Indicators of Healthy Aging: A Guide to Explore Healthy Aging Data through Community Health Improvement

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Trust for America's Health

NACCHO
National Association of County & City Health Officials

FOREWORD

The longevity of the American population is increasing and is largely attributable to public health interventions. Many local health departments (LHDs), who serve as National Association of County and City Health Officials (NACCHO) members, play a role in supporting us as we all grow older. From an analysis conducted by NACCHO, most LHD Community Health Improvement Plans (CHIPs) contain priorities that, while not specifically addressing older adults (e.g., 65 years of age and older), could be adapted for healthy aging programs. Such priorities include chronic diseases (e.g., heart disease, diabetes, stroke, cancer), as well as substance use, depression, and other areas of mental health. Many LHDs are now engaging in national healthy aging movements, including Trust for America's Health's (TFAH's) Age-Friendly Public Health Systems and AARP's Network of Age-Friendly States and Communities. Further, there are five LHDs that serve as the hosting agency for their counties' Area Agencies on Aging.

To strengthen and develop age-friendly public health systems, a more comprehensive set of healthy aging indicators is needed to guide health departments and community partners at the local, state, tribal, and territorial levels to measure and identify population-level health disparities and inequities. Additionally, Community Health Improvement (CHI) partners need a robust, unified source of secondary data that aligns with healthy aging indicators to inform strategic and action planning.

This product is designed to augment NACCHO's Mobilizing for Action through Planning and Partnerships (MAPP) framework, which is the most widely used CHI framework among governmental public health departments and, increasingly, community-based organizations, nonprofit hospital systems, and community health centers that lead or engage in CHI processes. This also serves as a resource for health departments and their partners to use in expanding age-friendly data collection and advocating for leadership support to expand age-friendly public health efforts.

ACKNOWLEDGEMENTS

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In addition to feedback from NACCHO and TFAH on the overall structure of this guide, individuals with knowledge and expertise specific to healthy aging and community health improvement were invited to serve as subject matter experts to inform the content included in this guide. Local health department staff working in healthy aging and community health improvement were also invited to provide input which informed the content of this guide. These subject matter experts are listed below.

Kathy Black
University of South Florida

Leacey Brown
South Dakota State University

Chelsey Byers
University of Illinois Extension

James Weeden
Allegheny County Health Department

Megan Wolfe
Trust for America's Health

Erin Yelland
Kansas State University

Jane Strommen
North Dakota State University Extension

Donna Barrett
Summit County Public Health

The John A. Hartford Foundation, based in New York City, is a private, nonpartisan, national philanthropy dedicated to improving the care of older adults.

Trust for America's Health is a non-partisan public health policy, research and advocacy organization that envisions a nation that values the health and well-being of all and where prevention and health equity are foundational to policymaking at all levels of society.

The National Association of County and City Health Officials (NACCHO) represents the nation's nearly 3,000 local governmental health departments. These city, county, metropolitan, district, and tribal departments work every day to protect and promote health and well-being for all people in their communities. For more information about NACCHO, please visit www.naccho.org. Contributions to this resource were provided by the following NACCHO staff: Bianca Lawrence, Anna Clayton, and Peter Holtgrave.

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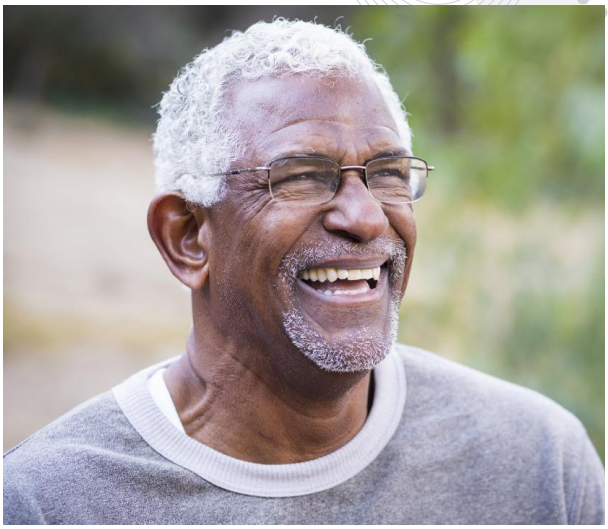
HEALTHY AGING



Longevity in the U.S. and across the globe means that our population is living longer and healthier than ever. This enables our communities – and society – to continue to benefit from our knowledge, experience, and energy as we age. The public health system is foundational to the longevity we are experiencing, and now can further support older adult health and well-being. Adults aged 65 and older are expected to comprise almost one-quarter of the U.S. population by 2060.[1] We promote health in children as they grow, in adults as they encounter changes like pregnancy and illness, and in older people as they address the challenges and opportunities of changes in work life, family life, physical abilities, and more. According to the World Health Organization, [2] healthy aging is defined as the "process of developing and maintaining the functional ability that enables well-being in older age." Domains of healthy aging reflect the multidimensional concepts that impact aging, including physical capability, cognitive function, metabolic and physiological health, psychological well-being, and social well-being.[3] In particular, the primary focus of healthy aging is how to increase healthy and functional years across the life course.[4]

LIFECOURSE PERSPECTIVE

A healthy aging perspective is really a "life course perspective", acknowledging the factors for health that occur across one's lifetime.[5] This is a complex interplay of risk and protective factors (e.g., behavioral, psychological, social, biological) that impact the health and well-being of individuals and populations over time.[6,7] In addition, the cumulative effect of events that happen early in life may affect a person's health over time if they occur during a critical period of development. A life course perspective celebrates the myriad experiences that accumulate over the continuum of life, making us more diverse as we age. Efforts to understand and advance healthy aging should be explored through a systems, population, and individual perspective.

ABOUT THIS GUIDE

INTRODUCTION

According to the National Prevention, Health Promotion, and Public Health Council, people are living with better overall health and well-being than previous generations. Healthy aging is built on the concept of increasing healthy and functional years across the life course.[4] Opportunities to advance healthy aging continue to evolve in communities across the nation. These are supported by a combination of research, data, and practice. Valid and reliable indicators of health, and the related social determinants of health (SDOH), are needed to support improvements in community healthy aging and to measure progress.[3]

This resource, *Indicators of Healthy Aging: A Guide to Explore Healthy Aging through Community Health Improvement*, responds to the needs of local health departments (LHDs) and partners to understand and advance healthy aging through community health improvement (CHI) efforts. Healthy aging partners are encouraged to engage in a local community health improvement process to take a community-wide approach to advance the health of older adults. This guide provides a comprehensive set of healthy aging indicators and measures as well as robust, unified sets of secondary data sources aligned with healthy aging indicators. It can be used to support CHI efforts at the local level, with relevance to state, tribal, and territorial levels as well. Local health departments, public health practitioners and researchers, and community partners can use this resource to measure and identify population-level health status related to aging, as well as in their strategic and action planning towards building and strengthening age-friendly public health systems. In addition to supporting health departments, this guide may be used more broadly by health systems and organizations, nonprofits, health researchers, and policymakers to deepen understanding of healthy aging and strengthen surveillance tools to monitor indicators over time.

