Well-being In the Nation (WIN) Measurement Framework

Measures for Improving Health, Well-being, and Equity Across Sectors

Facilitated by 100 Million Healthier Lives with the National Committee on Vital and Health Statistics

June 2019

About the Facilitators

100 Million Healthier Lives, convened by the Institute for Healthcare Improvement, is an unprecedented collaboration of change agents across sectors who are pursuing an unprecedented result.

- Mission: 100 million people living healthier lives by 2020.
- Vision: to fundamentally transform the way the world thinks and acts to improve health, well-being, and equity to get to breakthrough results.

Together, we are systematically creating a community of solutions to the most intractable challenges that stand in the way of achieving health, well-being, and equity across the globe. Our network of partners currently includes more than 1,800 members in 30 countries worldwide, who collectively reach over 500 million people in 200+ communities and all 50 states of the US.

The **National Committee on Vital and Health Statistics** (NCVHS) serves as the statutory [42 U.S.C. 242k(k)] public advisory body to the Secretary of Health and Human Services (HHS) for health data, statistics, privacy, and national health information policy and the Health Insurance Portability and Accountability Act (HIPAA). The Committee advises the HHS Secretary, reports regularly to Congress on HIPAA implementation, and serves as a forum for interaction between HHS and interested private sector groups on a range of health data issues. The Population Health Subcommittee has been guiding this work on behalf of NCVHS. More details about NCVHS are in Appendix I. About NCVHS.

"One critical priority for the National Committee on Vital and Health Statistics is to lay the groundwork that others may build on to enhance the health of our nation. The 100 Million Healthier Lives Collaborative has done a remarkable job growing the foundational NCVHS Framework for the Measurement of Population and Community Health and Well-being into a comprehensive tool that will well serve both communities and policy makers. The Collaborative's expansive approach developed in the Well-being In the Nation (WIN) instrument generates the needed information to guide decision makers to improve the health and quality of life for the places we live and work."

Bruce B. Cohen, Co-Chair, Population Health Subcommittee, NCVHS

National Committee on Vital and Health Statistics
Advising the HHS Secretary on National Health Information Policy

March 5, 2019

Somava Saha Stout, MD, MS
Executive Lead, 100 Million Healthier Lives
Vice President, Institute for Healthcare Improvement
53 State Street, 19th Floor
Boston, MA 02109

Re: Well-being In the Nation (WIN) Measurement Framework Collaborative

Dear Dr. Stout,

The National Committee on Vital and Health Statistics (NCVHS) applauds the 100 Million Healthier Lives collaborative process that resulted in the 2019 Well-being In the Nation (WIN) Report. As a Federal advisory committee to the Secretary of Health and Human Services, we developed the initial framework released in March 2017[1,2]. The NCVHS Measurement Framework for Community Health and Well-Being created the foundational structure intended to be adapted, improved and become a tool to help communities jumpstart their data collection efforts.

We thank 100 Million Healthier Lives for joining us in a public-private partnership and taking the next steps to reach communities far beyond our reach and capacity. The WIN collaborative continues to bring together community members, advocates, researchers, and community-based organizations to generate data that provide measures they believe will be useful to monitor and address local health. The initial WIN report and the framework that was presented at the February 2019 NCVHS meeting adds specificity that is community engaged, stakeholder driven and reflective of community priorities. Such a process would have been beyond our ability as a Federal Advisory Committee to accomplish.

We thank you for joining us in a partnership in which your ability to develop a process for input, convene diverse stakeholders and develop a community desired product is beyond what we had hoped for in our partnership. NCVHS wholeheartedly supports these efforts.

Sincerely,

William W. Stead, MD, Chair
National Committee on Vital and Health Statistics

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1 "NCVHS Measurement Framework for Community Health and Well-being, V4": https://ncvhs.hhs.gov/wp- content/uploads/2018/03/NCVHS-Measurement-Framework-V4-Jan-12-2017-for-posting-FINAL.pdf

2 NCVHS Workshop Summary, "Measuring Health at the Community Level: Data Gaps and Opportunities": https://ncvhs.hhs.gov/wp-content/uploads/2018/03/Measuring-Health-at-the-Community-Level-Data-Gaps-and-Opportunities.pdf

What Early Adopters Are Saying About the Well-being In the Nation Framework

"It is time that this nation has a system and infrastructure to hold ourselves accountable for population-level impact. Well-being In the Nation will become the backbone for how the country advances the vital conditions for intergenerational well-being."

Tyler Norris, Chief Executive, Well-being Trust

"The WIN Framework serves as an invaluable backbone for the Healthiest Communities rankings developed by U.S. News & World Report and the Aetna Foundation. The evidence-based framework, developed by leading population health experts, gave us a running start when we began developing our new county-level rankings, which have been incredibly well-received and are now going into their second year."

Steve Sternberg, Assistant Managing Editor, US News & World Report Healthiest Communities Rankings

"The National Councils on Aging's Mission is to improve the lives of millions of older adults, especially those who are struggling. Our specific goal is measurable improvements in the well-being of 50 million older adults by 2030.

Our core strategy is to talk about what matters, measure what matters, learn what works and bring to scale what works best. We will promote the use of the Well-being In the Nation Framework because the holistic measures resonate well with older adults, their caregivers, and organizations that serve them."

James Firman, President/CEO, National Councils on Aging

"It has been a real pleasure to work with dozens of organizations around the country through the process facilitated by 100 Million Healthier Lives for the National Committee on Vital and Health Statistics. At the American Heart Association, we will be applying the WIN measurement approach to our strategic planning and evaluation framework to reach our 2030 goal and so we can understand our contribution to the health and well-being of our nation."

Kim Stitzel, Senior Vice-President, Center for Health Metrics and Evaluation (CHME), American Heart Association

"Public health officials use data to validate the actions they take to improve population health. Issues such as homelessness, income and racial inequality, and barriers to services to address individual and community social and behavioral health access all influence each other as attributes of population health. ASTHO can use the WIN Measurement Framework of collecting multiple disparate but connecting data elements to substantiate where public health must focus their efforts and resources so that health equity can be achieved."

Mary Ann Cooney, Chief, Health Systems Transformation, Association for State and Territorial Health Officials (ASTHO)

"Achieving well-being in our nation is an undertaking that aspires to nothing less that our nation's founding beliefs about liberty and happiness for all. We can think of no other route toward this ambition than that of authentic and heartfelt collaborations. The WIN Framework offers us the underpinning for collective well-being success. Collaborations, by definition, call on us to create something new in the company of kindred spirits. It has been our privilege to add our voice to many others who envision a vital and growing role for the private sector as a partner in community health improvement. It is only through continuous monitoring and review of measures that matter to employers and community stewards alike that we will know if our collaborations are building a national culture of health."

Karen Moseley, President, the Health Enhancement Research Organization (HERO) and Paul E. Terry, Senior Fellow, HERO

"We have so much to learn about what truly creates well-being — but we cannot do that learning if we do not begin by having some simple, powerful measures that help us understand whether well-being is developing. This measurement framework, curated from hundreds of organizations and change makers and community residents about what well-being means to them, offers a pathway for us to learn together as a country and to change. The WIN framework will serve as the cornerstone of our efforts to learn about well-being in 100 Million Healthier Lives.

Somava Saha Stout, Vice President, Institute for Healthcare Improvement and Executive Lead, 100 Million Healthier Lives

"Too often change makers drown in data about every disease, body part, and detail of our troubled health system. Instead, the WIN framework gathers a small set of systemic measures that all serious stewards may use when establishing the vital conditions that we all depend on for our health and well-being." *Bobby Milstein, Director, System Strategy, ReThink Health*

"Ascertaining and improving the well-being of the nation will require thoughtful, robust, and comprehensive measures — measures that take into account a broader vision for health rooted in our nation's diverse communities and neighborhoods. This report gets to the heart of both the problem and the solution — health and well-being can never be distilled down to just the absence or presence of a disease, but must be more inclusive of community data, which has all too often been disregarded as too cumbersome to collect."

Benjamin F. Miller, Chief Strategy Officer, Well-being Trust

"The Well-being In the Nation framework looks beyond a screening of a physical or behavioral health symptom to help us understand how a person feels about themselves as a whole person. It resonates with our community of providers across sectors and we believe it can be helpful on a population and individual level. How amazing would it be to say, 'We improved a community's well-being, a state's well-being, and ultimately the well-being of the person I have been treating for three years.'"

Elizabeth Romero, Director of Substance Abuse and Mental Health, Delaware

"In our work supporting communities grappling with local data, a common question is: what measures can and should we use to measure our shared work addressing the social determinants? The Well-being In the Nation Framework represents a great answer: comprehensive, evidence-based, as simple as possible, and flexible enough for future growth."

Peter Eckart, Co-Director, Data Across Sectors for Health (DASH), Illinois Public Health Institute

"I participated in the development of the Well-being In the Nation framework. It has the potential to align multiple and sometimes competing well-intentioned efforts to focus energy on improving the health, well-being and equity of our communities with a shared, structured measurement framework."

Matt Stiefel, 100 Million Healthier Lives Measurement Team, and
Sr. Director, Care Management Institute Center for Population Health, Kaiser Permanente

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Well-being In the Nation (WIN) Measurement Framework: Executive Summary

Over the last five years, hundreds of organizations have come to recognize that population health is a team sport. Demand has grown for publicly available cross-sector measures to drive collaborative improvement in population health, address social determinants and equity, and improve the health and well-being of people and communities.

In early 2017, the National Committee on Vital and Health Statistics (NCVHS) Population Health Subcommittee published a framework with an accompanying set of recommendations to the Secretary of Health and Human Services. This framework identified domains and subdomains relevant to improving population and community well-being and addressing social determinants of health. The framework recognizes the multiple factors and sectors affecting the health of populations, including and extending well beyond heath care systems.

NCVHS transferred the stewardship for further development and implementation of cross-sector measures aligned to the framework to 100 Million Healthier Lives, a multi-sector partnership convened by the Institute for Healthcare Improvement. Over the next 15 months, more than 100 organizations across sectors (health, housing, transportation, environment, etc.), collaborated on this work. The organizations include federal agencies, businesses, health care organizations, human service organizations, and community stakeholders (e.g., community residents, patients, community-based coalitions). They have collaborated via three workgroups and a modified Delphi process to refine what has become the Well-being In the Nation (WIN) Measurement Framework. A Stewardship Group representing various organizations and sectors has overseen the process from the beginning with continued active participation by NCVHS.

This report represents the outcome of this process, including updates to the original framework, a set of core measures to drive improvement, and recommendations for implementation.

Acknowledgments

We extend our deepest gratitude to everyone who has contributed to this work, including the members of the National Committee on Vital and Health Statistics (NCVHS) Population Health Subcommittee, the Advancing NCVHS Recommendations workgroups and Stewardship Council, all of the individuals who shared their time and expertise to participate in the modified Delphi Process, and the members of the 100 Million Healthier Lives team. A full list of participants is included at the end of this report.

Key Principles of the Approach

The NCVHS Measurement Framework for Community Health and Well-Being and its associated set of recommendations, delivered to the Secretary of Health and Human Services in May of 2017, made two key recommendations that have served as guiding principles for this effort.[1,2] Specifically, NCVHS recommended that a measurement framework:

- **Be flexible enough to meet distinct local needs** with a focus on subcounty- and community-level data and multi-sector measures; and
- **Provide a parsimonious set of multi-sector core measures** to guide federal and state policy and resource allocation and enable communities to compare themselves and share best practices across 10 domains.

The Stewardship Group that steered the process leading to the WIN Measurement Framework made two additional recommendations that have guided the framework development:

- **Achieve a balance between standard, widely used measures and "developmental" measures.** Developmental measures are those that may be promising and have the potential to be highly useful in the future to understand population and community health, well-being, and equity.
- **Ensure that the framework is informed by expertise from measurement development, measurement implementation, and field testing at the local, state, and national levels.** The Stewardship Group recommended that we build the framework using existing measures identified through the NCVHS landscape analysis. The group also suggested incorporating recommendations from a breadth of experts across sectors, including both measure development experts and leaders in measurement implementation. Finally, they recommended that the framework be based on actual testing in the field.

The decision criteria for measure selection were based on National Quality Forum (NQF) criteria. They included importance and usefulness at the national and community levels, objectivity and effectiveness of measures, and feasibility of implementation (Appendix H. Decision Criteria for Landscape Analysis).[3] Potential measures were tested in the field to see which ones were useful to change makers on the ground; had measures available at the subcounty level; and were aligned with measurement resources that communities already were using.

As we engaged with more than 100 organizations and tested elements of the framework in the field in communities and states, we made two major changes. First, two domains were added to

1 NCVHS Population Health Subcommittee. NCVHS Measurement Framework for Community Health and Well-Being, V4. National Committee on Vital and Health Statistics; 2017. Available at https://www.ncvhs.hhs.gov/wp-content/uploads/2013/12/NCVHS-Measurement-Framework-V4-Jan-12-2017-for-posting-FINAL.pdf.

2 Stead WW. Letter to the Secretary: Recommendations on Measuring Health at the Community Level – Opportunities for HHS Leadership. National Committee on Vital and Health Statistics; 2017. Available at https://www.ncvhs.hhs.gov/wp-content/uploads/2013/12/Framework-from-Measurement-Report-FINAL-with-cover-letter-optimized.pdf.

3 National Quality Forum (NQF). Multi-stakeholder Review: Criteria for Evaluating a Measure; available at http://public.qualityforum.org/Chart%20Graphics/Multi-stakeholder%20Review%20-%20Criteria%20for%20Evaluating%20a%20Measure.pdf.

the initial 10 at the recommendation of the Stewardship Group: overall **well-being of people** and **equity**. These domains and associated measures were simple, powerful, and made sense to people across sectors such as business, human services, health care, public health, and housing. Second, we found that 12, or even 10, domains (with 30+ subdomains) were hard for people to remember. By recommending a simpler overall set of "Core Measures" relating to three themes — the **well-being of people**, the **well-being of places**, and **equity** — we found that we could preserve the initial framework as the underlying organization while making it easy for people to remember and communicate the core concepts (Appendix L. Development of Framework Domains and Sub-Domains Over Time shows domains and sub-domains as the framework was developed and revised between 2015 and 2019).

