Among these frequently used domain names, many names refer to similar content. For example, the *Crime*, *Public Safety*, and *Safety and Security* domains contain similar indicators, such as violent crime. Similarly, *Arts & Culture*, *Arts & Leisure*, *Cultural Life & the Arts*, and *Culture, Recreation & Tourism* refer to related, but not identical, content. A domain name in one indicator system or index may fall under a higher-level domain in another system or index. For example, income and unemployment are included under the economy domain in some systems rather than being listed as separate domains. Appendix C categorizes domain names identified by the environmental scan into 15 topical areas and poses issues concerning naming and categorization for each topical area.

**Summary Tables**

**Table 1. Domains of Selected Community and Neighborhood Indicator Systems**

Baltimore Indicator Alliance	Benton-Franklin Trends	Boston Indicators Project	Charlotte Regional Indicators	Cleveland Initiative
<ul style="list-style-type: none"> <li>• Census Demographics</li> <li>• Housing and Community Development</li> <li>• Children and Family Health</li> <li>• Crime and Safety</li> <li>• Workforce and Economic Development</li> <li>• Sustainability</li> <li>• Education and Youth</li> <li>• Arts and Culture</li> </ul>	<ul style="list-style-type: none"> <li>• People</li> <li>• Agriculture</li> <li>• Culture, Recreation &amp; Tourism</li> <li>• Economic Vitality</li> <li>• Education</li> <li>• Environmental Sustainability</li> <li>• Health</li> <li>• Housing</li> <li>• Public Safety</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Civic Vitality</li> <li>• Cultural Life &amp; the Arts</li> <li>• Economy</li> <li>• Education</li> <li>• Environment &amp; Energy</li> <li>• Health</li> <li>• Housing</li> <li>• Public Safety</li> <li>• Technology</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Arts, Recreation &amp; Cultural Life</li> <li>• Demographics</li> <li>• Economy</li> <li>• Education</li> <li>• Environment</li> <li>• Government &amp; Citizen Participation</li> <li>• Health</li> <li>• Housing</li> <li>• Public Safety</li> <li>• Social Well-Being</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Economic opportunity</li> <li>• Institutions and Services</li> <li>• Family, Child, and Youth Development</li> <li>• Safety and Security</li> <li>• Neighborhood Identity and Pride</li> </ul>

**Table 1. Domains of Selected Community and Neighborhood Indicator Systems (cont'd)**

Dakota County Indicators*	Data Drive Detroit	Indianapolis SAVI	New Orleans Data Center	SW Pennsylvania Profiles
<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Housing</li> <li>• Education</li> <li>• Health</li> <li>• Economy</li> <li>• Public Assistance</li> <li>• Crime</li> <li>• Cost of Government</li> <li>• Technology</li> </ul>	<ul style="list-style-type: none"> <li>• Amenities</li> <li>• Business &amp; Workforce</li> <li>• Civic Engagement</li> <li>• Demographic</li> <li>• Education</li> <li>• Environment</li> <li>• Health</li> <li>• Property &amp; Land Use</li> <li>• Public Safety</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Arts, Culture and Recreation</li> <li>• Demographics</li> <li>• Economy</li> <li>• Education</li> <li>• Environment</li> <li>• Health</li> <li>• Housing</li> <li>• Income</li> <li>• Political and Administrative Boundaries</li> <li>• Public Safety</li> <li>• Transportation and Mobility</li> </ul>	<ul style="list-style-type: none"> <li>• People &amp; Household Characteristics</li> <li>• Housing &amp; Housing Costs</li> <li>• Income &amp; Poverty</li> <li>• Transportation</li> <li>• Educational Attainment</li> <li>• Language</li> <li>• Employment</li> </ul>	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Arts, Culture</li> <li>• Civic Vitality &amp; Governance</li> <li>• Economy</li> <li>• Education</li> <li>• Environment</li> <li>• Health</li> <li>• Housing and Properties</li> <li>• Human Services</li> <li>• Public Safety</li> <li>• Transportation</li> </ul>

\* Dakota County’s indicators aren’t organized by high-level categories, such as demographics, housing, and public safety. Instead, the web site lists indicators with one or more associated metrics, usually displayed in a graph or table. For Table 1, Dr. Parrish grouped the Dakota County indicators into a more succinct list of categories. See the detailed Dakota County indicators entry for a complete list of the indicators used by the county.

**Table 2. Comparison of Domains of Selected Community and Neighborhood Indicator Systems**

Domain	Baltimore Indicator Alliance	Benton-Franklin Trends	Boston Indicators Project	Charlotte Regional Indicators	Cleveland Initiative
Arts & culture	✓	✓	✓	✓	
Civic vitality			✓	✓	✓
Democratic engagement		✓	✓	✓	✓
Demographics	✓	✓		✓	
Economy	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓
Environment	✓	✓	✓		
Health care		✓	✓	✓	
Health, Public	✓	✓	✓	✓	✓
Housing	✓	✓	✓	✓	✓
Land use & zoning	✓	✓	✓	✓	
Leisure		✓			✓
Living standards					
Safety & Security	✓	✓	✓	✓	✓
Social capital & cohesion					✓
Transportation	✓	✓	✓	✓	✓

**Table 2. Comparison of Domains of Selected Community and Neighborhood Indicator Systems (cont'd)**

Domain	Dakota County Indicators	Data Drive Detroit	Indianapolis SAVI	New Orleans Data Center	SW Pennsylvania Profiles
Arts & culture		✓			✓
Civic vitality					✓
Democratic engagement		✓			
Demographics	✓	✓	✓	✓	✓
Economy	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓
Environment		✓	✓		✓
Health care	✓	✓	✓		✓
Health, Public	✓		✓		✓
Housing	✓	✓	✓	✓	✓
Land use & zoning		✓	✓		
Leisure		✓			
Living standards					
Safety & Security	✓	✓	✓		✓
Social capital & cohesion					
Transportation		✓	✓	✓	✓

**Table 3. Domains of Selected Well-being Indices**

Better Life Index (OECD)	Canadian Index of Wellbeing	Gallup-Healthways Well-Being Index	Human Well-being Index (EPA)
<ul style="list-style-type: none"> <li>• Income and wealth</li> <li>• Jobs and earnings</li> <li>• Work-life balance</li> <li>• Housing</li> <li>• Environmental quality</li> <li>• Health status</li> <li>• Education and skills</li> <li>• Social connections</li> <li>• Civic engagement and governance</li> <li>• Personal security</li> <li>• Subjective well-being</li> </ul>	<ul style="list-style-type: none"> <li>• Community vitality</li> <li>• Democratic engagement</li> <li>• Education</li> <li>• Environment</li> <li>• Healthy populations</li> <li>• Leisure and culture</li> <li>• Living standards</li> <li>• Time use</li> </ul>	<ul style="list-style-type: none"> <li>• Purpose (Enjoy life)</li> <li>• Social (Good personal relationships)</li> <li>• Financial (Sufficient money)</li> <li>• Community (Like where you live)</li> <li>• Physical (Health)</li> </ul>	<p><i>Well-being elements</i></p> <ul style="list-style-type: none"> <li>• Environmental</li> <li>• Societal</li> <li>• Economic</li> </ul> <p><i>Domains of well-being</i></p> <ul style="list-style-type: none"> <li>• Connection to nature</li> <li>• Cultural fulfillment</li> <li>• Education</li> <li>• Health</li> <li>• Leisure time</li> <li>• Living standards</li> <li>• Safety and security</li> <li>• Social cohesion</li> </ul>

**Table 4. Comparison of Domains of Selected Well-being Indices**

Domain	Better Life Index (OECD)	Canadian Index of Wellbeing	Gallup-Healthways Well-Being Index	Human Well-being Index (EPA)
Arts & culture		✓		✓
Civic vitality		✓		
Democratic engagement	✓	✓		
Demographics				
Economy	✓	✓	✓	✓
Education	✓	✓		✓
Environment	✓	✓		✓
Health care		✓		✓
Health, Public	✓		✓	
Housing	✓			
Land use & zoning				
Leisure	✓	✓		✓
Living standards		✓		✓
Safety & Security	✓	✓		✓
Social capital & cohesion	✓	✓	✓	✓
Transportation				

**Table 5. Domains of Selected Poverty, Deprivation, and Inequality Indices**

Gender Inequality Index	Health Poverty Index	Human Development Index	Index of Multiple Deprivation	Intercity Hardship Index
<ul style="list-style-type: none"> <li>• Health</li> <li>• Empowerment</li> <li>• Labour market</li> </ul>	<ul style="list-style-type: none"> <li>• Regional prospects</li> <li>• Local conditions</li> <li>• Household conditions</li> <li>• Resourcing to support health</li> <li>• Healthy areas</li> <li>• Behaviours and environments</li> <li>• Resourcing for health &amp; social care</li> <li>• Appropriate care</li> <li>• Health status</li> </ul>	<ul style="list-style-type: none"> <li>• Long and healthy life</li> <li>• Knowledge</li> <li>• Decent standard of living</li> </ul>	<ul style="list-style-type: none"> <li>• Income Deprivation</li> <li>• Employment Deprivation</li> <li>• Education, Skills and Training Deprivation</li> <li>• Health Deprivation and Disability</li> <li>• Crime</li> <li>• Barriers to Housing and Services</li> <li>• Living Environment Deprivation</li> </ul>	<ul style="list-style-type: none"> <li>• Unemployment</li> <li>• Dependency</li> <li>• Education</li> <li>• Income Level</li> <li>• Crowded Housing</li> <li>• Poverty</li> </ul>

**Table 5. Domains of Selected Poverty, Deprivation, and Inequality Indices (cont'd)**

Multidimensional Poverty Index	New Zealand Deprivation Index	Social Deprivation Index	Social Vulnerability Index	United Kingdom Poverty Indicators
<ul style="list-style-type: none"> <li>• Health</li> <li>• Education</li> <li>• Standard of living</li> </ul>	<ul style="list-style-type: none"> <li>• Car and telephone access</li> <li>• Receipt of means-tested benefits</li> <li>• Unemployment</li> <li>• Household income</li> <li>• Sole parenting</li> <li>• Educational qualifications</li> <li>• Home ownership</li> <li>• Home living space</li> </ul>	<ul style="list-style-type: none"> <li>• Poor</li> <li>• Non-employed</li> <li>• Single parent</li> <li>• Black</li> <li>• High-need age group</li> <li>• &lt;12 years schooling</li> <li>• No car</li> <li>• Renter occupied</li> <li>• Crowding</li> </ul>	<ul style="list-style-type: none"> <li>• Socioeconomic Variables</li> <li>• Household Composition Variables</li> <li>• Minority Status/Language Variables</li> <li>• Housing/Transportation Variables</li> </ul>	<ul style="list-style-type: none"> <li>• Income</li> <li>• Work</li> <li>• Low pay</li> <li>• Education</li> <li>• Health</li> <li>• Housing</li> <li>• Services</li> <li>• Social cohesion</li> </ul>

**Table 6. Comparison of Domains of Selected Poverty, Deprivation, and Inequality Indices**

Domain	Gender Inequality Index	Health Poverty Index	Human Development Index	Index of Multiple Deprivation	Intercity Hardship Index
Arts & culture					
Civic vitality					
Democratic engagement	✓				
Demographics	✓				✓
Economy	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓
Environment		✓		✓	
Health care	✓	✓	✓	✓	
Health, Public		✓			
Housing		✓		✓	✓
Land use & zoning		✓		✓	
Leisure					
Living standards			✓		
Safety & Security				✓	
Social capital & cohesion		✓			
Transportation				✓	

**Table 6. Comparison of Domains of Selected Poverty, Deprivation, and Inequality Indices (cont'd)**

Domain	Multi-dimensional Poverty Index	New Zealand Deprivation Index	Social Deprivation Index	Social Vulnerability Index	United Kingdom Poverty Indicators
Arts & culture					
Civic vitality					
Democratic engagement					
Demographics		✓	✓	✓	✓
Economy		✓	✓	✓	✓
Education	✓	✓	✓	✓	✓
Environment					
Health care	✓				
Health, Public					✓
Housing		✓	✓	✓	✓
Land use & zoning					
Leisure					
Living standards	✓	✓			
Safety & Security					✓
Social capital & cohesion					✓
Transportation		✓	✓	✓	

**Table 7. Domains of Selected Livability Metrics, Indices, and Rankings**

America’s 50 Best Cities to Live	Best Places to Live 2015 (Money)	Community Vision Metrics	Healthy Communities Index	Livability Index (AARP)	Top 100 Best Places to Live
<ul style="list-style-type: none"> <li>• Crime</li> <li>• Demography</li> <li>• Economy</li> <li>• Education</li> <li>• Environment</li> <li>• Health</li> <li>• Housing</li> <li>• Infrastructure</li> <li>• Leisure</li> </ul>	<ul style="list-style-type: none"> <li>• Jobs</li> <li>• Economy</li> <li>• Housing</li> <li>• Education</li> <li>• Health</li> <li>• Crime</li> <li>• Arts and leisure</li> <li>• Ease of living</li> </ul>	<ul style="list-style-type: none"> <li>• Accessibility</li> <li>• Aesthetics and Sensory</li> <li>• Community Amenities</li> <li>• Community Engagement</li> <li>• Economic</li> <li>• Housing</li> <li>• Land Use</li> <li>• Mobility</li> <li>• Natural Resources</li> <li>• Public Health</li> <li>• Safety</li> <li>• Socio-Cultural</li> </ul>	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Economic Health</li> <li>• Educational Opportunities</li> <li>• Employment Opportunities</li> <li>• Environmental Hazards</li> <li>• Health Systems and Public Safety</li> <li>• Housing</li> <li>• Natural Areas</li> <li>• Neighborhood Characteristics</li> <li>• Social Cohesion</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Housing</li> <li>• Neighborhood: Access to life, work, and play</li> <li>• Transportation: Environment</li> <li>• Health</li> <li>• Engagement: Civic and social involvement</li> <li>• Opportunity: Inclusion and possibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Amenities</li> <li>• Demographics</li> <li>• Economy</li> <li>• Education</li> <li>• Health care</li> <li>• Housing</li> <li>• Social and civic capital</li> <li>• Transportation</li> </ul>

**Table 8. Comparison of Domains of Selected Livability Metrics, Indices, and Rankings**

Domain	America’s 50 Best Cities to Live	Best Places to Live 2015 (Money)	Community Vision Metrics	Healthy Communities Index	Livability Index (AARP)	Top 100 Best Places to Live
Arts & culture		✓	✓		✓	
Civic vitality			✓		✓	✓
Democratic engagement			✓	✓	✓	✓
Demographics	✓	✓		✓	✓	✓
Economy	✓	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓	✓
Environment	✓		✓	✓	✓	✓
Health care	✓	✓	✓		✓	✓
Health, Public				✓		
Housing	✓	✓	✓	✓	✓	✓
Land use & zoning			✓	✓	✓	
Leisure	✓	✓				✓
Living standards						
Safety & Security	✓	✓	✓	✓	✓	✓
Social capital & cohesion			✓	✓	✓	✓
Transportation	✓	✓	✓	✓	✓	✓

**Table 9. Domains of Selected Health Sector Indicator Systems, Rankings, and Indices**

America's Children: Key National Indicators of Well-Being	America's Health Rankings	Community Health Needs Assessment	Community Health Status Indicators	County Health Rankings
<ul style="list-style-type: none"> <li>• Family and Social Environment</li> <li>• Economic Circumstances</li> <li>• Health Care</li> <li>• Physical Environment and Safety</li> <li>• Behavior</li> <li>• Education</li> <li>• Health</li> </ul>	<ul style="list-style-type: none"> <li>• Behaviors</li> <li>• Community &amp; Environment</li> <li>• Policy</li> <li>• Clinical Care</li> <li>• Outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Social &amp; Economic Factors</li> <li>• Physical Environment</li> <li>• Clinical Care</li> <li>• Health Behaviors</li> <li>• Health Outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Mortality</li> <li>• Morbidity</li> <li>• Access to Health Care</li> <li>• Health Behaviors</li> <li>• Social Factors</li> <li>• Physical Environment</li> </ul>	<ul style="list-style-type: none"> <li>• Health Outcomes</li> <li>• Health Behaviors</li> <li>• Clinical Care</li> <li>• Social &amp; Economic Factors</li> <li>• Physical Environment</li> </ul>

**Table 9. Domains of Selected Health Sector Indicator Systems, Rankings, and Indices (cont'd)**

Measures of Community Health (Koo)	National Prevention Strategy	Older Americans: Key Indicators of Well-Being	Proposed Community Health Profile	San Francisco Indicator Project
<ul style="list-style-type: none"> <li>• Life expectancy</li> <li>• Well-being</li> <li>• Obesity and relevant behaviors</li> <li>• Tobacco</li> <li>• Substance abuse (alcohol/drug)</li> <li>• Air quality</li> <li>• Education</li> <li>• Poverty</li> <li>• Housing</li> <li>• Safety</li> <li>• Access to care</li> <li>• Preventable hospitalizations</li> </ul>	<ul style="list-style-type: none"> <li>• Leading Causes of Death</li> <li>• Healthy and Safe Community Environments</li> <li>• Clinical and Community Preventive Services</li> <li>• Empowered People</li> <li>• Elimination of Health Disparities</li> <li>• Tobacco Free Living</li> <li>• Preventing Drug Abuse and Excessive Alcohol Use</li> <li>• Healthy Eating</li> <li>• Active Living</li> <li>• Injury and Violence Free Living</li> <li>• Reproductive and Sexual Health</li> <li>• Mental and Emotional Well-Being</li> </ul>	<ul style="list-style-type: none"> <li>• Population</li> <li>• Economics</li> <li>• Health Status</li> <li>• Health Risks and Behaviors</li> <li>• Health Care</li> </ul>	<ul style="list-style-type: none"> <li>• Sociodemographic Characteristics</li> <li>• Health Status</li> <li>• Health Risk Factors</li> <li>• Health Care Resource Consumption</li> <li>• Functional Status</li> <li>• Quality of Life</li> </ul>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Transportation</li> <li>• Community Public Realm</li> <li>• Education</li> <li>• Housing</li> <li>• Economy</li> <li>• Health Systems</li> <li>• Demographic</li> </ul>

**Table 9. Domains of Selected Health Sector Indicator Systems, Rankings, and Indices (cont'd)**

Virginia Health Opportunity Index	Vision to Action: A Framework for Culture of Health	Vital Signs: Core metrics for health
<ul style="list-style-type: none"> <li>• Community Environment</li> <li>• Consumer Opportunity</li> <li>• Economic Opportunity</li> <li>• Wellness Disparity</li> </ul>	<ul style="list-style-type: none"> <li>• Mindset and Expectations</li> <li>• Sense of Community</li> <li>• Civic Engagement</li> <li>• Number and Quality of Partnerships</li> <li>• Investment in Cross-Sector Collaboration</li> <li>• Policies that Support Collaboration</li> <li>• Built Environment/Physical Conditions</li> <li>• Social and Economic Environment</li> <li>• Policy and Governance</li> <li>• Access to health services</li> <li>• Consumer Experience and Quality</li> <li>• Balance and Integration</li> <li>• Enhanced Individual and Community Well-Being</li> <li>• Managed Chronic Disease and Reduced Toxic Stress</li> <li>• Reduced Health Care Costs</li> </ul>	<ul style="list-style-type: none"> <li>• Life expectancy</li> <li>• Well-being</li> <li>• Overweight and obesity</li> <li>• Addictive behavior</li> <li>• Unintended pregnancy</li> <li>• Healthy communities</li> <li>• Preventive services</li> <li>• Care access</li> <li>• Patient safety</li> <li>• Evidence-based care</li> <li>• Care match with patient goals</li> <li>• Personal spending burden</li> <li>• Population spending burden</li> <li>• Individual engagement</li> <li>• Community engagement</li> </ul>

**Table 10. Comparison of Domains of Selected Health Sector Indicator Systems, Rankings, and Indices**

Domain	America's Children: Key National Indicators of Well-Being	America's Health Rankings	Community Health Needs Assessment	Community Health Status Indicators	County Health Rankings
Arts & culture					
Civic vitality					
Democratic engagement					
Demographics			✓	✓	
Economy	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓
Environment	✓	✓	✓	✓	✓
Health care	✓	✓	✓	✓	✓
Public Health	✓	✓	✓	✓	✓
Housing	✓		✓	✓	✓
Land use & zoning			✓	✓	
Leisure			✓	✓	✓
Living standards					
Safety & Security	✓	✓	✓	✓	✓
Social capital & cohesion				✓	✓
Transportation					✓

**Table 10. Comparison of Domains of Selected Health Sector Indicator Systems, Rankings, and Indices (cont'd)**

Domain	Measures of Community Health (Koo)	National Prevention Strategy	Older Americans: Key Indicators of Well-Being	Proposed Community Health Profile	San Francisco Indicator Project
Arts & culture					✓
Civic vitality					✓
Democratic engagement					✓
Demographics			✓	✓	✓
Economy	✓		✓	✓	✓
Education	✓		✓	✓	✓
Environment	✓	✓	✓	✓	✓
Health care	✓	✓	✓	✓	✓
Public Health	✓	✓	✓	✓	✓
Housing	✓		✓		✓
Land use & zoning					✓
Leisure	✓	✓			
Living standards					✓
Safety & Security	✓	✓		✓	✓
Social capital & cohesion	✓	✓			✓
Transportation	✓	✓			✓

**Table 10. Comparison of Domains of Selected Health Sector Indicator Systems, Rankings, and Indices (cont'd)**

Domain	Virginia Health Opportunity Index	Vision to Action	Vital Signs: Core metrics for health
Arts & culture			
Civic vitality		✓	
Democratic engagement		✓	
Demographics	✓		
Economy	✓		✓
Education	✓	✓	
Environment	✓	✓	✓
Health care	✓	✓	✓
Public Health		✓	✓
Housing	✓	✓	
Land use & zoning	✓		
Leisure			✓
Living standards			
Safety & Security		✓	✓
Social capital & cohesion	✓	✓	
Social services			
Transportation	✓		

## Community and Neighborhood Indicator Systems

### Baltimore Neighborhood Indicators Alliance

Overview: “Our goal: To strengthen Baltimore neighborhoods by providing meaningful, accurate, and open data at the community level. BNIA-JFI is dedicated to producing reliable and actionable quality of life indicators for Baltimore’s neighborhoods. Vital Signs provides indicators that ‘take the pulse’ of Baltimore neighborhoods by measuring progress towards a better quality of life for all residents.”

#### *Topic*<sup>13</sup>

- *Indicator (example)*<sup>14</sup>

#### Census Demographics

- Average Household Size
- Percent of Children Living Below the Poverty Line
- Racial Diversity Index

#### Housing and Community Development

- Affordability Index - Mortgage
- Median Price of Homes Sold
- Percentage of Housing Units that are Owner-Occupied
- Percentage of Residential Properties with Housing Violations (Excluding Vacants)

#### Children and Family Health

- Average Healthy Food Availability Index
- Infant Mortality
- Life Expectancy
- Liquor Outlet density (per 1,000 Residents)
- Percent of Families Receiving TANF
- Teen Pregnancy Rate per 1,000 Females (aged 15-19)

#### Crime and Safety

- Domestic Violence Calls For Service per 1,000 Residents
- Juvenile Arrest Rate for Violent Offenses per 1,000 Juveniles
- Number of Automobile Accident Calls for Service per 1,000 Residents
- Number of Gun-Related Homicides per 1,000 Residents
- Property Crime Rate per 1,000 Residents

#### Workforce and Economic Development

- Neighborhood Businesses per 1,000 residents (NAICS Sectors)
- Percent Population (25 years and over) With High School Diploma
- Percent Population 16-64 Not in Labor Force
- Percent of Businesses that are 2 years old or less
- Total Number of Commercial Properties
- Unemployment Rate

<sup>13</sup> The terms used for the higher and lower levels of each indicator system, index, or ranking are shown in italics at the top of each system’s list of indicators. The designation for these levels varies among the systems and indices, especially at levels above (i.e., less granular than) indicators and metrics/measures. In some systems, no specific term was used as the designation for one or more levels; in this situation “category” was used for the higher level and “indicator” for the lower level.

<sup>14</sup> The list of indicators for eight of the community and neighborhood indicator systems (e.g., Boston Indicator Project and Data Drive Detroit) and the U.S. Department of Transportation’s Community Vision Metrics consists of examples of indicators rather than a complete listing, which is indicator by “(example)” in parentheses following “indicator.” The decision to list only examples for these systems was based on the number of indicators and the difficulty of extracting indicators from the indicator system. A complete list of the indicators used in these systems can be viewed at the source listed for each indicator system.