ALIGNMENT WITH DATA-DRIVEN FRAMEWORKS

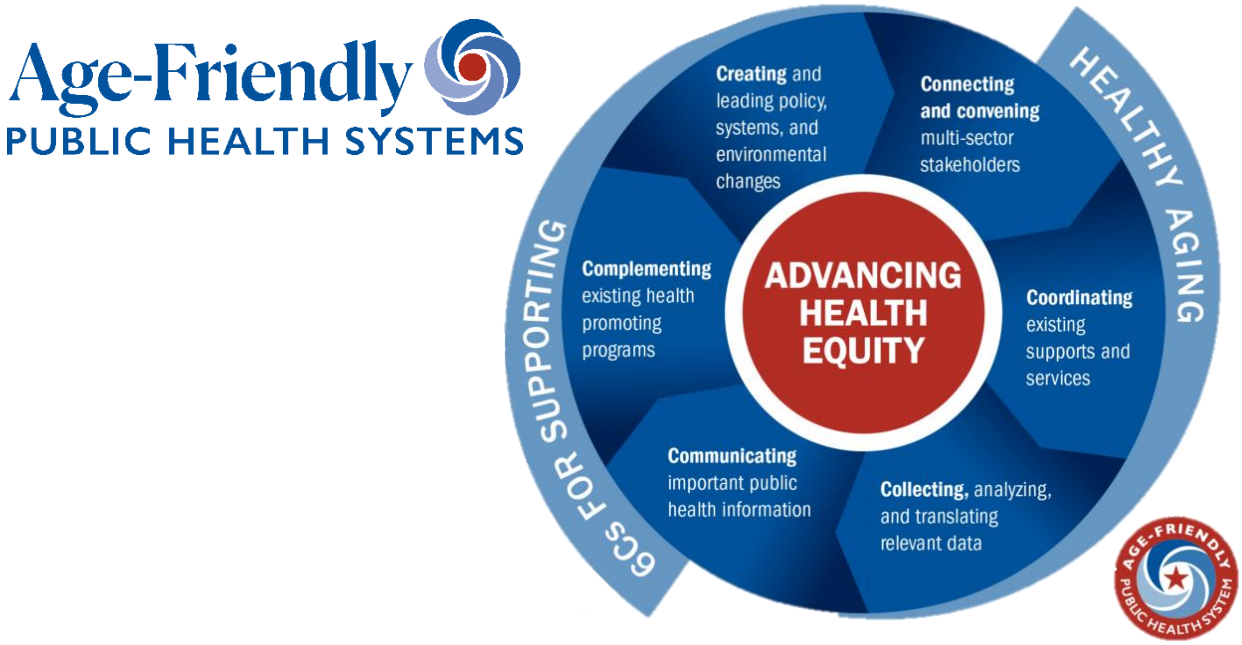
The guide is informed by data-driven frameworks that explore healthy aging and well-being through various contexts and align with the NACCHO MAPP 2.0 Framework, including advancing health equity. The Age-Friendly Public Health Systems 6Cs Framework developed by TFAH and The John A. Hartford Foundation, the World Health Organization (WHO) Age-friendly Cities Framework, and the AARP's 8 Domains of Livability, provide a structure to support building a culture of healthy aging across the life course as well as within public health, including CHI efforts. These frameworks elevate the interplay of various factors to understand and advance opportunities for healthy aging through public health practice, policy, and research.

6Cs FRAMEWORK

The 6Cs Framework was developed to guide the public health sector to identify opportunities to support older adult health and elevate healthy aging as a core function. The public health sector's focus on prevention has profoundly impacted longevity in the U.S. Now, there are opportunities to deepen efforts to improve the health and well-being of older adults and target interventions to improve health equity. The 6Cs Framework can be leveraged to help inform the MAPP process and CHI efforts, including collecting, analyzing, and translating relevant data, as well as advancing health equity.

Figure 1

Age-Friendly Public Health Systems 6Cs Framework



Source: Age-Friendly Public Health Systems. (2022). Trust for America's Health. https://afphs.org/

ADDITIONAL FRAMEWORKS AND PROGRAMS

Additional frameworks and programs, such as Healthy People 2030, and the public health accreditation program administered by the Public Health Accreditation Board (PHAB) also provide structure and tools to explore and promote healthy aging through CHI efforts, centered on opportunities to address the social determinants of health and advance health equity. Healthy People 2030 outlines various objectives and data designed to help advance the health and well-being of older adults, along with evidence-based resources focused on older adults available to inform public health policy and practice. The PHAB offers a framework to help LHDs advance and transform public health practice through performance improvement, with an emphasis on health equity. These frameworks align with the foundation of MAPP 2.0, focused on advancing health equity, including addressing the root causes of health inequities.

MAPP 2.0

The MAPP 2.0 Framework elevates key components of the frameworks and programs highlighted above, recognizing the role a CHI process can play in understanding and addressing priority public health issues impacting communities. MAPP 2.0 provides the flexibility to adapt to evolving public health field needs and trends focused on CHI processes, including integrating health equity into CHI processes, authentic community engagement, and sustained partner engagement. MAPP 2.0 can be used by LHDs along with healthy aging frameworks to explore healthy aging through data to help tell the community story.

INDICATORS AND MEASURES

The *Indicators of Healthy Aging: A Guide to Explore Healthy Aging through Community Health Improvement* is a response to the needs of LHDs and partners to understand and advance healthy aging through CHI efforts. The guide includes a broad list of indicators and measures that can be used to address healthy aging through the CHI process. This guide was informed by a comprehensive review of existing literature, data sources, and input from subject matter experts in healthy aging and CHI. The indicators and measures included in this guide are comprehensive and widely available. However, there are many other indicators and measures related to healthy aging that were not included due to limited availability and other factors. LHDs and partners should consider exploring additional indicators and measures that are relevant to the community, including through primary data collection (e.g., surveys) or other available, local sources of secondary data (e.g., health systems, community-based organizations).

The data sets are organized according to three overarching domains that align with MAPP 2.0 and factors that shape health inequities: 1) Health Behaviors and Health Outcomes, 2) Social Determinants of Health, and 3) Systems of Power, Privilege, and Oppression. Each domain explores unique issues,

including individual behavior (e.g., smoking, physical activity) that affect health status and health outcomes, the conditions in the environment where people are born, live, learn, work, play, and age, and the structural drivers of inequity (e.g., societal structures, policies, and norms).

Each domain is subdivided into various components, with the indicators and measures included within these domains organized into two categories based on a range of criteria: 1) **current indicators**, and 2) **prospective indicators**. Recognizing that some indicators have limitations, additional data collection and analysis may be needed to explore these and other indicators and measures of healthy aging.

CURRENT INDICATORS

Current indicators reflect priority population-level indicators and benchmarks associated with domains of healthy aging. These indicators and measures reflect local-level data and meet the select criteria outlined below.

CRITERIA

- Valid, reliable, representative data
- Publicly available data
- Ability to use data across settings – comparable across sites
- Trend data available for the past five years
- Data stratified by demographics
- Data stratified by multiple geographies, including local level
- Stable and timely data
- Data on public health burden (relative significance to the health and well-being of the community)
- Data quality (e.g., adequate sample size, valid and reliable measure)
- Data associated with healthy aging literature

PROSPECTIVE INDICATORS

Prospective indicators also reflect priority population-level healthy aging indicators and benchmarks and accommodate various levels of data availability. Note that some may not have a reliable baseline and/or local data to inform local CHI efforts. The indicators outlined above align with a specific research study or other literature, including statistical analysis methods to inform findings. Additional primary data collection will likely be needed by LHDs and partners to gather baseline, local-level data to inform healthy aging CHI efforts. The criteria that differentiate prospective indicators from current indicators are bolded below.

CRITERIA

- **Emerging issue explored through research**
- **Available at state, regional and/or national level**
- Valid, reliable, representative data
- Publicly available data
- Ability to use data across settings – comparable across sites
- Trend data available for the past five years
- Data stratified by demographics
- Stable and timely data
- Data on public health burden (relative significance to the health and well-being of the community)
- Data quality (e.g., adequate sample size, valid and reliable measure)
- Data associated with healthy aging literature

CONSIDERATIONS WHEN EXPLORING INDICATORS

The indicators and measures included in this guide describe the U.S. population where individuals live, work, learn, play, and worship throughout the life course. When feasible, the data describe populations of adults over the age of 50. However, it is important to be mindful of variations in health and well-being within the same age groups, as not everyone experiences the same challenges as they age. Nonetheless, data outlined for the population of adults younger than 50 are included to shape the exploration of healthy aging throughout the life course. Consider the following when exploring indicators and measures of healthy aging across the life course.

PRIMARY DATA COLLECTION

Although there is a breadth of publicly available data to explore health across the life course, there are still limitations in access to local-level data (e.g., county, city, zip code, etc.). Population-level data, including SDOH and systems-level data, are not widely available at the local level, especially statistics disaggregated by age, race, and ethnicity. Where appropriate, consider collecting local-level data through primary data collection methods (e.g., surveys) as part of the CHI processes. Evaluate the subject matter expertise available within LHDs and organizations to support primary data collection of relevant health and SDOH data. Explore opportunities to partner with external subject matter experts, such as academic institutions. Refer to MAPP 2.0 Assessments for additional guidance.

DATA DISAGGREGATION

Population-level data, such as race, ethnicity, and age, are often grouped into broad categories that can hide disparities and inequality in subgroups. Broad categories can minimize the experiences of communities (e.g., American Indian or Alaska Native adults aged 65 years and older), replicate marginalization, and may not account for the intersectionality of identities.[8] To better understand the realities of unique communities, data systems and practices need to incorporate disaggregated data.

Data disaggregation, the process of separating data into subgroups based on demographic characteristics (e.g., age, race, ethnicity, gender etc.), is an important approach that facilitates analysis of the heterogeneity of the population.[9] Analysis of disaggregated data is critical to compare subgroups and identify differences in the burden of disease or opportunities for health. Granularity in data is a means to better understand disparities impacting subgroups and advance health equity. Data disaggregation also informs exploring the intersectionality of lived experiences based on co-occurring identities, socio-economic status, and more.