Well-being In the Nation was, above all, designed from the beginning for the needs of those who would be using it. When we tested the emerging framework in communities and examined the use cases for the data (i.e., specific examples of groups who might use WIN in different ways), we recognized that different groups needed to use the measures in different ways. WIN was designed to flexibly address the needs of different kinds of users, based on their feedback. For example:

- Groups such as US News & World Report Healthiest Communities Rankings and public health groups were trying to create a healthy communities index and thus needed **measures across all of the domains.**
- Employers and payers needed a parsimonious set of overall measures ("Leading Indicators") that could be used to **track improvements in population health** and that could show improvements **in a timeframe of less than one year**.
- Stakeholders such as the American Heart Association, health care organizations, and community-based organizations needed **measures relevant to the specific domain(s) of health and well-being** in which they were focusing their work — whether that domain was housing, health, transportation, or another area.
- Others were seeking a range of measures across domains that could be **adapted for a specific population**, such as older adults, children and youth, or veterans.
- Some cared deeply about the **well-being of people,** some cared deeply about improving the **well-being of places**, and nearly everyone cared about **equity**.

We recognized that no static set of measures could encompass what necessarily would be a learning journey as a nation about what improves health, well-being, and equity in different community contexts. As we learn what truly improves health, well-being, and equity, we need mechanisms to adapt our measurement systems, too. As a result, WIN is designed to be **a living library of measures** that can be used and applied in different initiatives and can evolve over the years as we learn what is needed to drive improvement across sectors and contexts. We will engage in a regular, structured process of learning and continuous improvement with local, state, and national initiatives and stakeholders who are using the measures. Over a period of years, we anticipate that while Core Measures and most Leading Indicators would remain the same, measures from the Flexible Expanded Set (which includes established and developmental measures for every domain and subdomain) might be promoted or demoted based on our learning and on availability of data. WIN represents, beyond a set of measures, a shared process and system for mutual learning as a nation about what improves health, well-being, and equity.

Well-being In the Nation (WIN) Measures

The WIN Framework is organized into **Core Measures**, **Leading Indicators**, and a **Flexible Expanded Set of measures**.[4]

Core Measures are grouped into three themes**:**

- **Well-being of people**, as measured by people's perception of their own well-being and their life expectancy at birth. These two measures can be combined to generate a well-being–adjusted life year and divided by cost to generate a simple but powerful measure of value.
- **Well-being of places**, as measured by the child poverty rate and indices of healthy communities, aligned with the domains and subdomains of the NCVHS Framework: US News & World Report Healthiest Communities Rankings and County Health Rankings & Roadmaps.
- **Equity**, as measured at the individual level by differences in perception of well-being and differences in premature death; at the level of place by income inequality and differences in high school graduation rate; and by differences by demographic factors included in "Leading Indicator" measures described below.

In addition to the Core Measures in the three above-named themes, the WIN Framework offers:

- **A parsimonious set of "Leading Indicators,"** aligned to NCVHS domains of community vitality, economy, education, environment and infrastructure, food and agriculture, health, housing, public safety, transportation, and demographics (measures for the well-being of people and equity domains fall under "Core Measures" and "Flexible Expanded Set").[5] These measures are both available and benchmarkable.
- **A flexible, expanded set of highly recommended measures (Flexible Expanded Set)** aligned to all WIN domains, including established and developmental measures for every domain and subdomain. This fuller set can expand out and is customizable for and by organizations and communities over time, allowing communities to understand "driver" measures that lead to the outcomes at the top level. The fuller set includes measures for subgroups across the life course (children and youth, older adults) and for key sectors (the workforce and health care). This fuller set will be added to and modified over time as we learn in more widespread implementation which measures are predictive of key outcomes. Some measures from the Flexible Expanded Set may be promoted to Leading Indicators as availability and evidence behind these measures grows.

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4 A note on the Well-being In the Nation (WIN) name. The Samueli Institute had hoped to launch the Well-being Initiative for the Nation, a different WIN, prior to the Institute's closing. They transitioned the initiative and associated recommendations to 100 Million Healthier Lives in 2017. One of the major recommendations of the original WIN was to develop common measures for the nation centered around well-being. We thought this would be an appropriate way to honor that history and build on the original hope of its founders, which we are over time helping to bring to fruition.

5 The NCVHS Measurement Framework defined "domains" and "subdomains" as follows:
"Domains: Broad categories or "spheres" of activities, conditions, and information that constitute or characterize human societies (e.g., nations, populations, and communities).
Sub-domains: More focused sub-categories within domains that include issues of concern for community health and well-being." -NCVHS Measurement Framework, Appendix 1, page 4.

How the WIN Measurement Framework Is Being Used by Early Adopters

The WIN Framework offers **a living library of common measures** that can be easily used across sectors and initiatives. In addition to tried and true measures that are part of core measures and leading indicators, WIN also offers innovative measures that can be adapted for specific initiatives. Because of these features, users have found it easy to apply and adopt during the testing period (described in more detail later in the report). As a result, many communities, states, and initiatives have already adopted this approach. The WIN measures are currently being used to:

- Identify measures for national initiatives that can be applied across a wide variety of communities (e.g., in partnership with the American Heart Association).
- Monitor the health, well-being, and equity of a population over time (numerous community-, county-, and state-level needs assessments).
- Understand and drive improvements in health, well-being, and equity in organizations and communities by using the relevant measures before, during, and after implementation (Well Being Legacy, 100 Million Healthier Lives organizations and communities, Community Initiatives communities, numerous community and state needs assessment processes).
- Measure and evaluate population health initiatives at multiple levels, including the state level (Delaware, New York, California).
- Understand health, well-being, and equity in population segments (National Veterans Survey, National Councils on Aging).
- Compare the health and well-being of communities through the development of an index (US News & World Report Healthiest Communities Rankings).
- Conduct research and evaluation studies that connect the impact of different interventions (e.g., interventions focused on a particular topic area related to, for example, housing, education, or health) on overall well-being of the people and/or communities receiving that intervention.

Next Steps in Implementation

We have an opportunity to come together now, across organizations and sectors and with communities, to learn together what improves the health and well-being of people, places, and equity. This living library of measures is intended to be a common resource that supports us on this shared journey. The focus of the next phase of this work will be to:

- Integrate the measures into publicly available data platforms.
- Form a group of committed stewards who will ensure data availability, use, and funding.
- Integrate measures into existing commonly used processes and platforms to support dissemination and learning.
- Develop a cooperative for learning and regularly updating the framework as we learn what matters to improve the health and well-being of the country.

We invite you to join us in creating a shared ecosystem for measuring and improving health, well-being, and equity, guided by the vision of the National Committee on Vital and Health Statistics and shaped by each of us who are on this journey of learning together.

WIN Core Measures and Leading Indicators

Core Measures and Leading Indicators are listed below. The Flexible Expanded Set of measures is listed in Appendix C. Flexible Expanded Set.

Core Measures

Core Measures are listed in Table 1 and Appendix A. Core Measures.

Table 1: WIN Measurement Framework Core Measures

Theme	Subdomain	Measure	Source	Also Found In
Well-being of People	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering	Gallup National Health and Well-Being Index	100MLives Well-being Assessment, United Nations' World Happiness Report, Organisation for Economic Co-operation and Development (OECD)
	Life expectancy	Life expectancy at birth	University of Washington Institute for Health Metrics and Evaluation	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps
Well-being of Places	Child poverty rate	% of population under age 18 under 100% of the federal poverty level	Census/American Community Survey (ACS)	County Health Rankings & Roadmaps, City Health Dashboard
	Healthy communities index	US News and World Report Healthiest Communities Rankings,	US News & World Report Healthiest Communities Rankings,	--
		County Health Rankings & Roadmaps ranking	County Health Rankings & Roadmaps	--
Equity	Differences in perception of well-being	Subjective well-being, stratified by differences in demographic factors	Gallup National Health and Well-Being Index, OECD, World Happiness Report	100MLives Well-being Assessment

	Differences in premature death	Years of potential life lost before age 75, stratified by differences in demographic factors (per 100,000 population)	University of Washington Institute for Health Metrics and Evaluation, National Center for Health Statistics Mortality Files	City Health Dashboard, County Health Rankings & Roadmaps
	Differences in high school graduation rate	% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors	US Department of Education	City Health Dashboard, County Health Rankins & Roadmaps, Healthy People 2020
	Income inequality	Income inequality (Gini coefficient)	Census/ACS	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps
	Differences by demographic factors in Leading Indicator measures*	Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment	Census/ACS	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps

*** Note.** We recommend looking at difference by demographic factors in the Leading Indicator measures being analyzed by a particular initiative/community. Not all initiatives/communities will use all leading Indicator measures.

Leading Indicators

Leading Indicators are listed in Table 2 and Appendix B. Leading Indicators.

Core Measures marked in bold

Table 2. WIN Measurement Framework Leading Indicator Measures

Domain	Subdomain	Measure	Source
Community Vitality	Social capital	% of adults 18 years and over who report not receiving sufficient social-emotional support	Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance Survey (BRFSS)
	Governance	% of adults who trust and have confidence in the local governments in the area where they live when it comes to handling local problems	Gallup Governance Poll
	Civic engagement	Voter turnout: % of total voting-age citizens who cast votes in the most recent mid-term or presidential election	United States Election Project, state governments
	Social inclusiveness	% of adults who have felt emotionally upset, for example angry, sad, or frustrated, as a result of how they were treated based on their race in the past 30 days	Behavioral Risk Factor Surveillance System (BRFSS) Reactions to Race Module
Economy	Employment	Unemployment rate: % of civilian labor force, age 16 and older, that is unemployed but seeking Work	Bureau of Labor Statistics
	Income & wealth	**Child poverty: % of population under age 18 under 100% of the federal poverty level**	Census/American Community Survey (ACS)
		Median household income ($)	Census/ACS
		% of adults who would still be able to pay all of their current month's bills in full if faced with an unexpected $400 expense	US Federal Reserve Survey on Household Economics and Decision-making
Education	Participant & achievement	% of 4th-grade students reaching "proficient" or above in English Language Arts standardized test	National Assessment of Educational Progress (NAEP)
		% of students who graduate high school within 4 years of entering 9th grade	US Department of Education
		Chronic absenteeism: % of students absent 15 or more days during the school year	US Department of Education
		% of youth age 16-19 not enrolled in school and not working (%)	Census/ACS
	Infrastructure & capacity	$ spent per student in public K-12 schools	National Center for Education Statistics

Domain	Subdomain	Measure	Source
Environment & Infrastructure	Natural environment	Average daily concentration of fine particulate matter (PM2.5) per cubic meter (#)	US Environmental Protection Agency (EPA)
		% of population served by/potentially exposed to water systems that violated EPA standards	US Environmental Protection Agency (EPA)
	Neighborhood characteristics	Net migration: % change in population in a 10-year period, accounting for births and death	University of Wisconsin- Madison Applied Population Lab
		% of population living within a 10-minute walk of green space	ParkServe(R), The Trust for Public Land
		Theil Index measuring racial segregation; scored 0-1, with 0 being LEAST diverse	Census
	Built environment	Walkability index	US Environmental Protection Agency (EPA)
Equity	Differences in perception of well-being	**Subjective well-being, stratified by differences in demographic factors**	Gallup National Health and Well-Being Index
	Differences in premature death	**Years of potential life lost before age 75, stratified by differences in demographic factors (# per 100,000 population)**	University of Washington Institute for Health Metrics and Evaluation
	Differences by demographic factors in Leading Indicator measures	**Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment**	Census/ACS
	Differences in high school graduation rate	**% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors**	US Department of Education
	Income inequality	**Income inequality (Gini coefficient)**	Census/ACS
Food & Agriculture	Food availability	% of population who state that within the past 12 months were worried that food would run out before having money to buy more	US Department of Agriculture (USDA) Food Security Survey, Feeding America
		% of population with low food access, defined as living beyond 1 mile (urban) or 10 miles (rural) of supermarket	USDA Food Security Survey, Feeding America
	Nutrition	% of population consuming <1 fruit serving per day	Behavioral Risk Factor Surveillance System (BRFSS) Fruit & Vegetables Supplement
		% of population consuming <1 vegetable serving per day	BRFSS Fruit & Vegetables

Domain	Subdomain	Measure	Source
			Supplement
Health	Health outcomes	Overall health: % of adults self-reporting fair or poor general health (%)	Behavioral Risk Factor Surveillance System (BRFSS)
		Functional status: average # of days where health was reported as a limitation of usual activities	Behavioral Risk Factor Surveillance System (BRFSS)
		Healthy days/month: average # of days in the past 30 days when both physical and mental health were good	Behavioral Risk Factor Surveillance System (BRFSS)
		Child health: % of children limited or prevented in any way in his or her ability to do the things most children of the same age can do (%)	National Survey of Children's Health
		Infant mortality rate (# per 1,000 live births)	National Vital Statistics System Mortality Data
		Low birthweight: % of live births where baby weighed less than 2,500 grams	National Center for Health Statistics
		Deaths of despair: Deaths due to drug overdose, alcohol, or suicide (# per 100,000 population)	National Vital Statistics System Mortality Data
	Health conditions & diseases	% of adults with obesity (Body Mass Index 30+)	BRFSS, CDC National Health and Nutrition Examination Survey (NHANES)
	Health behaviors	% of adults 18+ who smoke (does not include other forms of tobacco)	Behavioral Risk Factor Surveillance System (BRFSS)
	Health care infrastructure	% of population without medical insurance	Census/ACS
Housing	Infrastructure & capacity	One-day sheltered homeless rate (# per 10,000)	Census/ACS
	Quality	% of households with one or more of these housing conditions in 2010: lacked complete plumbing, lacked complete kitchen, paid 30 percent or more of income for owner costs or rent, or had more than 1 person per room	US Department of Housing and Urban Development
	Use/ Affordability	% of households paying 30% or more of their income for housing	US Department of Housing and Urban Development Comprehensive Housing Affordability Strategy (CHAS) data