Sustainability

- Median Daily Water Consumption
- Percent of Area Covered by Trees
- Percent of Employed Population with Travel Time to Work of 45 Minutes and Over
- Percent of Population that Carpool to Work
- Percent of Population Using Other Means to Commute to Work (Taxi, Motorcycle, Bicycle, Other)
- Rate of Clogged Storm Drain Reports per 1,000 Residents

Education and Youth

- High School Completion Rate
- Number of Students Ever Attended 6th - 8th Grade
- Number of Students Officially Enrolled in 9th - 12th Grade
- Percent of Students Switching Schools within School Year
- Percentage of 3rd Grade Students Passing MSA Math
- Percentage of 8th Grade Students Passing MSA Math
- Percentage of Students Passing H.S.A. Algebra
- Percentage of Students Receiving Free or Reduced Meals

Arts and Culture

- Number of Businesses that are Arts-Related per 1,000 residents
- Number of Persons with Library Cards per 1,000 Residents

Source: BNIA Baltimore Neighborhood Indicators Alliance. Who We Are: Vital Signs 13 [Internet]. Available at: <http://bniajfi.org/>

**Benton-Franklin Trends (Tri-Cities WA)**

Overview: “The Trends of Benton and Franklin Counties, in south central Washington; are presented by a coalition of interested parties. The steering committee included the following organizations: Benton Franklin Health District, Pacific Northwest National Laboratory, Port of Benton, the Three Rivers Community Foundation, and the Tri-City Herald. The information contained among these many indicators offers residents and visitors alike a comprehensive view of our community.

Our specific **goals** are to:

- Inform, based on the best-available data
- Measure progress
- Focus community attention on key issues
- Ultimately, inspire broadly shared action

Our process has been deliberative and inclusive. To arrive at the current set of indicators, we engaged focus groups around eight of the ten categories on the site. This involved nearly 150 community leaders and subject experts. Their votes determined the choices of indicators you see in each category.”

*Category*

- *Sub-category*
  - Indicator

People

- Population & Age
  - Total Population & Annual Growth Rate
  - Veteran Population
  - Median Age of the Population
  - Share of Population by Age Groups
- In The Home
  - Average Household Size

- Share of Households with Internet
- Share of Internet Connection by Type
- Single Parent Families
- Migration & Immigration
  - Residual Net Migration
  - Foreign Born Population
  - Non-White Population by Race
  - Non-White Population as a Share of Total
  - Non-English Speaking Population
- Civic Involvement
  - Voter Participation Rates
  - Registered Voters

#### Agriculture

- Value of Production
  - Value of Top 5 High Value Crops
  - Total Market Value of Crops
  - Average Cash Rent
  - Total Hay Production
  - Total Potato Production and Value
  - Wine Production
  - Net Farm Income
  - Total Acres and Value of Fruit
  - Total Value & Acres of Alfalfa Production
- Land & Labor
  - Average Number of Acres Per Farm
  - Share of Farmland that is Irrigated
  - Food Manufacturing
  - Total Land in Farms
  - Irrigated and Dryland Farms

#### Culture, Recreation & Tourism

- Tourism
  - Direct Travel & Tourism Spending
  - Hotel Occupancy Rates
  - Lodging Tax Redistributions
  - Wineries and Growth Rates
- Arts & Culture
  - Art-Related Businesses
  - Creative Vitality Index
  - Museum Attendance
  - Library Card Holders & Circulation
- Outdoor Recreation
  - Local Government Funding for Parks
  - Local Government Funding for Parks
  - Acres of Park Land
  - Visitor Counts at Badger Mountain
  - Miles of Bike Paths

#### Economic Vitality

- Income
  - Per Capita Personal Income
  - Median Household Income
  - Overall Average Annual Wage
- Economic Activity
  - Annual Taxable Retail Sales
  - Quarterly Taxable Retail Sales
  - Retail Sales per Capita

- Metro GDP and GDP Per Capita
- Metro GDP by Major Sector
- Total Value of Exports
- Net Firms Created
- Patents per 100,000 Residents
- Metro Area Regional Price Parity
- Labor Force
  - Civilian Labor Force Participation Rate
  - Unemployment Rate
  - Net Jobs Created
  - Share of Employment in Largest Sectors
  - Jobs by Educational Attainment
  - Employment by Firm Size
- Real Estate
  - Assessed Value of Total Taxable Property
  - Non-Residential Property Tax Roll
  - Property Tax Roll
  - Assessed Value of New Construction
  - Total Value of Building Permits
- Poverty
  - Population in Poverty
  - Children Receiving TANF Benefits

**Education**

- Early Learning
  - Total and Share of ECEAP Enrollment
  - Kindergartener Readiness
- K-12
  - Number of FTE Students per FTE Teachers
  - Core Classes Taught by High Quality Teachers
  - Share of Students that are ELL
  - Public HS On-Time Graduation Rates
  - Public High School Extended Graduation Rate
  - Public HS Extended Graduation Rates ELL
  - Dropouts in 11th and 12th Grades
  - Dual Credit Enrollment
  - Tech Prep Dual Credit Enrollment
  - Share of Students Qualifying for Free Lunch
  - Expenditures per Full Time Student
  - Levy Revenue per FTE Pupil and Share of TPI
- K-12 State Testing
  - Share of Students Meeting Math Standards
  - Share of Students Meeting Writing Standards
  - Students Meeting Science Standards
  - Share of Students Meeting Reading Standards
  - ELL Students Meeting WA Reading Standards
- Higher Education
  - Post High School Higher Education Attendance
  - Total Degrees Awarded
  - Two-Year STEM Degrees Awarded
- Educational Attainment
  - Population With a High School Diploma
  - Population with an Associate's Degree
  - Population with a BA or Graduate Degree

**Environmental Sustainability**

- Air & Water Quality

- Overall Water Quality Index
- Turbidity Water Quality Index (100 is best)
- PM 2.5 Concentration (24hr Annual Average)
- Air Quality Days
- Public Works & Land Use
  - Municipal Solid Waste Per Capita
  - Share of Recycled Solid Waste
  - Average Daily Water Consumption by City
  - Water Production and System Leakage
  - Population per Square Mile, by City
- Energy
  - Annual Electricity Consumption
  - Share of Electricity Production by Type
  - Per Capita, Daily Energy Cost
- Local Wildlife
  - Christmas Bird Count
  - Salmon Counts: McNary Dam
  - Salmon Counts: Ice Harbor Dam
  - Salmon Counts: Prosser Dam

## Health

- Vital Statistics
  - Years of Life Expected After Age 20
  - Hospitalizations by Leading Causes
  - Hospital Readmissions
  - Cancer Diagnoses by Type
  - Mental Health Detainments
  - Food Insecurity
  - Deaths by Leading Causes
- Youth Rates
  - Overweight & Obesity Rates
  - Teen Birth Rate
  - Causes of Infant Deaths
  - Youth Suicide Rates
  - Youth Tobacco Use
- Adult Rates
  - Obesity Rates
  - Adult Diabetes Rates
  - Adult Smokers
- Access to Care
  - Adults with a Personal Healthcare Provider
  - Adults Visiting Dentists
  - Dentists Billing Medicaid
  - Uninsured Population
  - Uninsured Population by Age Group
  - Medicaid Insured Persons
  - Prenatal Care
- Funding & Resources
  - Funding for Public Health
  - Funding for Mental Health
  - Hospital Charity Care

## Housing

- Owner Occupied
  - Home Ownership
  - Homeownership by Income
  - Homeowners Paying 30% or More on Housing

- Households between 30% and 60% of AMI
- Renting Households
  - Apartment Vacancy Rate and Rent 1 Bedroom
  - Apartment Vacancy Rate and Rent 2 Bedroom
  - Renters Paying 30% or More for Rent
  - Renters Paying 50% of Income for Rent
  - Fair Market Rent, One and Two Bedroom
- Housing Market
  - Housing Affordability Index, New Buyers
  - Housing Affordability Index All Buyers
  - Median Home Price
  - Housing Supply by Price Level
- Homelessness
  - One-Day Homeless Count
  - Homeless Student Population

#### Public Safety

- Crime & Arrest Rates
  - Overall Adult Arrest Rate
  - Overall Property Crime Rates
  - Overall Violent Crime Rate
  - Violent Crimes w/ a Firearm
  - Gun Crimes Per 10,000 Residents
  - Adult Drug Crime Arrest Rate
  - Alcohol Related Traffic Fatalities
  - Domestic Violence Offense Rate
  - Child Abuse/Neglect Rate
  - Sexual Assault Rate
  - Sex Offender Rates
  - Convictions as a Share of Cases
  - Recidivism Rates
  - Fire/EMS Incidents Per 1,000 Res.
- Youth Rates
  - Overall Youth Arrest Rate
  - Arrests for Drug Crimes
  - Arrests by Race
  - Weapon Incidents at School
  - Youths in Gangs
- Resources
  - Law Enforcement Officers per 1,000 Residents
  - Law Enforcement Expenditures
  - Fire Prevention and EMS Expenditures

#### Transportation

- Commuting Patterns
  - Average Time of Commute
  - Alternative Commuter Transportation
- Public Transit
  - Ben Franklin Transit Ridership
  - Benton Franklin Transit - Vanpool Ridership
  - People to People Ridership
- Airport Activities
  - Pasco Airport Passenger Trips
  - Pasco Airport Cargo
- Funding & Resources
  - Public Funding for Ben Franklin Transit
  - Public Expenditures On Roads

Source: Tri-Cities Washington. Benton-Franklin Trends: All Indicators at a Glance [Internet]. Available at: <http://www.bentonfranklintrends.ewu.edu/aToZ.cfm>

### **Boston Indicators Project**

Overview: “The Boston Indicators Project is an online data portal that features indicators, visualizations, and analysis about Boston and its region. The Boston Indicators Project’s website is organized by 10 primary Sectors and 6 Cross-Cutting Topics. It includes 70 broad goals, 150 detailed indicators and roughly 350 affiliated measures designed to highlight conditions and trends in Boston, its neighborhoods and region as well as outcomes for specific groups.”<sup>15</sup>

“The Boston Foundation coordinates the Boston Indicators Project in partnership with the City of Boston and the Metropolitan Area Planning Council. The Project relies on the expertise of hundreds of stakeholders gathered in multiple convenings to frame its conclusions, and draws data from the wealth of information and research generated by the region’s excellent public agencies, civic institutions, think tanks, and community based organizations. The Boston Foundation will release a biennial report, with supplemental updates and outreach, through the year 2030, Boston’s 400th anniversary.”<sup>16</sup>

#### *Sector*

- *Indicator (example)*

#### Civic Vitality

- Racial and ethnic diversity
- Trust in neighbors
- Corporate leadership diversity
- Registered voters and participation rates
- Reported hate crime by type
- People living at same address
- Linguistic isolation and multilingual access
- Library books in circulation
- Non-profits by budget and type
- Strength of philanthropic sector

#### Cultural Life & the Arts

- Economic impact of creative cluster industries
- Impact on tourist industry
- Distribution of arts organization in relation to child population
- Diversity of arts organization by neighborhood
- Demographically representative leadership of arts organizations
- Teachers dedicated to the arts in public schools
- Designated funding for the arts

#### Economy

- Educational attainment of population
- Employment by industry sector
- Gini index of income inequality
- Job training and adult wait lists
- Community college tuition as a percent of household income

<sup>15</sup> MetroBoston DataCommon. The Boston Indicators Project: Measuring what we value [Internet]. Available at: <http://metroboston.datacommon.org/>.

<sup>16</sup> National Neighborhood Indicators Partnership. Boston: The Boston Indicators Project at The Boston Foundation [Internet]. Washington, DC: The Urban Institute. Available at: <http://www.neighborhoodindicators.org/partner/110>.

- Total revenue and expenditures, Boston and MA

#### Education

- Educational attainment
- Access to high quality early education
- Boston schools by type (public, private, charter)
- Access to physical activities and healthy food
- Highly qualified and subject matter licensed teachers
- Out of school time recreation opportunities
- First grade reading benchmark
- AP and SAT scores
- Funding for early education and care

#### Environment & Energy

- Greenhouse gas emissions
- Ecological footprint per capita consumption of global resources
- Public health stresses on children
- Trends in climate change, Boston and MA
- Smart growth measured by trends in development
- Changes in air quality level of particulates
- Swimmable days and violations of safe swimming standards
- Acres of protected and restored urban wilds and natural areas
- Green space distribution
- Tree cover and number of bulbs and flowers planted
- Funding for the environment and open space

#### Health

- Obesity rates
- Access to healthy foods and exercise
- Low birth weight by race/ethnicity
- Maternal health: adequate prenatal care
- Consumption of fruits and vegetables
- Asthma diagnosis
- Level of spending on public health

#### Housing

- Case Schiller home price index
- Median home price
- Distribution of affordable housing
- Access to housing by race and ethnicity
- Change in number of households
- Adequate housing production
- Homelessness prevention
- Ownership rates
- Trends in public funding for housing

#### Public Safety

- Part 1 crime
- Trends in types of crimes
- Resident public perception of safety
- Residents who trust their neighbors
- Juvenile crime rates
- Trends in funding for police department

#### Technology

- Research, development, and venture capital funding
- STEM doctorate degrees awarded
- In-home access to computers and the internet
- Use of technology for teaching and learning in public schools

#### Transportation

- Airport flight, passenger, and shipping traffic
- Public transit routes and stops
- % commuters who bike or walk to work
- Car ownership and vehicle miles traveled
- Transportation funding by mode

Source: The Boston Foundation. The Boston Indicators Project: Measuring what we value [Internet]. Available at: <http://www.bostonindicators.org/indicators>.

### Charlotte Regional Indicators

Overview: “Welcome to the UNC Charlotte Urban Institute's data portal. See below to explore facts about the Charlotte region from among 11 topic areas, compare your county to the metro region and the state, and explore in-depth data from our partner organizations.”

#### Topic

- *Indicator (example)*

#### Arts, Recreation & Cultural Life

- Contributions (\$) per capita to arts, culture, and humanities public charities
- Contributions (\$) per capita to arts, culture, and humanities public charities in Charlotte Region
- Percent of population employed in Arts, Entertainment, and Recreation
- Percent of business establishments in Arts, Entertainment, and Recreation

#### Demographics

- Total population
- Percent of Population by Age and Gender
- Percent of Population by Race & Ethnicity
- Place of Birth
- Percent of Population by Place of Birth

#### Economy

- Unemployment Rate
- Percent of Total Employment by Industry
- Percent of Total Business Establishments by Industry
- Median Household Income (\$)
- Per Capita Income (\$)

#### Education

- Percent of Population by Educational Attainment
- Public School Enrollment
- Public School Enrollment Growth
- Average SAT Scores
- At or Above Grade Level in Reading in 3rd Grade
- At or Above Grade Level in Math in 3rd Grade
- 4-Year Cohort Graduation Rate
- Percent of High School Graduates by Intentions

#### Environment

- Developed Acres Per Capita

#### Government & Citizen Participation

- Percent of Registered Voters Who Voted
- Giving to Public Charities, Contributions per Capita (\$)
- Giving to Private Foundations, Contributions per Capita (\$)

#### Health

- Infant Mortality Rate

- Percent of Low Birth Weight Babies
- Total Deaths Per 100,000 People
- Suicide Deaths Per 100,000 People
- Chlamydia Cases Per 100,000 People
- HIV/AIDS Cases Per 100,000 People
- Percent of Total Population with Health Care Coverage

#### Housing

- Housing Units Per 1,000 People
- Median Age of Housing (In Years)

#### Public Safety

- Crimes per 10,000 People
- Property Crimes per 10,000 People
- Violent Crimes per 10,000 People
- Traffic Accidents Per 100M VMT
- Pedestrians in Traffic Accidents Per 100M VMT
- Cyclists in Traffic Accidents Per 100M VMT

#### Social Well-Being

- Percent of Individuals in Poverty
- Percent of Families in Poverty
- Percent of Children in Poverty
- Percent of Individuals 65 and Over in Poverty
- Number of Abused or Neglected Children Per 1,000 Children
- Births to Teens per 1,000 Teenage Girls

#### Transportation

- Percent of Commuters by Commuting Means
- Percent of Commuters by Commute Times

Source: UNC Charlotte Urban Institute, Division of Academic Affairs. Regional data [Internet]. Available at: <http://ui.uncc.edu/data>

### **Cleveland Community Building Initiative**

Overview: This list of domains, benchmarks, and measures was taken from the book listed under “Source” at the end of the list. “[The list] was prepared by neighborhood groups participating in the Cleveland Community Building Initiative in a process facilitated by NNIP’s Cleveland partner (Milligan, Nario-Redmond, and Coulton 1997). This list highlights an important issue in this field at this point. It identifies 110 individual indicators the group would like to monitor. Indicators are grouped under five major goal-oriented domains: economic opportunity, institutions and services, family and youth development, safety and security, and neighborhood identity and pride. Overall, this listing would be a good model as a starting point for indicator selection elsewhere.

The problem is that only about half of the indicators on this list can be derived from existing data sources (census and local administrative files). If they are to be monitored, the rest will require special surveys, which are always expensive. Clearly, even with the advances noted earlier, many of the possible indicators that are likely to interest local stakeholders cannot as yet be incorporated at low cost.”

#### *Domains*<sup>17</sup>

<sup>17</sup> All “goal-oriented domains” (e.g., Economic opportunity) and “benchmarks” (e.g., Household income) are listed; but only one specific measure is listed for each domain/benchmark (e.g., Families below poverty line, Median household income).

- *Benchmarks*
  - *Measures (one example per benchmark)*

**Economic opportunity**

- Household income
  - Median household income
- Household assets
  - Median housing values
- Resident employment
  - Unemployment rate
- Job accessibility
  - Number of jobs within average commute times by skill level and quality
- Neighborhood business activity
  - Jobs in neighborhood by industry
- Access to capital
  - Types of amounts of mortgage lending
- Supports for human capital
  - Numbers and types of job training programs

**Institutions and Services**

- Quality of services and institutions
  - Accessibility of transportation, counseling/family support, education, police, fire, etc.
- Influence over service agencies and local institutions
  - Resident participation on governance and advisory bodies
- Support for local services and institutions
  - Volunteer involvement in local institutions and service agencies

**Family, Child, and Youth Development**

- Mobility of families and children
  - Turnover in schools
- Participation in cultural and recreational resources
  - Number of slots in recreations programs by age
- Need for child welfare intervention
  - Substantiated child maltreatment reports per 1,000 children
- Maternal and child health
  - Low birth-weight births per 1,000 births
- Youth achievement
  - High school graduation rate
- School performance
  - Percent of children who are in the age-appropriate grade
- Adult-child involvement
  - Parent involvement in monitoring their children's behavior

**Safety and Security**

- Violent crime
  - Rate of violent incidents reported to police per 1,000 population
- Domestic violence
  - Number of calls for domestic disputes
- Property crime
  - Rate of incidents of property crimes per 1,000 residents
- Juvenile crime
  - Rate of delinquency filings per 1,000 population ages 10-18
- Gang activity
  - Residents' perceptions of gang activity
- Safe space
  - Parks, school yards, and other public spaces that are crime free
- Community security programs/activities
  - Proportion of streets with active block watch or clubs

### Neighborhood Identity and Pride

- Name and boundary identity
  - Signs and demarcations
- Physical appearance
  - Physical condition of housing
- Civic involvement
  - Residents' participation in neighborhood affairs
- Neighborhood networks
  - Density of neighborhood acquaintanceships
- Capacity for collective action
  - Perceived effectiveness of neighborhood leadership
- Strong community traditions
  - Participation in regular and special neighborhood events

Source: National Neighborhood Indicators Partnership. Kingsley TG, editor. Building and Operating Neighborhood Indicator Systems: A Guidebook. Washington, DC: The Urban Institute; 1999, pages 51–55. Available at: <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/409297-Building-and-Operating-Neighborhood-Indicator-Systems.PDF>

### Dakota County, Minnesota Community Indicators

Overview: “The Office of Performance & Analysis tracks community indicators to provide Dakota County’s leaders with timely, accurate, and objective information to better form policy decisions. Demographic information about the County is updated via sources such as MN Compass, American Community Survey, Metropolitan Council, Minnesota Environment and Energy Report and Minnesota Department of Employment and Economic Development.”

#### *Indicator*<sup>18</sup>

- *Metric (example)*

#### Population

- Population change in Dakota County’s major cities

#### Age

- Population by age and gender

#### Racial/Ethnic Diversity

- Projected growth of diverse population

#### Household Type

- Households by type

#### Assessed Value/Median Sales Prices

- Median assessed value of residential property
- Median sales price of residential property

#### Foreclosures

- Notices of pendency and foreclosures

#### Cost Burden

- Cost burdened households

#### Housing Gap

- Home ownership

#### Rental Vacancy

<sup>18</sup> Dakota County’s indicators aren’t organized by high-level categories, such as demographics, housing, and public safety. Instead, the web site lists indicators with one or more associated metrics, usually displayed in a graph or table.

- Vacancy rate
- Average Rent by City
  - Average 2-bedroom rent
- Educational Attainment
  - Educational attainment of adults 25 and older
- Student Assessment Tests
  - Third grade reading scores
  - Eighth grade math scores
- Student Diversity
  - % Non-white students
- Access to Health Care
  - Health insurance rate of persons under 65
- Chronic Disease
  - Mortality rates
  - # deaths by cause
- Child Maltreatment
  - Child maltreatment outcomes by type
- Unemployment
  - Unemployment rate
- Jobs & Establishments
  - Number of jobs (all industries)
  - Change in number of jobs by industry
  - Change in business establishments by industry
- Median Household Income
  - Median household income
- Poverty
  - Individual poverty rate
  - Household poverty rate
- Public Assistance
  - Public assistance average monthly caseloads (medical assistance, food support, cash assistance)
- Crime Rates
  - Crimes rates (Part I and Part II)
- Vehicle Crashes
  - Fatal crashes per 100,000 population
- Price of Government
  - County levy as percent of total person income
- Internet Access
  - Broadband internet subscriptions by household income level

Source: Dakota County. Management Analysis: Community Indicators [Internet]. Available at: <https://www.co.dakota.mn.us/Government/Analysis/Demographics/Pages/default.aspx>. Last updated: 2015 Dec 30.

### **Data Drive Detroit**

Overview: “Data Driven Detroit (D3) provides accessible, high-quality information and analysis to drive informed decision-making. Our vision is that essential and unbiased information is used by all.”

*Category*

- *Indicator (example)*

Amenities

- Public libraries
- Fire stations
- Churches
- Bike lanes
- Hospitals
- Downtown trash receptacles
- Parks and landmarks
- Grocery stores
- Child care locations

Business & Workforce

- Employment and Labor Force
- Bus stops & routes

Civic Engagement

- City council districts
- Congressional districts

Demographic

- Income to poverty ratio
- Poverty
- Families with children in poverty
- Education by race
- Median household income
- Public assistance

Education

- Education by race
- Schools with average commute
- Child care locations
- Schools
- Colleges & universities

Environment

- Demolition activity
- Brownfields
- Waste water discharge event

Health

- Hospitals
- Recreation centers
- Waste water discharge event

Property & Land Use

- Property sales
- Vacant structures
- Tax foreclosures
- Vacancy index
- Parks and landmarks
- Housing tenure
- Grocery stores: full line
- Subsidized housing

Public Safety

- Police stations
- Fire stations

Transportation

- Bus routes and stops
- Bike lanes
- Downtown parking lots

Source: Data Driven Detroit: Open Data. Welcome to the Data Driven Detroit Data Portal [Internet]. Available at: <http://portal.datadrivendetroit.org/>

### **Indianapolis SAVI**

Overview: “SAVI is a free resource that provides data about Central Indiana communities, tools to analyze and visualize the data, and training to build your capacity to use it effectively. ... SAVI is created and managed by The Polis Center, a center in the IU School of Liberal Arts at Indiana University-Purdue University Indianapolis, in partnership with the United Way of Central Indiana, as community trustee.”

