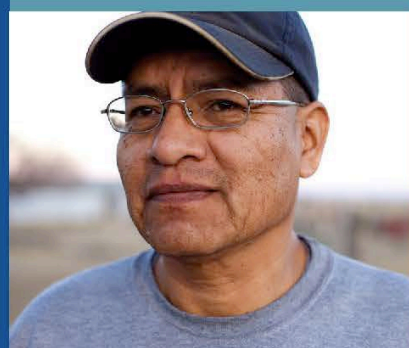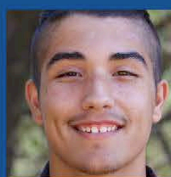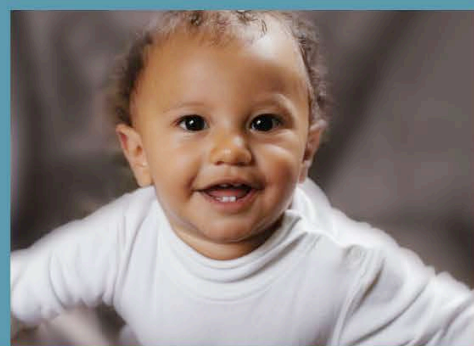National Institutes of Health

Minority Health and Health Disparities Strategic Plan 2021–2025

Taking the Next Steps

NIH National Institutes of Health
Turning Discovery Into Health

National Institutes of Health
Minority Health and Health Disparities Strategic Plan 2021–2025
Taking the Next Steps

Table of Contents

Introduction

Medical advances and new technologies have allowed Americans to live longer and healthier lives for the past century. However, health disparities persist, disproportionately affecting individuals of less privileged socioeconomic status (SES), rural residents, and individuals from specific communities and heritages. Health disparities are the result of differences in and interplay among numerous determinants of health, including biological factors, health behaviors, sociocultural and place-based factors, and the way health care systems interact through complex multilevel pathways. These dynamic and complex interactions lead to poor health outcomes and challenge researchers to identify mechanistic pathways and to develop interventions that can reduce health disparities by improving health for all.

Section 10334 of P.L. 111-148 tasks NIMHD with coordinating NIH's research related to minority health and health disparities: "The Director of the Institute, as the primary Federal official with responsibility for coordinating all research and activities conducted or supported by the National Institutes of Health on minority health and health disparities, shall plan, coordinate, review, and evaluate research and other activities conducted or supported by the Institutes and Centers of the National Institutes of Health." In addition, Section 2038 of P.L. 114-255 (21st Century Cures Act) tasks NIMHD with fostering partnerships and collaborative projects relating to minority health and health disparities: "The Director of the Institute may foster partnerships between the national research institutes and national centers and may encourage the funding of collaborative research projects to achieve the goals of the National Institutes of Health that are related to minority health and health disparities." As part of all strategic planning processes across NIH, Institutes and Centers (ICs) are tasked with coordinating with the Directors of NIMHD and the Office for Research on Women's Health to ensure that the plans account for the unique perspectives, strengths, and challenges facing minorities and women, as described in Section 2031 of P.L. 114-255. The plan will guide NIH in setting scientific goals, such as advancing the scientific understanding of health disparities, and research-related activity goals, such as strengthening the national research capacity to address health disparities.

Research supported by NIH has worked to reduce these disparities and improve health across all diseases, disorders, and conditions. As a result, all ICs contribute to the science and support activities. This NIH strategic plan demonstrates ICs' commitment to research to generate the scientific knowledge needed to improve health outcomes for all Americans.

Health Disparity Definition

A health disparity (HD) is a health difference that is observed between population groups, based on one or more of the following health outcomes:
- Higher incidence and/or prevalence and earlier onset of disease
- Higher prevalence of risk factors, unhealthy behaviors, or clinical measures in the causal pathway of a disease outcome
- Higher rates of condition-specific symptoms, reduced global daily functioning, or self-reported health-related quality of life using standardized measures
- Premature and/or excessive mortality from diseases where population rates differ
- Greater global burden of disease using a standardized metric

Health Disparity Populations

The NIH definition of populations that experience health disparities includes populations with lower socioeconomic status (SES), underserved rural populations, sexual minorities, and racial and ethnic minority populations (see OMB directive).

NIH Commitment

Healthy People 2020 envisions a society in which all people live long, healthy lives. The U.S. Department of Health and Human Services (HHS) aims to enhance the health and well-being of all Americans, by providing effective health and human services and by fostering sound, sustained advances in the sciences underlying medicine, public health, and social services. The mission of NIH, as part of HHS, is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

Foundation for Planning

This strategic plan was created with the input of several NIH working groups, including teams of staff and researchers. To ensure that stakeholders at multiple levels were involved in this strategic planning process, information was gathered from experts within and outside of NIH. A few of these foundational activities are described below.