Domain	Subdomain	Measure	Source
Public Safety	Crime	Violent crime rate (i.e., murder, manslaughter, rape, robbery, aggravated assault) (# per 100,000 population)	Census/ACS
		Juvenile incarceration rate (# per 100,000 residents)	US Department of Justice
	Injuries	Motor vehicle fatality rate (# per 100,000 population)	Federal Bureau of Investigation (FBI) Uniform Crime Reporting
	Infrastructure	Law enforcement officers (# per 1,000 residents)	US Department of Justice Office of Juvenile Justice and Delinquency Prevention
	Perceptions of public safety	% of adults who feel safe walking on their street after dark	Gallup Crime Survey
Transportation	Infrastructure & capacity	% of workers commuting who commute alone by car	National Highway Traffic Safety Administration
	Use & affordability	Rides per day per capita (average weekday household person-miles traveled by US Census Tract, per day)	Census/ACS
	Quality	Transit Score	National Household Travel Survey
Well-being of People	People's perception of their well-being	**Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering**	Gallup National Well-Being Index
	Life expectancy	**Life expectancy at birth (years)**	University of Washington Institute for Health Metrics and Evaluation

Domain	Subdomain	Measure	Source
Demographics	Race/ethnicity	Are you Hispanic, Latino/a, or Spanish origin? (One or more categories may be selected) a. No, not of Hispanic, Latino/a, or Spanish origin b. Yes, Mexican, Mexican American, Chicano/a c. Yes, Puerto Rican d. Yes, Cuban e. Yes, another Hispanic, Latino, or Spanish origin Which one of the following would you say is your race? (One or more categories may be selected) a. White b. Black or African American c. American Indian or Alaska Native d. Asian i. Asian Indian ii. Chinese iii. Filipino/a iv. Japanese v. Korean vi. Vietnamese vii. Other Asian e. Native Hawaiian or other Pacific Islander i. Native Hawaiian ii. Guamanin or Chamorro iii. Samoan iv. Other Pacific Islander	Health and Human Services Office of Minority Health data standards
	Age	Age	Health and Human Services data standards
	Gender	Male, female, other	Health and Human Services Office of Minority Health data standards
	Language	Primary language: How well do you speak English? (5 years old or older) ____Very well ____Well ____Not well ____Not at all	Health and Human Services Office of Minority Health data standards

Domain	Subdomain	Measure	Source
		Do you speak a language other than English at home? (5 years old or older) ____Yes _____No	
	Educational attainment	Highest level of education attained	Health and Human Services data standards
	Place	Urban/rural	Census, National Center for Health Statistics (NCHS)
	Place	Standard Set: Zip code, Census Tracts/boundaries	Census/ACS
	Veteran status	Veteran status: Have you ever served on active duty in the United States Armed Forces, either in the regular military or in the National Guard or Reserves? ____Yes ____No	Health and Human Services data standards
	Disability	Yes/no to following questions: 1) Are you deaf or do you have serious difficulty hearing? 2) Are you blind or do you have serious difficulty seeing, even when wearing glasses? 3) Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? (5 years old or older) 4) Do you have serious difficulty walking or climbing stairs? (5 years old or older) 5) Do you have difficulty dressing or bathing? (5 years old or older) 6) Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (15 years old or older)	Health and Human Services Office of Minority Health data standards

About the Process of Developing This Framework

Formation of Workgroups

We created three complementary workgroups to design aspects of the WIN Measurement Framework: Metrics Development, Measurement Implementation, and Stewardship. It was critical that the workgroups advancing the NCVHS Framework and recommendations represented broad, diverse expertise, including:

- Multiple sectors, representing all domains of the framework as well as both public and private sectors;
- Multiple levels of work — e.g., community/local, state, national;
- Expertise in measurement across rural/suburban/urban contexts;
- Life course expertise in populations ranging from young children through older adults;
- Expertise in measurement related to addressing social determinants of health and advancing equity;
- Lived experience of implementing measurement in communities; and
- Experience in developing, implementing, and pilot testing measurement at local, state, and national levels.

Invitations to join each workgroup (Metrics Development, Measurement Implementation, Stewardship) were extended collaboratively by the 100MLives Implementation Team, NCVHS representatives, and other key partners in the field. Over 100 organizations and stakeholder groups were represented across the three workgroups, including the following (Appendix F. Measurement Development Process Participants provides full participant lists for each workgroup):

- Community-based improvers;
- Community members, including people with lived experience of inequity;
- Federal agencies, e.g., the Centers for Disease Control and Prevention (CDC), including its 500 Cities Project; Substance Abuse and Mental Health Services Administration (SAMHSA); US Environmental Protection Agency (EPA); US Department of Veterans Affairs (VA); US Department of Health and Human Services (HHS); US Department of Housing and Urban Development (HUD); US Department of Transportation (DOT); and
- Non-federal organizations including the American Heart Association (AHA); Association of State and Territorial Health Officials (ASTHO); Center for Applied Research and Engagement Systems (CARES); County Health Rankings and Roadmaps; Health Enhancement Research Organization (HERO); Kaiser Permanente (KP); National Academies of Sciences, Engineering, and Medicine (NASEM); National Quality Forum (NQF); Pew Research Center; Trust for America's Health (TFAH); and US News and World Report.

These groups undertook their work guided by recommendations accompanying the NCVHS Framework shared with the Secretary of Health and Human Services in 2017. These recommendations advised that a framework:

- **Be flexible enough to meet distinct local needs** (with a focus on subcounty- and community-level data, multi-sector measures); and
- **Provide a parsimonious set of multi-sector core measures** to guide federal and state policy and resource allocation and enable communities to compare themselves and share best practices.

Workgroup Recommendations to Inform Framework Evolution

The NCVHS Population Health Subcommittee originally recommended 10 health and well-being domains (with associated subdomains): **community vitality, economics, education, environment, food & agriculture, health, housing, public safety, transportation,** and **demographics**.

The Stewardship Group, based on their work in the field as well as the recommendations of both the Metrics Development and Measurement Implementation workgroups, modified the NCVHS Framework to add two domains: **well-being of people** and **equity**. The well-being of people was in the original NCVHS Framework (version 1, 11/2015; see Appendix L. Development of Framework Domains and Sub-Domains Over Time) but was left off in later versions. It emerged as critical based on the in-person meetings of the Metrics Development and Measurement Implementation workgroups. Equity emerged as a major theme that should both be its own domain and integrated into other domains. Each of these overarching domains is described below. The evolution of the framework is detailed in Appendix L. Development of Framework Domains and Sub-Domains Over Time.

As we sought to communicate the framework to implementers, we learned that people found it difficult to remember 12 domains and 30+ subdomains or to relate to them — it was just too much to hold. The workgroup conversations led to three key themes: the **well-being of people**, the **well-being of places** (which includes measures from multiple domains), and **equity**. These themes resonated with people. By organizing our Core Measures around these three themes, we were able to preserve the original NCVHS Framework structure around the well-being of places and make the framework itself easy to communicate.

Well-being of people was added as a domain because it best captured and valued how people felt about their own well-being in a holistic, equitable way. The ready availability of well-tested, benchmarked, people-reported outcome measures through Gallup and the Patient-Reported Outcomes Measurement Information System (PROMIS); the ease of use and usefulness of these measures in the field during field testing; increasing evidence of the relationship between well-being, morbidity, mortality, and cost; and the core premise of having measures where people are able to define what matters to them led us to prioritize this approach.[6,7,8] We learned during testing with communities participating in the 100MLives SCALE initiative that these measures are leading indicators — they change up to 30 percent within three to six months in response to an intervention, which means they can be used to assess improvement in real time.[9,10] The adoption of people-reported well-being by the Organisation for Economic Co-operation and Development (OECD) within their Framework for Measuring Well-being and Progress validates the importance and utility of this approach.[11] Subjective well-being of people in combination with an objective lagging indicator, such as life expectancy, provides a full picture of a population's well-being.

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6 Roy B, Riley C, Sears L, Rula EY. Collective Well-Being to Improve Population Health Outcomes: An Actionable Conceptual Model and Review of the Literature. *Am J Health Promot*. August 2018:0890117118791993. doi:10.1177/0890117118791993.

7 Graham C, Laffan K, Pinto S. Well-being in metrics and policy. Science. 2018;362(6412):287-288. doi:10.1126/science.aau5234

8 Cantril H. *The Pattern of Human Concerns*. New Brunswick, NJ: Rutgers University Press; 1965. Used by Gallup-Healthways and RWJF Culture of Health Survey.

We chose life expectancy at birth as the second Core Measure related to the well-being of people. Life expectancy at birth is a tried and true measure of population health, with strong data availability down to the Census Tract level.[12] There is widespread agreement that this measure matters, and as a result, it is already integrated into almost every measurement system for population health nationally and globally. It is a lagging indicator; that is, it can take years to see differences in life expectancy emerge. Life expectancy shows strong and predictable variation based on equity factors, such as race/ethnicity, income, and place. Gains in life expectancy at birth can result from a range of factors, including better living standards, access to education, and economic inclusion, as well as greater access to quality health services.[13]

Both measures (people-reported well-being and life expectancy) have data availability at the subcounty level, and are amenable to state and global comparisons. In addition, over time, we can imagine exploring the combination of these measures to create a well-being adjusted life year (WALY) as well as a measure of well-being value created when WALYs are divided by cost.

The **well-being of places** required a much more complex analysis of all the characteristics that contribute to placemaking and community life — from its sense of belonging to its built environment to its sense of public safety, as well as access to housing, transportation, and many other factors. We chose to adopt an index approach across these domains and subdomains, which reflects the original NCVHS Framework. We acknowledge that some of these measures additionally represent the well-being of people in places—and found it almost impossible to separate these fully because they are, in reality, interconnected. Both US News and World Report and County Health Rankings & Roadmaps had significant overlap between these leading indicators and domains — hence for general use, we recommend these indices, both of which are published annually and available to the public. Many implementers requested, in addition to an index, a single measure of a healthy community, so we went to a number of different groups that create various indices to ask them for their top three recommendations. Multiple independent measurement groups cited the prevalence of child poverty as a single indicator of the health of a place, if they had to pick only one, stating that it correlated with many other factors related to the health of communities, from racial segregation to income and education.

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9 Stout S. Overview of SCALE and a Community of Solutions. SCALE 1.0 Synthesis Reports. Cambridge, Massachusetts: Institute for Healthcare Improvement, 2017. Available at www.100mlives.org/initiatives.

10 Callender S, Calleros M, Care LA, et al. *Improving Health Outcomes for Women Experiencing Homelessness in the Skid Row Community of Los Angeles*. Downtown Women's Center; 2017:8. https://d3n8a8pro7vhmx.cloudfront.net/dwctest/pages/509/attachments/original/1492819216/SCALE_White_Paper_Final.pdf?1492819216.

11 OECD. *OECD Guidelines on Measuring Subjective Well-Being*.; 2013:9-20. http://www.oecd.org/statistics/oecd-guidelines-on-measuring-subjective-well-being-9789264191655-en.htm. Accessed February 8, 2019.

12 Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. U.S. Small-area Life Expectancy Estimates Project: Methodology and Results Summary Cdc-pdf. National Center for Health Statistics. Vital Health Stat 2(181). 2018.

13 OECD (2019), Life expectancy at birth (indicator). doi: 10.1787/27e0fc9d-en. Accessed April 7, 20

As a result, we have recommended the child poverty rate as a single measure reflecting the degree of well-being of places.

Equity emerged in every conversation about why we were doing this work in the first place — to improve the lives of those who were not thriving. The Metrics Development, Measurement Implementation, and Stewardship workgroups unanimously voted for equity to be both its own separate domain as well as something that was woven through every other domain and understood based on demographic factors, structural factors, and root causes. In the framework, core measures for equity relate to the degree of differences in the "well-being of people" measures based on demographic factors, as well as high school graduation rate and income inequality.

Landscape Analysis

In early 2018, based on the recommendations of the Metrics Development and Stewardship workgroups, a diverse group of stakeholders (extending to a wider range of experts beyond the workgroups) participated in a modified Delphi Process to refine the initial set of recommendations and to prepare for piloting in and with communities. The modified Delphi Process was informed by a landscape analysis, conducted by participants from the Metrics Development and Stewardship workgroups, that was based on the NCVHS Environmental Scan and its associated update (see Appendix G. Environmental Scan of Existing Domains and Indicators to Inform Development of a New Measurement Framework for Assessing the Health and Vitality of Communities for more information about these materials).[14,15] To align with the recommendations from the NCVHS Population Health Subcommittee to the HHS Secretary, we ensured that throughout both the landscape analysis and subsequent Delphi process, we paid attention to identifying measures that would be flexible enough to meet distinct local needs while also providing a parsimonious set of multi-sector Core Measures to guide federal and state policy and resource allocation, and to enable communities to compare themselves and share best practices.[16]

The landscape analysis resulted in the compilation of hundreds of measures based on existing work and measures or indices in common use. Sources included the American Community Survey (ACS), the City Health Dashboard, CDC's 500 Cities project, County Health Rankings & Roadmaps, the Minnesota Compass, the NCVHS Environmental Scan, OECD measures, the 100 Million Healthier Lives Measure What Matters metrics catalog, the Robert Wood Johnson Foundation Culture of Health measures, and US News & World Report Healthiest Communities rankings. Appendix E. Landscape Analysis Sources includes a full list of the 58 sources included.