#### *Category*

- *Indicator (example)*

#### Arts, Culture and Recreation

- Park acreage

#### Demographics

- Total Population
- Population Under Age 5
- Population Under Age 18
- Population Age 18 and Over
- Population Age 65 and Over
- Single Moms
- Single Dads

#### Economy

- Address vacancy statistics
- Businesses
- Commercial building permits
- Employment statistics

#### Education

- Population with no Diploma
- Pop with Bach Degree or More
- Attendance Rate
- Public School Graduation Rate
- High School Dropouts

#### Environment

- Air quality
- Emissions

#### Health

- All Live Births
- Births to Mothers Age 15 to 19
- Low Weight Births
- Births with no Prenatal Care
- All Deaths
- Life Expectancy at Birth
- Communicable disease
- Disabilities
- Health care
- Obesity

## Housing

- Median Assessed Value
- Total Housing Units
- Vacant Housing Units
- Owner Occupied Units
- Renter Occupied Units
- Mobile Homes
- Housing Units with no Vehicle Available
- Sub Prime Home Loan Originations
- Housing costs
- Subsidized housing

## Income

- Persons Living in Poverty
- Families Living in Poverty
- Median Family Income
- Median Household Income
- Households with TANF or SNAP
- Free/Reduced Lunch Students
- GINI Index of Income Inequality

## Political and Administrative Boundaries

- Land area

## Public Safety

- All Part 1 Crimes and Simple Assaults
- Violent Crimes
- Property Crimes
- Juvenile Offense Charges
- Juvenile Felony Charges

## Transportation and Mobility

- No vehicle available
- Transportation to work
- Median Year Householder Moved into Unit
- Population Living in Different House from one Year Ago

Source: SAVI [Internet]. Available at: <http://www.savi.org/>

**New Orleans The Data Center**

Overview: “The Data Center is the most trusted resource for data about Southeast Louisiana. Founded in 1997, we are fully independent and we are experts at bringing data together from multiple sources. ... The Data Center realizes its mission to build prosperous, inclusive, and sustainable communities by making informed decisions possible. ... We’ve got Census 2000 and 2010, American Community Survey 2010–2014, and 2013 Local Employment Dynamics data for each neighborhood statistical area — including housing and housing costs, income and poverty, transportation, educational attainment, language, employment, and more.”

*Category*

- *Indicator (example)*

## People &amp; Household Characteristics

- Population
- Gender distribution
- Age distribution

- Racial & ethnic distribution
- Total households
- Households by type
- Family households
- Children in households
- Elderly in households

#### Housing & Housing Costs

- Housing occupancy status (occupied vs. vacant)
- Rental housing occupancy (owner vs. renter)
- Mortgage status (owned vs. mortgage)
- Average rental cost
- Housing affordability by owner/renter status

#### Income & Poverty

- Household income by type and source
- Average household income
- Income distribution
- Population in poverty

#### Transportation

- Vehicles available
- Type of transportation for workers 16+
- Travel time to work for workers 16+

#### Educational Attainment

- Level of schooling for 18+

#### Language

- Language spoken at home & ability to speak English

#### Employment

- Workers living in neighborhood by wage level
- Workers living in neighborhood by industry sector

Source: The Data Center. Neighborhood Statistical Area Data Profiles [Internet]. Available at: <http://www.datacenterresearch.org/data-resources/neighborhood-data/>.

### **Southwestern Pennsylvania Community Profiles**

Overview: “In June of 2015, The Southwestern Pennsylvania Community Profiles was launched. This site (along with the Western Pennsylvania Regional Data Center) will take the place of Pittsburgh Neighborhood Community Information System (PNCIS). SWPA Profiles was created by the University of Pittsburgh Center for Social and Urban Research in partnership with the Allegheny County Department of Human Services. This tool was developed for residents, community organizations, elected officials, charitable foundations, students, academic researchers, and journalists as a resource to identify local needs, promote neighborhood investment and ultimately revitalize communities in the area.”

#### *Category*

- *Indicator (example)*

#### Demographics

- Population Counts
- Population by Age
- Population by Sex
- Population by Race
- Hispanic Or Latino Origin By Race

- Marital Status
- Population Types
- Household composition

Arts & Culture

- Arts Related Jobs

Civic Vitality and Governance (No data available)

Economy

- Family Income
- Poverty
- Poverty by age
- Public assistance households
- Unemployment
- Employment by Gender
- Total Jobs by Place of Residence
- Total Jobs by Place of Work

Education

- Enrollment by type of school
- Educational Attainment

Environment

- Toxic Release Inventory
- Combined Sewer Overflow Advisories
- Green Building Certifications, Awards and Recognitions
- Land use (Parks, open space, tree cover, open water, buildings, roadways)

Health

- Birth count and characteristics
- Infant mortality rate
- Prenatal care
- Deaths by cause
- Death rate by cause
- Disabilities by type and number
- Lack of health insurance by age
- Lead levels

Housing and Properties

- Total Households
- Household Size
- Housing Affordability
- Length of Stay
- Housing Sales (\$)
- Vacant Addresses
- Property Tax Delinquency
- Subsidized housing
- Housing ownership
- Housing by year built

Human Services

- Allegheny Co. DHS Clients by Service Type

Public Safety (No data available)

Transportation

- Public Transportation
- Vehicle Access by Housing
- Mode of Transportation
- Travel Time to Work

Source: Southwestern Pennsylvania Community Profiles. Allegheny County [Internet]. Available at: <https://profiles.ucsur.pitt.edu/profiles/county/42003/overview/>

## Well-being Indices

### Better Life Index (OECD)

Overview: “This Index allows you to compare well-being across countries, based on 11 topics the OECD has identified as essential, in the areas of material living conditions and quality of life.

#### *Domain*

##### *- Indicator*

#### Income and wealth

- Household net adjusted disposable income
- Net household financial wealth

#### Jobs and earnings

- Employment rate
- Average annual gross earnings per full-time employee
- Probability of becoming unemployed
- Long-term unemployment rate

#### Work-life balance

- Employees working very long hours
- Time devoted to leisure and personal care

#### Housing

- Rooms per person
- Housing expenditure
- Dwellings without basic sanitary facilities

#### Environmental quality

- Satisfaction with water quality
- Annual exposure to fine particulate matter (PM<sub>2.5</sub>) air pollution

#### Health status

- Life expectancy at birth
- Perceived health status

#### Education and skills

- Educational attainment of the adult population
- Cognitive skills of 15 year old students
- Competencies of the adult population aged 16–65

#### Social connections

- Perceived social network

#### Civic engagement and governance

- Voter turnout

#### Personal security

- Deaths due to assault
- Self-reported assault

#### Subjective well-being

- Life satisfaction

Sources: Better Life Index. Create Your Better Life Index [Internet]. Available at: <http://www.oecdbetterlifeindex.org/> ; OECD (2015), How's Life? 2015: Measuring Well-being, OECD Publishing, Paris. DOI:10.1787/how\_life-2015-en. Available at: [http://www.oecd-ilibrary.org/economics/how-s-life-2015\\_how\\_life-2015-en](http://www.oecd-ilibrary.org/economics/how-s-life-2015_how_life-2015-en)

## Canadian Index of Wellbeing

Overview: “The Canadian Index of Wellbeing [CIW] ... regards wellbeing as encompassing a wide variety of aspects of life, beyond economic measures like Gross Domestic Product (GDP). It is a conceptual framework drawing on a broad spectrum of domains of life that has the potential to create an ongoing national dialogue that will influence how Canadians think, feel, and act with regard to their wellbeing and the wellbeing of their communities. ... [The CIW] is a tool that tracks wellbeing from year to year in an effort to offer clear, effective, and regular information on the quality of life of all Canadians.”

### Domain

#### - Indicator

#### Community Vitality

- Percentage reporting participation in organized activities
- Percentage with 6 or more close friends
- Property crime rate per 100,000 population
- Violent crime rate per 100,000 population
- Percentage who feel safe walking alone after dark
- Percentage disagreeing that they worry less about the needs of others
- Percentage who provide unpaid help to others on their own
- Percentage reporting very or somewhat strong sense of belonging to community

#### Democratic Engagement

- Percentage of voter turnout at federal elections
- Percentage that are not interested in politics at all
- Percentage strongly agree it is every citizen’s duty to vote in federal elections
- Pct. reporting they are very/fairly satisfied with the way democracy works in Canada
- Pct. reporting that policies of the federal government have made them better off
- Ratio of registered to eligible voters
- Percentage of women in Parliament
- Net official development aid as a percentage of gross national income

#### Education

- Ratio of childcare spaces to children aged 0 to 5 years of age
- Percentage of children doing well on five developmental domains
- Ratio of students to educators in public schools
- Average of 5 social and emotional competence scores for 12 to 13 year olds
- Basic knowledge and skills index for 13 to 15 year olds
- Percentage of PISA scores explained by socio-economic background
- Percentage of 20 to 24 year olds in population completing high school
- Percentage of 25 to 64 year olds in population with a university degree

#### Environment

- Ground level ozone (population weighted in parts per billion)
- Absolute GHG [greenhouse gas] emissions (megatons of CO2 per year)
- Primary energy production (petajoules)
- Water yield in Southern Canada (km3)
- Viable Non-Renewable Energy Reserves Index
- Viable Metal Reserves Index
- Canadian Living Planet Index
- Marine Trophic Index

#### Healthy Populations

- Percentage self-rated health as excellent or very good
- Percentage with self-reported diabetes
- Life expectancy at birth, years

- Percentage of daily or occasional smokers among teens aged 12 to 19 years
- Percentage with probable depression
- Percentage rating patient health services as excellent or good
- Percentage aged 65 years or more getting influenza immunization
- Avg. number of remaining years expected to be lived in good health (avg. HALE 15+)

#### Leisure and Culture

- Average percentage of time spent on the previous day in social leisure activities
- Average percentage of time spent on the previous day in arts and culture activities
- Average number of hours in the past year volunteering for culture and recreation organisations
- Avg. monthly frequency of participation in physical activity lasting over 15 minutes
- Average attendance per performance in past year at all performing arts performances
- Average visitation per site in past year to all National Parks and National Historic Sites
- Average number of nights away per trip in the past year on vacation trips to destinations over 80 km from home
- Expenditures in past year on all aspects of culture and recreation as a percentage of total household expenditures

#### Living Standards

- Ratio of top to bottom quintile of economic families, after tax
- After tax median income of economic families (2008\$)
- Percentage of persons in low income
- Scaled value of CSLS economic security
- Percentage labour force with long-term unemployment 160.4
- Percentage of labour force employed
- CIBC index of employment quality (1994 QI=100)
- RBC housing affordability index

#### Time Use

- Percentage of 20 to 64 year olds working over 50 hours per week
- Percentage of 20 to 64 year olds reporting high levels of time pressure
- Percentage of 20 to 64 years old giving unpaid care to seniors
- Percentage of 65 years and older reporting daily active leisure activities
- Percentage of 65 years and older reporting annual formal volunteering activities
- Pct. of 12 to 17 year olds spending two hours or more per day on TV or video games
- Percentage of 6 to 9 year olds having weekly or more structured activities
- Percentage of 3 to 5 year olds read to daily by parents

Sources: Canadian Index of Wellbeing. Our Framework and Tools [Internet]. Available at: <https://uwaterloo.ca/canadian-index-wellbeing/our-framework-and-tools>. Michalos A, Smale B, Labonte R, Muhajarine N, Scott K, Guhn M, et al. The Canadian Index of Wellbeing: Technical Paper: Canadian Index of Wellbeing 1.0. Waterloo, ON: Canadian Index of Wellbeing and University of Waterloo, 2011. Available at: [https://uwaterloo.ca/canadian-index-wellbeing/sites/ca.canadian-index-wellbeing/files/uploads/files/Canadian\\_Index\\_of\\_Wellbeing-TechnicalPaper-FINAL\\_0.pdf](https://uwaterloo.ca/canadian-index-wellbeing/sites/ca.canadian-index-wellbeing/files/uploads/files/Canadian_Index_of_Wellbeing-TechnicalPaper-FINAL_0.pdf).

#### **Gallup-Healthways Well-Being Index (Gallup)**

Overview: “Well-Being Index data provide a comprehensive view of well-being across five elements: purpose, social, financial, community, and physical. ... Each element in the Global Well-Being Index contains two questions asked of all respondents. ... [2015 U.S. Well-being] data are based on 177,281 telephone interviews with U.S. adults across all 50 states and the District of Columbia, conducted from January 2nd to December 30th, 2015. Gallup conducts 500 telephone interviews a day, for a resulting sample that projects to an estimated 95 percent of all U.S. adults. Gallup conducts interviews in both English and Spanish. For data collected prior to September 1, 2015, each sample of national adults includes a minimum quota of 50% cellphone respondents and 50% landline respondents. For data collected between September 1, 2015 and December 15, 2015, each sample of

national adults includes a minimum quota of 60% cellphone respondents and 40% landline respondents. Additional minimum quotas by time zone within region are included in the sampling approach. The Well-Being Index is calculated on a scale of 0 to 100, where zero represents the lowest possible well-being and 100 represents the highest possible well-being. In 2015, scores for each of the well-being elements are now also calculated on a 0 to 100 scale. They had previously been calculated on a 0 to 10 score.”

#### Survey topic

- *Nature of question*

**Purpose:** Liking what you do each day and being motivated to achieve your goals

- You like what you do every day.
- You learn or do something interesting every day.

**Social:** Having supportive relationships and love in your life

- Someone in your life always encourages you to be healthy.
- Your friends and family give you positive energy every day.

**Financial:** Managing your economic life to reduce stress and increase security

- You have enough money to do everything you want to do.
- In the last seven days, you have worried about money.

**Community:** Liking where you live, feeling safe and having pride in your community

- The city or area where you live is a perfect place for you.
- In the last 12 months, you have received recognition for helping to improve the city or area where you live.

**Physical:** Having good health and enough energy to get things done daily

- In the last seven days, you have felt active and productive every day.
- Your physical health is near-perfect.

Sources: Gallup-Healthways. State of American Well-Being: 2015 State Well-Being Rankings. Available at: <http://www.well-beingindex.com/> ; Healthways. Country Well-Being Varies Greatly Worldwide by Madison Agee on September 15, 2014. Available at: <http://www.healthways.com/blog/2014/09/country-well-being-varies-greatly-worldwide>

### **Human Well-being Index (EPA)**

Overview: “The intended use of the HWBI is to evaluate the influence of social, economic and ecological service flows on human well-being as an integrated measure based on eight aspects of the human condition referred to as domains. Tracked over time, the index has the potential to serve as a measure of sustainable human well-being when linked to alternative decisions that change the ecological, economic, and social states of defined populations. The metrics and methodologies for constructing multiple scale HWBI measures have been developed for the U.S., General Social Survey (GSS) Region, state and county assessments as well as for specific geographic and population group applications. These well-being endpoints have been linked to the provisioning of services through the derivation of relationship function equations. ... The HWBI incorporates 8 domains of well-being, described by 27 indicators, weighted by relative importance values.”

#### *Domain (of well-being)*

- *Indicator*
  - Metric

Connection to nature

- Biophilia
  - Percentage of people who experience a connection to all of life

- Percentage of people who are spiritually touched by the beauty of creation
- Cultural fulfillment
- Activity participation
    - Percentage of people who attended a musical or non-musical performance, or visited an art museum or art and/or craft fair
    - All Denominations--Rates of adherence per 1000 population
- Education
- Basic educational knowledge and skills of youth
    - Percentage of children in grades 4 and 8 with mathematics standardized test scores at or above basic skills
    - Percentage of children in grades 4 and 8 with reading standardized test scores at or above basic skills
    - Percentage of children in grades 4 and 8 with science standardized test scores at or above basic skills
  - Participation and attainment
    - Percentage of people aged 16 and older who lack basic prose literacy skills
    - Percentage of people aged 18 and older who obtained a high school diploma or equivalent
    - Percentage of people aged 18-24 enrolled in post-secondary education
    - Percentage of people aged 18 and older who obtained a bachelor's degree or higher
  - Social, emotional, and developmental aspects
    - Percentage of children in grades 9-12 who did not go to school because they felt unsafe at school or on their way to or from school
    - Percentage of people who read to household children between the ages of 3 and 5 years old
    - Percentage of children aged 0-17 years old in excellent or very good health
    - Percentage of children aged 6-17 years old that exhibit positive social behaviors
- Health
- Healthcare
    - Percentage of adults who have a regular or personal doctor or health care provider
    - Percentage of patients who rated the hospital overall as a 9 or 10 (on a 1-10 scale)
  - Life expectancy and mortality
    - Asthma mortality as a percentage of total deaths (age-adjusted)
    - Cancer mortality as a percentage of total deaths (age-adjusted)
    - Diabetes mortality as a percentage of total deaths (age-adjusted)
    - Heart disease mortality as a percentage of total deaths (age-adjusted)
    - Suicide mortality as a percentage of total deaths (age-adjusted)
    - Infant deaths per 1,000 live births
    - Life Expectancy at birth
  - Lifestyle and behavior
    - Number of adults drinking on average more than 1 drink per day
    - Healthy Behaviors Index
    - Percentage of live births to mothers under 20 years old
    - Percentage of children in grades 9-12 who smoked cigarettes on 20 or more days in the past month
  - Personal well-being
    - Percentage of people who are very happy or pretty happy (experienced happiness yesterday)
    - Percentage of adults who are satisfied with life
    - Percentage of adults who reported that they are in good general health
  - Physical and mental health conditions
    - Percentage of adults who have been diagnosed with asthma in lifetime
    - Percentage of adults who have been diagnosed with cancer in lifetime
    - Percentage of adults who have one or more household child diagnosed with asthma in lifetime
    - Percentage of adults who have been diagnosed with angina or coronary heart disease in lifetime
    - Percentage of adults who have been diagnosed with depression in lifetime
    - Percentage of adults who have been diagnosed with diabetes in lifetime
    - Percentage of adults who have been diagnosed with heart attack or myocardial infarction in lifetime

- Percentage of people aged 18 years and older classified as obese (age-adjusted)
- Percentage of adults who have been diagnosed with stroke in lifetime

#### Leisure Time

- Activity participation
  - Average number of nights away from home on vacation or visiting friends and/or relatives
  - Percentage of adults who participated in physical activities or exercises in the past 30 days
- Time spent
  - Average time spent on socializing, relaxing, leisure, and sports
- Working age adults
  - Time spent by people caring for adults
  - Percentage of people who work fifty or more hours per week
  - Percentage of work activity that occurs during daytime hours (9 am - 5 pm)

#### Living Standards

- Basic necessities
  - Percentage of households that had high or marginal food security
  - Median selected monthly owner costs as a percentage of household income
- Income
  - Percentage of the population (all ages) in poverty
  - Median household income
  - Percentage of people who are currently in poverty and stated that their financial situation has remained the same over the past few years
- Wealth
  - Median value of owner-occupied housing units
  - Percentage of owner-occupied housing units without a second mortgage or home equity loan
- Work
  - Percentage of people who responded that it is not likely that they will lose their job or be laid off
  - Percentage of people who are satisfied with their job

#### Safety and Security

- Actual safety
  - Total reported number of accidental morbidity and mortality cases excluding weather events
  - Injuries and fatalities from hazardous weather per 100,000 people
  - Property crimes per 100,000 people
  - Violent crimes per 100,000 people
- Perceived safety
  - Percentage of people who feel safe walking alone at night where they live
- Risk
  - Social Vulnerability Index (SoVI) for the United States

#### Social Cohesion

- Attitude toward others and the community
  - Percentage of people who feel close to their town or city
  - Percentage of people who are satisfied with the city or area where they live
  - Number of reported hate crime incidents per 100,000 people
  - Percentage of people who think that others try to be helpful
  - Percentage of people who think that others can be trusted
- Democratic engagement
  - Percentage of people interested in politics
  - Percentage of U.S. citizens aged 18 years and older who are registered to vote
  - Percentage of people who are satisfied with democracy in the United States
  - Percentage of people who think that most government administrators can be trusted to do what is best for the country
  - Percentage of people who feel that they have a say in the government
  - Percentage of U.S. citizens aged 18 years and older who voted
- Family bonding
  - Percentage of children in grades 9-12 who, on an average school day, watch television for three or

- more hours
- Percentage of time spent by children aged 15-17 years old eating at home with parents
- Time spent by people reading to household children
- Social engagement
  - Percentage of people who are a member of any type of organization
  - Percentage of children who participate in one or more organized activities outside of school
  - Percentage of people who volunteered (volunteer rate)
  - Percentage of people who have six or more close friends and/or relatives
- Social support
  - Proportion of participants responding that they usually or always get the emotional and social support they need

Source: EPA/ ORD/ NHEERL/ GED. U.S. Human Well-being Index (HWBI) for Multiple Scales: Linking Services Provisioning to Human Well-being Endpoints (2000-2010). EPA/600/R-14/223. Washington, DC: EPA; September 2014. Available at: [http://cfpub.epa.gov/si/si\\_public\\_file\\_download.cfm?p\\_download\\_id=507861](http://cfpub.epa.gov/si/si_public_file_download.cfm?p_download_id=507861).<sup>19</sup>

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<sup>19</sup> Table 1 on page 4 of this publication lists 18 additional existing well-being indices, including the Canadian Index of Wellbeing and the Gallup-Healthways Well-Being Index.

## Poverty, Deprivation, and Inequality Indices and Indicator Systems

### Gender Inequality Index (UNDP)

Overview: “The Gender Inequality Index (GII) reflects gender-based disadvantage in three dimensions—reproductive health, empowerment and the labour market—for as many countries as data of reasonable quality allow. It shows the loss in potential human development due to inequality between female and male achievements in these dimensions. It ranges between 0, where women and men fare equally, and 1, where one gender fares as poorly as possible in all measured dimensions.”<sup>20</sup>

#### *Dimension*

- *Indicator*

#### Health

- Maternal mortality ratio
- Adolescent birth rate

#### Empowerment

- Female and male population with at least secondary education
- Female and male shares of parliamentary seats

#### Labour market

- Female and male labour force participation rates

Source: United Nations Development Programme. Human Development Report 2015, Technical Notes. Available at: [http://hdr.undp.org/sites/default/files/hdr2015\\_technical\\_notes.pdf](http://hdr.undp.org/sites/default/files/hdr2015_technical_notes.pdf)

### Health Poverty Index (UK)

Overview: “The [National Health Service] NHS Plan (2000) states that ‘no injustice is greater than the inequalities in health which scar our nation’ and proposes a number of developments to combat this situation. One of these is the production of a Health Poverty Index (HPI). Following the publication of the NHS Plan, The Department of Health (DoH) commissioned a scoping project to develop the HPI concept, involving a major consultation and a series of discussions within the DoH and between the DoH and other bodies charged with tackling the issue of health inequalities.

Work on the HPI development was initially funded by the DoH and subsequently by the NHS Information Centre for health and social care. The work was carried out by the Department of Geography and Geosciences, University of St Andrews, the South East Public Health Observatory (SEPHO), the University of Oxford, and Oxford Consultants for Social Inclusion (OCSI).

The HPI tool allows groups, differentiated by geography and cultural identity, to be contrasted in terms of their ‘health poverty’. A group’s ‘health poverty’ is a combination of both its present state of health and its future health potential or lack of it. The key justification for the selection of a particular set of groups is the expectation of an equal distribution of health and its determinants between the groups in a just society.

... [T]he situation of health, for a group, can be conceptualised as emerging from a history of intervening factors that are themselves based in a set of root causes. Each of these stages is influenced by the different contexts in which they take place. These can be seen as an immediate individual-

<sup>20</sup> In addition to the Gender Inequality Index (GII), the Human Development Index (HDI), and the Multidimensional Poverty Index (MPI), the United Nations Development Programme also has developed and provides annual statistical tables on the following indices, whose dimensions and indicators are similar to those of the HDI: (1) Inequality-adjusted Human Development Index, and (2) Gender Development Index.

household level, a local (intermediate) level and a wider social (macro) scale.

In order to produce an index from the conceptual framework presented above, it is necessary to identify and measure the important elements acting at different points within the framework. It is argued that there are nine main ‘domains’ . . . . For each domain a set of indicators have been developed which aim to capture the significant aspects of the domain as they exist for different groups in society. . . .”

#### *Framework category*

- *Domain*
  - *Indicator*

#### Root causes

- Regional prospects
  - GVA (Gross Value Added)
  - Change in job supply
  - Educational resourcing
- Local Conditions
  - Social Capital
  - Education quality
- Household conditions
  - Income
  - Wealth
  - Human capital

#### Intervening Factors

- Resourcing to support health
  - Local government resourcing
  - Preventative care resourcing
- Healthy areas
  - Recreation facilities
  - Effective preventative healthcare
- Behaviours and environments
  - Lifestyle
  - Home environments
  - Work & local environments

#### Situation of Health

- Resourcing for health & social care
  - Health care resourcing
  - Social care resourcing
- Appropriate Care
  - Effective primary care
  - Access to secondary care
  - Access to social care
  - Quality of social care
- Health status
  - Psychological morbidity
  - Health capital
  - Physical morbidity
  - Premature mortality

Source: United Kingdom Association of Public Health Observatories. Health poverty index: indicators and data sources [Internet]. Available at: <http://www.hpi.org.uk/indicators.html>

### Human Development Index (UNDP)

Overview: The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

#### *Dimension*

- *Indicator*

#### Long and healthy life

- Life expectancy at birth

#### Knowledge

- Mean years of schooling
- Expected years of schooling

#### A decent standard of living

- Gross national income (GNI) per capita (PPP \$)

Source: United Nations Development Programme. Human Development Reports: Human Development Index (HDI) [Internet]. Available at: <http://hdr.undp.org/en/content/human-development-index-hdi>.