- In FY 2012, during the Science of Eliminating Health Disparities summit, town hall meetings to collect data on critical health and health disparity research issues were held.
- In FY 2015, a portfolio analysis of NIH's health disparities research was conducted to survey the status of the field, analyze investments, and gauge gaps in the science or supporting structures.
- During FY 2015 and FY 2016, the science visioning process was accessed to produce recommendations for advancing the field. Participating-NIH staff and outside partners suggested 10 priority recommendations each in defining etiologies and mechanisms, developing and evaluating interventions, and identifying innovative methods from a wide range of needs, to reduce disparities and improve health. Framework. Details are available in the *American Journal of Public Health (AJPH)* supplement *New Perspectives to Advance Minority Health and Health Disparities Research*.
- During FY 2018, three virtual sessions and four listening sessions across the country to collect community-level input for the *NIH MH & HD Strategic Plan* were employed.

These activities—in coordination with NIH working groups and input from a range of NIH Institutes, Centers, and Offices provide the foundation for the *NIH MH & HD Strategic Plan*.

Structure of this Plan

The *NIH MH & HD Strategic Plan 2021–2025* has been designed with three categories to represent a long-term framework: scientific research; research-sustaining activities; and outreach, collaboration, and dissemination to encompass the range of NIH's HD-related work. Embedded in each category are goals that encompass up to 10 years of expected research. There are four research goals; three research-sustaining activities goals; and two outreach, collaboration, and dissemination goals.

This plan describes scientific goals with related research strategies and priority areas that represent key opportunities and needs to advance HD research. Rather than reflecting a comprehensive listing of all relevant NIH activities, this plan describes how NIH can best advance HD research. Each goal is divided into strategies that are intended to capture strategic ways in which NIH can advance the science of HD or develop key supporting structures. The priority areas consist of research efforts and activities that encompass HD efforts across NIH and span 5 years (**Starting Line),** 10 years (**Building Momentum)** and 10-20 years **(Leap Forward).**

This plan lays out a focused vision, specifying short-, intermediate-, and long-range research strategies and activities that will facilitate progress toward long-term goals.
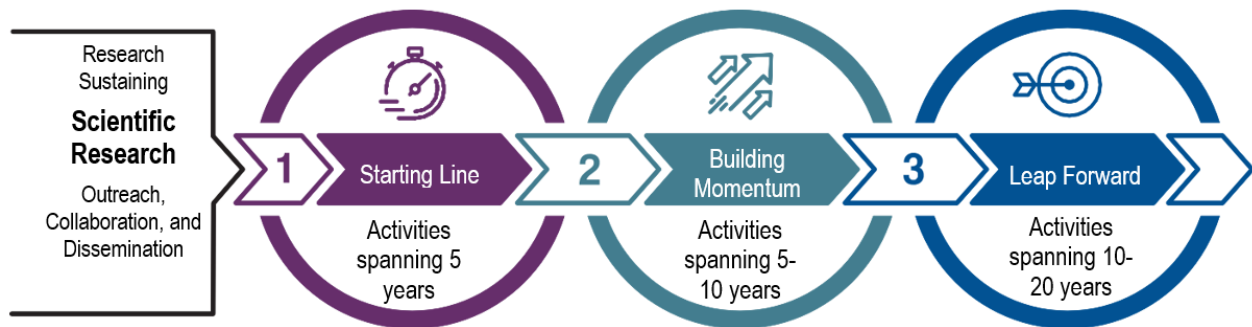
These priority areas are described below:
- <u>Starting Line</u> priority areas represent concrete, current efforts and initiatives aimed at improving health and/or reducing health disparities that are underway at NIH or with NIH partners.
- <u>Building Momentum</u> priority areas represent concepts and potential initiatives for advancing the science of health disparities. These concepts include early ideas and initiatives being developed and considered for potential implementation.
- <u>Leap Forward</u> priorities represent cross-NIH visionary goals that can have a significant impact on improving health or reducing health disparities in disease and disorders.

The *NIH MH & HD Strategic Plan 2021–2025* includes performance tracking and evaluation components to meet federal requirements. Most importantly, the plan aims to advance the science of health and health disparities and produce meaningful, measurable improvements in health and reductions in health disparities through the dissemination and implementation of both existing and novel scientific breakthroughs over the duration of the strategic plan and beyond.