14 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; 2016. Available at https://www.ncvhs.hhs.gov/wp-content/uploads/2016/06/NCVHS-Indicators-Envirn-Scan_2016-06-01-FINAL.pdf.

15 Parrish G. Update on Environmental Scan of Non-Health Sector Domains. National Committee on Vital and Health Statistics Subcommittee on Population Health; 2016. Available at https://www.ncvhs.hhs.gov/wp-content/uploads/2016/01/PARRISH.pdf.

16. Stead WW. 2017.

The landscape analysis group rated measures based on a set of decision criteria and process adapted from the National Quality Forum. These were adapted by the Stewardship Group as detailed in Table 3. Every measure that went into the modified Delphi process was rated using the criteria below.

Table 3. Decision Criteria Used for Landscape Analysis Rating of Measures

The below criteria were adapted from National Quality Forum Measure Evaluation Criteria.

Category	Specific Criteria
Important	• Potential to drive improvement in health • Potential to drive improvement in social drivers of well-being • Potential to drive improvement in equity • Aligned with major national/global strategy • Potential to develop new knowledge about what creates well-being
Objective and effective	• Strong evidence that this improves health, well-being, and equity • Valid • Reliable • Benchmarking available
Feasible	• Data already collected, analyzed, and/or reported • Cost of additional collection/availability of resources to support collection • Burden of collection and reporting • Groups ready to adopt
Usable and useful	• Timeframe within which data changes (rating: 3 if less than quarterly, 2 if less than yearly, 1 if yearly, 0 if more than yearly) • Timeliness of data availability (rating: 3 if less than quarterly, 2 if less than yearly, 1 if yearly, 0 if more than yearly) • Usefulness to communities • Usefulness to researchers/national stakeholders • Meaningfulness to people with lived experience • Currently used by/could be used by (Name initiatives, orgs actively using) • Level of data availability

Modified Delphi Process

The modified Delphi process consisted of five feedback cycles that took place in the spring and fall of 2018.[17,18] The goal of this process was to arrive at measures aligned with all 12 domains and included both: a) a parsimonious set of Core Measures, and b) an expanded measure set for use at the local, community, or initiative level.

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17 Boulkedid R, Abdoul H, Loustau M, Sibony O, Alberti C. Using and Reporting the Delphi Method for Selecting Healthcare Quality Indicators: A Systematic Review. PLoS ONE 6(6): e20476; 2011. doi:10.1371/journal.pone.0020476.

18 Helmer-Hirschberg, Olaf, Analysis of the Future: The Delphi Method. Santa Monica, CA: RAND Corporation; 1967. https://www.rand.org/pubs/papers/P3558.html.

19 National Quality Forum (NQF). Multi-stakeholder Review: Criteria for Evaluating a Measure; available at http://public.qualityforum.org/Chart%20Graphics/Multi-stakeholder%20Review%20-%20Criteria%20for%20Evaluating%20a%20Measure.pdf.

Key considerations included:

- Achieving a balance between standard, widely used measures and those that may be promising/currently used in fewer places at this time (or even gaps in the field/opportunities for development), but have the potential to be highly useful; and
- Including a breadth of experts, representing a variety of sectors and those who implement measurement on multiple levels, including the community level.

The modified Delphi process is described in Table 4. All feedback was gathered via electronic survey, and criteria for endorsing measures were based on a set of modified National Quality Forum (NQF) decision criteria developed by the Stewardship Group (see Table 3 and Appendix H. Decision Criteria for Landscape Analysis).[19] 100 Million Healthier Lives Implementation Team members facilitated this process and did not vote in any of the cycles.

Table 4. Delphi Process Summary by Cycle

Cycle # and Focus	Process	Output
1: What's missing?	Participants were invited to suggest additions to the list of candidate measures, derived from their expertise or familiarity.	Complete measures list compiled.
2: Prioritization	In each domain, participants were asked to prioritize 10 measures for each of the national and community measure sets based on the measure's importance, value/usefulness, and usability to stakeholders.	Candidate measures lists for each domain at each national and community level were reduced to the approximately 20 most selected measures per domain.
3: Evaluation	In each domain, participants were asked to prioritize 5 measures for each of the National and Community measures sets, then to evaluate their importance, feasibility, usability, and value on a scale of 1 (least) to 3 (most).	Parsimonious set of measures at national and community levels, requires further input from experts in each domain.
4: Expert validation	2-6 experts in each domain/sector of the framework evaluated Cycle 3 outputs. Measures were then categorized into Leading Indicators and Flexible Expanded Set based on importance and data availability.	Modified parsimonious set of measures — Core Measures, Leading Indicators, Flexible Expanded set developed.
5: Alignment with existing initiatives	The outputs of the expert validation cycle (Cycle 4) were compared with what was being used in other major initiatives and reviewed with implementers, and major gaps or alignment opportunities were identified and addressed.	Core Measures, Leading Indicators, Flexible Expanded set refined.

In the first cycle of the modified Delphi process, participants nominated additional measures to include in the next cycle, including specific measures that were not yet listed, categories of measurement, and areas where a measure might not yet exist and require development. In the two subsequent cycles, we worked to refine the list of measures (by domain and subdomain, and based on the group's ratings), including some strongly recommended standard measures for

national-level implementation as well measures that might be more relevant at the community/subcounty level. The output of modified Delphi Cycle 3 was an initial list of recommended national and community-level measures.

Overall, more than 500 candidate measures were assessed by 38 experts representing multiple agencies and sectors across the cycles in the modified Delphi process (Appendix F. Measurement Development Process Participants includes all participants). These "National" and "Community" measure sets were adapted into the Core Measures, Leading Indicators, and Flexible Expanded Measure Set of the WIN Framework.

In-Person Meeting

On May 18, 2018, 30 federal and non-federal experts in measure development and implementation gathered in Washington, D.C. and via video conference. Topics discussed at this meeting included national measure development, key measurement considerations through the lenses of subpopulations (children/adolescents, workforce, older adults) and equity, and advancing measurement implementation to review the outputs of the first three cycles of the modified Delphi process. Key recommendations from this meeting included:

- Approach this measurement effort as part of a contribution to an overall, broader ecosystem of efforts to advance improvement of well-being.
- Convene specific workgroups to address further measure development and to provide recommendations for implementation for equity and the health care sector, as well as for specific subpopulations: children and adolescents, workforce, older adults.
- Conduct an additional modified Delphi cycle to solicit feedback from additional experts specific to each domain of the NCVHS Framework.
- Continue to align with other measurement efforts in the field.

Modified Delphi Process Cycle 4 – Expert Validation

Per the recommendation from the in-person meeting, we facilitated an additional modified Delphi cycle ("Cycle 4") in which experts (selected by nomination from the Stewardship Group and via "snowball" nomination—recommendations from other Delphi process participants) were invited to comment specifically on their domain(s) of expertise. Individual online feedback worksheets were created for each expert. These worksheets provided opportunities for experts to: evaluate the measures in their domain that were recommended in Cycle 3; review the full list of candidate measures in their domain; and recommend any additional measures from that full candidate list for inclusion. Experts were asked to place measures into one of four categories: 1) National measures only; 2) Community measures only; 3) Both national and community measures; 4) Do not recommend for inclusion. Cycle 4 expanded on the original Cycle 3 output. Measures included in Cycle 4 include any measure previously on the Cycle 3 list that was again endorsed by at least one expert, as well as any additional measure that was endorsed by at least two experts.

During this phase, it also became clear that there was considerable overlap between the national and community levels. We therefore created the categories of Core Measures, Leading Indicators (of a more parsimonious set that could be used for comparison for measures that were rated as very important, have strong validity, and good data availability) and a Flexible Expanded Set that included many measures that were promising and had good initial validity and importance but required additional testing or did not yet have great data availability, especially at the subcounty level.

Modified Delphi Process Cycle 5 – Final Testing with Early Adopters and Alignment with Other Initiatives

We took the output of this process and did one final round of alignment with major national initiatives and groups. Based on the feedback of the National Committee on Vital and Health Statistics, the Centers for Disease Control and Prevention, Healthy People 2030, the American Heart Association, the Robert Wood Johnson Foundation, Well Being Trust, the National Alliance for the Social Determinants of Health, and City Health Dashboard, measures were further refined for maximum alignment. The results were presented to the National Committee on Vital and Health Statistics in February 2019 and formally endorsed by them on March 5, 2019.

Experts at the in-person meeting made an additional recommendation to continue the evaluation of the measures — particularly for the community/subcounty level — through the lenses of equity, as well as subpopulations of children and adolescents, the workforce, and older adults. Since that meeting, a workgroup for health care has been added, recognizing that implementation and adoption of recommended measures within the health care sector will require specific considerations. Workgroups are currently being assembled and chartered. Workgroups are being asked to assess the current lists of measures within the Flexible Expanded Set through their specific lens, suggest any additional measures for inclusion in that set, and note implications for implementation and adoption.

Recommended Measures

The WIN Framework presented here, based on the work conducted to date, is organized into **Core Measures**, **Leading Indicators**, and a **Flexible Expanded Set** of measures. **Core Measures** are organized around three themes: the **well-being of people**, the **well-being of places**, and **equity**.

- **Well-being of people** – Based on the results of the modified Delphi process, we selected a combination of Cantril's ladder, a highly validated people-reported outcome measure, and life expectancy, a highly validated public health measure.
    - People's perception of their own well-being (Cantril's ladder)
        - Highly validated two-question, people-reported outcome measures used in the Gallup World Poll [20,21,22]
        - Administered over 2.7 million times via Gallup National Health and Well-Being Index assessments in hundreds of communities and 150+ countries, with multiple modes of administration
        - Useful and effective in testing with multiple communities and organizations
        - Acts as a leading indicator with changes apparent within 6 months (based on testing by and with multiple communities)
        - Useful for population segmentation with percentage of people thriving, struggling, and suffering associated with differences in morbidity, mortality, and cost[20,21,22]
        - Related to complex behaviors such as voting preferences
    - Life expectancy at birth
        - Highly validated and widely used in population health rankings
        - Available down to the Census Tract level, associated with place-based equity
    - These two measures can be combined to generate a well-being–adjusted life year and divided by cost to generate a simple but powerful measure of value.
- **Well-being of places** as measured by:
    - Healthy communities index using the Leading Indicators. We recommend the US News & World Report Healthiest Communities Rankings and/or County Health Rankings & Roadmaps, as both align well, in terms of measures, with the NCVHS leading indicator recommendations and present data that is readily available. The US News & World Report Healthiest Communities Rankings are explicitly organized around the NCVHS (WIN) Framework.
    - Child poverty rate — single indicator that reflects the health of the community and is associated with many other community characteristics and outcomes
- **Equity** as measured by:
    - Differences in perception of well-being, premature death;
    - Differences by demographic factors such as race, place, education, etc.;
    - Income inequality and differences in high school graduation rate

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20 Roy B, Riley C, Sears L, Rula EY. Collective Well-Being to Improve Population Health Outcomes: An Actionable Conceptual Model and Review of the Literature. *Am J Health Promot*. August 2018:0890117118791993. doi:10.1177/0890117118791993.

21 Graham C, Laffan K, Pinto S. Well-being in metrics and policy. Science. 2018;362(6412):287-288. doi:10.1126/science.aau5234

22 Cantril H. *The Pattern of Human Concerns*. New Brunswick, NJ: Rutgers University Press; 1965. Used by Gallup-Healthways and RWJF Culture of Health Survey.

In addition to the Core Measures described above, the WIN Framework offers:

- **A parsimonious set of "Leading Indicator" measures aligned to 12 domains**: community vitality, economy, education, environment and infrastructure, equity, food and agriculture, health, housing, public safety, transportation, well-being of people, and demographics. These measures are both available and benchmarkable.

- **A flexible, expanded set of highly recommended measures (Flexible Expanded Set)**, including established and developmental measures for every domain and subdomain. This fuller set can expand out and is customizable for and by organizations and communities over time, allowing communities to understand "driver" measures that lead up to the outcomes at the top level. The Flexible Expanded Set includes measures for subgroups across the life course (children and youth, older adults) and for key sectors (the workforce and health care). This set will be added to and modified over time as we learn in more widespread implementation what measures are predictive of key outcomes. Some measures from the Flexible Expanded Set may be promoted to Leading Indicators as evidence for these measures grows.

This framework and associated tools comprise a mix of leading and lagging outcome indicators to drive improvement; measures to drive process (and that can "branch," i.e., a user can select a topic and access additional measures related to that topic); and tools to help people make sense of the data.

A complete list of measures is provided in Appendices A (Core Measures), B (Leading Indicators), and C (Flexible Expended Set). Additional Appendices for the Core Measures and Leading Indicators include a crosswalk of the other sources where recommended measures appear, as well as data availability by level and frequency of data collection (Appendix D. Measures Crosswalk, Data Availability Level, and Data Availability Frequency for Core Measures and Leading Indicators).

Core Measures and Leading Indicators

We recommend that Core Measures (Table 5) and Leading Indicators be actively integrated into and kept consistent across as many cross-sector data and measurement systems and initiatives as possible, ensuring comparable data across places and initiatives about what improves well-being.

Table 5. Core Measures

Theme	Subdomain	Measure or Index
Well-being of People	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering
	Life expectancy	Life expectancy at birth
Well-being of Places	Child poverty rate	% of population under age 18 under 100% of the federal poverty level

	Healthy communities index	US News and World Report Healthiest Communities Rankings,
		County Health Rankings and Roadmaps ranking
Equity	Differences in perception of well-being	Subjective well-being, stratified by differences in demographic factors
	Differences in premature death	Years of potential life lost before age 75, stratified by differences in demographic factors (per 100,000 population)
	Differences in high school graduation rate	% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors
	Income inequality	Income inequality (Gini coefficient)
	Differences by demographic factors in Leading Indicator measures*	Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment

*** Note.** We recommend looking at differences by demographic factors in the Leading Indicator measures being analyzed by a particular initiative/community. Not all initiatives/communities will use all Leading Indicator measures and data isn't available for all of these demographic domains yet.