Consider the following when exploring opportunities to disaggregate data:

- Disaggregate data with considerable detail to better understand the circumstances and lived experiences of varying groups. When possible, move beyond individual-level indicators to include structural indicators.
- Center communities across the lifespan and their needs, to ensure they are reflected in the data.
- Disaggregate data by multiple dimensions to inform an intersectional approach to data.

INTERSECTIONALITY

The life course approach shapes an understanding of health and well-being through the accumulation of risk and protective factors experienced across life stages. Risk factors (e.g., genetics, age, race, ethnicity) and protective factors (e.g., social networks, family, and physical health) occur in multiple contexts and shift as we age.[10] Intersectionality is a framework, theory, or concept that can be used to explore and understand the overlap of risk and protective factors that impact people across the life course. Intersectionality is defined as “a complex, cumulative way in which the effects of multiple forms of discrimination combine, overlap, or intersection of the experiences of marginalized individuals or groups. Individual life changes are shaped not by a single status hierarchy but by multiple overlapping systems of oppression, such as racism, sexism, and classism”.[11,12,13] Intersectionality is a framework introduced by Kimberlé Crenshaw in 1989 as means to address discrimination of Black American women within the feminist movement.[13] However, the concept of intersectionality was initially presented by the Combahee River Collective in the 1970s, which further illustrates how Black feminist scholarship brought the term to the forefront.[14]

Despite its origin grounded in race and sex, intersectionality can be used to further explore various social characteristics concerning discrimination experienced due to the intersections of one's race or age and other relevant factors.[11] Intersectionality can be used to further explore disaggregated data and examine the relationship between multiple dimensions of risk and protective factors across the life course. Intersectionality has also been suggested as a method to advance health equity by highlighting diverse inequalities between individuals, groups, and larger social systems.[12] Consider the following when exploring the intersectionality of healthy aging indicators and measures:

- Consider opportunities to use intersectionality in parallel with a life course perspective to highlight inequities pertaining to aging, including exploration of subgroups, discrimination, categorization, and individual heterogeneity. For example, intersectionality has been used to explore the intersections of advanced age, rural living, and limited finances to deepen the understanding of lived experiences of older adults in rural areas.[15]
- Intersectionality should be embedded into data systems and practice, including equitable data collection, analysis, and reporting that centers the voices of individuals at the greatest risk of marginalization and discrimination across the public health system.
- Utilize advanced data analysis methods to apply an intersectional approach to data. Refer to the following resources for examples and recommendations on how to model data:
    - Gould, L. H., Farquhar, S. E., Greer, S., Travers, M., Ramadhar, L., Tantay, L., Gurr, D., Baquero, M., & Vasquez, A. (2023). Data for Equity: Creating an Antiracist, Intersectional Approach to Data in a Local Health Department. *Journal of public health management and practice 29*(1), 11–20. https://doi.org/10.1097/PHH.0000000000001579
    - Holman, D., Walker, A. Understanding unequal ageing: Towards a synthesis of intersectionality and life course analyses. *Eur J Ageing* 18, 239–255 (2021). https://doi.org/10.1007/s10433-020-00582-7
    - Office of the Assistant Secretary for Planning and Evaluation. (2022). *Guide on advancing equity by incorporating intersectionality in research and analysis.* U.S. Office Health and Human Services. https://aspe.hhs.gov/sites/default/files/documents/80123172bbe4458a06259535dc3fcfc3/Intresectionality-Resrch-Anlysis.pdf
    - Thomas Tobin, C.S., Gutiérrez, Á., Farmer, H.R. et al. Intersectional Approaches to Minority Aging Research. *Curr Epidemiol Rep* 10, 33–43 (2023). https://doi.org/10.1007/s40471-022-00317-5
    - We All Count. (2019). *How to Model Data with Intersectionality.* https://weallcount.com/2019/06/21/intersectionality-data-2/

HEALTH EQUITY

Health equity, *or "the state in which all people and populations have the opportunity to achieve optimal health,"* is foundational to the goal of improving population health. It is defined by a shift from individual health behaviors and risk factors to examining the social and structural contexts that impact entire populations and lead to the disparate distribution of outcomes. Thus, where feasible, it is imperative to explore healthy aging through measures of equity in age-friendly assessments across the three domains outlined in this guide, 1) Health Behaviors and Health Outcomes, 2) Social Determinants of Health, and 3) Systems of Power, Privilege, and Oppression.[16]

The following considerations should be explored to highlight and improve health equity:

- Explore opportunities for disaggregated, intersectional analysis. Explore current datasets by stratifying them by social demographics or geographic units to assess disparities between them.
- Use health disparities as a metric to measure progress toward achieving health equity.[17]
- Use frameworks rooted in health equity (e.g., MAPP 2.0) to provide your community with a structure for understanding and acting on inequities.
- Consider different experiences that impact populations throughout different stages of life. For example, consider disaggregation of data by discrete age ranges (e.g., 65-70, 71-75, 85+) to explore unique differences in health disparities, SDOH, and other factors that impact individuals as they age.

DOMAINS OF HEALTHY AGING AND MAPP 2.0

This guide explores current and prospective population-level indicators and benchmarks of healthy aging through three overarching domains: 1) Health Behaviors and Health Outcomes, 2) Social Determinants of Health, and 3) Systems of Power, Privilege, and Oppression. For each domain, the guide provides a brief overview of the literature, including the background that led to inclusion in the guide. In addition, each dataset includes suggested indicators, measures, data sources, and considerations for accessing data. Choosing quality measures and a reasonable range of indicators of healthy aging will help monitor trends through the life course and support advancing health equity.[18]

HEALTH BEHAVIORS AND HEALTH OUTCOMES

Health behaviors are actions taken by individuals that affect overall health and health outcomes and are shaped by social, economic, political, and cultural contexts. Although some behaviors lead to improved health across the lifespan, such as healthful eating and being physically active, other behaviors can increase the risk for adverse physical and mental health outcomes, such as smoking, excessive alcohol intake, limited physical activity, and difficulty managing stress.

Health outcomes are a way to measure the overall health and well-being of a community or population. Measures of healthy aging outcomes reflect the physical and mental well-being of older adults within a community, such as length and quality of life, prevalence of diseases or conditions, mental and behavioral health status, and more.

Identifying and measuring health behaviors and outcomes that reflect healthy aging is equally important to monitor behaviors and outcomes that negatively influence health and well-being.[19] The following indicators and measures can be used to understand both positive and negative aspects of health behaviors related to healthy aging.

Health Behaviors

Indicator	Measure	Source	Considerations
Preventive			
Vaccinations	Percentage of people aged 65 and over who reported having been vaccinated against influenza.	Centers for Medicare & Medicaid Services Map	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Vaccinations	Percentage of people aged 65 and over who reported having been vaccinated against pneumococcal disease.	Centers for Medicare & Medicaid Services Map	
Cancer Screenings	Percentage of women ages 50–74 who had breast cancer screening and percentage of people ages 50–75 who had colorectal cancer (CRC) screening.	BRFSS: County Health Rankings	
Nutrition and Physical Activity			
Nutrition	Percentage of people over age 50 who meet the daily recommendation of fruit (2 cups) and vegetables (3 cups)	BRFSS: County Health Rankings	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Physical Activity	Percentage of people who reported participating in leisure-time aerobic and muscle-strengthening activities that meet the Physical Activity Guidelines for Americans.	BRFSS: County Health Rankings	
Obesity	Prevalence of the population age 65 and over with obesity.	Centers for Medicare & Medicaid Services Map	
Oral Health			
Oral Health	Percentage of people aged 50 and over who had a dental visit in the past year.	BRFSS: County Health Rankings	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Cigarette Smoking	Prevalence of people aged 65 and over who are current cigarette smokers.	Centers for Medicare & Medicaid Services Map	
Sexual Health			
Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS)	Prevalence of people aged 65 and over who are living with HIV/AIDS.	Centers for Medicare & Medicaid Services Map	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.

Health Outcomes

Indicator	Measure	Source	Considerations
Quality of Life			
Length of Life	Life expectancy	BRFSS: County Health Rankings	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Poor Physical Health Days	Average number of physically unhealthy days reported in past 30 days (age-adjusted)	BRFSS: County Health Rankings	
Premature Age-Adjusted Mortality	Number of deaths among residents under 75.	BRFSS: County Health Rankings	
Cognitive and Mental Health			
Dementia	Prevalence of the non-nursing home population age 65 and over with dementia.	Centers for Medicare & Medicaid Services Map	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Depressive Symptoms	Prevalence of people age 65 and over with clinically relevant depressive symptoms.	Centers for Medicare & Medicaid Services Map	
Functional Limitations	Prevalence of Medicare beneficiaries age 65 and over who have limitations in performing activities of daily living (ADLs) or instrumental activities of daily living (IADLs), or who are in a long-term care facility	Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Access to Care) and Survey File	
Chronic Health Conditions			
Chronic Health Conditions Overall	Percentage of people age 65 and over who reported having selected chronic health conditions.	Centers for Medicare & Medicaid Services Map	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Specific Chronic Health Conditions for People 50 and Older	Prevalence of people 65 and older with: Alzheimer's disease or related dementias Arthritis Asthma Atrial fibrillation Breast cancer COPD Colorectal cancer CHF Diabetes Stroke/transient ischemic attack Vision Prevalence of people 50 and older with ischemic heart disease	Centers for Medicare & Medicaid Services Map	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.