Strategic Plan Categories

Scientific Research

Scientific research encompasses the continuum of research activities, from basic through applied research. Research is systematic study directed toward advancing scientific knowledge and/or gaining understanding of etiology and interventions to improve health and to reduce health disparities. This section also focuses on the need to strengthen and promote analytic methods that will enable a better understanding of the indicators and underlying causes of health disparities and facilitate ongoing monitoring.

Research Sustaining

NIH supports the strengthening and expansion of structures that facilitate the scientific process—essential components of its health and health disparities research-sustaining activities. Well-trained, highly skilled researchers are critical to advancing discovery, as diverse teams bring perspectives that foster creativity, enhance problem-solving, and promote broad participation in health research. Health disparities research requires multidisciplinary scientists with advanced expertise to examine the complex factors driving disparities, supported by sustained recruitment, training, and retention across career stages. Research capacity building is vital to the field's growth, requiring NIH investment in infrastructure and institutional support to foster strong, collaborative research communities. Ensuring scientifically appropriate participation in clinical research is another NIH priority, involving efforts to reduce participation barriers, strengthen inclusion strategies, and improve the impact of findings for all people affected by health conditions. NIH is committed to research that reflects the full spectrum of affected populations by addressing obstacles to participation and enhancing representation in NIH-funded studies.

Outreach, Collaboration, and Dissemination

NIH supports outreach, collaboration, and dissemination efforts to ensure key research findings on health and health disparities are shared with communities and researchers who can use them. This plan focuses on expanding community outreach, improving dissemination of research findings, and building networks of researchers and partners across the nation and within NIH. Promoting the capacity to translate research findings into recommendations for clinical and public health practice is essential for reducing health disparities. NIH can support appropriate stewardship by considering factors related to dissemination of HD research at every stage of the research process. These efforts are needed to ensure evidence-based interventions become part of everyday practice and are integrated into the public health process. As part of the outreach and dissemination process, broadening and strengthening partnerships between communities, researchers, clinicians, advocacy groups and government expands potential avenues for collaboration and progress toward evidence-based practices. This plan offers strategies for engaging and enhancing partnerships across sectors to support research and promote best practices in health and health disparities research.

Leap Forward Research Challenge

Leap Forward priority areas are expected to have a significant impact on advancing the fields of health and health disparities research over the next 10 to 20 years. NIH challenged itself and the research community to be bold and strive for transformational progress across the continuum of research in health and health disparities. Leap Forward priority areas represent aspirational

activities that NIH hopes to embark upon to improve health or to reduce a health disparity in scientific research and in research-sustaining activities.

Summary of Goals by Category

Scientific Research

Goal 1: Promote research to understand and to improve the health of populations experiencing health disparities

- **Strategy 1.1:** Examine health determinants that underlie resilience or susceptibility to diseases and conditions experienced by populations experiencing health disparities.
- **Strategy 1.2:** Develop and assess interventions to improve the health status in populations experiencing health disparities.

Goal 2: Advance scientific understanding of the causes of health disparities

- **Strategy 2.1:** Investigate health determinants through basic, behavioral, clinical, and applied research to better understand the contributions to health disparity outcomes.
- **Strategy 2.2:** Support research to examine multilevel pathways and dynamic interrelationships of health determinants that impact health disparity outcomes over the life course and across generations.
- **Strategy 2.3:** Identify relevant critical periods and feasible targets for health disparity interventions.

Goal 3: Develop and test interventions to reduce health disparities

- **Strategy 3.1:** Design and test interventions that target known health determinants and appropriate life-course time points to improve health outcomes.
- **Strategy 3.2:** Embed implementation science within intervention studies to inform efforts to scale, sustain, and translate efficacious interventions within and across populations and settings.
- **Strategy 3.3:** Promote prevention and evaluate the impact of upstream interventions on distal outcomes across the lifespan and across generations.

Goal 4: Create and improve scientific methods, metrics, measures, and tools that support health disparities research

- **Strategy 4.1:** Identify and test the adoption of common indicators to quantify the status of health disparities across different diseases/conditions and populations.
- **Strategy 4.2:** Define the continuum from health differences to health disparities, both qualitatively and quantitatively across multiple dimensions, as well as develop contextually informed clinical and statistical measures of disparities reductions.
- **Strategy 4.3:** Apply complex systems modeling approaches to identify and predict relationships between health determinants and health disparity outcome measures.
- **Strategy 4.4:** Support movement toward standardization, collection, reporting, and leveraging of measures of health determinants in both existing and emerging data sources, including administrative clinical data, to foster linkages between health and relevant health determinants data for use in identifying health disparities and underlying causes through emerging data science techniques.

- **Strategy 4.5:** Identify and strengthen rigorous quantitative and qualitative methods to enable analysis on small populations and subpopulations.
- **Strategy 4.6:** Evaluate research proposals, programs, and policies to assess effectiveness in improving health and reducing health disparities.