Demographics include:

- Place
- Gender
- Race/ethnicity
- Age
- Sexual identity
- Primary language
- Educational attainment
- Place
- Others to consider: Veteran status, disability

The recommended **Leading Indicator Measures** include measures in each of the following domains (Appendix B. Leading Indicators includes all measures):

- Community vitality
- Economy
- Education
- Environment & infrastructure
- Equity
- Food & agriculture
- Health
- Housing
- Public Safety
- Transportation
- Well-being
- Demographics (see below)

Implementation of the WIN Measurement Framework

Because the WIN Framework was developed together with implementers in the field, with testing of the framework with different groups, and built on the expertise of leading thinkers in the field, the framework will launch with a significant number of adopters at the local, state, and national levels. Since the WIN Framework offers a small set of common measures that can be easily used across sectors and initiatives, as well as customizable measures that can be adapted for specific initiatives, users have found it easy to apply during the testing period. As a result, many communities, states, and initiatives have already adopted this approach. The WIN measures are being used to:

- Identify measures for national initiatives that can be applied across a wide variety of communities (e.g., in partnership with the American Heart Association).
- Monitor the health, well-being, and equity of a population over time (numerous community-, county-, and state-level needs assessments).
- Understand and drive improvement in health, well-being, and equity in organizations and communities across sectors by using the relevant measures before, during, and after implementation (Well Being Legacy, 100 Million Healthier Lives organizations and communities, Community Initiatives communities, numerous community and state needs assessment processes).
- Evaluate population health initiatives at multiple levels, including the state level (Delaware, New York, California).
- Understand health, well-being, and equity in population segments (National Veterans Survey, National Councils on Aging).
- Compare the health and well-being of communities through the development of an index (US News & World Report Healthiest Communities Rankings).
- Conduct research and evaluation studies that connect the impact of different interventions on well-being.

Over the next several months, we will be working with partners to advance integration into existing data platforms, including Community Commons, Measure What Matters, County Health Rankings and Roadmaps, City Health Dashboard, and US News & World Report Healthiest Communities Rankings. Additionally, we will work to facilitate integration with tools that help change-makers to improve across a connected ecosystem. The Well-being In the Nation measures will soon appear on an interactive sensemaking website developed by LiveStories to help people see and interact with the data. Finally, we will convene a group of stewards who can advance this shared ecosystem for learning about, measuring, and improving well-being together.

Table of Contents: Appendices

Appendix A. Core Measures

Theme	Subdomain	Measure	Source	Also Found In
Well-being of People	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering	Gallup National Health and Well-Being Index	100MLives Well-being Assessment, United Nations' World Happiness Report, Organisation for Economic Co-operation and Development (OECD)
	Life expectancy	Life expectancy at birth	University of Washington Institute for Health Metrics and Evaluation	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps
Well-being of Places	Child poverty rate	% of population under age 18 under 100% of the federal poverty level	Census/American Community Survey (ACS)	County Health Rankings & Roadmaps, City Health Dashboard
	Healthy communities index	US News and World Report Healthiest Communities Rankings	US News & World Report Healthiest Communities Rankings	--
		County Health Rankings and Roadmaps ranking	County Health Rankings & Roadmaps	--
Equity	Differences in perception of well-being	Subjective well-being, stratified by differences in demographic factors	Gallup National Health and Well-Being Index, OECD, World Happiness Report	100MLives Well-being Assessment
	Differences in premature death	Years of potential life lost before age 75, stratified by differences in demographic factors (per 100,000 population)	University of Washington Institute for Health Metrics and Evaluation, National Center for Health Statistics Mortality Files	City Health Dashboard, County Health Rankings & Roadmaps
	Differences in high school graduation rate	% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors	US Department of Education	City Health Dashboard, County Health Rankings & Roadmaps, Healthy People 2020
	Income inequality	Income inequality (Gini coefficient)	Census/ACS	US News & World Report, City Health Dashboard, County Health Rankings & Roadmaps
	Differences by demographic factors in Leading Indicator measures*	Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment	Census/ACS	US News & World Report, City Health Dashboard, County Health Rankings & Roadmaps

*** Note.** We recommend looking at differences by demographic factors in the Leading Indicator measures being analyzed by a particular initiative/community. Not all initiatives/communities will use all Leading Indicator measures.

Appendix B. Leading Indicators

Bolded measures are included in the Core Measures set.

Domain	Subdomain	Measure	Source
Community Vitality	Social capital	% of adults 18 years and over who report not receiving sufficient social-emotional support	CDC Behavioral Risk Factor Surveillance Survey (BRFSS)
	Governance	% of adults who trust and have confidence in the local governments in the area where they live when it comes to handling local problems	Gallup Governance Poll
	Civic engagement	Voter turnout: % of total voting-age citizens who cast votes in the most recent mid-term or presidential election	United States Election Project, state governments
	Social inclusiveness	% of adults who have felt emotionally upset, for example angry, sad, or frustrated, as a result of how they were treated based on their race in the past 30 days	BRFSS Reactions to Race Module
Economy	Employment	Unemployment rate: % of civilian labor force, age 16 and older, that is unemployed but seeking work	Bureau of Labor Statistics
	Income & wealth	**Child poverty: % of population under age 18 under 100% of the federal poverty level**	Census/American Community Survey (ACS)
		Median household income ($)	Census/ACS
		% of adults who would still be able to pay all of their current month's bills in full if faced with a $400 emergency expense	US Federal Reserve Survey on Household Economics and Decision-making (SHED)
Education	Participation & achievement	% of 4th-grade students reaching "proficient" or above in English Language Arts standardized test	National Assessment of Educational Progress (NAEP)
		% of students who graduate high school within 4 years of entering 9th grade	US Department of Education
		Chronic absenteeism: % of students absent 15 or more days during the school year	US Department of Education
		% of youth age 16-19 not enrolled in school and not working (%)	Census/ACS
	Infrastructure & capacity	$ spent per student in public K-12 schools	National Center for Education Statistics
Environment & Infrastructure	Natural environment	Average daily concentration of fine particulate matter (PM2.5) per cubic meter (#)	US Environmental Protection Agency (EPA)
		% of population served by/potentially exposed to water systems that violated EPA standards	EPA
	Neighborhood characteristics	Net Migration: % change in population in a 10-year period, accounting for births and deaths	University of Wisconsin-Madison Applied Population Lab
		% of population living within a 10-minute walk of green space	ParkServe(R), The Trust for Public Land

		Theil Index measuring racial segregation; Scored 0-1, with 0 being LEAST diverse	Census
	Built environment	Walkability index	EPA
Equity	Differences in perception of well-being	**Subjective well-being, stratified by differences in demographic factors**	Gallup National Health and Well-Being Index
	Differences in premature death	**Years of potential life lost before age 75, stratified by differences in demographic factors (# per 100,000 population)**	University of Washington Institute for Health Metrics and Evaluation
	Differences by demographic factors in Leading Indicator measures	**Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment**	Census/ACS
	Differences in high school graduation rate	**% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors**	US Department of Education
	Income inequality	**Income inequality (Gini coefficient)**	Census/ACS
Food & Agriculture	Food availability	% of population who state that within the past 12 months were worried that food would run out before having money to buy more	US Department of Agriculture (USDA) Food Security Survey, Feeding America
		% of population with low food access, defined as living beyond 1 mile (urban) or 10 miles (rural) of supermarket	USDA Food Security Survey, Feeding America
	Nutrition	% of population consuming <1 fruit serving per day	BRFSS Fruit & Vegetables Supplement
		% of population consuming <1 vegetable serving per day	BRFSS Fruit & Vegetables Supplement
Health	Health outcomes	Overall health: % of adults self-reporting fair or poor general health (%)	BRFSS
		Functional status: average # of days where health was reported as a limitation of usual activities	BRFSS
		Healthy days/month: average # of days in the past 30 days when both physical and mental health were good	BRFSS
		Child health: % of children limited or prevented in any way in his or her ability to do the things most children of the same age can do (%)	National Survey of Children's Health
		Infant mortality rate (# per 1,000 live births)	National Vital Statistics System Mortality Data
		Low birthweight: % of live births where baby weighed less than 2,500 grams	National Center for Health Statistics
		Deaths of despair: Deaths due to drug overdose, alcohol, or suicide (# per 100,000 population	National Vital Statistics System Mortality Data
	Health conditions & diseases	% of adults with obesity (body mass index 30+)	BRFSS, CDC National Health and Nutrition Examination Survey (NHANES)

	Health behaviors	% of adults 18+ who smoke (does not include other forms of tobacco**)**	BRFSS
	Health care infrastructure	% of population without medical insurance	Census/ACS
Housing	Infrastructure & capacity	One-day sheltered homeless rate (# per 10,000)	US Department of Housing and Urban Development (HUD)
	Quality	% of households with one or more of these housing conditions in 2010: lacked complete plumbing, lacked complete kitchen, paid 30 percent or more of income for owner costs or rent, or had more than 1 person per room	HUD Comprehensive Housing Affordability Strategy (CHAS) data
	Use/ Affordability	% of households paying 30% or more of their income for housing	Census/ACS
Public Safety	Crime	Violent crime rate (i.e. murder, manslaughter, rape, robbery, aggravated assault) (# per 100,000 population)	US Department of Justice
		Juvenile incarceration rate (# per 100,000 residents)	US Department of Justice Office of Juvenile Justice and Delinquency Prevention
	Injuries	Motor vehicle fatality rate (# per 100,000 population)	National Highway Traffic Safety Administration
	infrastructure	Law enforcement officers (# per 1,000 residents)	FBI Uniform Crime Reporting
	Perceptions of public safety	% of adults who feel safe walking on their street after dark	Gallup Crime Survey
Transportation	Infrastructure & capacity	% of workers commuting who commute alone by car	Census/ACS
	Use & affordability	Rides per day per capita (average weekday household person-miles traveled by U.S. Census tract, per day)	National Household Travel Survey
	Quality	Transit Score	walkscore.com
Well-being of People	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering	Gallup National Health and Well-Being Index, OECD, World Happiness Report
	Life expectancy	**Life expectancy at birth (years)**	University of Washington Institute for Health Metrics and Evaluation
Demographics		Are you Hispanic, Latino/a, or Spanish origin (One or more categories may be selected) a. No, not of Hispanic, Latino/a, or Spanish origin b. Yes, Mexican, Mexican American, Chicano/a c. Yes, Puerto Rican d. Yes, Cuban e. Yes, another Hispanic, Latino, or Spanish origin Which one of the following would you say is your race? (One or more categories may be selected) a. White	Per Health and Human Services Office of Minority Health data standards

	Race/ethnicity	b. Black or African American c. American Indian or Alaska Native d. Asian a. Asian Indian b. Chinese c. Filipino d. Japanese e. Korean f. Vietnamese g. Other Asian e. Native Hawaiian or other Pacific Islander a. Native Hawaiian b. Guamanian or Chamorro c. Samoan d. Other Pacific Islander	
	Age	Age	Per Health and Human Services data Standards
	Gender	Male, female, other	Health and Human Services Office of Minority Health data standards
	Language	Primary language: How well do you speak English? (5 years old or older) _____Very well _____Well _____Not well _____Not at all Do you speak a language other than English at home? (5 years old or older) _____Yes _____No	Per Health and Human Services Office of Minority Health data standards
	Educational attainment	Highest level of education attained	Per Health and Human Services data standards
	Place	Urban/rural	Census, National Center for Health Statistics (NCHS)
	Place	Standard set: zip code, census tracts/boundaries	Census/ACS
	Veteran status	Have you ever served on active duty in the United States Armed Forces, either in the regular military or in the National Guard or Reserves? Yes, No	Per Health and Human Services data standards

	Disability	Yes/no to following questions: 1) Are you deaf or do you have serious difficulty hearing? 2) Are you blind or do you have serious difficulty seeing, even when wearing glasses? 3) Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? (5 years old or older) 4) Do you have serious difficulty walking or climbing stairs? (5 years old or older) 5) Do you have difficulty dressing or bathing? (5 years old or older) 6) Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (15 years old or older)	Health and Human Services Office of Minority Health Data Standards

Appendix C. Flexible Expanded Set

Bolded measures are included in the Core Measures set.

Bolded and italicized measures are included in Leading Indicators measure set.