### Index of Multiple Deprivation (England)

Overview: The Index of Multiple Deprivation 2015 is the official measure of relative deprivation for small areas (or neighbourhoods) in England. The Index of Multiple Deprivation ranks every small area in England from 1 (most deprived area) to 32,844 (least deprived area).

“The Index of Multiple Deprivation is part of the Indices of Deprivation and it is the most widely used of these indices. It combines information from seven domain indices (which measure different types or dimensions of deprivation) to produce an overall relative measure of deprivation. You can use the domain indices on their own to focus on specific aspects of deprivation. There are also supplementary indices concerned with income deprivation among children (IDACI) and older people (IDAOP).”

The Index of Multiple Deprivation is designed primarily to be a small-area measure of deprivation. But the Indices are commonly used to describe deprivation for higher-level geographies including local authority districts. A range of summary measures is available allowing you to see where, for example, a local authority district is ranked between 1 (the most deprived district in England) and 326 (the least deprived district in England). Summary measures are also available for upper tier local authorities, local enterprise partnerships and clinical commissioning groups.”<sup>21</sup>

#### *Domain*

- *Indicator*

#### Income Deprivation

- Adults and children in Income Support families
- Adults and children in income-based Jobseeker’s Allowance families

<sup>21</sup> The English Index of Multiple Deprivation (IMD) 2015 – Guidance. 2015. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/464430/English\\_Index\\_of\\_Multiple\\_Deprivation\\_2015\\_-\\_Guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464430/English_Index_of_Multiple_Deprivation_2015_-_Guidance.pdf)

- Adults and children in income-based Employment and Support Allowance families
- Adults and children in Pension Credit (Guarantee) families
- Adults and children in Working Tax Credit and Child Tax Credit families not already counted
- Asylum seekers in England in receipt of subsistence support, accommodation support, or both

#### Employment Deprivation

- Claimants of Jobseeker's Allowance (both contribution-based and income-based), women aged 18 to 59 and men aged 18 to 64
- Claimants of Employment and Support Allowance (both contribution-based and income-based), women aged 18 to 59 and men aged 18 to 64
- Claimants of Incapacity Benefit, women aged 18 to 59 and men aged 18 to 64
- Claimants of Severe Disablement Allowance, women aged 18 to 59 and men aged 18 to 64
- Claimants of Carer's Allowance, women aged 18 to 59 and men aged 18 to 64

#### Education, Skills and Training Deprivation

##### *Children and Young People sub-domain*

- Key Stage 2 attainment: The average points score of pupils taking reading, writing and mathematics Key Stage 2 exams
- Key Stage 4 attainment: The average capped points score of pupils taking Key Stage 4
- Secondary school absence: The proportion of authorised and unauthorised absences from secondary school
- Staying on in education post 16: The proportion of young people not staying on in school or non-advanced education above age 16
- Entry to higher education: A measure of young people aged under 21 not entering higher education

##### *Adult Skills sub-domain*

- Adult skills: The proportion of working-age adults with no or low qualifications, women aged 25 to 59 and men aged 25 to 64
- English language proficiency: The proportion of working-age adults who cannot speak English or cannot speak English well, women aged 25 to 59 and men aged 25 to 64

#### Health Deprivation and Disability

- Years of potential life lost: An age and sex standardised measure of premature death
- Comparative illness and disability ratio: An age and sex standardised morbidity/disability ratio
- Acute morbidity: An age and sex standardised rate of emergency admission to hospital
- Mood and anxiety disorders: A composite based on the rate of adults suffering from mood and anxiety disorders, hospital episodes data, suicide mortality data and health benefits data

#### Crime

- Violence: The rate of violence per 1,000 at-risk population
- Burglary: The rate of burglary per 1,000 at-risk properties
- Theft: The rate of theft per 1,000 at-risk population
- Criminal Damage: The rate of criminal damage per 1,000 at-risk population

#### Barriers to Housing and Services

##### *Geographical Barriers sub-domain*

- Road distance to a post office: A measure of the mean distance to the closest post office for people living in the Lower-layer Super Output Area
- Road distance to a primary school: A measure of the mean distance to the closest primary school for people living in the Lower-layer Super Output Area
- Road distance to a general store or supermarket: A measure of the mean distance to the closest supermarket or general store for people living in the Lower-layer Super Output Area
- Road distance to a GP surgery: A measure of the mean distance to the closest GP surgery for people living in the Lower-layer Super Output Area

##### *Wider Barriers sub-domain*

- Household overcrowding: The proportion of all households in a Lower-layer Super Output Area which are judged to have insufficient space to meet the household's needs
- Homelessness: Local authority district level rate of acceptances for housing assistance under the homelessness provisions of the 1996 Housing Act, assigned to the constituent Lower-layer Super Output Areas
- Housing affordability: Difficulty of access to owner-occupation or the private rental market, expressed

as the inability to afford to enter owner-occupation or the private rental market  
 Living Environment Deprivation

*Indoors sub-domain*

- Houses without central heating: The proportion of houses that do not have central heating
- Housing in poor condition: The proportion of social and private homes that fail to meet the Decent Homes standard

*Outdoors sub-domain*

- Air quality: A measure of air quality based on emissions rates for four pollutants
- Road traffic accidents involving injury to pedestrians and cyclists

Source: Department for Communities and Local Government. The English Indices of Deprivation 2015: Technical report. 2015. Available at:  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/464485/English\\_Indices\\_of\\_Deprivation\\_2015\\_-\\_Technical-Report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464485/English_Indices_of_Deprivation_2015_-_Technical-Report.pdf)

**Intercity Hardship Index (Rockefeller Institute)**

Overview: “Using a technique advanced by Nathan and Adams to assess urban hardship, the Rockefeller Institute’s Intercity Hardship Index compares the economic condition of American cities relative to one another and to themselves and one another over time. The comparative analysis includes the largest cities within the most populated metropolitan areas in the nation, covering a total of 86 cities in 2000, and providing longer-term trend analysis for a group of 55 cities going back to 1970. The Intercity Hardship Index draws together six key factors [see below] ... For each city, values on these six factors are compared to a national standard, and they are given equal weight when combined in a composite index. A higher Intercity Hardship Index score signifies worse economic conditions.”

*Factor*

- *Indicator*

Unemployment

- percent of the civilian population over the age of 16 who were unemployed

Dependency

- percentage of the population that are under the age of 18 or over the age of 64

Education

- percentage of the population over the age of 25 who have less than a high school education

Income Level

- per capita income

Crowded Housing

- percent of occupied housing units with more than one person per room

Poverty

- percent of people living below the federal poverty level

Source: Lisa M. Montiel, Richard P. Nathan, and David J. Wright. An Update on Urban Hardship. Albany, NY: The Nelson A. Rockefeller Institute of Government; August 2008. Available at:  
[http://www.rockinst.org/pdf/cities\\_and\\_neighborhoods/2004-08-an\\_update\\_on\\_urban\\_hardship.pdf](http://www.rockinst.org/pdf/cities_and_neighborhoods/2004-08-an_update_on_urban_hardship.pdf).

**Multidimensional Poverty Index (UNDP)**

Overview: The Multidimensional Poverty Index (MPI), published for the first time in the 2010 Report, complements monetary measures of poverty by considering overlapping deprivations suffered

at the same time. The index identifies deprivations across the same three dimensions as the HDI and shows the number of people who are multi-dimensionally poor (suffering deprivations in 33% or more of weighted indicators) and the number of deprivations with which poor households typically contend with. It can be deconstructed by region, ethnicity and other groupings as well as by dimension, making it an apt tool for policymakers.

#### *Dimension*

- *Indicator*

#### Health

- Nutrition
- Child mortality

#### Education

- Years of schooling
- Children enrolled

#### Standard of living

- Cooking fuel
- Toilet
- Water
- Electricity
- Floor
- Assets

Source: United Nations Development Programme. Human Development Reports: Multidimensional Poverty Index (MPI) [Internet]. Available at: <http://hdr.undp.org/en/content/multidimensional-poverty-index-mpi>.

### **New Zealand Deprivation Index (NZDep)**

Overview: “The New Zealand Deprivation Index is a measure of the level of socioeconomic deprivation in small geographic areas of New Zealand (meshblocks). It is created using Census data for the following variables ... [see the list of 8 variables below]. The index ranges from 1 to 10. A score of 1 indicates that people are living in the least deprived 10 percent (decile) of New Zealand. A score of 10 indicates that people are living in the most deprived 10 percent of New Zealand. Caution is necessary when interpreting NZDep data as the index is based on data referring to the average socioeconomic circumstances of the whole population of a meshblock, not to individuals.”

#### *Variable*

Car and telephone access  
 Receipt of means-tested benefits  
 Unemployment  
 Household income  
 Sole parenting  
 Educational qualifications  
 Home ownership  
 Home living space

Source: Office for Disability Issues. Indicators from the 1996, 2001 and 2006 New Zealand Disability Surveys for monitoring progress on outcomes for disabled people: New Zealand Deprivation Index (NZDep) [Internet]. Available at: <http://www.odi.govt.nz/resources/research/outcomes-for-disabled-people/nz-dep.html>.

### Social Deprivation Index

Overview: This index was developed through a health services research project with the objective of developing “a measure of social deprivation that is associated with health care access and health outcomes at a novel geographic level, primary care service area.” “Social deprivation variables were selected from literature review and international examples. ... The derived index was compared with poverty as a predictor of health outcomes. ... [The] social deprivation index [was] positively associated with poor access and poor health outcomes.” The derived index was “more strongly associated with health outcomes than a measure of poverty alone. The authors of this research concluded that the Social Deprivation Index “has utility for identifying areas in need of assistance and is timely for revision of 35-year-old provider shortage and geographic underservice designation criteria used to allocate federal resources.”

#### *Measures*

Percent poor  
 Percent non-employed  
 Percent single parent  
 Percent black  
 Percent high-need age group  
 Percent <12 years schooling  
 Percent no car  
 Percent renter occupied  
 Percent crowding

Source: Butler DC, Petterson S, Phillips RL, Bazemore AW. Measures of social deprivation that predict health care access and need within a rational area of primary care service delivery. *Health Serv Res.* 2013 Apr;48(2 Pt 1):539-59. doi: 10.1111/j.1475-6773.2012.01449.x. Epub 2012 Jul 20. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3626349/>.

### Social Vulnerability Index (ATSDR)

Overview: “ATSDR’s Geospatial Research, Analysis & Services Program (GRASP) has created a tool to help public health officials and emergency response planners identify and map the communities that will most likely need support before, during, and after a hazardous event. The Social Vulnerability Index (SVI) indicates the relative vulnerability of every U.S. Census tract. ... The SVI ranks the tracts on 14 social factors, including unemployment, lack of vehicle access, and crowded housing, and further groups them into four related themes.”

#### *Theme*

- *Social factor*
- Socioeconomic Variables
  - Persons below poverty estimate
  - Civilian (age 16+) unemployed estimate
  - Per capita income estimate
  - Persons (age 25+) with no high school diploma estimate
- Household Composition Variables
  - Persons aged 65 and older

- Persons aged 17 and younger
- Single parent household with children under 18

Minority Status/Language Variables

- Minority (all persons except white, non-Hispanic)

Housing/Transportation Variables

- Persons (age 5+) who speak English "less than well" estimate
- Housing in structures with 10 or more units estimate
- Mobile homes estimate
- At household level, more people than rooms estimate
- Households with no vehicle available estimate
- Persons in institutionalized group quarters

Source: Agency for Toxic Substances and Disease Registry. The Social Vulnerability Index (SVI) [Internet]. Available at: <http://svi.cdc.gov/>. Last updated: 2013 May 9.

**United Kingdom Poverty Indicators**

Overview: "This site monitors what is happening to poverty and social exclusion in the UK. The material is organised around 100 statistical indicators covering all aspects of the subject, from income and work to health and education."<sup>22</sup>

*Domain*

- *Indicator*

Income

- numbers in low income
- location of low income
- the impact of housing costs
- low income by age group
- low income by family type
- low income and ethnicity
- low income by gender
- persistent low income
- income inequalities
- lacking essentials
- in arrears with bills
- lacking consumer durables
- benefit levels
- children in low-income households
- children in receipt of tax credits
- young adults in low-income households
- working-age adults in low-income households
- low income by work status
- low income and disability
- low income by age (working age)
- low income and council tax
- concentrations of worklessness
- older people in low-income households
- older people with no private income
- older people take-up of benefits

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<sup>22</sup> The Poverty Site. The UK site for statistics on poverty and social exclusion [Internet]. Available at: <http://www.poverty.org.uk/index.htm>

### Work

- out-of-work benefit recipients
- long term recipients of benefits
- in receipt of tax credits
- children in workless households
- unemployment
- wanting paid work
- work and disability
- work and lone parents
- work and ethnicity
- work and gender
- blue collar jobs
- workless households
- insecure at work
- access to training

### Low pay

- young adult low pay
- trends in low pay
- low pay by industry
- location of low pay
- low pay and disability
- low pay and ethnicity
- pay inequalities

### Education

- educational attainment at age 11
- educational attainment at age 16
- school exclusions
- without a basic qualification at age 19
- impact of qualifications on work
- not in education, employment or training
- adults without qualifications

### Health

- low birthweight babies
- infant deaths
- dental health
- accidental deaths
- suicides
- drug use
- premature death
- working-age longstanding illness/disability
- mental health
- obesity
- excess winter deaths
- older people longstanding illness/disability

### Housing

- without central heating
- non-decent homes
- energy inefficient homes
- fuel poverty
- homelessness
- overcrowding
- unmet housing need
- mortgage re-possession
- housing benefit

Services

- help from social services
- rural access to services
- without a bank account
- without home contents insurance
- ability to travel

Social cohesion

- concentrations of poor children
- underage pregnancies
- children with a criminal record
- looked-after children
- young adults with a criminal record
- anxiety
- polarisation by housing tenure
- dissatisfaction with local area
- victims of crime
- non-participation

Source: The Poverty Site. United Kingdom Indicators [Internet]. Available at:  
<http://www.poverty.org.uk/summary/uk.htm>

## “Livability” Rankings, Indices, and Metrics

### America’s 50 Best Cities to Live (24/7 Wall St)

Overview: “To determine America’s 50 best cities to live in, 24/7 Wall St. considered the roughly 550 cities that the U.S. Census Bureau reported as having populations more than 65,000 residents in 2014. Only the top-performing city in each county was considered in our ranking. Data were collected in nine major categories... Within each category, specific measures contributed to a city’s overall category score.”

#### Category

- Crime: violent and property crime rates
- Demography: used to exclude cities with negative five- or 10-year population growth rates.
- Economy: median household income adjusted for cost of living, the ratio between a city’s and its state’s median household income, poverty and unemployment rates, a city’s three-year employment growth
- Education: high school standardized test scores relative to state scores, percentage of adults with at least a bachelor’s degree, number of colleges and universities in a city per 100,000 residents
- Environment: air quality index, average summer and winter temperatures, average monthly rainfall
- Health: 30-day risk-adjusted mortality rates of heart attacks, COPD, heart failure, pneumonia, and stroke; readmission rate to a hospital within 30 days of being discharged; hospital’s care delivery and patient response surveys; preventable hospitalizations
- Housing: ratio of a city’s median home value to the statewide median value, ratio of median home value to median household income, median property taxes as a percentage of median home value
- Infrastructure: percentage of commuters travelling to work by foot or public transportation, average time it takes to travel to work each day, the number of airports in the metro area in which the city is located
- Leisure: number of zoos, nature parks, ski resorts, and golf courses in the county surrounding the city

Source: 24/7 Wall St. America’s 50 Best Cities to Live [Internet]. Available at: <http://247wallst.com/special-report/2015/11/05/americas-50-best-cities-to-live-2-2/12/>

### Best Places to Live 2015 (Money)

Overview: Ranking of U.S. towns with populations of 10,000 to 50,000. “Rankings derived from 39 data points in the following categories: Jobs based on income growth, local unemployment (not seasonally adjusted; county data used when local not available), and projected job growth. Economy based on purchasing power, foreclosure rate, tax burden, and state’s fiscal strength. Housing affordability based on median price-to-income ratio and average property taxes. Education based on test scores, educational interest and attainment, and percentage of kids in public schools. Health based on number of doctors and hospitals in the area and health of residents. Crime based on property and violent crime rates. Arts and leisure based on activities in the town and surrounding area, including movie theaters, museums, and green spaces. Ease of living based on population density, commute times, weather patterns, and other factors.”

#### Ranking categories<sup>23</sup>

- Jobs based on income growth, local unemployment (not seasonally adjusted; county data used when local not available), and projected job growth.
- Economy based on purchasing power, foreclosure rate, tax burden, and state’s fiscal strength.
- Housing affordability based on median price-to-income ratio and average property taxes.

<sup>23</sup> Money analyzed U.S. towns with populations of 10,000 to 50,000.

- Education based on test scores, educational interest and attainment, and percentage of kids in public schools.
- Health based on number of doctors and hospitals in the area and health of residents.
- Crime based on property and violent crime rates.
- Arts and leisure based on activities in the town and surrounding area, including movie theaters, museums, and green spaces.
- Ease of living based on population density, commute times, weather patterns, and other factors.

Source: Money. Best Places to Live 2015 [Internet]. Available at: <http://time.com/money/collection/best-places-to-live-2015/>.

### Community Vision Metrics (DOT)

Overview: The Community Vision Metrics website is “an easy-to-use tool, with searchable fields to help find performance indicators that match your community's context and goals. The tool contains more than seventeen-hundred metrics that have been linked to areas of interest in land use and transportation planning.” An extensive literature review of ‘livability performance measurement’ was conducted as background for the metrics project.<sup>24</sup> The following description is taken from the literature review’s introduction:

“In response to growing recognition of the need to create more livable and sustainable outcomes, the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA) formed in 2009 the Partnership for Sustainable Communities. The founding purpose of this ongoing Partnership was “to help improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide”<sup>25</sup>. In effect, the Partnership served to break down barriers to integrated planning and project development such that decisions fully leverage all three agencies’ funds, expertise, and resources. The guiding livability principles of the federal Partnership are shown below.<sup>26</sup> Through its work and these foundational principles, the Partnership for Sustainable Communities took an important first step in defining livability and its key components.”

#### Federal Livability Principles

1. **Provide more transportation choices.** Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
2. **Promote equitable, affordable housing.** Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
3. **Enhance economic competitiveness.** Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as

<sup>24</sup> FHWA PL0159: Methods for Gauging Livability Improvements: Literature and Best Practices Review. Available at: [http://www.fhwa.dot.gov/livability/tools/community\\_vision/literature\\_review.pdf](http://www.fhwa.dot.gov/livability/tools/community_vision/literature_review.pdf).

<sup>25</sup> U.S. Environmental Protection Agency. Smart Growth [Internet]. Available at: <http://www.epa.gov/smartgrowth/partnership/index.html>. Last updated: 2016 Jan 12. HUD, DOT, EPA. Partnership for sustainable communities [Internet]. Available at: <https://www.sustainablecommunities.gov/>,

<sup>26</sup> See also HUD.GOV: Six Livability Principles [Internet]. Available at: [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/economic\\_resilience/Six\\_Livability\\_Principles](http://portal.hud.gov/hudportal/HUD?src=/program_offices/economic_resilience/Six_Livability_Principles); and HUD. Leveraging for livability: A Guide to HUD Programs and the Livability Principles Region X (Alaska, Idaho, Oregon, and Washington). Available at: <http://portal.hud.gov/idc/groups/public/documents/document/leveragingforlivability.pdf.pdf>.

- well as expanded business access to markets.
4. **Support existing communities.** Target federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
  5. **Coordinate and leverage federal policies and investment.** Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
  6. **Value communities and neighborhoods.** Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.”

*Topic [of the Community Vision Metrics Web Tool]*

- *Metric [example: Scale: Neighborhood or City; Setting: Urban; Transportation mode: Pedestrian]*

**Accessibility:** the ability to utilize a given transport mode or modes to travel between selected destinations or types of destinations [Scale: Neighborhood]

- Dollar investment in walking and biking facilities accompanying the project
- Energy consumed per trip
- Jobs-housing balance (dissimilarity index)
- Miles of sidewalks
- Miles of trails

**Aesthetics and Sensory:** the visual, scenic and auditory elements of communities and transportation systems, including the degree to which the built and natural environments are visually pleasing to residents and users [Scale: City]

- Development guidelines and requirements (zoning codes, development incentives, etc.) are consistent with local and regional plans
- Distribution of burdens and benefits
- Dollar investment in walking and biking facilities accompanying the project
- Number of recreational opportunities
- Perceived pleasantness of recreational experience
- Percentage of "improved" streetscapes
- Percentage of streets with street trees
- Presence of benches, bicycle racks, shade trees, good lighting, and other amenities that make non-motorized travel more pleasant

**Community Amenities:** community infrastructure, facilities, and services that are provided to residents, visitors, and workers, including public services (e.g. education, police and fire protection, utilities), civic opportunities, recreation, community centers, and other features [Scale: Neighborhood]

- Average distance traveled per person per day, in miles
- Dollar investment in walking and biking facilities accompanying the project
- Jobs-housing balance (dissimilarity index)
- Miles of sidewalks
- Miles of trails
- Percent of population within X miles or Y minutes of state-aided public roads

**Community Engagement:** the degree to which community members are actively involved in community life, including civic outlets and opportunities to influence public decision-making [Scale: City]

- Development guidelines and requirements (zoning codes, development incentives, etc.) are consistent with local and regional plans
- Distribution of burdens and benefits
- Number of recreational opportunities
- Number/percent of children who can walk or bicycle to schools, shops and parks from their homes
- Percent of children walking or bicycling to school
- Presence of benches, bicycle racks, shade trees, good lighting, and other amenities that make non-motorized travel more pleasant

**Economic:** the financial state of a community including local and regional levels of business activity, government fiscal conditions, affordability (cost of living), and employment opportunities [Scale:

## Neighborhood]

- Compensation rates to victims of accidents
- Delay per VMT (by mode)
- Distribution of burdens and benefits
- Energy consumption in transport by mode and energy sources
- Energy consumption per passenger mile
- Energy consumption per passenger per year
- Energy consumption per trip
- Fatal and incapacitating injury crashes involving a heavy vehicle

**Housing:** residential infrastructure, considering housing type, form, affordability and availability of housing opportunities across a variety of demographic characteristics [Scale: Neighborhood]

- Distribution of burdens and benefits
- Jobs-housing balance (dissimilarity index)

**Land Use:** the physical form and function of a community including the distribution of activities, land cover, geographic distribution of land uses, etc.; and management of land use, if applicable [Scale: Neighborhood]

- Average distance traveled per person per day, in miles
- Distribution of burdens and benefits
- Jobs-housing balance (dissimilarity index)
- Mode shares for automobile, transit, bicycle, pedestrian, carpool, and other, by trip purpose
- Percent of population within X miles or Y minutes of state-aided public roads
- Person miles of travel (PMT) per capita

**Mobility:** the physical form and function of a community including the distribution of activities, land cover, geographic distribution of land uses, etc.; and management of land use, if applicable [Scale: Neighborhood]

- Average distance traveled per person per day, in miles
- Average number of trips per person per day
- Average person hours of travel (PHT) times average speed
- Average person miles of travel (PMT)
- Delay per VMT (by mode)
- Distribution of burdens and benefits
- Dollar investment in walking and biking facilities accompanying the project
- Energy consumption per passenger mile

**Natural Resources:** the environmental conditions, including ecosystem health, open space, air and water quality, natural habitats, preservation areas, and other resources [Scale: Neighborhood]

- Amount of solid raw materials used in building transport infrastructure
- Energy consumption per passenger mile
- Energy consumption per passenger per year
- Energy consumption per trip
- Final energy consumption in transport by mode and energy sources
- Mode shares for automobile, transit, bicycle, pedestrian, carpool, and other, by trip purpose
- Number of vehicle collisions with animals listed on the endangered species list
- Number or percent of transportation system users using non-SOV travel means (e.g., transit, bicycle, high-occupancy vehicle travel)

**Public Health:** the physical, mental, and social well-being of communities, including built environment characteristics that facilitate physical activity and protection of air and water quality [Scale: Neighborhood]

- Change in DALYs/QALYs due to transportation incidents
- Distribution of burdens and benefits
- LOS for those with special mobility needs
- Miles of sidewalks
- Miles of trails
- Mode shares for automobile, transit, bicycle, pedestrian, carpool, and other, by trip purpose
- Total VMT

**Safety:** the physical safety and personal security of individuals and communities [Scale: Neighborhood]

- Change in DALYs/QALYs due to transportation incidents

- Compensation rates to victims of accidents
- Distribution of burdens and benefits
- Dollar investment in transportation enhancements accompanying the project
- Fatal and incapacitating injury crashes involving a heavy vehicle
- Monetized crash costs
- National rank for accident, injury, fatality rates
- Number of highway crashes involving a heavy vehicle
- Number/percent of pedestrian and bicycle crashes involving automobiles

**Socio-Cultural:** the social and cultural elements of a community—including community/social networks, heritage, religion, spirituality, community cohesion, and sense of community—and opportunities/outlets for expression of these elements

- Distribution of burdens and benefits
- Jobs-housing balance (dissimilarity index)
- LOS for those with special mobility needs
- Percentage of low-income households that spend more than 20% of their budget on transportation
- Portion of household expenditures devoted to transport, including vehicle expenses, fares, residential parking costs, and relevant taxes
- Real change in transport prices by mode
- Transportation CPI, relative to some reference year

Source: US Department of Transportation/Federal Highway Administration. Livability Initiative: Community Vision Metrics Web Tool [Internet]. Available at: [http://www.fhwa.dot.gov/livability/tools/community\\_vision/index.cfm](http://www.fhwa.dot.gov/livability/tools/community_vision/index.cfm). Last updated: 2015 Jun 5.