Health Outcomes (cont'd)

Indicator	Measure	Source	Considerations
Injury			
Fracture	Percentage of people 50 and older who had a hip fracture.	BRFSS: County Health Rankings	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Falls	Percentage of people 60 and older who were injured in a fall in the last year.		
Caregiver Support			
Caregiving	Percentage of people 60 and older who provided care to a family/friend in the last month	BRFSS: County Health Rankings	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.

PROSPECTIVE HEALTH OUTCOMES INDICATORS

Indicator	Measure	Source	Considerations
Overall Health Status			
Respondent-Assessed Health Status	Percentage of people age 65 and over with respondent-assessed good to excellent health status by age group and race and Hispanic origin.	National Institute on Aging, Health and Retirement Study	Includes interactive summary health statistics, which are easy to use. The dataset may require advanced data management and analysis skills.
Cognitive and Mental Health			
Life Satisfaction	Self-reported psychosocial overall life satisfaction.	National Institute on Aging, Stress Management Network Study	Self-reported data, data may not be easily accessible
Quality of Life/ Well-being	Self-reported psychosocial well-being.	National Institute on Aging, Stress Management Network Study	
Stress			
Chronic Health Conditions			
Specific Chronic Health Conditions	Percentage of people 65 and older with one of the following: autism spectrum disorder, benign prostatic hyperplasia, cataract, chronic kidney disease, chronic pain and fatigue, endometrial cancer, epilepsy, fibromyalgia, and glaucoma.	Behavior Risk Factor Surveillance System	Data books are available with summary statistics. Will need to contact State BRFSS Coordinator to access all data.

SOCIAL DETERMINANTS OF HEALTH

Social determinants of health (SDOH) have a significant impact on population health. They are shaped by the environments and systems in which people are born, grow up, live, learn, work, and play. SDOH affects a wide range of health, functioning, and quality-of-life outcomes. Key social and economic determinants of healthy aging include educational attainment, routine access to health care, quality of the built environment and healthy community design, and understanding loneliness and social isolation. In combination, these indicators can deepen understanding of what makes a community a place where all people thrive as they age.

SDOH can be grouped into the following domains as outlined by Healthy People 2030: 1) Economic Stability, 2) Education Access and Quality, 3) Health Care Access and Quality, 4) Neighborhood and Built Environment, and 5) Social and Community Context. The following indicators and measures of SDOH can be used to understand healthy aging and the diverse contexts in which older adults live.

Economic Stability

Indicator	Measure	Source	Considerations
Economic Well-being			
Poverty Rate	Poverty status in the past 12 months.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B17001 summarizes poverty status by age and sex, which can be explored at all geographical levels. For more detailed data, visit the Annual Social and Economic Supplement survey website where you may download full datasets, access codebooks, and more. Advanced data management and statistical skills are needed for the Social and Economic Supplement data (e.g., use of statistical software to open, manage, and analyze large datasets).
Elder Index	The income older adults need to live independently.	Elder Index	Data is available by self-reported household size, housing type, and health status.
Household Income	Income distribution of the population age 65 and over.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B19037 summarizes household age by income and sex, which can be explored at all geographical levels. For more detailed data, visit the Annual Social and Economic Supplement survey website where you may download full datasets, access codebooks, and more. Advanced data management and statistical skills are needed for the Social and Economic Supplement data (e.g., use of statistical software to open, manage, and analyze large datasets).
Social Security Beneficiaries	Percentage distribution of people who began receiving Social Security benefits by age and sex.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B19055 summarizes the social security of the household, which can be explored at all geographical levels. For more detailed data, visit the Annual Social and Economic Supplement survey website where you may download full datasets, access codebooks, and more. Advanced data management and statistical skills are needed for the Social and Economic Supplement data (e.g., use of statistical software to open, manage, and analyze large datasets).
Socioeconomic Status	Annual Number of Old Age, Survivors, and Disability Insurance (OASDI) Beneficiaries.	United States Environmental Public Health Tracking Network	Summarizes data at national, state, and county geographic levels. Search for "Populations and Vulnerabilities" under the content area and "Socioeconomic Status" under indicators to explore this specific measure. Advanced options are available to disaggregate by age and sex.

Food Security			
Access to Healthy Food	Percentage of eligible individuals 60 and older who accessed SNAP benefits.	U.S. Census Bureau, American Community Survey, Linked to SNAP Administrative Records	The interactive data dashboard summarizes SNAP eligibility and access by demographic characteristics (e.g., race/ethnicity, household type) and age group. Data can be explored at the state and county levels.
Food Insecurity	Food insecurity rate by county	Map the Meal Gap Feeding America	The data dashboard summarizes food insecurity by county and state, focused on an overall (all ages, ethnicity, state) food insecurity rate. Food security estimates for the older adult and senior populations are available at the national and state level.

PROSPECTIVE ECONOMIC STABILITY INDICATORS

Indicator	Measure	Source	Considerations
Wealth			
Net Worth	Median household net worth by race and educational attainment of head of household age 65 and over.	Federal Reserve, Survey of Consumer Finances	Summary data is available by race/ethnicity, educational attainment, and age for a nationally representative sample. Exploring by geography is not available.
Cost of Living			
Total Expenditures	Percentage distribution of total household annual expenditures by expenditure category and age group of reference person.	Bureau of Labor Statistics, Consumer Expenditure Survey	Summary data is available by age for a nationally representative sample. Exploring by geography is not available. Search tables for "total household annual expenditure by age."
Employment			
Participation in Labor Force	Labor force participation rates (annual averages) by age group and sex.	Local Area Unemployment Statistics – Expanded State Employment Status Demographic Data U.S. Bureau of Labor Statistics	Summary data is available by age and sex at the national and state geographic levels. Search summary data tables for the most recent year or find previous years. Available in PDF and other formats that allow data analysis.

Education Access and Quality

Indicator	Measure	Source	Considerations
Education Level			
Educational Attainment	Percentage of persons age 65 and older who completed high school or a bachelor's degree or higher.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B15001 provides a summary of educational attainment by age group and sex. Data can be explored at all geographical levels and by race/ethnicity and sex.

Health Care Access and Quality

Indicator	Measure	Source	Considerations
Health Care Coverage			
Prescription Drugs	Number of Medicare beneficiaries age 65 and over who enrolled in Part D prescription drug plans or who were covered by retiree drug subsidy payments.	Center for Medicare and Medicaid Services, Medicare Advantage/Part D Contract and Enrollment Data	Data is available by state, county, plan, and type. May require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).
Health Care Access			
Health Care Professional Shortage Area	Health Professional Shortage Area Score (areas, population groups, or facilities within the United States that are experiencing a shortage of health care professionals.	Health Resources and Services Administration	Find data on the geographic, population, and facility HPSA designations throughout the United States. Search HPSAs by location or HPSA ID. Filter HPSAs by discipline, status, type, score, and rural status

PROSPECTIVE HEALTHCARE ACCESS AND QUALITY INDICATORS

Indicator	Measure	Source	Considerations
Health Care Use			
Post-Acute Health Care Services	Medicare-covered services for home health agencies (HHAs), hospices, skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs) per 1,000 beneficiaries aged 65 and over.	Centers for Medicare & Medicaid Services, Medicare Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files	Data on post-acute health care services are available at the national and state levels. May require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).
Health Care Coverage			
Prescription Drugs	Average prescription drug costs among noninstitutionalized Medicare beneficiaries age 65 and over, by sources of payment.	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey, Cost Supplement	Data is available by request and completion of a data use agreement. Access may include a fee. Data is available by race/ethnicity and age, and some geographies represent beneficiaries who are geographically dispersed throughout metropolitan areas and groups of nonmetropolitan counties. Advanced data management and analysis skills may be needed.
Sources of Health Insurance	Percentage of noninstitutionalized Medicare beneficiaries age 65 and over with supplemental health insurance, by type of insurance.	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey	This survey includes data on demographics, household characteristics, access to care, supplemental health insurance, and more. There may be a fee to access data and a requirement to submit a data request. Downloading may require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).