Domain	Subdomain	Measure	Source
Community Vitality	Social capital	***% of adults 18 years and over who report not receiving sufficient social-emotional support***	CDC Behavioral Risk Factor Surveillance System (BRFSS)
		% of people living in a different house than 1 year ago	American Community Survey (ACS)
		% responding yes to "People around here are willing to help their neighbors"	Project on Human Development in Chicago Neighborhoods: Community Involvement and Collective Efficacy
	Governance	***% of adults who trust and have confidence in the local governments in the area where they live when it comes to handling local problems***	Gallup Governance Poll
		% of adults responding "just about always" or "most of the time" to the question "How much of the time do you think you can trust the government in Washington/ national government to do what is right?"	Pew Research Center
	Civic engagement	***Voter turnout: % of total voting-age citizens who cast votes in the most recent mid-term or presidential election***	United States Election Project, state governments
		% of residents (16+) who volunteered in past year	Minnesota (MN) Compass, Current Population Survey, Volunteer Supplement, Corporation for National and Community Service
	Social inclusiveness	***% of adults who have felt emotionally upset, for example angry, sad, or frustrated, as a result of how they were treated based on their race in the past 30 days***	BRFSS Reactions to Race Module
		Aggregate score on two subscales: emotional connection (to community) and membership (sense of belonging to community)	Robert Wood Johnson Foundation (RWJF) National Survey of Health Attitudes
		Evenness with which racial/ethnic groups are distributed across Metropolitan Statistical Areas (MSAs) (index of dissimilarity)	ACS
	Employment	***Unemployment rate: % of civilian labor force, age 16 and older, that is unemployed but seeking work***	Bureau of Labor Statistics
		Proximity to employment	Child Opportunity Index
		Labor force participation rate (%)	Census
		Child poverty: % of population under age 18 under 100% of the federal poverty level	Census/ACS
		% of adults who would still be able to pay all of their current month's bills in full if faced with an unexpected $400 expense	Department of Health and Human Services (DHHS) Survey on Household Economics and Decision-making (SHED)
		Median household income ($)	ACS

Economy	Income & wealth	% of households receiving public assistance income	Census
		% of population living in owner-occupied housing	ACS
		Mean financial well-being level (self-reported financial security on Cantril's ladder)	100MLives Well-being Assessment
		% of households receiving support from a state, city or community agency or organization (SNAP, free school breakfast/lunch, etc.)	Combination of sources, e.g., American Communities Survey, USDA Food & Nutrition Service Data
Education	Participation & achievement	***% of 4th-grade students reaching "proficient" or above in English Language Arts standardized test***	National Assessment of Education Progress (NAEP)
		Chronic absenteeism: % of students absent 15 or more days during the school year	US Department of Education
		% of youth age 16-19 not enrolled in school and not working	Census
		% of students who graduate high school within 4 years of entering 9th grade	***US Department of Education***
		% of kindergarteners who meet the criteria for readiness	National Center for Education Statistics (NCES)
		% of 8th graders who are proficient in math	NAEP
		% of children who matriculate into 9th grade	NCES, state/local data
		% and relative disparity in population with Bachelor's Degree+, Index ranges 0-1, with 1 being more disparity, includes white vs. Hispanic & black	Census
		% of adults age 25 and older with a college education beyond high school	Census
		% not proficient in English: % of the population that reports speaking English less than "well" in a given geography (e.g., county, Census Tract)	Census
		Attendance rates (%)	NCES, state/local data
	Infrastructure & capacity	***$ spent per student in public K-12 schools***	NCES
		Continuing education tax credits: % tax returns claiming adult education tax credits as a share of total filed tax returns	Brookings Institute
		Average child care costs relative to average or median income	Census
		Child care availability (in development)	To be developed
Environment	Natural environment	***Average daily concentration of fine particulate matter (PM2.5) per cubic meter***	US Environmental Protection Agency (EPA)
		% of population served by/potentially exposed to water systems that violated EPA standards	EPA
		Number of days per year air was rated unhealthy for ozone (#)	CDC Environmental Public Health Tracking Network
		Relative disparity in pollution exposure, index ranges 0-100, with 100 being more disparity; includes white vs. Hispanic, black & other	EPA
		Net migration: % change in population in 10-year period, accounting for births and deaths	University of Wisconsin- Madison Applied Population Lab
		% of population living within 10-minute walk of green space	ParkServe(R), The Trust for Public Land

	Neighborhood characteristics	***Theil Index measuring racial segregation; scored 0-1, with 0 being LEAST diverse***	Census
		Distressed Communities Index (0-100)	Economic Innovation Group
		Area Deprivation Index (0-10)	Health Innovation Program
		# of liquor stores per population or Census Tract	To be developed
	Built environment	***Walkability index***	EPA
		%of population covered by comprehensive smoke-free indoor air laws by state	CDC State System & Americans for Nonsmokers' Rights Survey
		Presence of lead levels above safe limits in drinking water (0 = no presence, 1= presence)	EPA
		% of population with access to internet with speeds of 25 Mbps+	Federal Communications Commission (FCC)
		Households with Internet access: % population access to internet with speeds of 25 Mbps+	FCC
		% of population within 0.5 mile of walkable destinations	EPA
Equity	Differences in perception of well-being	**Differences in subjective well-being**	Gallup National Health and Well-Being Index
	Premature death	**Years of potential life lost before age 75, stratified by differences in demographic factors (# per 100,000 population)**	University of Washington Institute for Health Metrics and Evaluation
	Difference by demographic factors in Leading Indicator measures	**Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment**	Census/ACS
	High school graduation rate	**% of students who graduate high school within 4 years of entering 9th grade, stratified by differences in demographic factors**	US Department of Education
Equity (cont'd)	Income inequality	**Income inequality (Gini coefficient)**	Census/ACS
		Relative disparity in poverty rates: Index value 0-1, with 0 being perfect equality, includes white vs. Hispanic & black	Census
	Employment inequality	Relative disparity in unemployment rates between total population and disabled population, higher values reflect more disparity	Census
	Educational equity	Relative disparity in population with Bachelor's Degree+, index ranges 0-1, with 1 being more disparity, includes white vs. Hispanic & black	Census
	Health equity	Relative disparity in pollution exposure, index ranges 0-100, with 100 being more disparity, includes white vs. Hispanic, black & other	EPA

	Perception of equity	**Everyday Discrimination Scale** In your day-to-day life, how often do any of the following things happen to you? 1. You are treated with less courtesy than other people are. 2. You are treated with less respect than other people are. 3. You receive poorer service than other people at restaurants or stores. 4. People act as if they think you are not smart. 5. People act as if they are afraid of you. 6. People act as if they think you are dishonest. 7. People act as if they're better than you are. 8. You are called names or insulted. 9. You are threatened or harassed. 10. You are followed around in stores. Recommended response categories for all items: Almost every day At least once a week A few times a month A few times a year Less than once a year Never Follow-up question (asked only of those answering "A few times a year" or more frequently to at least one question.): What do you think is the main reason for these experiences? (CHECK MORE THAN ONE IF VOLUNTEERED). RECOMMENDED OPTIONS: 1. Your Ancestry or National Origins 2. Your Gender 3. Your Race 4. Your Age 5. Your Religion 6. Your Height 7. Your Weight 8. Some other Aspect of Your Physical Appearance 9. Your Sexual Orientation 10. Your Education or Income Level OTHER POSSIBLE CATEGORIES TO CONSIDER 1. A physical disability 2. Your shade of skin color 3. Your tribe 4. Other (SPECIFY) _____	Source: Williams, D.R., Yu, Y., Jackson, J.S., and Anderson, N.B. "Racial Differences in Physical and Mental Health: Socioeconomic Status, Stress, and Discrimination." Journal of Health Psychology. 1997; 2(3):335-351. Krieger N., Smith K., Naishadham D., Hartman C., Barbeau E.M. "Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health." Social Science & Medicine. 2005; 61(7):1576-1596. Taylor T.R., Kamarck T.W., Shiffman S. "Validation of the Detroit area study discrimination scale in a community sample of older African American adults: the Pittsburgh healthy heart project." International Journal of Behavioral Medicine. 2004; 11:88–94. Studies using this or related scales: National Survey of American Life Chicago Community Adult Health Study (CCAHS)
Food & Agriculture	Food availability	***Food insecurity rate: % of population that state within the past 12 months were worried that food would run out before having money to buy more***	USDA Food Security Survey, Feeding America
		% of population with low food access, defined as living beyond 1 mile (urban) or 10 miles (rural) of supermarket	USDA Food Security Survey, Feeding America
		# of fast-food restaurants per 10,000 residents	Datafiniti
		% of population consuming <1 fruit serving per day	Behavioral Risk Factors Surveillance Survey (BRFSS)
		% of population consuming <1 vegetable serving per day	BRFSS
		% of adults with obesity (BMI 30+)	CDC, BRFSS
		# of times per week (or % of meals) that household eats outside the home	Bureau of Labor Statistics, Statista

	Nutrition	% of adults consuming <5 servings of fruit/veg per day	CDC
		% of adults with diabetes	CDC
		Average # of times during the past 30 days adults drank regular soda or pop that contained sugar (do not include diet soda or diet pop)	BRFSS Sugar-Sweetened Beverage (SSB) Module
Health	Health outcomes	Overall health: % of adults self-reporting very good or excellent general health	BRFSS
		Overall health: % of adults self-reporting fair or poor general health	BRFSS
		Healthy days/month: average # of days in the past 30 days when both physical and mental health were good	BRFSS
		Physical health: % of adults self-reporting physical health "not good" for >14 days during the past 30 days	BRFSS
		Mental health: % of adults self-reporting mental health "not good" for >14 days during the past 30 days	BRFSS
		Physical health: average # of days during the past 30 days adults' self-reported physical health was not good	BRFSS
		Mental health: average # of days during the past 30 days adults' self-reported mental health was not good	BRFSS
		Functional status: # days where health was reported as a limitation of usual activities	BRFSS
		% of children limited or prevented in any way in his or her ability to do the things most children of the same age can do	National Survey of Children's Health (NSCH)
		Healthy life expectancy (years)	Institute for Health Metrics and Evaluation (IHME), Global Burden of Disease
		Deaths due to drug overdose, alcohol, or suicide (# per 100,000 population)	CDC
		Infant mortality rate (# deaths per 1,000 live births)	***National Survey of Children's Health (NSCH)***
		Maternal mortality rate (# deaths per 100,000 live births)	CDC Pregnancy Mortality Surveillance System
		Low birthweight: % of live births where baby weighed less than 2,500 grams	CDC
		Teen pregnancies: % of females age 15-19 who gave birth within past 12 months	Census
	Health conditions & diseases	***% of adults with obesity (BMI 30+)***	CDC
		Heart Disease Prevalence: % of older adults (Medicare beneficiaries) diagnosed with heart disease	Centers for Medicare and Medicaid Services (CMS)
		Cancer prevalence: % of older adults (Medicare beneficiaries) diagnosed with cancer	CMS
		Childhood trauma: % of children 0-17 who have 1 or more adverse childhood events (ACEs)	National Survey of Children's Health (NSCH)
		% of older adults (Medicare beneficiaries) diagnosed with depression	CMS
		% of adults experiencing serious mental health issues/ mental illness	CMS
		% of adults 18+ who smoke, does not include other forms of tobacco	BRFSS
		Childhood vaccination rates: % of children with age-appropriate vaccination between ages 19-35 months	CDC, NCHS

	Health behaviors	Medicare beneficiaries with primary care visit: % of older adults (Medicare beneficiaries) with 1+ preventive care visit within past year	CMS
		Adults with no leisure-time physical activity: % of adults who did not participate in leisure-time physical activities or exercise in past month	CMS
		% of adults engaging in advance care planning (discussions, proxy selected, advance directive on file)	To be developed
	Health care infrastructure	***% of population without medical insurance***	Census
		% of residents <65 without health insurance	Census, ACS
		# of primary care doctors per 100,000 population	Department of Health and Human Services (DHHS)
		# of dentists/100,000 population	American Dental Association
		# of mental health providers/100,000 population	CMS
Housing	Infrastructure/ capacity	***One-day sheltered homeless (# per 10,000)***	US Department of Housing and Urban Development (HUD)
		30-day placement rate into permanent supportive housing	HUD
	Quality	***% of households with one or more of these housing conditions in 2010: lacked complete plumbing, lacked complete kitchen, paid 30 percent or more of income for owner costs or rent, or had more than 1 person per room***	HUD Comprehensive Housing Affordability Strategy (CHAS)
	Use/ affordability	***% of households paying 30% or more of their income for housing***	Census, ACS
		H+T affordability index (housing + transportation) (0%-100%)	Center for Neighborhood Technology
Public Safety	Crime	***Violent crime rate (i.e. murder, manslaughter, rape, robbery, aggravated assault) (# per 100,000 population)***	US Department of Justice (DOJ)
		Juvenile incarceration rate (# per 100,000 residents)	DOJ Office of Juvenile Justice and Delinquency Prevention
		#of homicide fatalities per 100,000 population	DHHS, CDC, NCHS
		# of property crimes (i.e., burglary, larceny-theft, motor vehicle theft, arson) per 100,000 population	DOJ
		Rate of child abuse reports or indications (in development)	State and local Departments of Child Services
		# of domestic assaults reported per 100,000 population	DOJ, CDC
	Injuries	***Motor vehicle fatality rate (# per 100,000 population)***	National Highway Traffic Safety Administration
		Deaths with underlying causes of drug-related poisonings (age-adjusted rate per 100,000)	CDC
	Infrastructure	***Law enforcement officers (# per 1,000 residents)***	FBI Uniform Crime Reporting (UCR) Statistics

		# of first responders (i.e., paramedics, firefighters, police) per 1,000 residents	To be developed
	Perceptions of public safety	***% of adults who feel safe walking on their street after dark***	Gallup Crime Survey
		Perceptions around police (in development)	To be developed
Transportation	Infrastructure & capacity	***% of workers who commute alone by car***	Census/ACS
		% of workers who commute 60 minutes or longer	Census/ACS
		Average # of jobs reachable within 30 minutes by public transit or walking	University of Minnesota: Access Across America
	Use & affordability	***Rides per day per capita (average weekday household person-miles traveled by U.S. Census Tract, per day)***	National Household Travel Survey
		In the last three years, the quality and service of public transportation has: improved, worsened, or remained the same.	To be developed
		In the last three years, the roads leading to this community have: improved, worsened, or remained the same.	To be developed
	Quality	***Transit Score***	walkscore.com
		Average time of commute (minutes)	Census
		Bike Score (0-100)	walkscore.com
Well-being of People	People's perception of their well-being	**Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering** Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. 1. Indicate where on the ladder you feel you personally stand right now. 2. On which step do you think you will stand about 5 years from now? Thriving if 7 or higher currently, 8 or higher in 5 years Suffering if 4 or lower currently and in 5 years Struggling if in the middle or inconsistent	Gallup National Health and Well-Being Index OECD United Nations' World Happiness Report
		Cantril's ladder: % of people with hope (% of people with higher scores than current or scores 8 or higher in 5 years)	Gallup National Health and Well-Being Index
		Cantril's ladder item for Financial Security Now imagine the top of the ladder represents the best possible financial situation for you, and the bottom of the ladder represents the worst possible financial situation for you. Please indicate where on the ladder you stand right now.	Gallup National Health and Well-Being Index
		In general, how would you rate your physical health?	Patient-Reported Outcomes Measurement Information System (PROMIS)
		In general, how would you rate your mental health, including your mood and your ability to think?	PROMIS
		How often do you get the social and emotional support you need?	BRFSS
		How strongly do you agree with this statement? "I lead a purposeful and meaningful life."	Short Flourishing Scale