### Healthy Communities Index (HUD)

Overview: “The Healthy Communities Assessment Tool (HCAT) is an evidence-based web platform tool that offers a comprehensive approach for evaluating factors that contribute to community health. Part of a larger HUD Healthy Communities initiative, the HCAT is designed to evaluate physical, social, and economic service structures at the neighborhood level that support healthy living and healthy behaviors in our communities. ... The HCAT utilizes a comprehensive set of social, physical and environmental indicators that comprise the Healthy Community Index (HCI). Through the HCAT, cities can use the HCI to evaluate how well individual neighborhoods are faring compared to others. The HCAT can also be used to identify areas of opportunity, as well as help prioritize community needs and challenges. Unlike other indicator tools that generally have health as one category within the tool, the HCAT is specifically designed with a health lens across all indicators to help focus strategies to improve neighborhoods through investment, resource development, and programs.”

#### *Domain*

- *Indicator*

#### Demographics

- Concentrated Poverty
- Income Inequality
- Life Expectancy
- Park Quality
- Racial/Ethnic diversity

#### Economic Health

- Business Retention
- Local Business Vitality
- Access to Mainstream Financial Services

#### Educational Opportunities

- Adult Educational Attainment
- High School Graduation Rate
- Preschool Enrollment
- Reading Proficiency
- School Readiness Scores

#### Employment Opportunities

- Long-Term Unemployment
- Public Assisted Households
- Travel Time to Work
- Employment Rate

#### Environmental Hazards

- Residential Proximity to Traffic
- School Proximity to Traffic
- Toxic Releases From Facilities
- Proximity to Brownfield Sites
- Proximity to Superfund Sites

#### Health Systems and Public Safety

- Chronic School Absence
- Low Birth Weight
- Motor Vehicle Collisions
- Preventable Hospitalizations
- Violent Crime

#### Housing

- Age of Housing
- Excessive Housing Cost Burden
- Vacancy Rate
- Blood Lead Levels in Children

#### Natural Areas

- Access To Parks And Open Space
- Tree Cover

#### Neighborhood Characteristics

- Food Desert
- Offsite Alcohol Outlets
- Walkability

#### Social Cohesion

- Residential Mobility
- Voter Participation

#### Transportation

- Commute Mode Share
- Household Transportation Costs
- Pedestrian Connectivity
- Transit Accessibility

Source: US Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes (OLHCHH). hcat: healthy communities assessment tool [Internet]. Available at: <http://healthycommunitiesportal.org/> and <http://healthycommunitiesportal.org/sites/default/files/public/HCI%20Indicators%202015.pdf>

#### **Livability Index (AARP)**

Overview: “To create the index, the AARP Public Policy Institute surveyed 4,500 Americans 50 and older to determine the aspects of community most important to them. We then developed seven

categories around those results—housing, neighborhood, transportation, environment, health, engagement and opportunity, taking into account 60 different factors to rate communities in those categories.”

Definition: “A livable community is one that is safe and secure, has affordable and appropriate housing and transportation options, and has supportive community features and services. Once in place, those resources enhance personal independence; allow residents to age in place; and foster residents’ engagement in the community’s civic, economic, and social life.” Source: The Policy Book: AARP Public Policies.

Calculation of Livability Index: “Each metric is scored on a scale of 0–100. The metric scores for each category (e.g., Engagement), which averaged to determine the category score. Each metric within a category is equally weighted when the average is calculated. (Each community receives additional points in their category score for each ‘policy in place.’ Category scores are averages to determine the total score for a community. Each category is equally weighted when their average is calculated.”

### *Category [of Livability Index]<sup>27</sup>*

#### *- Metric*

#### Housing: Affordability and access

- Basic passage: % of housing units with extra-wide doors or hallways, floors with no steps between rooms, and an entry-level bedroom and bathroom
- Availability of multi-family housing: % of housing units that are not single-family, detached homes
- Housing costs: monthly housing costs (including taxes, rent, mortgage fees, and utilities)
- Housing cost burden: % of income devoted to monthly housing costs
- Availability of subsidized housing: Number of subsidized housing units per 10,000 people

#### Neighborhood: Access to life, work, and play

- Access to grocery stores and farmers’ markets: Number of grocery stores and farmers’ markets within a half-mile
- Access to parks: Number of parks within a half-mile
- Access to libraries: Number of libraries located within a half-mile
- Access to jobs by transit: Number of jobs accessible within a 45-minute transit commute
- Access to jobs by auto: Number of jobs accessible within a 45-minute automobile commute
- Diversity of destinations: Mix of jobs within a mile
- Activity density: Combined number of jobs and people per square mile
- Crime rate: Combined violent and property crimes per 10,000 people
- Vacancy rate: Percentage of vacant housing units

#### Transportation: Safe and convenient options

- Frequency of local transit service: Total number of buses and trains per hour in both directions for all stops within a quarter-mile
- Walk trips: Estimated walk trips per household per day
- Congestion: Estimated total hours that the average commuter spends in traffic each year
- Household transportation costs: Estimated household transportation costs per year
- Speed limits: Average speed limit (MPH) on streets and highways
- Crash rate: Annual average number of fatal crashes per 100,000 people
- ADA-accessible stations and vehicles: Percentage of transit stations and vehicles that are ADA-accessible

#### Environment: Clean air and water

- Drinking water quality: % of the population getting water from public water systems with at least one health-based violation during the past year
- Regional air quality: Number of days per year when regional air quality is unhealthy for sensitive

<sup>27</sup> Sources of data for each of the specific metrics are cited by the Livability Index website: <https://livabilityindex.aarp.org/>.

- populations
- Near-roadway pollution: % of the population living within 200 meters of a high-traffic road with more than 25,000 vehicles per day
- Local industrial pollution: Toxicity of airborne chemicals released from nearby industrial facilities
- Health: Prevention, access, and quality
  - Smoking prevalence: Estimated smoking rate
  - Obesity prevalence: Estimated obesity rate
  - Access to exercise opportunities: % of people who live within a half-mile of parks and within 1 mile of recreational facilities (3 miles for rural areas)
  - Health care professional shortage areas: Severity of clinician shortage
  - Preventable hospitalization rate: Number of hospital admissions for conditions that could be effectively treated through outpatient care per 1,000 patients
  - Patient satisfaction: % of patients who give area hospitals a rating of 9 or 10, with 10 indicating the highest level of satisfaction
- Engagement: Civic and social involvement
  - Broadband cost and speed: % of residents who have access to three or more wireline Internet service providers, and two or more providers that offer maximum download speeds of 50 megabits per second
  - Opportunity for civic involvement: Number of civic, social, religious, political, and business organizations per 10,000 people
  - Voting rate: % of people ages 18 years or older who voted in the last presidential election
  - Social involvement index: Extent to which residents eat dinner with household members, see or hear from friends and family, talk with neighbors, and do favors for neighbors
  - Cultural, arts, and entertainment institutions: Number of performing arts companies, museums, concert venues, sports stadiums, and movie theaters per 10,000 people
- Opportunity: Inclusion and possibilities
  - Income inequality: Gini coefficient (the gap between rich and poor)
  - Jobs per worker: Number of jobs per person in the workforce
  - High school graduation rate: Adjusted 4-year high school cohort graduation rate
  - Age diversity: Age-group diversity of local population compared to the national population

Source: American Association of Retire Persons (AARP): Public Policy Institute. Livability Index: Great neighborhoods for all ages [Internet]. Available at: <https://livabilityindex.aarp.org/>.

### Top 100 Best Places to Live 2015

Overview: “Our second-annual ranking of the best small to mid-sized cities in the U.S. with populations between 20,000 and 350,000. ... As Livability’s editors and writers crisscross the U.S in search of great stories, we find that time and again, the best tales are told in the Main Street diners, corner churches, park benches and even the mayor’s offices of small to mid-sized cities and towns. Far from letting time pass them by, these communities are doubling down on livability for their residents. Our second-annual ranking of the Top 100 Best Places to Live celebrates the work they are doing. ... [W]e worked with globally-known partners to analyze the best public and private data sources. We were advised by the leading thinkers, writers and doers in the place-making space. Some new places make the list, some move up or down and some continue to score well, no matter what the metric. More than 2,000 cities were ranked, so every city on this list is in the top 5 percent of livable communities in the U.S. Spend some time getting to know them, and when it comes time for your next move, maybe you’ll think small.”

Guiding principles: access, affordability, choice, utilization

#### Category

Amenities: things to do, places to do them, and decent climate to do them in

Demographics: racial and ethnic diversity, age diversity, and population growth. Is this community thriving or shrinking?

Economy: income inequality, income growth forecasts, employment and the amount residents spend on food.

Education: educational attainment of residents; presence of colleges and universities within a town.

Health Care: presence of hospitals within the town limits, amount spent on health care, low-birth-weight rate among children and obesity rates among adults.

Housing: access to affordable housing (based on ratio of average housing cost to average wages), projected home value growth, diversity of housing stock

Social and Civic Capital: crime, voter participation, the amount of time people spend partaking in community activities, carbon emissions, and the share of jobs held by members of the “creative class.”

Transportation: access to major airports, walkability, transportation costs, and the percentage of the population who commute to work by some means other than driving alone.

Source: LivAbility. 2015: Top 100 Best Places to Live [Internet]. Available at:  
<http://www.livability.com/best-places/top-100-best-places-to-live/2015/ranking-criteria>

## Health Sector Indicator Systems, Rankings, and Indices

### America's Children: Key National Indicators of Well-Being (FIFCFS)

Overview: “The Federal Interagency Forum on Child and Family Statistics’ primary mission is to enhance data collection and reporting on children and families. America’s Children: Key National Indicators of Well-Being, 2015 provides the Nation with a summary of national indicators of our children’s well-being and monitors changes in these indicators. The purposes of the report are to improve reporting of Federal data on children and families, make these data available in an easy-to-use, nontechnical format, stimulate discussions among policymakers and the public, and spur exchanges between the statistical and policy communities. ...

*America’s Children: Key National Indicators of Well-Being, 2015* presents a set of key indicators that measure important aspects of children’s lives and are collected regularly, reliably, and rigorously by Federal agencies. In determining this list of key indicators, the Forum carefully examined the available data and sought input from the Federal policymaking community, foundations, academic researchers, and state and local children’s service providers. These indicators were chosen because they meet the following criteria:

- *Easy to understand* by broad audiences;
- *Objectively based* on reliable data with substantial research connecting them to child well-being;
- *Balanced*, so that no single area of children’s lives dominates the report;
- *Measured regularly*, so that they can be updated and show trends over time; and
- *Representative* of large segments of the population, rather than one particular group.”

#### *Domain*

- *Indicator*

#### Family and Social Environment

- Family Structure and Children’s Living Arrangements
- Births to Unmarried Women
- Child Care
- Children of at Least One Foreign-Born Parent
- Language Spoken at Home and Difficulty Speaking English
- Adolescent Births
- Child Maltreatment

#### Economic Circumstances

- Child Poverty
- Income Distribution
- Secure Parental Employment
- Food Insecurity

#### Health Care

- Health Insurance Coverage
- Usual Source of Health Care
- Immunization
- Oral Health

#### Physical Environment and Safety

- Outdoor Air Quality
- Secondhand Smoke
- Drinking Water Quality
- Lead in the Blood of Children
- Housing Problems
- Youth Victims of Serious Violent Crimes
- Child Injury and Mortality
- Adolescent Injury and Mortality

**Behavior**

- Regular Cigarette Smoking
- Alcohol Use
- Illicit Drug Use
- Sexual Activity
- Youth Perpetrators of Serious Violent Crimes

**Education**

- Family Reading to Young Children
- Mathematics and Reading Achievement
- High School Academic Coursetaking
- High School Completion
- Youth Neither Enrolled in School nor Working
- College Enrollment

**Health**

- Preterm Birth and Low Birthweight
- Infant Mortality
- Emotional and Behavioral Difficulties
- Adolescent Depression
- Activity Limitation
- Diet Quality
- Obesity
- Asthma

Source: Federal Interagency Forum on Child and Family Statistics. *America's Children: Key National Indicators of Well-Being, 2015*. Washington, DC: U.S. Government Printing Office; 2015. Available at: <http://www.childstats.gov/americaschildren/>.

**America's Health Rankings (UHF)**

Overview: "First published in 1990, the *Annual Report* provides the longest-running state-by-state analysis of factors affecting the health of individuals and communities across America. ... The *America's Health Rankings® Annual Report* serves public health by: 1. Providing a benchmark. The report is vital for gauging how a state's health changes from year to year and decade to decade, and how it compares with the health of other states and the nation. ... 2. Stimulating action. This is the overarching purpose of every *Annual Report*—to kindle and continue to fuel dialogue that leads to action. Numerous states incorporate the Rankings into their annual review of programs, and several organizations use the report as a reference point when assigning goals for health improvement programs.

*Data Category*

- *Indicator*

**Behaviors**

- Smoking
- Excessive Drinking
- Drug Deaths
- Obesity
- Physical Inactivity
- High School Graduation (ACGR)

**Community and Environment**

- Violent Crime
- Occupational Fatalities

- Children in Poverty
- Infectious Disease (Chlamydia, Pertussis, Salmonella)
- Air Pollution

Policy

- Lack of Health Insurance
- Public Health Funding
- Immunizations—Children (DTaP, polio, MMR, Hib, hepatitis B, varicella, PCV)
- Immunizations—Adolescents (HPV Females, HPV Males, MCV4, Tdap)

Clinical Care

- Low Birthweight
- Primary Care Physicians
- Dentists
- Preventable Hospitalizations

Outcomes

- Diabetes
- Poor Mental Health Days
- Poor Physical Health Days
- Disparity in Health Status
- Infant Mortality
- Cardiovascular Deaths
- Cancer Deaths
- Premature Death

Source: United Health Foundation. America's Health Rankings [Internet]. Available at: <http://www.americashealthrankings.org/>. United Health Foundation. America's Health Rankings: Annual Report, 2015. Also available at: <http://www.americashealthrankings.org/>.

**Community Health Needs Assessment (Community Commons)**

Overview: "This toolkit is a free web-based platform designed by a collaborative body in response to the IRS requirement outlined in the Affordable Care Act. This tool was built to assist hospitals and organizations seeking to better understand the needs and assets of their communities as well as collaborate to make measurable improvements in community health and well-being."

*Data Category*

- *Indicator*

Demographics

- Total Population
- Change in Total Population
- Families with Children
- Female Population
- Male Population
- Median Age
- Population Under Age 18
- Population Age 0-4
- Population Age 5-17
- Population Age 18-64
- Population Age 18-24
- Population Age 25-34
- Population Age 35-44
- Population Age 45-54
- Population Age 55-64

- Population Age 65+
- Population with Any Disability
- Linguistically Isolated Population
- Population with Limited English Proficiency
- Population Geographic Mobility
- Foreign-Born Population
- Hispanic Population
- Veteran Population
- Urban and Rural Population

**Social & Economic Factors**

- Children Eligible for Free/Reduced Price Lunch
- Food Insecurity Rate
- High School Graduation Rate (EdFacts)
- High School Graduation Rate (NCES)
- Households with No Motor Vehicle
- Housing Cost Burden (30%)
- Income - Families Earning Over \$75,000
- Income - Per Capita Income
- Income - Public Assistance Income
- Insurance - Population Receiving Medicaid
- Insurance - Uninsured Adults
- Insurance - Uninsured Children
- Insurance - Uninsured Population
- Lack of Social or Emotional Support
- Population Receiving SNAP Benefits (ACS)
- Population with Associate's Level Degree or Higher
- Population with No High School Diploma
- Poverty - Children Below 100% FPL
- Poverty - Children Below 200% FPL
- Poverty - Population Below 100% FPL
- Poverty - Population Below 200% FPL
- Poverty - Population Below 50% FPL
- Teen Births
- Unemployment Rate
- Violent Crime

**Physical Environment**

- Air Quality - Ozone
- Air Quality - Particulate Matter 2.5
- Fast Food Restaurant Access
- Grocery Store Access
- Housing Environment - Assisted Housing
- Housing Environment - Housing Unit Age
- Housing Environment - Overcrowded Housing
- Housing Environment - Substandard Housing
- Housing Environment - Vacancy Rate
- Liquor Store Access
- Low Income Population with Low Food Access
- Modified Retail Food Environment Index
- Population with Low Food Access
- Recreation and Fitness Facility Access
- SNAP-Authorized Food Store Access
- Use of Public Transportation
- WIC-Authorized Food Store Access

**Clinical Care**

- Access to Primary Care

- Access to Dentists
- Cancer Screening - Mammogram
- Cancer Screening - Pap Test
- Cancer Screening - Sigmoidoscopy or Colonoscopy
- HIV Screenings
- Pneumonia Vaccination
- Diabetes Management - Hemoglobin A1c Test
- High Blood Pressure Management
- Dental Care Utilization
- Federally Qualified Health Centers
- Lack of Prenatal Care
- Lack of a Consistent Source of Primary Care
- Population Living in a Health Professional Shortage Area
- Facilities Designated as Health Professional Shortage Areas
- Preventable Hospital Events

#### Health Behaviors

- Physical Inactivity
- Fruit/Vegetable Consumption
- Fruit/Vegetable Expenditures
- Soda Expenditures
- Alcohol Consumption
- Alcohol Expenditures
- Tobacco Usage - Current Smokers
- Tobacco Usage - Former or Current Smokers
- Tobacco Usage - Quit Attempt
- Tobacco Expenditures

#### Health Outcomes

- Depression (Medicare Population)
- Diabetes (Adult)
- Diabetes (Medicare Population)
- High Cholesterol (Adult)
- Heart Disease (Adult)
- Heart Disease (Medicare Population)
- High Blood Pressure (Adult)
- High Blood Pressure (Medicare Population)
- High Cholesterol (Medicare Population)
- Overweight
- Obesity
- Asthma Prevalence
- Poor Dental Health
- Poor General Health
- Chlamydia Incidence
- Gonorrhea Incidence
- HIV Prevalence
- Cancer Incidence - Breast
- Cancer Incidence - Cervical
- Cancer Incidence - Colon and Rectum
- Cancer Incidence - Lung
- Cancer Incidence - Prostate
- Low Birth Weight
- Mortality - Premature Death
- Mortality - Cancer
- Mortality - Heart Disease
- Mortality - Ischaemic Heart Disease
- Mortality - Lung Disease

- Mortality - Stroke
- Mortality - Unintentional Injury
- Mortality - Motor Vehicle Accident
- Mortality - Pedestrian Accident
- Mortality - Homicide
- Mortality - Suicide
- Infant Mortality

Source: Community Commons. Community Health Needs Assessment [Internet]. Available at: <http://www.communitycommons.org/chna/>

### Community Health Status Indicators (CDC)

Overview: “CHSI 2015 is an interactive web application that produces health profiles for all 3,143 counties in the United States. Each profile includes key indicators of health outcomes, which describe the population health status of a county and factors that have the potential to influence health outcomes, such as health care access and quality, health behaviors, social factors and the physical environment. . . . A key feature of CHSI 2015 is the ability for users to compare the value of each indicator with those of demographically similar “peer counties,” as well as to the U.S. as a whole, and to *HP 2020* targets.”

#### Category

- *Indicator*

**Mortality:** indicators provide measures of how long people live and the number of deaths in a population within a defined time span. To enable comparisons among peer counties, the CHSI 2015 mortality indicators are age-adjusted, meaning that the indicators show what the mortality rate would be if all counties had the same age distribution.

- Alzheimer's Disease Deaths
- Cancer Deaths
- Chronic Kidney Disease Deaths
- Chronic Lower Respiratory Disease (CLRD) Deaths
- Coronary Heart Disease Deaths
- Diabetes Deaths
- Female Life Expectancy
- Male Life Expectancy
- Motor Vehicle Deaths
- Stroke Deaths
- Unintentional Injury (Including Motor Vehicle)
- Unintentional Injury (Excluding Motor Vehicle)\*

**Morbidity:** indicators provide measures of any departure, subjective or objective, from a state of physiological or psychological well-being at a point in time or within a defined time span. Morbidity is usually measured as the percentage of the population with a given condition or the rate of new cases within the population.

- Adult Diabetes
- Adult Obesity
- Adult Overall Health Status
- Adult Mentally Unhealthy Days\*
- Adult Physically Unhealthy Days\*
- Alzheimer's Diseases/Dementia
- Cancer
- Colon And Rectum Cancer\*
- Female Breast Cancer\*
- Lung And Bronchus Cancer\*
- Male Prostate Cancer\*

- Gonorrhea
- Chlamydia\*
- HIV
- Older Adult Asthma
- Older Adult Depression
- Preterm Births
- Low Birth Weight\*
- Syphilis
- Chlamydia\*

Health care access and quality: refers to the ease with which an individual can obtain needed medical services, and whether the delivery of clinical care, including inpatient, outpatient, and diagnostic services, is appropriate, safe, and timely.

- Cost Barrier To Care
- Older Adult Preventable Hospitalizations
- Primary Care Provider Access
- Dentists Access\*
- Uninsured

Health behaviors: include choices about lifestyle or habits known to influence health outcomes. These lifestyle choices are often responses to incentives or stimuli from social or physical environments.

- Adult Binge Drinking
- Adult Female Routine Pap Tests
- Adult Physical Inactivity
- Adult Smoking
- Teen Births

Social factors: are economic and social conditions that may directly or indirectly influence the health of people and communities. These conditions are shaped by the amount of money, power, and resources that people have, all of which are influenced by policy choices.

- Children In Single-Parent Households
- Single-Parent Families\*
- High Housing Costs
- Very High Housing Costs\*
- Inadequate Social Support
- On Time High School Graduation
- Associates Level Degree Or Higher\*
- High School Diploma\*
- Poverty
- Children In Poverty\*
- Older Adults In Poverty\*
- Unemployment
- Violent Crime

Physical environment: includes the natural environment (air, water, and soil) and the built environment (safe and affordable housing, transportation, access to nutritious and affordable food). The physical environment may directly affect health as well as influence choices and health behaviors.

- Access To Parks
- Recreation Access\*
- Annual Average PM2.5 Concentration
- Unhealthy Ozone Days\*
- Unhealthy PM2.5 Days\*
- Housing Stress
- Homes Built Before 1950\*
- Homes Built Between 1950 And 1979\*
- Vacant Residential Properties\*
- Limited Access To Healthy Food
- Living Near Highways

- Schools Located Near Highways\*
- \* *Associated indicators*

Source: CDC: Community Health Status Indicators (CHSI 2015) [Internet]. Available at: <http://www.cdc.gov/communityhealth>

### County Health Rankings (UW PHI, RWJF)

Overview: “The County Health Rankings & Roadmaps program is a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. ... The goals of the program are to: (1) Build awareness of the multiple factors that influence health; (2) Provide a reliable, sustainable source of local data to communities to help them identify opportunities to improve their health; (3) Engage and activate local leaders from many sectors in creating sustainable community change; and (4) Connect & empower community leaders working to improve health. ... The annual County Health Rankings measure vital health factors, including high school graduation rates, obesity, smoking, unemployment, access to healthy foods, the quality of air and water, income, and teen births in nearly every county in America. ...”