Health Care Cost			
Health Care Expenditures	Average annual health care costs for Medicare beneficiaries age 65 and over by age group.	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey, Cost Supplement	Data is available by request and completion of a data use agreement. Data is available by race/ethnicity and age, and some geographies represent beneficiaries who are geographically dispersed throughout metropolitan areas and groups of nonmetropolitan counties. Advanced data management and analysis skills may be needed.
Sources of Payment for Health Care Services	Average cost per beneficiary and percentage distribution of sources of payment for health care services for Medicare beneficiaries age 65 and over, by type of service.	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey, Cost Supplement	Data is available by request and completion of a data use agreement. Access may include a fee. Data is available by race/ethnicity and age, and some geographies represent beneficiaries who are geographically dispersed throughout metropolitan areas and groups of nonmetropolitan counties. Advanced data management and analysis skills may be needed (e.g., use of statistical software to open, manage, and analyze large datasets).
Veterans			
Veterans' Health Care	Veterans as a percent of county population.	Department of Veterans Affairs	Click on a state to identify relevant data about the measure.
Residential Services			
Residential Services	Percentage distribution of Medicare beneficiaries age 65 and over residing in selected residential settings, by age group.	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey	This survey includes data on demographics, household characteristics, access to care, supplemental health insurance, and more. There may be a fee to access data and a requirement to submit a data request. Downloading may require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).
Long-term Care			
Long-term Care Providers	Percentage of users of long-term care services needing any assistance with activities of daily living (ADLs) by sector and activity.	National Center for Health Statistics, National Post-Acute and Long-Term Care Study	Some summary reports are available at the national level. Raw datasets are available by request, which may require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).
Long-term Care Providers	Number of users of long-term care services by sector (nursing homes, residential care communities, adult day service centers, home health agencies, hospices) and age group.	National Center for Health Statistics, National Post-Acute and Long-Term Care Study	Data is available by request and may require advanced data management and analysis skills. Some summary reports are available at the national level.

Neighborhood and Built Environment

Indicator	Measure	Source	Considerations
Technology			
Broadband Access	Percentage of households with broadband internet connection.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B28005 provides a summary of data on types of broadband internet subscriptions in the household by age group. Data is available by Hispanic ethnicity and all levels of geography.
Transportation			
Transportation	Access to vehicle by age of householder.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B25045 provides a summary of data on the availability of vehicle by householder age (owner or renter-occupied housing unit). Data can be explored at all levels of geography, by age, and Hispanic ethnicity status.
Environment			
Air Quality	Percentage of days over National Ambient Air Quality Standards.	National Environmental Public Health Tracking Network	Select "explore data" and search for air quality indicators and appropriate measures for air quality standards. Available at the national, state, and county levels across years. Most recent data may not be available.
Housing & Homes			
Living Arrangement	Living arrangements of adults aged 60 and older.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table S0102 provides a summary of data on the population 60 years and older, including household characteristics and relationships of householders. Data is available at all levels of geography, Hispanic ethnicity status, age, and sex.
Affordable Housing	Gross rent as a percentage of household income by age of householder.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table S0103 provides a summary of data on the population 65 years and older, including housing related to owner- and rental-occupied housing units. Data is available by Hispanic ethnicity and all levels of geography.
Internet Access			
Computer and Internet Access	Number of people >65 years of age who have a computer and internet access.	U.S. Census Bureau, American Community Survey	Table B28005 provides a summary of data on the presence of a computer and the type of internet subscription in the household by age group. Data is available by Hispanic ethnicity and all levels of geography.

PROSPECTIVE NEIGHBORHOOD AND BUILT ENVIRONMENT INDICATORS

Indicator	Measure	Source	Considerations
Housing & Homes			
Housing Problems	Percentage of older American households and intergenerational households that report housing cost burden.	U.S. Department of Housing and Urban Development, American Housing Survey	Use the American Housing Survey table creator tool to develop custom summary tables. Geography is limited to the national level, specific states, and metro areas.
Housing Problems	Percentage of older American households and all other U.S. households that report housing cost burden.	U.S. Department of Housing and Urban Development, American Housing Survey	Use the American Housing Survey table creator tool to develop custom summary tables. Geography is limited to the national level, specific states, and metro areas.

Institutional Settings	Percentage of Medicare recipients living in institutionalized settings (nursing home or residential care facility).	Center for Medicare and Medicaid Services, Medicare Current Beneficiary Survey	This survey includes data on demographics, household characteristics, access to care, facility characteristics, and more. There may be a fee to access data and a requirement to submit a data request. Downloading may require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).

Social and Community Context

Indicator	Measure	Source	Considerations
Family Structure			
Marital Status	Marital status of persons aged 65 and older.	U.S. Census Bureau, Current Population Survey	Table S0103 provides a summary of data on the population 65 years and older, including marital status and household structure. Data can be explored at all geographical levels and by race/ethnicity and sex.
Grandparents as Caregivers	Percentage of grandparents raising grandchildren.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table B10002 provides a summary of grandchildren under 18 years who are living with a grandparent by the status and responsibility of the grandparent and whether a parent is present. Data can be explored at all geographical levels and by race/ethnicity.
Grandparents Living with Grandchildren	Percentage of grandparents who live with grandchildren.	U.S. Census Bureau, American Community Survey, 5-year estimates	Table DP02 provides a summary of social characteristics, including the role of grandparents in households. Data can be explored at all geographical levels.

PROSPECTIVE SOCIAL SUPPORT INDICATORS

Indicator	Measure	Source	Considerations
Social Support			
Social and Emotional Support	Percent distribution of how often adults received the social and emotional support they needed.	National Center for Health Statistics, National Health Interview Survey	Indicator is not available in interactive summary dashboards. However, data briefs for the current year may be available by searching for "social support." Accessing a full dataset may require advanced data management and analysis skills (e.g., use of statistical software to open, manage, and analyze large datasets).
Social Frailty	Social Frailty Index	Health and Retirement Study	Researchers can apply to the Health and Retirement Study (https://hrs.isr.umich.edu/) to access the data used in this study (24). The final code will be made available at github.com/sachinjshah

SYSTEMS OF POWER, PRIVILEGE, AND OPPRESSION

Systems of power, privilege, and oppression represent the root causes, or structural drivers, of inequity. Privilege operates on personal, interpersonal, cultural, and institutional levels and gives advantages, favors, and benefits to members of dominant groups at the expense of members of target groups. These systems enable institutional power and privilege, where dominant groups exert control over target groups by limiting their rights, freedom, and access to basic resources such as health care, education, employment, and housing.

Systems-level indicators are especially important to understanding the root causes driving inequities that impact population health and well-being across the life course. The root causes of inequities are shaped by institutional and societal structures, policies, and norms. Identifying and measuring indicators at the systems level provides information and data to help LHDs and other partners develop targeted strategies to advance equity across the life course.

Identifying how these systems relate to healthy aging is evolving particularly regarding how to measure the impact of these systems across the domains of healthy aging. A growing body of research highlights the ways that ageism[20] (discrimination against older people due to negative and inaccurate stereotypes), racism, and sexism—and, importantly, the intersectionality of these cultural models—shape systems of power, privilege, and oppression of people across the life span. Exploration of measures of ageism and racism may increase understanding of the impact on healthy aging, such as Black American older adults who suffer a "double disadvantage" because of the cumulative effects of race and age.[21] However, since this is an evolving field, there is limited data and research available to comprehensively explore systems of power, privilege, and oppression as it relates to healthy aging across the life course.

Systems of Power, Privilege, and Oppression

Indicator	Measure	Source	Considerations
Area Deprivation Index	Composite measure of neighborhood socioeconomic disadvantage that uses 17 census measures capturing education, employment, income, poverty, and housing characteristics.	Neighborhood Atlas	The ADI uses data from the ACS 5-Year Estimates. The choice of geographic units will also influence the ADI value. The 2015 and 2020 ADI are available through the Download section. Access https://www.neighborhoodatlas.medicine.wisc.edu/ to learn how to use this site.
Gini Index of Income Inequality	The mean absolute difference between minority proportions weighted across all pairs of areal units, expressed as a proportion of the maximum weighted mean difference.	U.S. Census Bureau, American Community Survey, 5-year estimates	Explore the most recent data, ACS 5-Year Estimates Detailed Tables. Table B19083 outlines relevant data. Filter by geography to identify local-level data.