	Life expectancy	**Life expectancy at birth (years)**	University of Washington Institute for Health Metrics and Evaluation
Demographics	Place	***Standard Set: Zip code, Census Tracts/boundaries***	Census, ACS, HHS data standards
	Gender	Male, female, transgender, other	Adaptation of Health and Human Services Office of Minority Health data standards 100MLives Well-being Assessment
	Race/ethnicity	***Race/ethnicity***	Census, ACS, HHS data standards
	Age	***Age***	Census, ACS, HHS data standards
	Primary language	***Primary language***	Census, HHS data standards
	Educational attainment	***Highest level of education attained***	Census
	Place	***Urban/rural***	Census, NCHS
	Veteran status	Have you ever served on active duty in the United States Armed Forces, either in the regular military or in the National Guard or Reserves? Yes/No	HHS Office of Minority Health data standards
	Disability	Yes/no to following questions: 1) Are you deaf or do you have serious difficulty hearing? 2) Are you blind or do you have serious difficulty seeing, even when wearing glasses? 3) Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? (5 years old or older) 4) Do you have serious difficulty walking or climbing stairs? (5 years old or older) 5) Do you have difficulty dressing or bathing? (5 years old or older) 6) Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (15 years old or older)	HHS Office of Minority Health data standards https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=53
	Others to consider: Sexual identity	*Sexual identity (proposed)* Which of the following best describes you? 1) heterosexual (straight) 2) gay or lesbian 3) bisexual 4) not sure	http://eknygos.lsmuni.lt/ springer/686/355- 374.pdf Massachusetts Youth Risk Behavior Surveillance System (YRBSS)

Appendix D. Measures Crosswalk, Data Availability Level, and Data Availability Frequency for Core Measures and Leading Indicators

Domain		Subdomain	Measure	Also included in…	Data Availability Level	Data Availability Frequency
Core Measures	**Well-being of People**	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering	Gallup National Health and Well-Being Index	Annual	City, county, state
		Life expectancy	Life expectancy at birth (years)	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps	Annual	City, county, state
	Well-being of Places	Child poverty rate	% of population under age 18 under 100% of the federal poverty level	County Health Rankings & Roadmaps	Annual	Census tract
		Healthy communities index	US News and World Report Healthiest Communities ranking	US News & World Report Healthiest Communities Rankings	Annual	County
			County Health Rankings and Roadmaps Ranking	County Health Rankings & Roadmaps	Annual	County
	Equity	Difference in perception of well-being	Subjective well- being, stratified by differences in demographic factors	Gallup National Health and Well-Being Index	Annual	Varies
		Difference in premature death	Years of potential life lost before age 75, stratified by differences in demographic factors (per 100,000 population)	City Health Dashboard, County Health Rankings & Roadmaps	Annual	Census tract
		Difference in high school graduation rate	% of students who graduate high school within 4 years of entering ninth grade, stratified by differences in demographic factors	City Health Dashboard, County Health Rankins & Roadmaps, Healthy People 2020, US News & World Report Healthiest Communities Rankings	Annual	County, city
		Income inequality	Income inequality (Gini coefficient or in)	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps	Annual	Census tract
		Difference by demographic factors in Leading Indicator metrics	Race/ethnicity, age, place (zip code), urban/rural, gender identity, primary language, educational attainment	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps, American Community Survey	Annual	Census tract

	Domain	Subdomain	Measure	Also Included in…		
Leading Indicators	**Community Vitality**	Social capital	% of adults 18 years and over who report not receiving sufficient social-emotional support		Annual	State
		Governance	% of adults who trust and have confidence in the local governments in the area where they live when it comes to handling local problems	Gallup Governance Poll Survey	Annual	State
		Civic engagement	Voter turnout: % of total voting- age citizens who cast votes in the most recent mid-term or presidential election	US News & World Report Healthiest Communities Rankings, RWJF Culture of Health	Biannual	State or County
		Social inclusiveness	% of adults who have felt emotionally upset, for example angry, sad, or frustrated, as a result of how they treated based on their race in the past 30 days		Annual	State
	Economy	Employment	Unemployment rate: % of the civilian labor force, age 16 and older, that is unemployed but seeking work	County Health Rankings & Roadmaps, RWJF Culture of Health, City Health Dashboard	Monthly	County
		Income & Wealth	Median household income ($)	County Health Rankings & Roadmaps, US News & World Report Healthiest Communities Ranking	Annual	Census tract
			% of adults who would still be able to pay all of their current month's bills in full if faced with a $400 emergency expense that they had to pay		Annual	National
	Education	Participant & achievement	% of 4th-grade students reaching "proficient" or above in English Language Arts standardized test	US News & World Report Healthiest Communities Rankings	Annual	State or sub-county
			Chronic absenteeism: % of students absent 15 or more days during the school year	City Health Dashboard	Annual	State or sub-county
			% of students who graduate high school within 4 years of entering ninth grade	City Health Dashboard, County Health Rankins & Roadmaps, Healthy People 2020. US News & World Report Healthiest Communities Rankings	Annual	State or sub-county
			% of youth age 16-19 not enrolled in school and not working	US News & World Report Healthiest Communities Rankings, County Health Rankings & Roadmaps	Annual	Census tract
		Infrastructure & capacity	$ spent per student in public K-12 schools	US News & World Report Healthiest Communities Rankings	Annual	State or sub-county
	Environment & Infrastructure	Natural environment	Average daily concentration of fine particulate matter (PM2.5) per cubic meter	City Health Dashboard, County Health Rankings & Roadmaps	Annual	County
			% of population served by/potentially exposed to water systems that violated EPA standards	County Health Rankings & Roadmaps	Annual	Sub-county

		Neighborhood characteristics	Net Migration: % change in population in a 10-year period, accounting for births and death	US News & World Report Healthiest Communities Rankings		Census tract
			% of population living within a 10 minute walk of green space	US News & World Report Healthiest Communities Rankings	Annual	Sub-county
			Theil Index measuring racial segregation; Scored 0-1, with 0 being LEAST diverse	US News & World Report Healthiest Communities Rankings, City Health Dashboard	Annual	Census
		Built environment	Walkability index	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps	Annual	Census tract
	Food & Agriculture	Food availability	% of population that state within the past 12 months were worried that food would run out before having money to buy more	County Health Rankings & Roadmaps	Annual	State
			% of population with low food access defined as living beyond 1 mile (urban) or 10 miles (rural) of supermarket	County Health Rankings & Roadmaps, City Health Dashboard	Annual	State
		Nutrition	% of population consuming <1 fruit serving per day		Annual	State
			% of population consuming <1 vegetable serving per day		Annual	State
	Health	Health outcomes	Healthy days/month: average # of days in the past 30 days when both physical and mental health were good	County Health Rankings & Roadmaps	Annual	Census tract
			Functional status: average # of days where health was reported as a limitation of usual activities		Annual	Census tract
			% of adults self-reporting fair or poor general health	County Health Rankings & Roadmaps, US News & World Report Healthiest Communities Rankings	Annual	Census tract
			% of children limited or prevented in any way in his or her ability to do the things most children of the same age can do		Annual	State
			# of deaths due to drug overdose, alcohol, or suicide per 100,000 population	US News & World Report Healthiest Communities Rankings	Annual	County
			Infant mortality rate (# per 1,000 live births)		Annual	State
			Low birthweight: % of live births where baby weighed less than 2,500 grams	County Health Rankings & Roadmaps, US News & World Report Healthiest Communities Rankings, City Health Dashboard	Annual	State
		Health conditions & diseases	% adult obesity (BMI 30+)	US News & World Report Healthiest Communities Rankings, City Health	Annual	Census tract

				Dashboard, County Health Rankings & Roadmaps		
		Health behaviors	% of adults 18+ who smoke (does not include other forms of tobacco)	City Health Dashboard, County Health Rankings & Roadmaps, US News & World Report Healthiest Communities Rankings	Annual	State
		Health care infrastructure	% of population without medical insurance	County Health Rankings & Roadmaps, City Health Dashboard	Annual	Census tract
	Housing	Infrastructure/ capacity	One day sheltered homeless rate (per 10,000 residents)		Varies	State or sub-county
		Quality	% of households with one or more of these housing conditions: lacked complete plumbing, lacked complete kitchen, paid 30 percent or more of income for owner costs or rent, or had more than 1 person per room	City Health Dashboard, County Health Rankings & Roadmaps	Annual	Census tract
		Use/affordability	% of households paying 30% or more of their income for housing	US News & World Report Healthiest Communities Rankings, City Health Dashboard	Annual	Census tract
	Public Safety	Crime	Violent crime rate (i.e. murder, manslaughter, rape, robbery, aggravated assault) (# per 100,000 population)	US News & World Report Healthiest Communities Rankings, County Health Rankings & Roadmaps, City Health Dashboard	Annual	State, county, or sub-county
			Juvenile incarceration rate (# per 100,000 residents)		Annual	State
		Injuries	Motor vehicle fatality rate (# per 100,000 population)	US News & World Report Healthiest Communities Rankings	Annual	State
		Infrastructure	Law enforcement officers (# per 1,000 residents)		Annual	State, county, or sub-county
		Perceptions of public safety	% of adults who feel safe walking on their street after dark	Gallup Crime Survey	Annual	Sub-county
	Transportation	Infrastructure & capacity	% of workers commuting who commute alone by car	County Health Rankings & Roadmaps	Annual	Census tract
		Use & affordability	Rides per day per capita (average weekday household person-miles traveled by U.S. Census Tract, per day)	County Health Rankings & Roadmaps, RWJF Culture of Health, City Health Dashboard	Continuous	Community
		Quality	Transit Score		Annual	Census tract
	Wellbeing of people	People's perception of their well-being	Cantril's ladder: Mean well-being level, % of people thriving, % of people struggling, % of people suffering	Gallup Wellbeing Index	Annual	Sub-county
		Life expectancy	Life expectancy at birth (years)	US News & World Report Healthiest Communities Rankings, City Health Dashboard, County Health Rankings & Roadmaps	Annual	Sub-county
	Demographics	See Appendix B. Leading Indicators			Annual	Census tract

Appendix E. Landscape Analysis Sources

100 Million Healthier Lives Adult Well-being Assessment

American Community Survey (ACS)

Americans for Nonsmokers' Rights Survey

ArcGIS Business Analyst

Bush State Survey

Canadian Index of Well-being

Centers for Disease Control and Prevention (CDC)

Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS)

Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NCHS)

Centers for Disease Control and Prevention (CDC) National Vital Statistics System (NVSS)

Centers for Disease Control and Prevention (CDC) National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) AtlasPlus

Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS)

Centers for Medicare and Medicaid Services (CMS)

Child Opportunity Index

City Health Dashboard

Commonwealth Fund Scorecard on State Health System Performance

Connecticut Community Well-being Index

Federal Bureau of Investigation (FBI) Uniform Crime Reporting

Food Access Research Atlas

Gallup Crime Survey

Gallup Governance Poll

Gallup National Health and Well-Being Index

General Social Survey (NORC, University of Chicago)

HealthBegins Upstream Risk Screening Tool

KIDS COUNT Data Center

Minnesota Compass

Minnesota Survey of Adult Substance Use (MNSASU)

National Assessment of Education Progress (NAEP)

National Cancer Institute Statistics

National Center for Education Statistics (NCES)

National Survey of Children's Health (NSCH)

Nielsen Site Reports

Organisation for Economic Co-operation and Development (OECD) Better Life Index

Organisation for Economic Co-operation and Development (OECD) Health Data

Patient-Reported Outcomes Measurement Information System (PROMIS) Pediatric Item Bank

Project on Human Development in Chicago Neighborhoods

Robert Wood Johnson Foundation (RWJF) Culture of Health Survey

Shortened Adapted Social Capital Assessment Tool (SASCAT)

Small Area Health Insurance Estimates (SAHIE)

Smart Growth America

Social Capital Assessment Tool

Social Progress Index

US Bureau of Justice Statistics (BJS)

Census of State and Local Law Enforcement Agencies (CSLLEA)

US Bureau of Labor Statistics (BLS)

US Census Bureau Supplemental Current Population Survey (CPS)

US Census Bureau Barriers, Attitudes and Motivators Study

US Census Bureau County Business Patterns

US Census Bureau Current Population Survey

US Department of Agriculture (USDA) Economic Research Service

US Department of Agriculture (USDA) Food Environment Atlas

US Department of Housing and Urban Development (HUD)

US Department of Housing and Urban Development (HUD) Location Affordability Portal

US Department of Transportation (DOT) National Highway Traffic Safety Administration (NHSTA)

US Energy Information Agency

US Environmental Protection Agency (EPA) Environmental Justice Screening and Mapping Tool

US Environmental Protection Agency (EPA) National Air Toxics Assessment

US Environmental Protection Agency (EPA) Toxics Release Inventory (TRI)

US Geological Survey (USGS) National Land Cover Database

US Health Resources and Services Administration (HRSA) Area Resource File

US News & World Report Healthiest Communities Rankings

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

The **Environmental Scan of Existing Domains and Indicators to Inform Development of a New Measurement Framework for Assessing the Health and Vitality of Communities**, conducted by the National Committee on Vital (NCVHS) and Health Statistics, and its associated update can be found through these links. Appendix L lists the NCVHS Framework as described in the Environmental Scan, and Appendix M details the evolution of the NCVHS Framework over time, including the Well-being in Nation (WIN) Framework.