#### Category

- *Domain*
  - Measure [Indicator]

#### Health Outcomes

- Length of life (50%)
  - Premature death: Years of potential life lost before age 75 (50%)
- Quality of life (50%)
  - Poor or fair health (10%)
  - Poor physical health days (10%)
  - Poor mental health days (10%)
  - Poor birth outcomes
  - Low birthweight (20%)

#### Health behaviors (30%)

- Tobacco Use
  - Adult smoking (10%)
- Diet and exercise (10%)
  - Adult obesity (5%)
  - Food environment index (2%)
  - Physical inactivity (2%)
  - Access to exercise opportunities (1%)
- Alcohol and drug use (5%)
  - Excessive drinking (2.5%)
  - Alcohol-impaired driving deaths (2.5%)
- Sexual activity (5%)
  - Sexually transmitted infections (2.5%)
  - Teen births (2.5%)

#### Clinical care (20%)

- Access to care (10%)
  - Uninsured (5%)
  - Primary care physicians (3%)
  - Dentists (1%)
  - Mental health providers (1%)
- Quality of care (10%)
  - Preventable hospital stays (5%)

- Diabetic monitoring (2.5%)
- Mammography screening (2.5%)
- Social and economic factors (40%)
  - Education (10%)
    - High school graduation (5%)
    - Some college (5%)
  - Employment (10%)
    - Unemployment (10%)
  - Income (10%)
    - Children in poverty (7.5%)
    - Income inequality (2.5%)
  - Family and social support (5%)
    - Children in single-parent households (2.5%)
    - Social associations (2.5%)
  - Community safety (5%)
    - Violent crime (2.5%)
    - Injury deaths (2.5%)
- Physical environment (10%)
  - Air and water quality (5%)
    - Air pollution - particulate matter (2.5%)
    - Drinking water violations (2.5%)
  - Housing and transit (5%)
    - Severe housing problems (2%)
    - Driving alone to work (2%)
    - Long commute - driving alone (1%)

Source: University of Wisconsin Population Health Institute, Robert Wood Johnson Foundation. County Health Rankings & Roadmaps. Available at: <http://www.countyhealthrankings.org>

### Measures of Community Health (Koo, OASH)

Overview: “The Office of the Assistant Secretary for Health, Department of Health and Human Services, is working to identify roughly a dozen domains for describing and assessing holistically what makes a community healthy and vital. These domains should reflect important, cross-cutting areas in which communities could select metrics appropriate for their own goals, resources, and planned interventions. ... [O]ur goal is to highlight the critical role of multi-sectoral collaborations for greatest impact on community health and well-being.”

#### Category

- Domain
  - Metric (example)

#### Outcomes

- Life expectancy
  - Life expectancy at birth
  - YPLL before age 75
  - % who live to age 25, 65, or 85
  - Health-adjusted life-expectancy
- Well-being
  - Self-reported physical/mental health
  - Poor physical days per month
  - Poor mental health days last month
  - Health-related quality of life
  - % reporting good/better health by age group

- Self-reported health
- Well-being rating (health, life satisfaction, work-life balance)

#### Health Behaviors

- Obesity and relevant behaviors
  - BMI (adult, child)
  - sedentary lifestyle
  - inactivity
  - active living (adult, adolescent)
  - diet
  - food environment index
  - vegetable intake
  - access to exercise
- Tobacco
  - adults who are current smokers ( $\geq 100$  cigs/lifetime and smoke every day or some days)
  - adults smoking every day or some days
  - % adolescent smoked in last 30 days
- Substance abuse (alcohol/drug)
  - binge drinking/30d,
  - excessive drinking (men  $\geq 5$  drinks/males; 4 for females) last 30d
  - alcohol-impaired driving deaths
  - % adolescents using alcohol/illicit drugs last 30 days)
  - addiction death rate
  - drug dependence
  - alcohol dependence

#### Physical environment factors

- Air quality
  - # days air quality index exceeds 100,
  - average exposure of population to PM2.5
  - Some would argue indoor air quality should also be included, and smoke-free indoor air laws, % aged 3-11 exposed to secondhand smoke

#### Social and economic factors

- Education
  - on time high school graduation
  - early childhood education
  - some college
  - associate degree or higher
- Poverty
  - % living below poverty (children, elderly)
  - income inequality
- Housing
  - severe housing problems (households with more than 1 of these 4: overcrowding, high costs, lack of kitchen or plumbing)
  - high housing costs (30 or 50% of income)
  - housing stress (quality)
  - vacant residential properties
  - age of housing
  - housing affordability
- Safety
  - rate of violent crime
  - injury deaths
  - safe streets
  - youth safety

#### Clinical care

- Access to care

- # or % persons with health insurance
- primary care physicians, dentists or mental health providers/population
- uninsured under 65
- no access due to cost
- unable/delay in medical or dental care or prescription drugs
- unmet care need reported
- usual source of care
- delay of needed care
- Preventable hospitalizations
  - preventable hospitalizations (i.e., hospitalizations for ambulatory care-sensitive conditions) especially among Medicare population

Source: Koo D. Measures of Community Health October 20, 2015. Presented at: National Committee on Vital and Health Statistics Subcommittee on Population Health. Workshop on Advancing Community-Level Core Measurement: Proposing a Roadmap for HHS. November 17, 2015. Held at National Center for Health Statistics, Hyattsville, MD.

### National Prevention Strategy (HHS OSG)

Overview: “The National Prevention Strategy aims to guide our nation in the most effective and achievable means for improving health and well-being. The Strategy prioritizes prevention by integrating recommendations and actions across multiple settings to improve health and save lives. ... The National Prevention Strategy’s overarching goal is ‘*Increase the number of Americans who are healthy at every stage of life.*’ ... To realize this vision and achieve this goal, the Strategy identifies four Strategic Directions and seven targeted Priorities. The Strategic Directions provide a strong foundation for all of our nation’s prevention efforts and include core recommendations necessary to build a prevention-oriented society. The Strategic Directions are

- **Healthy and Safe Community Environments:** Create, sustain, and recognize communities that promote health and wellness through prevention.
- **Clinical and Community Preventive Services:** Ensure that prevention-focused health care and community prevention efforts are available, integrated, and mutually reinforcing.
- **Empowered People:** Support people in making healthy choices.
- **Elimination of Health Disparities:** Eliminate disparities, improving the quality of life for all Americans.

Within this framework, the Priorities provide evidence-based recommendations that are most likely to reduce the burden of the leading causes of preventable death and major illness. The seven Priorities are

- Tobacco Free Living
- Preventing Drug Abuse and Excessive Alcohol Use
- Healthy Eating
- Active Living
- Injury and Violence Free Living
- Reproductive and Sexual Health
- Mental and Emotional Well-Being”

### *Strategic Direction or Priority*

- *Indicator*

#### Goal Indicators

- Rate of infant mortality per 1,000 live births
- Proportion of Americans who live to age 25
- Proportion of Americans who live to age 65
- Proportion of Americans who live to age 85

- Proportion of 0 to 24 year old Americans in good or better health
- Proportion of 25-64 year old Americans in good or better health
- Proportion of 65 to 84 year old Americans in good or better health
- Proportion of 85+ year old Americans in good or better health

#### Leading Causes of Death

- Rate of cancer deaths
- Rate of coronary heart disease deaths
- Rate of stroke deaths
- Rate of chronic lower respiratory disease deaths
- Rate of unintentional injury deaths

#### Healthy and Safe Community Environments

- Number of days the Air Quality Index (AQI) exceeds 100
- Amount of toxic pollutants released into the environment
- Proportion of state public health agencies that can convene, within 60 minutes of notification, a team of trained staff who can make decisions about appropriate response and interaction with partners
- Proportion of children aged 5 to 17 years with asthma who missed school days in the past 12 months

#### Clinical and Community Preventive Services

- Proportion of medical practices that use electronic health records
- Proportion of adults aged 18 years and older with hypertension whose blood pressure is under control
- Proportion of adults aged 20 years and older with high low-density lipoprotein (LDL) cholesterol whose LDL is at or below recommended levels
- Proportion of adults aged 50 to 75 years who receive colorectal cancer screening based on the most recent guidelines
- Proportion of children and adults who are vaccinated annually against seasonal influenza

#### Empowered People

- Proportion of persons who report their health care providers always explained things so they could understand them
- Proportion of adults reporting that they receive the social and emotional support they need

#### Elimination of Health Disparities

- Proportion of adults (from racial/ethnic minority groups) in fair or poor health
- Proportion of individuals who are unable to obtain or delay in obtaining necessary medical care, dental care, or prescription medicines
- Proportion of persons who report their health care provider always listens carefully

#### Tobacco Free Living

- Proportion of adults who are current smokers (have smoked at least 100 cigarettes during their lifetime and report smoking every day or some days)
- Proportion of adolescents who smoked cigarettes in the past 30 days
- Proportion of youth aged 3 to 11 years exposed to secondhand smoke

#### Preventing Drug Abuse and Excessive Alcohol Use

- Proportion of adults aged 18 years and older who reported that they engaged in binge drinking during the past month
- Proportion of high school seniors who reported binge drinking during the past two weeks
- Proportion of persons aged 12 years or older who reported nonmedical use of any psychotherapeutic drug in the past year
- Proportion of youth aged 12 to 17 years who have used illicit drugs in the past 30 days

#### Healthy Eating

- Proportion of adults and children and adolescents who are obese
- Average daily sodium consumption in the population
- Average number of infections caused by salmonella species transmitted commonly through food
- Proportion of infants who are breastfed exclusively through 6 months

#### Active Living

- Proportion of adults who meet physical activity guidelines for aerobic physical activity
- Proportion of adolescents who meet physical activity guidelines for aerobic physical activity

- Proportion of the nation's public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours
- Proportion of commuters who use active transportation (i.e. walk, bicycle, and public transit) to travel to work

#### Injury and Violence Free Living

- Rate of fatalities due to alcohol impaired driving
- Rate of fall related deaths among adults aged 65 years and older
- Rate of homicides
- Rate of motor vehicle crash-related deaths

#### Reproductive and Sexual Health

- Proportion of children born with low birth weight (LBW) and very low birth weight (VLBW)
- Proportion of pregnant females who received early and adequate prenatal care
- Pregnancy rates among adolescent females aged 15 to 19 years
- Proportion of sexually active persons aged 15 to 44 years who received reproductive health services
- Proportion of people living with HIV who know their serostatus
- Proportion of sexually active females aged 16 to 20 years and 21 to 24 years enrolled in Medicaid and commercial health insurance plans who were screened for genital Chlamydia infections during the measurement year

#### Mental and Emotional Well-being

- Proportion of primary care physician office visits that screen adults and youth for depression
- Proportion of children exposed to violence within the past year, either directly or indirectly (e.g., as a witness to a violent act; a threat against their home or school)
- Rate of suicide attempts by adolescents
- Proportion of persons who experience major depressive episode (MDE)

Source: National Prevention Council, National Prevention Strategy, Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011. Available at: <http://www.surgeongeneral.gov/priorities/prevention/index.html>

### **Older Americans: Key Indicators of Well-Being (FIFARS)**

Overview: "Older Americans 2012, the sixth report prepared by the Forum since 2000, provides an updated and accessible compendium of indicators, drawn from official statistics about the well-being of Americans primarily age 65 and older. The 176-page report provides a broad description of areas of well-being that are improving for older Americans and those that are not. Thirty-seven key indicators are categorized into five broad areas—population, economics, health status, health risks and behaviors, and health care. This year's report also includes a special feature on the end of life. ...

The Federal Interagency Forum on Aging-Related Statistics was established in 1986 to improve the quality and utility of federal data on aging. This report assembles data to construct broad indicators of well-being for the older population and to monitor changes in these indicators over time. The effort is designed to inform the public, policy makers, and researchers about important trends in the aging population. The 15 agencies represented in the Forum include the Administration on Aging, Agency for Healthcare Research and Quality, Bureau of Labor Statistics, Centers for Medicare & Medicaid Services, U.S. Census Bureau, Department of Housing and Urban Development, Department of Veterans Affairs, Employee Benefits Security Administration, Environmental Protection Agency, National Center for Health Statistics, National Institute on Aging, Office of Management and Budget, Office of the Assistant Secretary for Planning and Evaluation (Department of Health and Human Services), Social Security Administration and Substance Abuse and Mental Health Services Administration."

#### *Broad Area*

- *Indicator*

#### Population

- Number of Older Americans
- Racial and Ethnic Composition
- Marital Status
- Educational Attainment
- Living Arrangements
- Older Veterans

#### Economics

- Poverty
- Income
- Sources of Income
- Net Worth
- Participation in Labor Force
- Total Expenditures
- Housing Problems

#### Health Status

- Life Expectancy
- Mortality
- Chronic Health Conditions
- Sensory Impairments and Oral Health
- Respondent-Assessed Health Status
- Depressive Symptoms
- Functional Limitations

#### Health Risks and Behaviors

- Vaccinations
- Mammography
- Diet Quality
- Physical Activity
- Obesity
- Cigarette Smoking
- Air Quality
- Use of Time

#### Health Care

- Use of Health Care Services
- Health Care Expenditures
- Prescription Drugs
- Sources of Health Insurance
- Out-of-Pocket Health Care Expenditures
- Sources of Payment for Health Care Services
- Veterans' Health Care
- Residential Services
- Personal Assistance and Equipment

Source: Federal Interagency Forum on Aging-Related Statistics. Older Americans 2012: Key Indicators of Well-Being. Hyattsville, MD: National Center for Health Statistics; 2012. Available at: [http://www.agingstats.gov/Agingstatsdotnet/Main\\_Site/Default.aspx](http://www.agingstats.gov/Agingstatsdotnet/Main_Site/Default.aspx).

#### **San Francisco Indicator Project (SFDPH)**

Overview: “The San Francisco Indicator Project is a neighborhood-level data system that measures how San Francisco performs in eight dimensions of a healthy, equitable community. The goal of this project is to support collaboration, planning, decision-making, and advocacy for social and physical

environments that meet the needs of all citizens.

The SF Indicator Project is an online framework and data repository that examines how San Francisco neighborhoods perform across eight dimensions of a vision for a healthy, equitable community. The Indicator Project was initially created through the Eastern Neighborhoods Community Health Impact Assessment (ENCHIA) process, a multi-stakeholder assessment project to ensure that land use planning occurring in the Mission, South of Market, and Potrero Hill/Showplace Square neighborhoods took into account, protected, and improved community health.

The eight community well-being dimensions in the SF Indicator Project include: environment, transportation, community cohesion, public realm, education, housing, economy, and health systems. [There is also a section on Demographics, which provides information on the geographic distribution of San Francisco's diverse population.] Each dimension contains multiple objectives, (for example "Increase accessibility, beauty, safety, and cleanliness of public spaces" within the public realm dimension), and each objective is measured by one or more indicators. Indicators were chosen because of their importance to the objective, their connection to health, and because granular data was regularly updated and available. Indicators are presented in the form of maps and tables, with accompanying detail on why the indicator is important to health and how to interpret results from a geographic and social equity perspective."

### *Element*

- *Objective*
  - *Indicator*

#### Environment

- Decrease consumption of energy and natural resources
  - Primary Indicators*
    - Natural gas use
    - Electricity use
    - Water use
    - Solid waste disposal and diversion
    - Renewable energy production
    - Restore, preserve and protect healthy natural habitats
  - Primary Indicators*
    - Shoreline accessibility
    - Open space
    - Total trees
    - Impervious ground surfaces
    - Reduce residential and industrial conflicts
  - Primary Indicators*
    - Contaminated sites
    - Preserve clean air quality
  - Primary Indicators*
    - Air quality
    - Maintain safe levels of community noise
  - Primary Indicators*
    - Outdoor noise levels
    - Reduce vulnerability and increase resilience to climate change
  - Primary Indicators*
    - Greenhouse gas emissions
    - West Nile Virus

#### Transportation

- Create a resource-efficient, equitable transportation system
  - Primary Indicators*

- Motor vehicle access
- Trips by non-auto mode
- Time spent walking or biking
- Transit commute time
- Transit cost
- Public Transit Score
- Ensure the safety of the transportation system

*Primary Indicators*

- Severe/fatal traffic injuries
- Pedestrian Environmental Quality Index
- Bike lanes and paths
- Speed limit compliance
- Reduce adverse environmental health impacts of the transportation system

*Primary Indicators*

- Distance travelled in automobiles
- Traffic density
- Truck routes

**Community**

- Promote socially cohesive neighborhoods, free of crime and violence

*Primary Indicators*

- Violent crimes
- Property crimes
- Residential mobility
- Community center access
- Alcohol outlet density

*Secondary Indicators*

- Likelihood of leaving San Francisco
- Neighborhood block parties
- Spiritual and religious centers
- Perceived safety
- Increase civic, social, and community engagement

*Primary Indicators*

- Voting rates

*Secondary Indicators*

- Volunteerism
- Public meeting attendance

**Public Realm**

- Assure spaces for libraries, performing arts, theatre, museums, concerts, and festivals for personal and educational fulfillment

*Primary Indicators*

- Art & cultural facilities
- Public funding for the arts
- Public library access
- Public art works
- Increase park, open space and recreation facilities

*Primary Indicators*

- Recreational Area Score
- Recreation facility access

*Secondary Indicators*

- Community garden access
- Increase accessibility, beauty, safety, and cleanliness of public spaces

*Primary Indicators*

- Street tree population
- Streetscape improvements

- Streetscape maintenance
- Assure access to daily goods and service needs

*Primary Indicators*

- Public service access
- Retail service access
- Commercial zoning
- Promote affordable and high-quality food access and sustainable agriculture

*Primary Indicators*

- Food Market Score
- CalFresh benefits acceptance
- Farmers' market access

Education

- Assure affordable and high quality child care for all neighborhoods

*Primary Indicators*

- Child care capacity
- Child care subsidies
- Child care costs
- Assure accessible and high quality educational facilities

*Primary Indicators*

- Elementary School Score
- School choice
- School academic performance

*Secondary Indicators*

- School gardens
- School graduation rates
- Public school participation

Housing

- Preserve and construct housing in proportion to demand with regards to size, affordability, and tenure

*Primary Indicators*

- Housing production and affordability
- Excessive rent burden
- Housing purchasing capacity
- Home ownership

*Secondary Indicators*

- Overcrowding
- Housing wage & minimum wage
- Residential density
- Protect residents from involuntary displacement

*Primary Indicators*

- Market rate rent affordability
- No-fault evictions

*Secondary Indicators*

- Affordable rental housing stock
- Decrease concentrated poverty

*Primary Indicators*

- Ethnic diversity
- Low-income households
- Assure access to healthy quality housing

*Primary Indicators*

- Housing health & safety violations

Economy

- Increase high-quality employment opportunities for local residents

*Primary Indicators*

- Jobs paying at least self-sufficiency wage

- Worker residents
- Job density

*Secondary Indicators*

- Job openings and educational requirements
- Increase jobs that provide healthy, safe and meaningful work

*Primary Indicators*

- Health insurance coverage
- Occupational non-fatal injury rates

*Secondary Indicators*

- Paid sick days
- Increase equality in income and wealth

*Primary Indicators*

- Income inequality
- Employment
- Bank or credit union access

*Secondary Indicators*

- Minority and women owned businesses
- Protects and enhances natural resources and the environment

*Primary Indicators*

- Green businesses

### Health Systems

- Assure affordable and high quality public health facilities

*Primary Indicators*

- Public health facility transit access
- Hospital bed access
- Assure access to preventative, outpatient health services

*Primary Indicators*

- Early prenatal care
- Preventable hospitalizations

### Demographic

- Population density
- Ethnicity
- Per capita and household income
- Low-income households
- Household size
- Employment rate
- Residential mobility
- Educational attainment
- Nativity
- Marital status
- Youth and seniors
- Households with children
- Home sales
- Cost of living
- Homeless population

### Health Outcomes

[No indicators are listed for "Health Outcomes."]

Source: San Francisco Department of Public Health. The San Francisco Indicator Project [Internet]. Available at: <http://www.sfindicatorproject.org/>

### Proposed Indicators for a Community Health Profile (IOM)

Overview: “To promote community use of health profiles, the [IOM] committee is proposing a basic set of 25 indicators [see below]. They provide descriptive information on a community’s demographic and socioeconomic characteristics and highlight important aspects of health status and various health determinants, including behavior, factors in the social and physical environments and health care. Some of the indicators include multiple measures within a broader category (e.g., causes of death and incidence of infectious diseases).”

#### *Health Determinant Category*

##### *- Indicator*

#### Sociodemographic Characteristics

- Distribution of the population by age and race/ethnicity.
- Number and proportion of persons in groups such as migrants, homeless or the non-English speaking, for whom access to community services and resources may be a concern.
- Number and proportion of persons aged 25 and older with less than a high school education.
- Ratio of the number of students graduating from high school to the number of students who entered 9th grade three years previously.
- Median household income.
- Proportion of children less than 15 years of age living in families at or below the poverty level.
- Unemployment rate.
- Number and proportion of single-parent families.
- Number and proportion of persons without health insurance.

#### Health Status

- Infant mortality rate by race/ethnicity.
- Number of deaths or age-adjusted death rates for motor vehicle crashes, work-related injuries, suicide, homicide, lung cancer, breast cancer, cardiovascular diseases, and all causes, by age, race and gender as appropriate.
- Reported incidence of AIDS, measles, tuberculosis and primary and secondary syphilis, by age, race and gender as appropriate.
- Births to adolescents (ages 10-17) as a proportion of total live births.
- Number and rate of confirmed abuse and neglect cases among children.

#### Health Risk Factors

- Proportion of 2 year-old children who have received all age-appropriate vaccines, as recommended by the Advisory Committee on Immunization Practices.
- Proportion of adults aged 65 and older who have ever been immunized in the past 12 months for influenza.
- Proportion of the population who smoke, by age, race and gender as appropriate.
- Proportion of the population aged 18 and older who are obese.
- Number and type of U.S. Environmental Protection Agency air quality standards not met.
- Proportion of assessed rivers, lakes and estuaries that support beneficial USES (e.g., fishing and swimming approved)

#### Health Care Resource Consumption

- Per capita health care spending for Medicare beneficiaries (the Medicare adjusted average per capita cost [AAPCC]).

#### Functional Status

- Proportion of adults reporting that their general health is good to excellent.
- During the past 30 days, average number of days for which adults report that their physical or mental health was not good.

#### Quality of Life

- Proportion of adults satisfied with the health care system in the community.

- Proportion of persons satisfied with the quality of life in the community

Source: Institute of Medicine. Improving Health in the Community: A Role for Performance Monitoring. Washington, DC: National Academies Press, 1997. Available at: <http://www.nap.edu/catalog/5298/improving-health-in-the-community-a-role-for-performance-monitoring>

### Virginia Health Opportunity Index

Overview: “The Virginia Department of Health – Office of Minority Health and Health Equity ... has developed the Virginia Health Opportunity Index (HOI) to help communities understand the many factors determining health, so they can work to improve the health outcomes for all their residents. Multiple factors can affect your overall health, and the Virginia HOI is a compilation of that information and creates a visual representation. We developed dashboards to organize the data so you can see how different areas are affected by these factors.

The Virginia Health Opportunity Index (HOI) is group of indicators that provide broad insight into the overall opportunity Virginians have to live long and healthy lives based on the Social Determinants of Health. It is a hierarchical index that allows users to examine social determinants of health at multiple levels of detail in Virginia. It is made up of over 30 variables, combined into 13 indicators, grouped into four profiles, which are aggregated into a single Health Opportunity Index. The HOI is reported at both the census tract and county/independent city level.”

#### Profile

- *Indicator*

Community Environment: an indicator of the natural, built and social environment of a community

- Air Quality Index: Includes EPA measures of pollution, including on-road, non-road and non-point pollution, and EPA measures of neurological, cancer and respiration risk.
- Population Churning: The amount of population turnover within a community. It measure the rate at which people both move into a community and move out of a community.
- Population-weighted density: A measure of population density that takes into account the density levels most people in the community experience.
- Walkability: A measure of how walkable a community is based on residential and employment density, land use (destination) diversity, street connectivity and public transit accessibility.

Consumer Opportunity: a measure of the consumer resources available within a community

- Affordability: The proportion of a community’s income spent on housing and transportation. This indicates how much income remains for other priorities, including food, health care and social activities.
- Education: The average number of years of schooling among adults in the community. It can range from zero (those with no formal schooling) to 20 (those with a doctorate/professional degree).
- Food Accessibility: A measure of access to food by low income people within a community. It measures the proportion of the low income community that has a large grocery store within 1 mile in urban areas or 10 miles in rural areas.
- Townsend Material Deprivation Index: examines the private material resources available to households in a community. Four indicators make up the Townsend Index: overcrowding (>2 persons per room); unemployment; % of persons no vehicle or car; % of person who rent.

Economic Opportunity: a measure of the economic opportunities available within a community

- Employment Accessibility: A measure of the number of jobs accessible to members of the community. Accessibility is determined by distance: close jobs are more accessible than jobs farther away.
- Income Inequality (GINI Coefficient): Measures whether the income earned within a community is distributed broadly or concentrated within the hands of small number of households.
- Job Participation: The percentage of individuals 16-64 years of age active in the civilian labor force. It

includes both those currently working and those seeking work.