Social Vulnerability Index (SVI)	The SVI uses U.S. Census data to determine the social vulnerability of every census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The CDC/ATSDR SVI ranks each tract on 16 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes.	Social Vulnerability Index	Access the "Data and Documentation Download" table so SVI Data can be downloaded by state, census tracts, or counties for state-wide or within-state mapping and analysis only. Access the "Interactive Map" to explore the SVI by theme, geography, data year, and specific map features.
Minority Health Social Vulnerability Index (Minority Health SVI)	The Minority Health SVI combines the 15 social factors included in the CDC/ATSDR SVI with additional factors known to be associated with COVID-19 outcomes.	Minority Health Social Vulnerability Index	Visit the "Getting Started" table to learn how to use the Minority Health SVI Data Dashboard. Visit the "Data Dashboard" to select variables, geography, and overall vulnerability data. The factors used to determine the index are from the U.S. Census Bureau, American Community Survey, 5-year estimates.
Residential Segregation Index	Index of dissimilarity where higher values indicate greater residential segregation between non-White and White County residents.	American Community Survey, 5-year estimates, County Health Rankings & Roadmaps	Data books are available with summary statistics. Public use datasets are available to download and acquire county-level data. Select the county area of focus and specific chronic condition/behavior from the dropdown list to get county-specific data.
Cancer Risk Based on Air Quality	Annual average cancer risk estimates per 1,000,000 population.	Environmental Public Health Tracking Network	Access the Data Explore Tool. Access data and select content areas, "Air Quality" and indicator, "Air Toxics." Select geography type by state and county. Access the most recent data available by time. Explore data by map, charts, and table.
Voter Registration	Voting-age population by selected characteristics (age, sex, race, Hispanic origin, educational attainment, poverty status).	American Community Survey, 1-year estimates	Table S2901 provides a summary of voting characteristics. Data can be explored at all geographical levels and by race/ethnicity.
Voter Turnout	Voter turnout by select characteristics (age, sex, race, and Hispanic origin, educational attainment, poverty status).	American Community Survey, 5-year estimates	Table S2901 provides a summary of voting characteristics. Data can be explored at all geographical levels and by race/ethnicity.
Environmental Justice Index	The proportion of tracts that experience cumulative impacts of environmental burden and injustice equal to or lower than a tract of interest.	Environmental Public Health Tracking Network	Access the Data Explorer Tool. Select the data and content area, "Environmental Justice" and indicator, "Environmental Justice Index", and measure, "Environmental Justice Index Rank." Select geography by state and census tract. Access the most recent data availability by time.
Health Professional Shortage Area Score	Health Professional Shortage Area Score (areas, population groups, or facilities within the United States that are experiencing a shortage of health care professionals.	Health Resources and Services Administration, HPSA Find	Search for HPSA by location or HPSA ID. Filter HPSAs by discipline, status, type, score, and rural status. Consider additional optional filters to further explore HPSAs.
Incarceration Rates	Incarceration rates	U.S. Census Bureau, Criminal Justice Statistics	Explore incarceration rates by county.
Home Loan Denials	Home loan denials	Consumer Financial Protection Bureau	Download Home Mortgage Disclosure Act data from 2007-2017. Select the appropriate state and "All records."
Legislators	Percentage legislators by race/ethnicity.	National Conference of State Legislatures	Explore legislators by state and demographics.

PROSPECTIVE SYSTEMS OF POWER, PRIVILEGE, AND OPPRESSION INDICATORS

Ageism

Indicator	Source	Considerations
Microaggressions Elder Abuse Emergency Preparedness Plans for Older Adults Participation in Clinical Research	National Poll on Healthy Aging	Data files from the National Poll on Healthy Aging are now available for download through the University of Michigan National Archive of Computerized Data on Aging. Additional data will be archived on an ongoing basis. Codebooks can be used to collect primary data to explore specific indicators and measures.
Ageism Scales	Ayalon, L., Dolberg, P., Mikulionienė, S., Perek-Białas, J., Rapolienė, G., Stypinska, J., & Willińska, M. (2019). A systematic review of existing ageism scales. *Ageing Research Reviews*, 54. https://doi.org/10.1016/j.arr.2019.100919	Scales can be used to collect primary data to explore ageism.

Structural Racism

Indicator	Source	Considerations
Redlining	Mapping Inequality," American Panorama	Explore data available in the local area.
Job Growth	Bureau of Labor Statistics	Access "Data Tools" to identify state-level data. Engage with the state labor office to identify additional local data.
Wage Growth	Bureau of Labor Statistics	Access "Data Tools" to identify state-level data. Engage with the state labor office to identify additional local data.

Structural Racial Discrimination

Indicator	Source	Considerations
Voting Wait Times Generational Income Mobility Preventable Hospital Admissions Historic Lynchings Rates of Police-Involved Deaths Employment Discrimination Lawsuits	LaFave, S. E., Bandeen-Roche, K., Gee, G., Thorpe, R. J., Li, Q., Crews, D., Samuel, L., Cooke, A., Hladek, M., & Szanton, S. L. (2022). Quantifying older black americans' exposure to structural racial discrimination: How can we measure the water in which we swim? *Journal of Urban Health, 99*(5), 794-802. https://doi.org/10.1007/s11524-022-00626-6	The study used current publicly available data to examine the topic of Structural Racial Discrimination. Additional data collection and analysis methods were used to inform study findings.

OPPORTUNITIES TO EXPLORE HEALTHY AGING

The changing demographics of older adults and the complex interplay of factors that impact healthy aging necessitate advancing practices to holistically understand aging across the life course. This includes utilizing local data and reliable measures to explore healthy aging relative to the SDOH and Systems of Power, Privilege, and Oppression. A growing body of research and data is available to identify healthy aging domains and opportunities, and how to address them through CHI efforts. Though not comprehensive, the following research and reports focus on the SDOH and Systems of Power, Privilege, and Oppression as they relate to healthy aging and the root causes of inequities.

TOPIC	RESEARCH & REPORTS
Social Determinants of Health	• National Prevention Council. (2016). *Healthy aging in action.* Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General. • Federal Interagency Forum on Aging-Related Statistics. (2020*). Older Americans: Key indicators of well-being.* Available here: https://agingstats.gov/docs/LatestReport/OA20_508_10142020.pdf • AARP Age-Friendly Communities. (2023). *Survey and statistics.* https://www.aarp.org/livable-communities/archives/info-2014/livable-communities-survey-results.html • Jurkowski, E. T., & Aaron Guest, M. (Eds.). (2021). *Healthy aging through the social determinants of health*. American Public Health Association. • Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved May 12, 2023, from https://health.gov/healthypeople/objectives-and-data/social-determinants-health
Ageism	• Backer & Chang. (nd.). *Ageism.* https://www.bu.edu/antiracism-center/files/2022/06/Ageism.pdf • Carr, D. (2023). Ageism and late-life mortality: How community matters. *Social science & medicine* (1982), 320, 115501. https://doi.org/10.1016/j.socscimed.2022.115501 • Farrell, T. W., Hung, W. W., Unroe, K. T., Brown, T. R., Furman, C. D., Jih, J., Karani, R., Mulhausen, P., Nápoles, A. M., Nnodim, J. O., Upchurch, G., Whittaker, C. F., Kim, A., Lundebjerg, N. E., & Rhodes, R. L. (2022). Exploring the intersection of structural racism and ageism in healthcare. *Journal of the American Geriatrics Society, 70*(12), 3366–3377. https://doi.org/10.1111/jgs.18105 • Moorman, S. M., Stokes, J. E., & Morelock, J. C. (2017). Mechanisms linking neighborhood age composition to health. *The Gerontologist*, *57*(4), 667-678. https://doi.org/10.1093/geront/gnv687 • National Center to Reframe Aging. (nd). Communication tools are available here: https://www.reframingaging.org/

Stigma	• Kellogg, A. J., Hancock, D. W., Cho, G. Y., & Reid, A. E. (2023). Community-level age bias and older adult mortality. *Social science & medicine* (1982), 317, 115449. https://doi.org/10.1016/j.socscimed.2022.115449 • Fredriksen Goldsen, K., Kim, H. J., Jung, H., & Goldsen, J. (2019). The evolution of aging with pride-national health, aging, and sexuality/gender study: Illuminating the iridescent life course of LGBTQ adults aged 80 years and older in the united states. *International journal of aging & human development, 88*(4), 380–404. https://doi.org/10.1177/0091415019837591
Structural Racism	• LaFave, S. E., Bandeen-Roche, K., Gee, G., Thorpe, R. J., Li, Q., Crews, D., Samuel, L., Cooke, A., Hladek, M., & Szanton, S. L. (2022). Quantifying older Black Americans' exposure to structural racial discrimination: How can we measure the water in which we swim? *Journal of Urban Health, 99*(5), 794-802. https://doi.org/10.1007/s11524-022-00626-6 • Szanton, S. L., LaFave, S. E., & Thorpe, R. J. (2022). Structural racial discrimination and structural resilience: Measurement precedes change. *The Journal of gerontology. Series A, Biological sciences and medical sciences, 77*(2), 402–404. https://doi.org/10.1093/gerona/glab344

EXPLORING HEALTHY AGING INDICATORS THROUGH COMMUNITY HEALTH IMPROVEMENT

COMMUNITY HEALTH STATUS

The health status and environments in which older adults live are key concerns for community organizations, health systems, and LHDs across the United States. A network of state and local organizations already works to meet older adult needs, including Offices of Healthy Aging, Area Agencies on Aging (AAAs), and nonprofit direct-service organizations. But governmental public health agencies also have key roles to play in supporting these efforts, including fulfilling their role as Community Health Strategists. Moreover, public health practitioners are well positioned to lead efforts to understand and measure the health status of aging populations, as well as identify healthy aging needs and priorities at the community level.