Appendix H. Decision Criteria for Landscape Analysis

The below criteria were adapted from National Quality Forum criteria for evaluating a measure.

Overall (basic info for all nominated metrics):

- Domain
- Subdomain
- Proposed Metric
- Source of Metric
- Link to website for more information
- Level of data available (national, state, county, sub-county, zip code, community, etc.)

Important

- Potential to drive improvement in health
- Potential to drive improvement in social drivers of well-being
- Potential to drive improvement in equity
- Aligned with major national/global strategy
- Potential to develop new knowledge about what creates well-being

Objective and effective

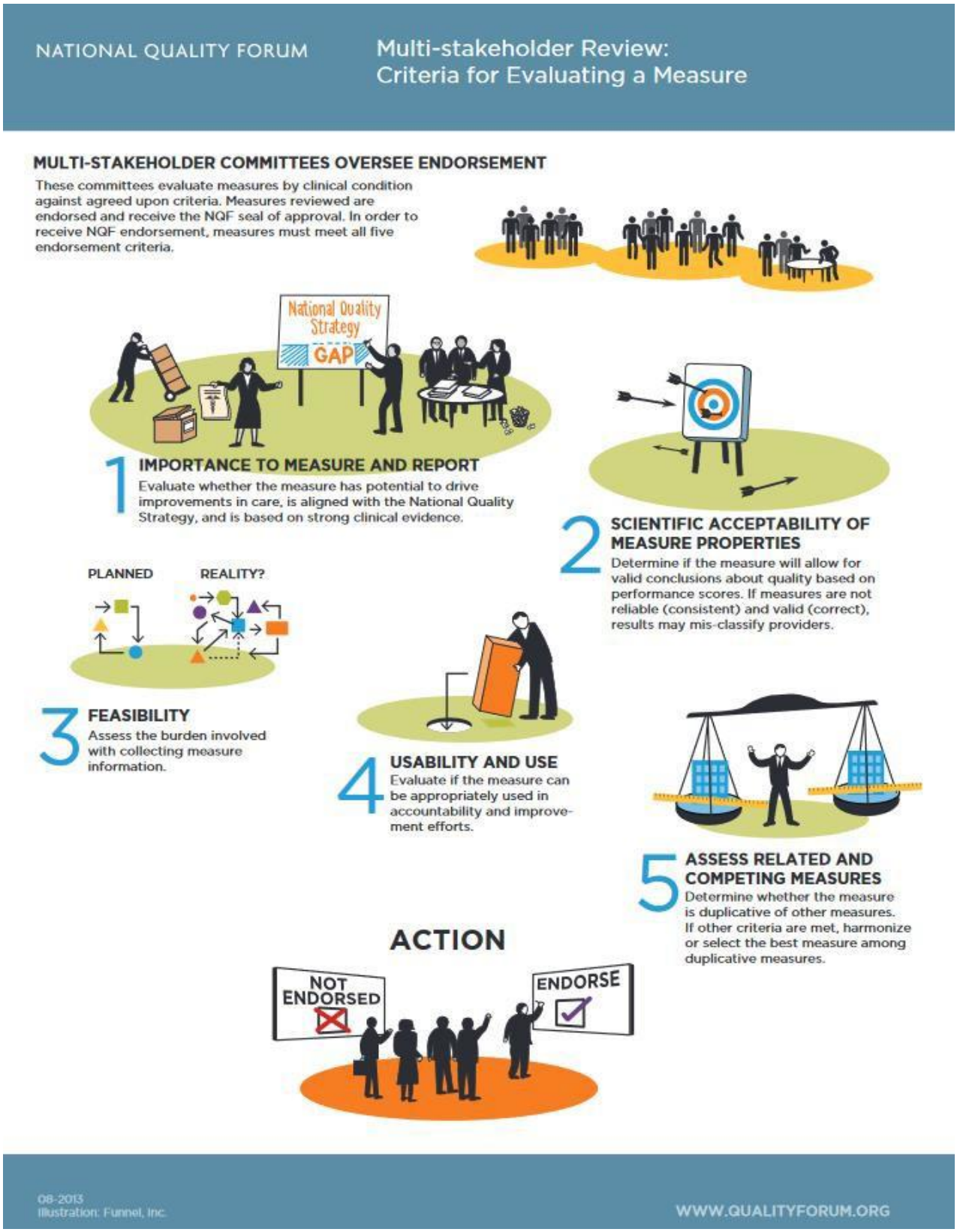
- Strong evidence that this improves health, well-being, and equity
- Valid
- Reliable
- Benchmarking available

Feasible

- Data already collected, analyzed and reported
- Cost of additional collection/availability of resources to support collection
- Burden of collection and reporting
- Groups ready to adopt

Useable and useful

- Time frame data changes within (rating: 3 if less than quarterly, 2 if less than yearly, 1 if yearly, 0 if more than yearly)
- Timeliness of data availability (rating: 3 if less than quarterly, 2 if less than yearly, 1 if yearly, 0 if more than yearly)
- Usefulness to communities
- Usefulness to researchers/national stakeholders
- Meaningfulness to people with lived experience
- Currently used by/could be used by? (Name initiatives, orgs actively using)
- Level of data availability



Source. National Quality Forum (NQF). Multi-stakeholder Review: Criteria for Evaluating a Measure; available at http://public.qualityforum.org/Chart%20Graphics/Multi-stakeholder%20Review%20-%20Criteria%20for%20Evaluating%20a%20Measure.pdf.

Appendix I. About NCVHS

The National Committee on Vital and Health Statistics (NCVHS) comprises 18 individuals, appointed by either the Health and Human Services (HHS) Secretary or Congress, with expertise in areas including health statistics, health care information, security of electronic health information, population-based public health, purchasing or financing health care services, integrated computerized health information systems, health services research, consumer interests in health information, health data standards, epidemiology, and the provision of health services. Serving as the advisory body to the HHS Secretary for health data, statistics, privacy, and national health information policy and the Health Insurance Portability and Accountability Act (HIPAA), the committee acts as a national forum for collaboration with stakeholders and fulfills important review and advisory roles to fulfill the vision of improving the health and well-being of the U.S. and its territories through advances in national health information and data policy.

The Committee's four strategic goals[24] are:

1: Improve data usability and analytic capabilities to sustain continuous improvement in health and well-being for all.

2: Accelerate the adoption of standards to achieve the purposes of safety, effectiveness, efficiency, privacy, security, and interoperability of health data and systems.

3: Expand appropriate access and use of data while ensuring relevant safeguards.

4: Improve health information and data policy by taking the long view.

The NCVHS Subcommittee on Population Health focuses on matters concerning the measurement of the health of people living within the US, and reports recommendations to the full NCVHS committee to ensure health data is generated in an accurate, timely, and relevant manner. This Subcommittee's primary functions[25] include:

1. Studying the data and development of standards for indicators of community health and well-being and social determinants of health to identify any issues.
2. Monitoring the health data needs of the US for vulnerable populations (including but not limited to those disadvantaged by their special needs, economic status, race, ethnicity, disability, age, gender, or area of residence) and evaluating the approaches for tracking the data.
3. Identifying emerging population health data issues and working to improve the ability to meet these needs.
4. Identifying methods and prospects to sustain, secure, and improve the Vital Registration and Statistics System at the Federal, state, and local level.

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[24] National Committee on Vital and Health Statistics Strategic Plan. National Committee on Vital and Health Statistics; 2017, September. Available at https://ncvhs.hhs.gov/wp-content/uploads/2018/01/NCVHS-Strategic-Plan-with-criteria-september-13-2017-508.pdf.

[25] Subcommittee on Population Health. National Committee on Vital and Health Statistics; 2017. Available at https://ncvhs.hhs.gov/subcommittees-work-groups/subcommittee-on-population-health/

5. Identifying strategies and opportunities to achieve long-term public and researcher access and availability to commonly used, valid, credible, and timely population health information at geographic levels ranging from the community to national level.
6. Refining statistical issues on collecting population-based data of people living within the US.
7. Advising the Department on population health data collection needs and strategies and reviewing and monitoring the information gathered.
8. Considering the impact that may occur between emerging health information technologies on the Department's population health data and the Department's information policies and systems on the development of emerging technologies.
9. Collaborating with the Board of Scientific Counselors of the National Center for Health Statistics on addressing health statistics issues.
10. Exploring opportunities to work collaboratively with parallel NCVHS Subcommittees.

Appendix J. Original NCVHS Framework-WIN Framework Comparison

Proposed Measurement Framework for Community Health and Well-Being: V4 Domains and Subdomains vs. V5 Domains and Subdomains

NCVHS Measurement Framework		WIN Framework	
Domain	***Subdomain***	***Domain***	***Subdomain***
Community Vitality	Social capital	**Community Vitality**	Social capital
	Governance		Governance
	Civic engagement		Civic engagement
	Social inclusiveness		Social inclusiveness
Demographics	Total population	**Demographics**	Total population
	Demographics per HHS Data Standards (age, sex, race/ethnicity, primary language, disability)		Demographics per HHS Data Standards (age, sex, race/ethnicity, primary language, disability)
	Other demographics		Other demographics
Economy	Income and wealth	**Economy**	Income and wealth
	Employment		Employment
Education	Infrastructure & capacity	**Education**	Infrastructure & capacity
	Participation and achievement		Participation and attainment from cradle to graduation
Environment	Natural environment	**Environment**	Natural environment
	Built environment		Built environment
	Neighborhood characteristics		Neighborhood characteristics
Food and Agriculture	Food availability	**Food and Agriculture**	Food availability
	Nutrition		Nutrition
Health	Health care infrastructure	**Health**	Health care infrastructure
	Health behaviors		Health
	Health conditions & diseases		Health conditions and diseases
	Health outcomes		Health outcomes
Housing	Infrastructure & capacity	**Housing**	Infrastructure & capacity
	Quality		Quality
	Use/affordability		Use/affordability
Public Safety	Infrastructure	**Public Safety**	Infrastructure
	Perceptions of public safety		Perceptions of public safety
	Crime		Crime
	Injuries		Injuries
Transportation	Infrastructure & capacity	**Transportation**	Infrastructure & capacity
	Quality		Quality
	Use & affordability		Use and affordability
		Well-being	Of People
		Equity	Social equity
			Educational equity
			Income equity
			Health equity

Appendix K. Candidate Measures at Each Stage of Modified Delphi Process

Candidate measures at the beginning of modified Delphi Cycle 1 can be found **here**

Candidate measures at the beginning of modified Delphi Cycle 2 can be found **here**

Candidate measures at the beginning of modified Delphi Cycle 3 can be found **here**

Candidate measures at the beginning of modified Delphi Cycle 4 can be found **here**

Appendix L. Development of Framework Domains and Sub-Domains Over Time

Framework v1 November 2015	Framework v2 June 2016	Framework v3 September 2016	Framework v4 November 2016	Framework v5 (WIN) February 2019
Outcomes • Life expectancy • Well-being Health Behaviors • Obesity and relevant behaviors • Tobacco • Substance abuse (alcohol/drug) Clinical Care • Access to care • Quality of care Physical Environment • Air quality Social and Economic • Education • Poverty • Housing • Safety	Health • Health outcomes • Health conditions & diseases • Health behaviors • Health care & infrastructure Environment • Natural environment • Neighborhood characteristics Education • Educational participation & attainment • Educational infrastructure & capacity Economy • Income and wealth • Employment Public Safety • Crime • Infrastructure • Perceptions of public safety • Injuries Social Cohesion and Civic Vitality • Social cohesion • Civic engagement Housing • Infrastructure/capacity • Availability/affordability • Quality	Health • Health care & infrastructure • Health behaviors • Health conditions & diseases • Health outcomes Environment • Natural environment Neighborhood characteristics Education • Infrastructure & capacity • Participation & achievement Economy • Income and wealth • Employment Food and Agriculture • Food availability • Nutrition Public Safety • Infrastructure • Perceptions of public safety • Crime • Injuries Community Vitality • Social capital • Governance • Civic engagement • Social inclusiveness Housing • Infrastructure & capacity • Quality • Use/affordability Transportation • Infrastructure & capacity • Quality • Use	Community Vitality • Social capital • Governance • Civic engagement • Social inclusiveness Demographics • Total population • Recommended demographics • Other demographics Economy • Income and wealth • Employment Education • Infrastructure & capacity • Participation & achievement Environment • Natural environment • Built environment • Neighborhood characteristics Food and Agriculture • Food availability • Nutrition Health • Health care infrastructure • Health behaviors • Health conditions & diseases • Health outcomes Housing • Infrastructure & capacity	**Well-being of people** • Life expectancy • Well-being Equity • Differences in well-being of people • Years of potential life gained • Differences by demographic factors • Income inequality • Graduation rates **Well-being of places** Child poverty Index from the following: Community Vitality • Social capital • Governance • Civic engagement • Social inclusiveness Economy • Income and wealth • Employment Education • Infrastructure & capacity • Participation & achievement Environment • Natural environment • Built environment • Neighborhood characteristics

	Transportation • Infrastructure • Use • Quality Demographics • Age • Sex • Race/ethnicity • Primary language • Disability	Demographics • Total population • ACA demographics • Other demographics	• Quality • Use/affordability Public Safety • Infrastructure • Perceptions of public safety • Crime • Injuries Transportation • Infrastructure & capacity • Quality • Use & affordability	Food and Agriculture • Food availability • Nutrition Health • Health care infrastructure • Health behaviors • Health conditions & diseases • Health outcomes Housing • Infrastructure & capacity • Quality • Use/affordability Public Safety • Infrastructure • Perceptions of public safety • Crime • Injuries Transportation • Infrastructure & capacity • Quality • Use & affordability Demographics • Total population • Recommended demographics • Other demographics