Wellness Disparity: a measure of the disparate access to health services within a community

- Access to Care: Whether community members have access to a primary care physician and the means to pay for care. It includes the proportion of uninsured residents and the number of physicians within 30 miles of the community.
- Segregation Index: A measure of whether and how much people of different racial and ethnic backgrounds live together in diverse communities. It includes measures of both community diversity and the distance between communities with different racial or ethnic profiles.

Source: Virginia Health Opportunity Index: Health Matters. Place Matters [Internet]. Available at: <https://www.vdh.virginia.gov/omhhe/hoi/>.

### **Vision to Action: A Framework and Measures to Mobilize a Culture of Health (RWJF)**

Overview: “In collaboration with the RAND Corporation—and with valuable input from partners, experts, colleagues, and communities across the country—the Robert Wood Johnson Foundation (RWJF) has developed an Action Framework to help our nation broaden the discussion about health and accelerate an integrated course of action by many individuals, communities, and organizations. The Framework is drawn from rigorous research and analysis of the systemic problems holding our country back from a level of health that a great nation deserves. . . . The Action Framework groups the many actors, and the many facets, of a Culture of Health into four **Action Areas**—each connected to and influenced by the others. These Action Areas are intended to focus efforts and mobilize an integrated course of action by many individuals, communities, and organizations. Each Action Area contains a set of **Drivers** that indicate where our nation needs to accelerate change. The Drivers are the engine of the Action Framework, providing a set of long-term priorities both nationally and at the community level. The Action Areas and the Drivers are the essential, enduring structure of the Action Framework and will remain constant over time. Each Action Area is also accompanied by a set of national, evidence-based **Measures**, rigorously selected as points of assessment and engagement. By design, the Measures are not limited to traditional health indicators; instead, they encourage us to think of health in broader ways, incorporating all aspects of well-being.”

#### *Action Area or Outcome*

- *Driver or Outcome Area*
  - *Measure*

#### **Making Health A Shared Value**

- Mindset And Expectations
  - Value on health interdependence
  - Value on well-being
  - Public discussion on health promotion and well-being
- Sense Of Community
  - Sense of community
  - Social support
- Civic Engagement
  - Voter participation
  - Volunteer engagement

#### **Fostering Cross Sector Collaboration To Improve Well-Being**

- Number And Quality Of Partnerships
  - Local health department collaboration
  - Opportunities to improve health for youth at schools
  - Business support for workplace health promotion and Culture of Health
- Investment In Cross-Sector Collaboration
  - U.S. corporate giving

- Federal allocations for health investments related to nutrition and indoor and outdoor physical activity
- Policies That Support Collaboration
  - Community relations and policing
  - Youth exposure to advertising for healthy and unhealthy food and beverage products
  - Climate adaptation and mitigation
  - Health in all policies (support for working families)

#### Creating Healthier, More Equitable Communities

- Built Environment/Physical Conditions
  - Housing affordability
  - Access to healthy foods
  - Youth safety
- Social And Economic Environment
  - Residential segregation
  - Early childhood education
  - Public libraries
- Policy And Governance
  - Complete Streets policies
  - Air quality

#### Strengthening Integration Of Health Services And Systems

- Access
  - Access to public health
  - Access to stable health insurance
  - Access to mental health services
  - Routine dental care
- Consumer Experience And Quality
  - Consumer experience
  - Population covered by an Accountable Care Organization
- Balance And Integration
  - Hospital partnerships
  - Electronic medical record linkages
  - Practice laws for nurse practitioners
  - Social spending relative to health expenditure

#### Improved Population Health, Well-Being, And Equity

- Enhanced Individual And Community Well-Being
  - Well-being rating
  - Caregiving burden
- Managed Chronic Disease And Reduced Toxic Stress
  - Adverse child experiences
  - Disability associated with chronic conditions
- Reduced Health Care Costs
  - Family health care cost
  - Potentially preventable hospitalization rates
  - Annual end-of-life care expenditures

Source: RWJF. From Vision to Action: A Framework and Measures to Mobilize a Culture of Health. Princeton, NJ: RWJF, 2015. Available at: [http://www.rwjf.org/content/dam/files/rwjf-web-files/Research/2015/RWJF\\_From\\_Vision\\_to\\_Action\\_2015-FullReport.pdf](http://www.rwjf.org/content/dam/files/rwjf-web-files/Research/2015/RWJF_From_Vision_to_Action_2015-FullReport.pdf).

#### **Vital Signs: Core metrics for health and healthcare progress (IOM)**

Overview: “Thousands of measures are in use today to assess health and health care in the United States. Although many of these measures provide useful information, their sheer number, as well as their lack of focus, consistency, and organization, limits their overall effectiveness in improving

performance of the health system. To achieve better health at lower cost, all stakeholders—including health professionals, payers, policy makers, and members of the public—must be alert to which measures matter most. What are the core measures that will yield the clearest understanding and focus on better health and well-being for Americans?

With support from the Blue Shield of California Foundation, the California Healthcare Foundation, and the Robert Wood Johnson Foundation, the Institute of Medicine (IOM) convened a committee to identify core measures for health and health care. In *Vital Signs: Core Metrics for Health and Health Care Progress*, the committee uses a four-domain framework—healthy people, care quality, lower cost, and engaged people—to propose a streamlined set of 15 standardized measures, with recommendations for their application at every level and across sectors. Ultimately, the committee concludes that this streamlined set of measures could provide consistent benchmarks for health progress across the nation and improve system performance in the highest-priority areas.”

### *Core Measure Set*

#### *- Related Priority Measure*

#### 1. Life expectancy

- Infant mortality
- Maternal mortality
- Violence and injury mortality

#### 2. Well-being

- Multiple chronic conditions
- Depression

#### 3. Overweight and obesity

- Activity levels
- Healthy eating patterns

#### 4. Addictive behavior

- Tobacco use
- Drug dependence/illicit use
- Alcohol dependence/misuse

#### 5. Unintended pregnancy

- Contraceptive use

#### 6. Healthy communities

- Childhood poverty rate
- Childhood asthma
- Air quality index
- Drinking water quality index

#### 7. Preventive services

- Influenza immunization
- Colorectal cancer screening
- Breast cancer screening

#### 8. Care access

- Usual source of care
- Delay of needed care

#### 9. Patient safety

- Wrong-site surgery
- Pressure ulcers
- Medication reconciliation

#### 10. Evidence-based care

- Cardiovascular risk reduction
- Hypertension control

- Diabetes control composite
  - Heart attack therapy protocol
  - Stroke therapy protocol
  - Unnecessary care composite
11. Care match with patient goals
- Patient experience
  - Shared decision making
  - End-of-life/advanced care planning
12. Personal spending burden
- Health care–related bankruptcies
13. Population spending burden
- Total cost of care
  - Health care spending growth
14. Individual engagement
- Involvement in health initiatives
15. Community engagement
- Availability of healthy food
  - Walkability
  - Community health benefit agenda

Source: Institute of Medicine. *Vital Signs: Core metrics for health and healthcare progress*. Washington, DC: National Academies Press, 2015. Available at: <http://iom.nationalacademies.org/Reports/2015/Vital-Signs-Core-Metrics.aspx>.

## Other Sector-specific Indices

### Leading Economic Index®

Overview: “The composite economic indexes are the key elements in an analytic system designed to signal peaks and troughs in the business cycle. The leading, coincident, and lagging economic indexes are essentially composite averages of several individual leading, coincident, or lagging indicators. They are constructed to summarize and reveal common turning point patterns in economic data in a clearer and more convincing manner than any individual component – primarily because they smooth out some of the volatility of individual components.”

The ten components of the Leading Economic Index®:

1. Average weekly hours, manufacturing
2. Average weekly initial claims for unemployment insurance
3. Manufacturers' new orders, consumer goods and materials
4. ISM® Index of New Orders
5. Manufacturers' new orders, nondefense capital goods excluding aircraft orders
6. Building permits, new private housing units
7. Stock prices, 500 common stocks
8. Leading Credit Index™
9. Interest rate spread, 10-year Treasury bonds less federal funds
10. Average consumer expectations for business conditions

Source: The Conference Board. Global Business Cycle Indicators: U.S. [Internet]. Available at: <https://www.conference-board.org/data/bcicountry.cfm?cid=1>

### Environmental Quality Index (EQI)

Overview: “Three sources were used to identify EQI domains: (1) EPA’s Report on the Environment (ROE); (2) an environmental health literature review (searches for published papers reporting on “environment” and “infant mortality”); and (3) expert consultation. ... New variables were created for each domain. These variables were created using data relevant to that domain. ... After variables were created, they were combined into a single index (the EQI) using statistical methods. Each domain has its own index (air domain index, water domain index, etc.). Next, each of the domain-specific indices was used to create the overall EQI. The statistical process used to add these variables together is called principal component analysis (PCA).”

#### *Domain*

##### *Air*

- Three data categories were considered: (1) monitoring data, (2) emissions data, and (3) modeled estimates representing concentrations of either criteria air pollutants or hazardous air pollutants (toxics). Twelve data sources were identified, and seven were considered for the EQI. Two were used for the air domain of the EQI because they were the most complete:
  - Air Quality System
  - National-Scale Air Toxics Assessment

##### *Water*

- Five broad data categories within the water domain were identified: (1) modeled, (2) monitoring, (3) reported, (4) surveyed/studied and (5) miscellaneous data. Eighty data sources were identified. Five were used for the water domain of the EQI.
  - Watershed Assessment, Tracking and Environmental Results Program Database/Reach Address Database

- National Contaminant Occurrence Database
- Estimates of Water Use in the United States
- Drought Monitor Data
- National Atmospheric Deposition Program

Land

- Land domain data sources were grouped into four categories: (1) agriculture, (2) industrial facilities, (3) geology/mining, and (4) land cover. Eighty sources were identified. Eleven were kept and used in the land domain of the EQI: two from agriculture, seven from facilities, and two from geology/mining.
  - National Pesticide Use Database: 2002
  - 2002 Census of Agriculture Full Report
  - EPA Geospatial Data Download Service
  - National Geochemical Survey
  - Map of Radon Zones

Sociodemographic

- The sociodemographic domain is represented by crime and socioeconomic data. Only two data sources were kept for the sociodemographic domain of the EQI.
  - U.S. Census: County-level population and housing characteristics, including density, race, spatial distribution, education, socioeconomics, home and neighborhood features, and land use
  - Uniform Crime Reports: County-level reports of violent crime

Built

- Built-environment data sources were grouped by categories: traffic-related, transit access, pedestrian safety, access to various business environments (such as the food, recreation, health care, and educational environments), and the presence of subsidized housing. Twelve data sources were identified, and four were kept for the built-environment domain of the EQI: (1) one traffic-related, (2) one for pedestrian-safety, (3) one for use in the various business environments (physical activity, food, health care, and educational), and (4) one for subsidized housing.
  - Dun and Bradstreet North American Industry Classification System codes: Description of physical activity environment (recreation facilities, parks, physical-fitness-related businesses) food environment (fast-food restaurants, groceries, convenience stores) education environment (schools, daycares, universities) per county
  - Topologically Integrated Geographic Encoding and Referencing: Road type and length per county
  - Fatality Annual Reporting System: Annual pedestrian-related fatality per 100,000 population; maintained by National Highway Safety Commission
  - Housing and Urban Development Data: Housing authority profiles provide general housing details (low-rent and subsidized/section 8 housing); information updated by individual public housing agencies.

Source: United States Environmental Protection Agency/ ORD/ NHEERL/ EPHD. Environmental Quality Index: Overview Report. EPA/600/R-14/305. September 2014. Available at: [https://edg.epa.gov/data/PUBLIC/ORD/NHEERL/EQI/EQI%20Overview%20Report\\_Final.pdf](https://edg.epa.gov/data/PUBLIC/ORD/NHEERL/EQI/EQI%20Overview%20Report_Final.pdf).

## Assessment Tools

### Community impact assessment: a quick reference for transportation (DOT)

Overview: Community Impact Assessment (CIA) is an iterative process to evaluate the effects of a transportation action on a community and its quality of life. It is a way to incorporate community considerations into the planning and project development of transportation projects. Several Federal regulations, statutes, policies, technical advisories, and Executive Orders support the need for a process to evaluate impacts on the human environment.

The *Community Impact Assessment: A Quick Reference for Transportation* provides information on how transportation agencies can implement CIA. The reference guide defines CIA, outlines the community impact assessment process, and identifies tools and information sources. Below is a list of additional CIA resources to increase awareness.

Examples of types of data to collect:

#### Population and Demographic Characteristics

- Trends in population growth and demographics
- Ethnicity and race
- Age and gender distributions
- Income levels
- Educational attainment
- Employment status
- Special population subgroups, such as disabled populations
- Indian tribal governments, as appropriate

#### Economic and Social History/Characteristics

- Community historical background and context
- Community values and issues (e.g., security and solitude)
- Economic base (e.g., agriculture, manufacturing, and service)
- Property values
- Tax base
- Other economic characteristics (e.g., port city, tourism base, and lumber town)

#### Physical Characteristics Relating to Community Activities

- Community centers/activity centers
- Infrastructure (e.g., roads, transit, and water and sewage systems)
- Public services and facilities (e.g., schools, police, fire, libraries, and hospitals)
- Land-use plans and zoning
- Special areas, historic districts, and parklands
- Businesses
- Housing (availability, age, and type)
- Planned and approved future development
- Community focal points or informal meeting places (e.g., places of worship, playgrounds, hair salons, and laundromats)

Source: US Department of Transportation/Federal Highway Administration. Publication No. FHWA-PD-96-036 - September 1996. Available at: <http://www.fhwa.dot.gov/livability/cia/>

### Healthy Communities Assessment Tool (HUD)

Overview: “The Healthy Communities Assessment Tool (HCAT) is an evidence-based web platform tool that offers a comprehensive approach for evaluating factors that contribute to community health. Part of a larger HUD Healthy Communities initiative, the HCAT is designed to evaluate physical,

social, and economic service structures at the neighborhood level that support healthy living and healthy behaviors in our communities. ... The HCAT utilizes a comprehensive set of social, physical and environmental indicators that comprise the Healthy Community Index (HCI). Through the HCAT, cities can use the HCI to evaluate how well individual neighborhoods are faring compared to others. The HCAT can also be used to identify areas of opportunity, as well as help prioritize community needs and challenges. Unlike other indicator tools that generally have health as one category within the tool, the HCAT is specifically designed with a health lens across all indicators to help focus strategies to improve neighborhoods through investment, resource development, and programs.”

“The HCAT template is available for download to City agencies, citizen groups, and other local stakeholders interested in assessing and improving the health of their communities. Data collection and uploads are the responsibility of the downloading organization. Limited technical assistance is available once your city and organization has registered to download the HCAT template. Download the HCAT Administrative Guide to learn more about the HCAT and the steps necessary to set up and collect data for a local HCAT site.”

See the Healthy Communities Index (HCI) above in this report for a list of indicators used in the HCAT.

Source: US Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes (OLHCHH). heat: healthy communities assessment tool [Internet]. Available at: <http://healthycommunitiesportal.org/>.

## Sources of Sub-County Level Data for Community Domains and Indicators

### American Community Survey 2015

#### Content

- **Household composition** & relationships
- **Demographics** (age, DOB, sex, race, Hispanic origin, birth state or country, ancestry, citizenship, current marital status, # marriages, year last got married, given birth in past 12 months, living with grandchildren)
- **Education** (currently in school, highest education level, English speaking ability, other language)
- **Housing** (building type, date first built, length of residence, acreage, rooms, bedrooms, plumbing, appliances, computers, Internet access & type of service, vehicles, heating fuel for building, cost of utilities, ownership, rent, mortgage, value of building, taxes)
- **Food assistance**: Food stamp or Supplemental Nutrition Assistance Program (SNAP) recipient
- **Health insurance** coverage
- **Disability** (hearing, seeing, cognitive, mobility, ADL, IADL)
- **Military service** (Y/N, when), VA disability recipient
- **Employment** (current, location, transportation to work, commute time, laid off in past week, looking for work, when last worked, # weeks worked in past year, # hours worked per week, type of employer, kind of business, type of work, main work activities)
- **Income** (sources & amount of income in past year)

Source: Census Bureau. American Community Survey (ACS): 2015 ACS Form & Instructions Available at: <https://www.census.gov/programs-surveys/acs/about/forms-and-instructions/2015-form.html>. Accessed: 2015 Nov 11.

### NNIP Administrative Data Sources for Neighborhood Indicators

Main sources [providers] of administrative data used by neighborhood indicator systems:

- vital statistics agencies (6)
- police departments (6)
- public assistance agencies (5)
- school systems (6)
- hospitals and health agencies (2)
- tax assessors and auditors (6)
- building/planning departments (3)
- public housing authorities (5)
- development/budgeting departments (3), and
- business/employment directories (6)

Source: National Neighborhood Indicators Partnership. Kingsley TG, editor. Building and Operating Neighborhood Indicator Systems: A Guidebook. Washington, DC: The Urban Institute; 1999, page 6. Available at: <http://www.urban.org/research/publication/building-and-operating-neighborhood-indicator-systems>.

Domains and examples of indicators for which administrative data are available, as listed in *Catalog of Administrative Data Sources for Neighborhood Indicators*:

- Economy
- % change in total employment
- % employment in firms by size
- % former welfare recipients who found jobs
- Average earnings of participants in training

- # of UI claims filed Average weeks of benefits paid
- # of jobs
- % change in employment
- Education
- % children absent more than 20% of school days
- % children passing proficiency exam
- % eligible children attending Head Start
- Average number of months enrolled
- % kindergarteners with preschool experience
- % attending community college
- Health
- % pregnancies with adequate prenatal care
- Infant mortality rate
- % births to unmarried mothers
- # cases of sexually transmitted diseases
- % children screened testing positive for lead
- Rate of injuries by age
- % children entering school appropriately immunized by age
- Annualized rates of ambulatory care use
- % newborns with appropriate # of well child visits in first year
- Social services
- # recipients of public assistance per 1,000 population
- Total dollar amount of public assistance benefits paid per month
- % long-term recipients of public assistance
- # children in subsidized child care
- # children under protective services agency supervision per 1,000 child population
- Safety and security
- # crimes per 100,000 population
- % crimes committed by residents versus nonresidents
- # 911 calls for domestic violence
- Juvenile crimes rate
- % juvenile filings that are for violent offenses
- # returning prisoners per 1,000 residents
- % homicides involving firearms
- # suicides involving drugs
- % children with maltreatment reports per 1,000 children
- Community resources and participation
- # nonprofit organizations by type
- # community agencies by service area
- # arts and culture organizations by type
- % eligible voters who are registered
- Location of transit stops
- # automobiles per capita
- # dollars expended annually by community development agencies
- Housing
- % properties that are residential
- % properties tax delinquent
- Median housing assessed values
- Total value of construction
- % properties with housing code violations
- # foreclosures per 1,000 residential properties
- # properties with water shut off for > 1 month
- # public housing units
- Environment
- Location and amount of pollutants emitted
- Location of wastewater sources in violation of discharge regulations

- Location of Superfund sites
- Amount and type of toxic chemical releases
- Square miles designated as parks or nature preserves
- Miles of bike trails
- % street miles with sidewalks

Source: National Neighborhood Indicators Partnership. Coulton CJ. Catalog of Administrative Data Sources for Neighborhood Indicators. Washington, DC: The Urban Institute; 2008. Available at: <http://www.urban.org/research/publication/catalog-administrative-data-sources-neighborhood-indicators>.

### **National Neighborhood Indicators Partnership Data Inventory (Urban Institute)**

Overview: “The National Neighborhood Indicators Partnership (NNIP) is a collaborative effort by the Urban Institute and local partners in 29 cities, established to further the development and use of neighborhood information systems in local policy making and community building. ... The NNIP Data Inventory was conducted from June 2007 through September 2007. The Urban Institute designed and distributed an Excel-based survey in which [it] asked for the following data information: (1) institutional source of the data; (2) frequency of update; (3) smallest geographic level (e.g., address vs. block); (4) geographic extent; and (5) years covered. [The survey] included a wide range of topics, including vital statistics, crime, education, public assistance, and property files. All but one of the 29 NNIP Partners responded to the survey.”

Topics covered in the 2007 survey:

- Births and deaths
- Education
- Property transactions/characteristics
- Crime
- Voting
- Health
- Public assistance
- Housing assistance
- Prisoner reentry
- Business/economy

Source: National Neighborhood Indicators Partnership. Guernsey EH, Pettit KLS. NNIP Data Inventory 2007: A Picture of Local Data Collection Across the Country. Washington, DC: The Urban Institute; December 2007. Available at: <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/412350-NNIP-Data-Inventory--A-Picture-of-Local-Data-Collection-Across-the-Country.PDF>.

## Support Organizations for Community Indicator Projects

### Community Indicators Consortium

Overview: “The Community Indicators Consortium [CIC] advances and supports the development, availability and effective use of community indicators for making measurable and sustainable improvements in quality of community life.” One of its activities is to maintain a list of ‘Indicator Projects,’ currently active in various states, counties, cities, and communities across the United States and several other countries (e.g., Canada, Australia, and New Zealand). As of January 2016, more than 300 indicator projects are on the list.

Sources: Community Indicators Consortium. About the Community Indicators Consortium [Internet]. Available at: <http://communityindicators.net/about>. Community Indicators Consortium. Indicator projects [Internet]. Available at: <http://communityindicators.net/projects>.

### National Neighborhood Indicators Partnership (Urban Institute)

Overview: “The National Neighborhood Indicators Partnership (NNIP) was created in 1995 and is a collaborative effort by the Urban Institute and local partners to further the development and use of neighborhood-level information systems in local policymaking and community building. The Urban Institute, a nonpartisan research organization, coordinates the NNIP network.”

“... NNIP works to catalyze a broader effort by partnering with other national organizations whose missions revolve around improving governance, program performance, and community development at the local level. As one example, NNIP is an outreach partner for the KIDS COUNT network, a national and state-by-state effort to track the status of children in the United States. [NNIP] also actively participate[s] in the Community Indicators Consortium, which has an inventory of indicator projects and information on integrating community indicators with performance management.”

The following 31 urban areas were listed on the NNIP website as participating in the National Neighborhood Indicators Partnership, as of January 2016:

Atlanta, GA	Dallas, TX	Milwaukee, WI	Pittsburgh, PA
Austin, TX	Denver, CO	Minneapolis-St. Paul, MN	Portland, OR
Baltimore, MD	Detroit, MI	Nashville, TN	Providence, RI
Boston, MA	Grand Rapids, MI	New Haven, CT	San Antonio, TX
Camden, NJ	Indianapolis, IN	New Orleans, LA	Seattle, WA
Charlotte, NC	Kansas City, MO	New York, NY	St. Louis, MO
Cleveland, OH	Memphis, TN	Oakland, CA	Washington, DC
Columbus, OH	Miami, FL	Pinellas County, FL	

Source: National Neighborhood Indicators Partnership [Internet]. Available at: [www.neighborhoodindicators.org/](http://www.neighborhoodindicators.org/)

In 1999 the Urban Institute published an NNIP guidebook on “Building and Operating Neighborhood Indicator Systems.”<sup>28</sup> Along with much helpful guidance, the book listed seven common characteristics of locally developed neighborhood indicator systems:

1. maintain automated data systems with regularly updated neighborhood-level data from multiple sources;
2. emphasize the application of data in action programs (not interested in data for its own sake);

<sup>28</sup> National Neighborhood Indicators Partnership. Kingsley TG, editor. Building and Operating Neighborhood Indicator Systems: A Guidebook. Washington, DC: The Urban Institute; 1999, page 6.

3. exist primarily to support community building and address persistent poverty;
4. serve as a one-stop shop for a variety of data users in the public interest;
5. emphasize democratizing information—facilitating data use by actual stakeholders, rather than using it directly themselves;
6. use information as a bridge to encourage collaboration among stakeholders; and
7. have developed a reputation as impartial providers of reliable information, not beholden to any short-term interests.

The NNIP guidebook also provided the Cleveland Community Building Initiative, which is described above, as an example of a neighborhood indicator system.