Emerging research on the trajectories of healthy aging highlights the important role of nutrition, physical activity, and social connectedness among older adults.[22] On a global scale, the World Health Organization is promoting research on healthy aging and prioritizing the following key strategies related to healthy aging:[23]

- encouraging local, national, and global planning and action related to healthy aging;
- improving the collection of data related to healthy aging and older populations;
- calling for health systems to become more aligned with the needs of older populations, including scaling long-term integrated care;
- combating ageism through a global campaign; and
- building a network of age-friendly cities and communities.

COMMUNITY HEALTH IMPROVEMENT

Community health improvement (CHI) is a process of developing plans to systematically evaluate and address public health issues that affect entire communities or specific populations within a community and provides a roadmap for LHDs, community organizations, and health systems to prioritize healthy aging. This process can be leveraged to engage older adults in the community and develop detailed plans to understand and advance health equity, such as improving access to healthy and affordable food, ensuring safe and accessible spaces for older adults to exercise, and expanding opportunities to foster social support and connection among older adults. Equity and social justice are foundational to

the CHI process and should be considered when assessing and addressing healthy aging across diverse racial, ethnic, cultural, and socioeconomic backgrounds.[24,25]

The CHI process provides an opportunity to highlight equity and social justice issues when assessing healthy aging across individual health behaviors and outcomes, social determinants of health, and the root causes of health inequities (i.e., systems of power, privilege, and oppression).[16] The indicators and measures in this guide can be used to examine the overall health of a community's aging population, as well as identify priority issues and strategies to advance healthy aging in the community.

OPPORTUNITIES TO ADVANCE HEALTHY AGING

Community health improvement processes can be used to identify and address priority issues related to aging across the life course. When leading these efforts, it is important to consider how data is collected, analyzed, and reported to inform community health improvement and healthy aging efforts. The following approaches may help explore healthy aging indicators through community health improvement:

- **Foster partnerships with healthy aging organizations.** Engagement of partners—such as AAAs, state-level Offices of Aging, and others—focusing on advancing healthy aging, is integral to the CHI process. Consider non-traditional partners, such as the faith-based community and people already providing services for older adults. Leverage these partnerships to identify and share healthy aging data, advance priorities focused on healthy aging, and shape overall CHI efforts.

- **Meaningful community engagement of older adults.** Consider principles of community engagement to involve older adults across an array of demographics, with purposeful inclusion of older adults disproportionately impacted by inequities. Explore opportunities to assess meaningful community engagement to advance health equity, such as the Conceptual Model to Advance Health Equity through Transformed Systems for Health. Review available research to identify examples of community engagement of older adults, such as that conducted by Tiernan et al (2013) to examine community engagement of older Black adults to support well-being. It is key to meaningfully engaging diverse populations throughout the CHI process.

- **Collect, analyze, and translate relevant and robust data.** The availability of secondary data (also called existing data) related to healthy aging at the local level is limited. Where feasible, LHDs and other organizations should consider collecting primary data (also called new data) to better identify and understand indicators and measures of healthy aging in the local area. Primary data can be collected through community surveys, and qualitative methods like interviews, focus groups, or photovoice. Much of what is known about healthy aging is

informed through research studies, national surveys, and the evaluation of healthy aging-specific topics.

- **Communicate data.** To inform CHI efforts, it is important to disseminate data to different audiences in a variety of ways (e.g., digital, print, in-person etc.). Explore opportunities to share data with local community-based organizations, as well as community members with lived experiences (e.g., adults aged 65 years and older by race, gender, ethnicity, income etc.). Consider how data can be shared through community events and meet community members where they are.

  Where feasible, identify opportunities to develop and make healthy aging-specific data publicly available to local partners. As the field of healthy aging evolves, so should the availability of healthy aging data that outlines population-level indicators and measures specific to the local level. Data dashboards are widely used tools that provide insight into the health of older adults. For example, the State of Florida has a database that explores statewide healthy aging – the Aging in Florida Dashboard.

- **Advance policy, systems, and environmental changes.** Utilizing healthy aging data collected through CHI processes is critical to understanding and addressing the SDOH across the life course and public health needs to engage in policy, systems, and/or environmental change initiatives. For example, LHDs can generate opportunities that increase the availability of local-level healthy aging data through data-sharing agreements with area health systems. Also, LHDs can utilize evidence-based resources to develop programs and policies related to older adults. Refer to Healthy People 2030 for evidence-based resources pertaining to older adults and the Age Friendly Public Health Systems 6Cs Framework to learn more about policies, systems, and environmental changes for healthy aging.

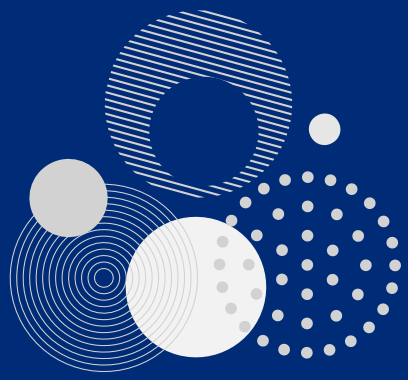
CONSIDERATIONS

If understanding and addressing healthy aging across the life course perspective is new to your LHD or organization, consider opportunities to learn from LHD and organizations leading these efforts. Health departments, such as the Allegheny County Health Department or Massachusetts Department of Health are taking action to support age-friendly communities.

Explore organizations highlighted throughout this guide, which are focused on healthy aging, to support transforming public health activities that make healthy aging a core public health function. As the population continue to age, consider opportunities to advance healthy aging through public health practice, programs, and research.

TFAH envisions a nation in which every public health authority includes healthy aging as a core function. TFAH's Age-Friendly Public Health Systems resources can help guide this transformation. Using the healthy aging indicators included in this guide will further embed healthy aging throughout public health policy and practice.

SUMMARY



This resource, *Indicators of Healthy Aging: A Guide to Explore Healthy Aging through Community Health Improvement*, provides a roadmap for local health departments, public health practitioners, nonprofits, health systems, and community organizations to better understand and advance healthy aging through community health improvement efforts. By engaging in the community health improvement process, community partners can deepen their understanding of equity and social justice as they relate to older adults, explore the diverse experiences and contexts in which older adults live and navigate daily life, identify local priorities, and develop strategies to improve the health and well-being of older adults in their communities.

The healthy aging indicators and measures highlighted in this guide are comprehensive and connect with robust publicly available secondary data sources that can be used to inform the community health improvement process. Through a health equity lens, the indicators and measures are organized into three overarching domains that align with MAPP 2.0 and factors that shape health inequities: 1) Health Behaviors and Health Outcomes, 2) Social Determinants of Health, and 3) Systems of Power, Privilege, and Oppression. Current indicators are linked to existing secondary data at all geographical levels, including the local level. Prospective indicators and measures are linked to publicly available data sources at higher levels of geography (state, region, national). They can be used to inform local data collection (e.g., providing examples of measures and items to include in community surveys).

As the field of healthy aging evolves, community health improvement processes can center issues of equity and social justice as they relate to older adults, deepen understanding of needs and priorities, and develop community-wide strategies to improve health and well-being with and for older adults.

APPENDIX

KEY DEFINITIONS

AGEISM

Stereotyping, prejudice, and/or discrimination of individual based on their age.[26]

HEALTHY AGING

The process of maintaining and promoting physical, mental (cognitive and emotional), spiritual, and social (including meaningful social engagement) well-being and function as people age.[27]

INTERGENERATIONAL MOBILITY

The extent to which some key characteristics and outcomes of individuals differ from those of their parents.[28]

INTERSECTIONALITY

The complex, cumulative way in which the effects of multiple forms of discrimination combine, overlap, or intersect, especially in the experiences of marginalized individuals or groups. Individual life chances are shaped not by a single status hierarchy but by multiple overlapping systems of oppression, such as racism, sexism, and classism.[11,12,13]

STIGMA

Stereotypes or negative views attributed to a person or groups of people when their characteristics or behaviors are viewed as different from or inferior to societal norms.[29]

STRUCTURAL DISCRIMINATION

The totality of ways in which societies foster racial discrimination through mutually reinforcing systems, including housing, education, employment, earnings, civil representation, benefits, credit, media, health care, and criminal justice.[30]

STRUCTURAL RACISM

A system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial group inequity. It identifies dimensions of our history and culture that have allowed privileges associated with “whiteness” and disadvantages associated with “color” to endure and adapt over time.[31]

SECONDARY DATA SOURCES

The following table outlines secondary data sources relevant to population-level healthy aging indicators and benchmarks identified within and across three domains: 1) Health Behaviors and Health Outcomes, 2) Social Determinants of Health, and 3) Systems of Power, Privilege, and Oppression. The level of geography for each data set is identified, as well as considerations when exploring the data.