## Timeline for Health-sector Models, Measurement Frameworks, and Indicator Sets

### 1970

- Healthy People (1979)

### 1980

- Promoting Health/Preventing Disease: Objectives for the Nation [226]<sup>29</sup> (1980)
- Future of Public Health (1988)

### 1990

- Healthy People 2000 [376] (1990)
- America's Health Rankings [~60] (UHF 1990–2014)
- Evans, Stoddard: Model (1990)
- HP2000 Health Status Indicators [18] (1991)
- CDC Assessment Initiative (1992)
- IOM: Proposed Indicators for a Community Health Profile [25] (1997)
- Prototype Performance Indicator Sets [9] (IOM 1997)

### 2000

- Healthy People 2010 [467] (2000)
- HP2010 Leading Health Indicators [~10] (2000)
- Community Health Status Indicators [42] (2000, 2008, 2009, 2015)
- NACCHO MAPP CHSA Indicators (~2001)

### 2010

- County Health Rankings [~35] (2010–2015)
- County Health Rankings-MATCH articles in *Preventing Chronic Disease* (2010)
- Health outcomes, health inequalities, health care access and quality, SES, health behaviors, environmental metrics, public health policy (July 2010)
- Improving population health: incentives, social marketing, policies, existing funding, lessons from health care, accountability metrics, population health rankings, European experience with targets (September 2010)
- Improving population health: partnerships, multi-sector partnerships, multi-organizational partnerships, networks and social entrepreneurship, business community, standard-setting
- Healthy People 2020 [>1,000] (2010)
- National Prevention Strategy (2011)
- CHNA Indicators (2011)
- HP2020 Leading Health Indicators [26] (2011)
- IOM: Vital Signs [15] (2015)
- RWJF: From Vision to Action: Measures to Mobilize a Culture of Health [41] (2015)

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<sup>29</sup> Number in square brackets represents the approximate # of indicators, metrics, or objectives for each indicator set.

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## Appendix A. Definitions

### Community

“An interdependent group of people who share a set of characteristics and are joined over time by a sense that what happens to one member affects many or all of the others.” (NCVHS 2011, pages 7-9)

### Community well-being

The presence of conditions within a community that support the comfort, health, and happiness of its residents

### Domain

“A specified sphere of activity or knowledge” (Oxford Dictionaries)

“The domains are broad categories that reflect important areas in which communities can select metrics relevant to their goals, resources, and planned interventions. ... These domains must encompass the key determinants of health and be consistent across all geographic levels.” (NCVHS Workshop draft report, pages 4–5)

“Collections of indicators and metrics used to describe different components of human well-being. The domains correspond with one or more of the three main elements of well-being: economic, environmental, and societal well-being.” (Smith 2014, page ES-1)

“Domains are broad categories or spheres of activities, conditions, and information that constitute or characterize human societies (e.g., nations, populations, and communities).” (RGP draft definition, 2016-04-17)

Examples include

- economy,
- social interactions,
- governance,
- education,
- health,
- natural and built environment,
- housing, and
- transportation.

### Health

“1. The state of being free from illness or injury: ‘he was restored to health’ [AS MODIFIER]: ‘a health risk’ 1.1. A person’s mental or physical condition: ‘bad health forced him to retire’ ” (Oxford Dictionaries [Available at: <http://www.oxforddictionaries.com/us>])

“A state of complete physical, mental, and social well-being” (WHO 1948)

“A state of well-being and the capability to function in the face of changing circumstances” (IOM 1997, page 2)

See definition of **Population health** below.

### Indicator

“A thing, especially a trend or fact, that indicates the state or level of something: ‘*car ownership is frequently used as an indicator of affluence*’ ” (Oxford Dictionaries)

“An interpretable value or category describing trends in some measurable aspect, often used singularly or in combination to generate an index.” (Smith 2014, ES-1)

“An indicator is defined as a measurement, for example, prevalence of cardiovascular disease.

An indicator could relate to multiple topics, for example, the indicator percentage of adults with a body mass index (BMI) equal to or greater than 30 could relate to the topics of chronic disease and health behaviors.” (IOM 2011)

“Indicators are distinguishable in at least two respects. First, they are measures purposefully selected for tracking because they relate to important societal values and goals. Second, indicators must be expressed in a consistent form that permits comparison over time, and normally between places. To achieve the latter purpose, indicators are usually expressed as rates or percentages rather than as absolute values ...

Many people think of the term "social indicators" primarily in reference to outcomes—that is, as measures of societal well-being (measures that tell you how well social goals are being achieved). That definition, however, is too restrictive for policy analysis and evaluation. One scheme (Land 1975) identifies five types of indicators for application in social system models:

*Policy instrument indicators*: variables exogenous to the system that are manipulable by social policy.

*Nonmanipulative descriptive indicators*: other exogenous variables that influence outcomes but are not manipulable by social policy.

*Outcome or end product indicators*: endogenous variables that define the social condition of concern and are consequences of the social processes embodied in the model.

*Side-effect indicators*: endogenous variables that influence or are influenced by, but do not define, the social conditions and processes under consideration.

*Analytic indicators*: parameters of the social processes specified in the model that play some role in influencing change but do not meet any of the other definitions.” (NNIP 1999, pages 15-16)

“Indicators are specific, narrowly defined activities and conditions whose state or level is measurable.” (RGP draft definition, 2016-04-17)

Examples include

- employment,
- educational attainment,
- commute time,
- noise,
- participation in voting,
- cigarette use, and
- affordability of rental housing.

## Metric

“A system or standard of measurement.” (Oxford Dictionaries)

“A singular unit of something measurable, often used singularly or in combination to generate an indicator.” (Smith 2014, ES-1)

“Quantitative measure of a specific, clearly defined activity or condition.” (RGP draft definition, 2016-04-17)

Examples include

- per cent of population aged 16 years and older in labor force that is employed,
- adults aged 25 years and older who have completed high school or equivalent,
- average commuting time in minutes for employed population aged 16 years,
- percent of population living within an area with average daytime and nighttime noise level greater than 60dB,
- life expectancy at birth in years, and
- ratio of bicycle path and lane miles to road miles.

The specification of a metric should include a quantitative definition, units for expressing the metric (e.g., number, percent, rate per 100,000 persons), population or other entity measured,

and method of measurement or source of data (e.g., census, population survey, and environmental sampling).

**Population health**

“the health outcomes of a group of individuals, including the distribution of such outcomes within the group” (Kindig 2003)

**Social capital**

“the network of social connections that exist between people, and their shared values and norms of behaviour, which enable and encourage mutually advantageous social cooperation” (Collins 2012)

“...the links, shared values and understandings in society that enable individuals and groups to trust each other and so work together.” (OECD 2007)

“...networks together with shared norms, values and understandings that facilitate co-operation within or among groups” (OECD 2007)

“The central premise of social capital is that social networks have value. Social capital refers to the collective value of all ‘social networks’ [who people know] and the inclinations that arise from these networks to do things for each other [‘norms of reciprocity’].” (Harvard: Saguro)

**Social cohesion**

“willingness of members of a society to cooperate with each other in order to survive and prosper.” (Stanley 2003)

**Well-being**

“The state of being comfortable, healthy, or happy: ‘an improvement in the patient’s well-being’ (Oxford Dictionaries)

“There is no consensus around a single definition of well-being, but there is general agreement that at minimum, well-being includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning. In simple terms, well-being can be described as judging life positively and feeling good. For public health purposes, physical well-being (e.g., feeling very healthy and full of energy) is also viewed as critical to overall well-being.

Researchers from different disciplines have examined different aspects of well-being that include the following:

- Physical well-being.
- Economic well-being.
- Social well-being.
- Development and activity.
- Emotional well-being.
- Psychological well-being.
- Life satisfaction.
- Domain specific satisfaction.
- Engaging activities and work.”

(CDC: HRQOL)

## Appendix B.1 Domain names and their frequency of use in non-health sector indicator systems, indices, and rankings

Domain name	#	Domain name	#	Domain name	#	Domain name	#
<12 years schooling	1	Economic	2	Housing	13	Personal security	1
Accessibility	1	Economic Health	1	Housing & Housing Costs	1	Physical (Health)	1
Aesthetics and Sensory	1	Economic opportunity	1	Housing and Community Development	1	Political and Administrative Boundaries	1
Agriculture	1	Economic Vitality	1	Housing and Properties	1	Poor	1
Amenities	2	Economy	8	Housing/ Transportation Variables	1	Poverty	1
Appropriate care	1	Education	15	Human Services	1	Property & Land Use	1
Arts & Culture	2	Education and skills	1	Income	2	Public Assistance	1
Arts and leisure	1	Education and Youth	1	Income & Poverty	1	Public Health	1
Arts, Culture and Recreation	1	Education, Skills and Training	1	Income and wealth	1	Public Safety	6
Arts, Recreation & Cultural Life	1	Educational Attainment	1	Income Deprivation	1	Purpose (Enjoy life)	1
Barriers to Housing and Services	1	Educational Opportunities	1	Income Level	1	Receipt of means-tested benefits	1
Behaviours and environments	1	Educational qualifications	1	Infrastructure	1	Regional prospects	1
Black	1	Employment	1	Institutions and Services	1	Renter occupied	1
Business & Workforce	1	Employment Deprivation	1	Jobs	1	Resourcing for health & social care	1
Car and telephone access	1	Employment Opportunities	1	Jobs and earnings	1	Resourcing to support health	1
Census Demographics	1	Empowerment	1	Knowledge	1	Safety	1
Children and Family Health	1	Engagement: Civic and social involvement	1	Labour market	1	Safety and Security	2
Civic Engagement	1	Environment	8	Land Use	1	Services	1
Civic engagement and governance	1	Environment & Energy	1	Language	1	Single parent	1
Civic Vitality	1	Environmental Hazards	1	Leisure	1	Social (Good personal relationships)	1
Civic Vitality & Governance	1	Environmental quality	1	Leisure and culture	1	Social and civic capital	1
Community (Like where you live)	1	Environmental Sustainability	1	Leisure time	1	Social cohesion	3
Community Amenities	1	Family, Child, and Youth Development	1	Living Environment Deprivation	1	Social connections	1
Community Engagement	1	Financial (Sufficient money)	1	Living standards	2	Social Well-Being	1
Community vitality	1	Government & Citizen Participation	1	Local conditions	1	Societal	1
Connection to nature	1	Health	14	Long and healthy life	1	Socio-Cultural	1
Cost of Government	1	Health care	1	Low pay	1	Socioeconomic Variables	1
Crime	4	Health Deprivation and Disability	1	Minority Status/Language Variables	1	Sole parenting	1
Crime and Safety	1	Health status	2	Mobility	1	Standard of living	1
Crowded Housing	1	Health Systems and Public Safety	1	Natural Areas	1	Subjective well-being	1
Crowding	1	Healthy areas	1	Natural Resources	1	Sustainability	1
Cultural fulfillment	1	Healthy populations	1	Neighborhood Characteristics	1	Technology	2
Cultural Life & the Arts	1	High-need age group	1	Neighborhood Identity and Pride	1	Time use	1
Culture, Recreation & Tourism	1	Home living space	1	Neighborhood: Access to life, work, and play	1	Transportation	9
Decent standard of living	1	Home ownership	1	No car	1	Transportation and Mobility	1
Democratic engagement	1	Household Composition Variables	1	Non-employed	1	Unemployment	2
Demographics	8	Household conditions	1	Opportunity: Inclusion and possibilities	1	Well-being elements	1
Dependency	1	Household income	1	People	1	Work	1
Domains of well-being	1			People & Household Characteristics	1	Work-life balance	1
Ease of living	1					Workforce and Economic Development	1

**Appendix B.2 Most common domain names used by non-health sector indicator systems, indices, and rankings**

Domain name	#
Amenities	2
Arts & Culture	2
Crime	4
Demographics	8
Economic	2
Economy	8
Education	15

Domain name	#
Environment	8
Health	14
Health status	2
Housing	13
Income	2
Living standards	2
Public Safety	6

Domain name	#
Safety and Security	2
Social cohesion	3
Technology	2
Transportation	9
Unemployment	2

## Appendix C. Domains identified during environmental scan categorized into 15 topical areas, related domain names, and issues concerning naming and categorization of domains

Domain	Other domain names in current use	Issues
Arts & culture	Arts and leisure Arts, Culture and Recreation Arts, Recreation & Cultural Life	Should leisure and recreation be combined with Arts & Culture?
Civic vitality	Civic Engagement Civic engagement and governance Civic Vitality & Governance Community Engagement Community vitality Democratic engagement Engagement: Civic and social involvement Government & Citizen Participation Policies That Support Collaboration Policy Policy And Governance Political and Administrative Boundaries Public Assistance Receipt of means-tested benefits	Should the following be classified as “Civic vitality”? <ul style="list-style-type: none"> <li>• Investment In Cross-Sector Collaboration</li> <li>• Number And Quality Of Partnerships</li> <li>• Sense Of Community</li> </ul> Should “Government,” “Governance,” or Policy and Governance” be separated from “Civic vitality” as a new domain?  What category should be used for public assistance and benefits for those in need?
Democratic engagement	See “Civic vitality” alternatives	Should “Civic vitality” and “Democratic engagement” be combined?
Demographics	Census Demographics Demographics Dependents Household Composition Variables Language Minority Status/Language Variables People People & Household Characteristics Sole parenting	Should “Demographics” be changed to “Demography”? Or, should “People” or “Population” be used instead of “Demographics”?  Should housing-related topics (e.g., home composition) be classified under “Housing” or “Demographics” or both?
Economy	Agriculture Business & Workforce Economic Economic opportunity Economic Vitality Employment Employment Deprivation Financial (Sufficient money) Home ownership Household income Housing & Housing Costs Income Income & Poverty Income and wealth Income Deprivation Jobs Jobs and earnings Labour market Opportunity: Inclusion and possibilities Personal spending burden Population spending burden Poverty Unemployment	“Economy” encompasses many topics (e.g., income, poverty, employment, jobs). Should any of these be “elevated” to become domains on the same level as “Economy?”  Alternatively, should “Economy” be replaced with a set of more specific domains, such as income, poverty, and employment?  Should housing-related topics listed here (e.g., home ownership, housing costs) be classified under “Economy,” “Housing,” “Demographics” or all three topics?

Domain	Other domain names in current use	Issues
	Work Workforce and Economic Development	
Education	Education and skills Education and Youth Education, Skills and Training Deprivation Educational Attainment Educational qualifications Family, Child, and Youth Development Knowledge	
Environment	Aesthetics and Sensory Air Air quality Built Environment/Physical Conditions Climate Connection to nature Environment Environment & Energy Environmental quality Environmental Sustainability Greenspace Healthy and Safe Community Environments Land Use Living Environment Deprivation Natural Resources Noise Physical Environment Property & Land Use Water	<p>“Environment” encompasses many topics (e.g., air quality, green space, noise, water). Should any of these be “elevated” to become domains on the same level as “Environment?”</p> <p>Should “Environment” be separated into “Natural Environment” and “Built Environment?” “Green space” and “Natural Resources” are other terms that might serve as well or better than “Natural Environment.”</p> <p>Should “Land use &amp; zoning” be listed as a separate domain? Should its subdomains and indicators be categorized under “Built Environment”?</p>
Health	Health care <sup>30</sup> Health Deprivation and Disability Health status Healthy populations Long and healthy life Physical (Health) Public Health	In the summary tables, only “Health Care” and “Public Health” are currently listed. Should any other health-related domains be listed?
Health care & Public health	Access to care <sup>31</sup> Access to Health Care Access to health services Addictive behavior Behaviors Care access Care match with patient goals Children and Family Health Clinical and Community Preventive Services Clinical Care Elimination of Health Disparities Evidence-based care Functional Status Health Behaviors Health Care Resource Consumption	<p>In the summary tables, only “Health Care” and “Public Health” are currently listed. Should any other health-related domains be listed?</p> <p>Should “Human Services” or “Social services” be listed as a separate domain, which might include public assistance, food assistance, and social services?</p>

<sup>30</sup> Only topics derived from the non-health sector are listed here. The “Health care & Public health” row lists the topics derived from the health sector.

<sup>31</sup> Only topics derived from the health sector are listed here.

Domain	Other domain names in current use	Issues
	Health Outcomes Health Risk Factors Health status Healthy communities Healthy Eating Individual engagement Leading Causes of Death Life expectancy Managed Chronic Disease And Reduced Toxic Stress Mental and Emotional Well-Being Morbidity Mortality Obesity and relevant behaviors Outcomes Overweight and obesity Patient safety Preventable hospitalizations Preventing Drug Abuse and Excessive Alcohol Use Preventive services Reduced Health Care Costs Reproductive and Sexual Health Social services Substance abuse (alcohol/drug) Tobacco Tobacco Free Living Unintended pregnancy	
Housing	Barriers to Housing and Services Home living space Housing Housing and Community Development Housing and Properties Housing/ Transportation Variables	Should housing-related topics listed under “Economy” or “Demographics” be moved to “Housing”?
Leisure	Leisure and culture Leisure time	Should “Leisure” be deleted as a domain from the summary tables and its subdomains and indicators be categorized under “Arts & Culture” or another domain, such as “Recreation & Leisure”?
Living standards	Decent standard of living Standard of living	Should “Living standards” be deleted as a domain from the summary tables and its subdomains and indicators be categorized under another domain, such as “Economy”?
Safety & Security	Crime Crime and Safety Injury and Violence Free Living Personal security Public Safety Safety Safety and Security	Should “Safety & Security” be renamed “Public Safety,” which was the most commonly used term for this domain? “Crime” was the second most commonly used term.
Social capital & cohesion	Social (Good personal relationships) Social and civic capital Social cohesion Social connections	Are both “Social capital” and “cohesion” needed in the domain title?  Should “Social capital & cohesion” be deleted as a domain from the summary tables and its subdomains and indicators be categorized under

<b>Domain</b>	<b>Other domain names in current use</b>	<b>Issues</b>
Transportation	Mobility Transportation Transportation and Mobility	another domain, such as “Civic Vitality”? Should the “Transportation” domain title be expanded to “Transportation and Mobility”? Transportation was the most commonly used term for this domain.

## **Appendix D. Non-health sector indices and domains referenced during November 2015 NCVHS workshop on Advancing Community-Level Core Measurement**

These indices and domains were mentioned by participants at the November 17, 2015, NCVHS workshop on Advancing Community-Level Core Measurement and are cited in Appendix 5 of the 15 January 2016 draft of the workshop report.

### American Association of Retired Persons (AARP):

- Livability Index ✓

### Department of Housing and Urban Development:

- Livable community metrics ✓

### Department of Justice:

- Framework for data on correctional health and health care

### Department of Transportation:

- Community Vision Metrics Web Tool ✓  
[[http://www.fhwa.dot.gov/livability/tools/community\\_vision/index.cfm](http://www.fhwa.dot.gov/livability/tools/community_vision/index.cfm)]

### Environmental Protection Agency (Sustainable and Healthy Communities Research Program):

- Environmental Justice Screening Index (EJSCREEN)
- Environmental quality index ✓
- Human well-being index ✓
- Tribal well-being index
- Climate resilience index

### Other:

- Poverty index ✓
- Place-based initiatives, e.g., Harlem Children's Zone (Promise Neighborhoods, Promise Zones ✓)  
[Comment: As of April 2016, the indicators expected to be measured in the Promise Zone Initiative were still in draft format. Therefore, this framework was not included in the scan.]
- Urban Institute National Indicators Project (data inventory of community-level measures) ✓
- United Kingdom deprivation index ✓
- New Zealand deprivation index ✓

## Appendix E. Submitted examples of measurement frameworks and indicator data sets

The table below lists the submissions from 17 November 2015 Workshop attendees in response to the 17 December NCVHS request for examples of measurement frameworks or indicator data sets, regardless of whether they were mentioned during the November 17 Workshop.

Name(s) of indicator set/ report/ framework, etc.	Author or agency/ organization responsible for developing the indicator set/report/etc.	Name, agency of sender	Date sent	Comment from sender
RTI Spatial database: <a href="https://rtispacialdata.rti.org/">https://rtispacialdata.rti.org/</a>	RTI, ASU	Mark Smith, Truven Health	17 Dec 2015	
Area Health Resources File: <a href="http://ahrf.hrsa.gov/">http://ahrf.hrsa.gov/</a>	HRSA	Mark Smith, Truven Health	17 Dec 2015	
AHRQ Health Care Utilization Project (HCUP) Community Statistics: <a href="http://hcupnet.ahrq.gov/">http://hcupnet.ahrq.gov/</a>	AHRQ	Mark Smith, Truven Health	17 Dec 2015	
County Health Rankings framework developed for RWJF: <a href="http://www.countyhealthrankings.org/">http://www.countyhealthrankings.org/</a>	UW Population Health Institute, RWJF	Mark Smith, Truven Health	17 Dec 2015	
CDC's Community Health Status Indicators: <a href="http://wwwn.cdc.gov/communityhealth">http://wwwn.cdc.gov/communityhealth</a>	CDC	Mark Smith, Truven Health	17 Dec 2015	
U.S. Human Well-being Index (HWBI) for Multiple Scales: Linking Services Provisioning to Human Well-being Endpoints (2000-2010)	EPA/ ORD/ NHEERL/ GED	Kevin Summers, Gulf Ecology Division, EPA/ORD	17 Dec 2015	See list of well-being indicator sets on pages 3, 4
ZIP-code level demographic (and other types of) data available for a price from Nielsen/Claritas		Mark Smith, Truven Health	17 Dec 2015	
Social Impact Calculator 2.0: <a href="http://www.liifund.org/calculator/">http://www.liifund.org/calculator/</a>	Low Income Investment Fund (LIIF)	Vickie Boothe, CDC/ OPHSS/ CSELS	17 Dec 2015	
Vital Signs Report <a href="http://iom.nationalacademies.org/Reports/2015/Vital-Signs-Core-Metrics.aspx">http://iom.nationalacademies.org/Reports/2015/Vital-Signs-Core-Metrics.aspx</a>	IOM	Steve Teutsch	3 Jan 2016	Appendices C and D are good resources.
Presentation to IOM Pop Health Improvement Roundtable workshop on metrics	Teutsch: IOM Pop Health Improvement Roundtable workshop on metrics	Steve Teutsch	3 Jan 2016	
Logic models in the IOM reports on PH strategies <a href="http://iom.nationalacademies.org/reports/2010/for-the-public-health-the-role-of-measurement-in-action-and-accountability.aspx">http://iom.nationalacademies.org/reports/2010/for-the-public-health-the-role-of-measurement-in-action-and-accountability.aspx</a>	IOM	Steve Teutsch	3 Jan 2016	See Fig 2-1
Quality Improvement measures for Healthy People's Leading Health Indicators	IOM	Steve Teutsch	3 Jan 2016	See Chapter 3

Name(s) of indicator set/ report/ framework, etc.	Author or agency/ organization responsible for developing the indicator set/report/etc.	Name, agency of sender	Date sent	Comment from sender
<a href="http://iom.nationalacademies.org/Reports/2013/Toward-Quality-Measures-for-Population-Health-and-the-Leading-Health-Indicators.aspx">http://iom.nationalacademies.org/Reports/2013/Toward-Quality-Measures-for-Population-Health-and-the-Leading-Health-Indicators.aspx</a>				
World Bank Report		Steve Teutsch	3 Jan 2016	
Human Development Report	OECD	Steve Teutsch	3 Jan 2016	
Davos Reports		Steve Teutsch	3 Jan 2016	
Virginia: Health Opportunity Index <a href="http://www.vdh.virginia.gov/omh/he/hoi">http://www.vdh.virginia.gov/omh/he/hoi</a>	Virginia Department of Health Contact: Dr. Adrienne McFadden, Office of Minority Health and Health Equity	Marissa Levine, VDOH	22 Dec 2016	
National Health Interview Survey: neighborhood environment and attachment questions in the sample adult ASI section of the questionnaire: ASITENUR, ASINHELP, ASINCNT0, ASINTRU, ASINKNT.	NCHS	Anjel Vahratian, NCHS	18 Dec 2015	
Life expectancy at birth at sub-county level	NAPHSIS and NCHS	Patricia Potrzebowski, NAPHSIS	6 Jan 2016	
100 Million Healthier Lives metrics	Yale and IHI	Brita Roy, Yale	6 Jan 2016	
Promise Zones	White House Domestic Policy Council	Drew Zachary, US/WHO/EOP	6 Jan 2016	
CLF's Regional Equity Atlas <a href="http://clfuture.org/programs/regional-equity-atlas/equity-atlas-20-mapping-tool">http://clfuture.org/programs/regional-equity-atlas/equity-atlas-20-mapping-tool</a>	Coalition for a Livable Future, Portland, Oregon	Kate Drezner, NACCHO	6 Jan 2016	
Social determinants of health database	?	Kate Drezner, NACCHO	7 Jan 2016	
Existing and available population health data for MN (Table in email & spreadsheet about Goodhue County survey)	Ruth Greenslade, Goodhue County Health and Human Services, Red Wing, MN	Kate Drezner, NACCHO	15 Jan 2016	
Indicators for CHNA with resources and data sources	Maricopa County, Arizona, Department of Public Health	Kate Goodin, MCDPH via NACCHO	19 Jan 2016	