Data Set	Description	Domain	Level of Geography	Considerations
American Community Survey **(ACS)** ***U.S. Census Bureau***	The ACS is the premier source for detailed population and housing information about our nation collected and analyzed by the US. Census Bureau.	Social Determinants of Health Systems of Power, Privilege, and Oppression	National State County City (MSA) Census Tract Zip Code District Tribal State	Where available, use the American Community Survey 5-Year Estimates. Check local data for availability by Zip Code and Tribal Area. *Refer to the Data Profiles for the most frequently requested social, economic, housing, and demographic data by geography.*
Behavior Risk Factor Surveillance System **(BRFSS)** ***Centers for Disease Control and Prevention***	BRFSS is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services collected and analyzed by the Centers for Disease Control and Prevention.	Health Behaviors & Health Outcomes	National State County City (MSA)	Some data may not be available for some local areas and counties. Refer to County Health Rankings https://www.countyhealthrankings.org/ for county data specific to BRFSS measures.
CDC Wonder ***National Center on Health Statistics***	An easy-to-use internet system that makes the information resources of the Centers for Disease Control and Prevention (CDC) available to public health professionals and the public at large. It provides access to a wide array of public health information.	Health Behaviors & Health Outcomes	Varies	Refer to the state public health/health department for additional sources of local vital statistic data.
Elder Index ***Gerontology Institute, University of***	The Elder Index is a measure of the income that older adults need to meet their basic needs and age in place with dignity. The Elder Index is specific to household size, location,	Social Determinants of Health	State County City (MSA)	Choose your location(s) and filters to identify a specific Elder Index score.

Massachusetts Boston	housing tenure, and health status.	Systems of Privilege, Power, & Oppression		
Mapping the Meal Gap ***Feeding America***	The interactive map features annual food insecurity estimates from our Map the Meal Gap study for the overall population and children in every county, congressional district, and state, as well as for every service area within our nationwide network of food banks.	Social Determinants of Health	State County Food Bank	Use the search bar to start exploring data by state, county, or food bank, including specific demographics. Some data is only available at the national or state level. The map also features food insecurity estimates for the older adult and senior populations at the national and state level from Feeding America's The State of Senior Hunger in America report series.
Interactive Atlas of Chronic Conditions ***Centers for Medicare & Medicaid Services***	This tool shows the prevalence of 18 chronic conditions among beneficiaries enrolled in Medicare fee-for-service at the state and county levels.	Health Behaviors & Health Outcomes	State County	Refer to BRFSS to confirm recent population-level data. Data available in the Atlas only applies to Medicare fee-for-service at the state and county levels.
Local Area Unemployment Statistics – Expanded State Employment Status Demographic Data ***U.S. Bureau of Labor Statistics***	Statewide data on the demographic and economic characteristics of the labor force are published on an annual average basis from the Current Population Survey (CPS), the sample survey of households used to calculate the U.S. unemployment rate.	Social Determinants of Health	State County	Additional information on the uses and limitations of statewide data from the CPS can be found in the document Notes on Using Current Population Survey (CPS) Subnational Data
Master Beneficiary Summary File (MBSF) Base ***Centers for Medicare & Medicaid Services***	The MBSF base segment includes beneficiary enrollment information (A/B/C/D). Medicare Advantage (Part C) and the Prescription Drug Program (Part D) plan enrollment information is included.	Health Behaviors & Health Outcomes	State County Zip Code	Access "Data Documentation" to identify relevant indicator and measure data.

Mapping Inequality, Redlining in New Deal America ***University of Richmond***	Mapping Inequality site makes the well-known security maps of Home Owners'' Loan Corporation available in digital form, as well as the data and textual assessments of the area descriptions that were created to go with the maps.	Systems of Power, Privilege, & Oppression	State City (MSA)	Data is available for specific states, cities, and neighborhoods across the United States. Access "Downloads & Data" for relevant information.
Mapping Medicare Disparities by Population (MMD) ***Centers for Medicare & Medicaid Services***	The MMD interactive tool contains health outcome measures for disease prevalence, costs, hospitalization for 60 specific chronic conditions, emergency department utilization, readmissions rates, mortality, preventable hospitalizations, and preventive services.	Health Behaviors & Health Outcomes Social Determinants of Health	State County	Select a state from the menu, then proceed to select variables of interest. Learn more about the tool.
National Center for Health Statistics - CDC Wonder ***Centers for Disease Control and Prevention***	An easy-to-use internet system that makes the information resources of the Centers for Disease Control and Prevention (CDC) available to public health professionals and the public at large. It provides access to a wide array of public health information.	Health Behaviors & Health Outcomes	National State County City (MSA)	Refer to the state public health/health department for additional sources of local vital statistic data.
National Center for Health Statistics – National Vital Statistics System ***Centers for Disease Control and Prevention***	The National Vital Statistics System is the oldest and most successful example of inter-governmental data sharing in Public Health and the shared relationships, standards, and procedures form the mechanism by which NCHS collects and disseminates the Nation's official vital statistics.	Health Behaviors & Health Outcomes	National State County City (MSA)	Access the data and create customizable data tables using CDC Wonder.
Neighborhood Atlas ***University of Wisconsin School of Medicine and Public Health***	The Neighborhood Atlas website was created to freely share measures of neighborhood disadvantage with the public, including educational institutions, health systems, not-for-profit organizations, and government	Social Determinants of Health Systems of Power,	National State County (Block Group)	Data is sourced from the American Community Survey Fiver-Year Estimates

	agencies, to make these metrics available for use in research, program planning, and policy development.	Privilege, and Oppression		
The National Environmental Public Health Tracking Network ***Environmental Protection Agency***	Brings together health data and environmental data from national, state, and city sources and provides supporting information to make the data easier to understand. The Tracking Network has data and information on environments and hazards, health effects, and population health.	Health Behaviors & Health Outcomes Social Determinants of Health Systems of Power, Privilege, and Oppression	National State County Zip Code	Search and download a variety of data in maps, charts, and tables using the Data Explorer Tool.
Supplemental Nutrition Assistance Program (SNAP) Eligibility & Access ***U.S. Census Bureau***	The visualization represents the joint efforts to increase understanding of current SNAP program access and inform future SNAP program outreach.	Social Determinants of Health	State County	Explore the United States Department of Agriculture website for additional information on the SNAP Data Tables
Social Security Income (SSI) Program ***Social Security Administration***	An annual statistical report on the Supplemental Security Income program that provides tables on program recipients, federal payments, and federally administered state supplementation.	Health Behaviors & Health Outcomes Social Determinants of Health	State County	Data available from the Office of the Chief Actuary Benefit data on the number of Social Security beneficiaries and their average benefit amounts Financial data on income to and cost from the funds and on investments of the funds Data available from the Office of Retirement and Disability Policy.
U.S. Small-area Life Expectancy Estimate	The USALEEP project produced estimates of life expectancy at birth—the average number of years a person can expect to	Health Behaviors &	State County Census Tract	Explore the Interactive Map to access data on Life Expectancy at

Project (usasleep) ***National Center on Health Statistics***	live—for most of the census tracts in the United States for the period 2010-2015.	Health Outcomes		Birth for the U.S. and Census Tracts, 2010-2015 Explore National Center for Health Statistics Life Expectancy Estimates, Life Tables, and Methodology by state
State Summaries ***U.S. Department of Veterans Affairs***	State Summaries capture major facts about veteran population, including gender, age, population projections etc., and the V.A.'s presence in each state, including facilities and expenditures.	Social Determinants of Health	State	Data is only available at the state level.
Survey of Consumer Finances Interactive Chart ***Board of Governors of the Federal Reserve System***	The SCF Interactive Chart creates time series charts representing estimates in the historic tables and covers the period 1989 to the most recent survey year. For each variable and classification group, the charts show the percentage of families in the group who have the item and the median and mean amounts of holdings for those who have the item.	Social Determinants of Health	National	Data is only available at the national level.

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