Research-Sustaining Activities

Goal 5: Support training and career progression of health disparities researchers

- **Strategy 5.1:** Support training and mentorship programs for health disparities researchers at all stages of career and leadership development.
- **Strategy 5.2:** Incorporate development of specialized research skills into health disparities training programs, including core and emerging skills that are important for measuring, understanding, and identifying solutions to address health disparities complexities.

Goal 6: Strengthen the national capacity to conduct health disparities research

- **Strategy 6.1:** Support programs to enhance capacity for health disparities research at institutions of all sizes.
- **Strategy 6.2:** Develop and test methods to foster, coordinate, and promote the field of health disparities among research institutions and organizations.

Goal 7: Ensure participation in NIH-funded research is scientifically appropriate

- **Strategy 7.1:** Provide guidance, recommendations, and technical assistance for NIH-funded researchers in appropriate study design and best practices for recruitment to ensure compliance with laws, regulations, and policies regarding participation in clinical trials.
- **Strategy 7.2:** Promote and enforce accountability for participation in clinical trials by tracking originally proposed recruitment strategies and objectives to ensure sufficient samples for analyses of subpopulation data.
- **Strategy 7.3:** Promote analysis of populations experiencing health disparities in big data sets, clinical research, and future big science initiatives.

Outreach, Collaboration, and Dissemination

Goal 8: Promote evidence-based community engagement, dissemination, and implementation of health disparities research best practices

- **Strategy 8.1:** Develop and test best practices for dissemination and implementation of research findings related to health disparities research discoveries in different settings and populations.
- **Strategy 8.2:** Conduct studies to identify effective communication and outreach strategies for various audiences to improve recruitment and retention in clinical research studies and databases, inform intervention design, and foster community engagement.

Goal 9: Cultivate and expand a community of researchers and collaborators

- **Strategy 9.1:** Build an NIH interdisciplinary community of scholars focused on health disparities to enhance coordination, accountability, and integration of these research efforts within NIH research activities.
- **Strategy 9.2:** Promote interagency collaboration and coordination with federal departments and agencies, including use of common data elements (CDEs) and data sharing.

- **Strategy 9.3:** Establish partnerships with nongovernmental groups (e.g. mentoring networks, patient organizations, professional groups, science communities) to advance the development, improvement, and use of definitions, methods, measures, metrics, interventions, and best practices.

Details of Categories and Goals

Scientific Goals, Research Strategies, and Priority Areas

This section highlights core scientific goals and strategies that drive progress in health disparities research. These include advancing studies to improve the health of affected populations, uncovering the underlying causes of disparities, and developing effective interventions. It also emphasizes the importance of improving methods, metrics, and tools to enhance the quality and impact of this research.

Goal 1: Promote research to understand and to improve the health of populations experiencing health disparities

This goal advances the understanding of health determinants that contribute to the health status of populations and subpopulations. Scientific knowledge generated should span the life course and address sociocultural variations and within group differences. As the understanding of the interplay between biology and environment advances, research can inform the development of effective interventions to improve health outcomes. In addition, research into the determinants that impact health may lead to new knowledge about the health differences across various populations.

Strategy 1.1: Examine health determinants that underlie resilience or susceptibility to diseases and conditions of populations experiencing health disparities.

    <u>ACTION PRIORITY AREAS</u>

Starting Line
- Expand support for large-scale observational, epidemiologic, and longitudinal cohort studies focused on multiple co-occurring chronic diseases and conditions in health disparity populations.
- Support ancillary etiological studies using existing cohorts to examine the interplay between biological, behavioral, socioecological, sociocultural, and environmental health determinants in populations experiencing disparities, as well as interactions with health care and public health systems.
- Support interdisciplinary health studies to delineate mechanisms of embodiment of social, cultural, and environmental factors experienced over the life course to better understand how those factors influence individual early development, physiology, cognitive processes, biopsychosocial processes and behavior, and disease trajectories.

Building Momentum
- Support research to identify key developmental origins or stages of susceptibility to common diseases and conditions or exposures where interventions would most likely have the greatest effect.
- Expand research efforts to delineate risk factors for developing obesity in early childhood and adolescence and to develop evidence-based interventions to reduce long-term health risks.

- Expand support for research to identify protective factors that promote population health and contribute to resiliency at the individual, family, and community levels.

Strategy 1.2: Develop and assess interventions to improve the health status of populations experiencing health disparities.

ACTION PRIORITY AREAS

Starting Line
- Develop and implement individual-, family-, peer group-, and community-level health promotion and disease prevention interventions tailored to address the specific needs and cultural contexts of health disparity populations.
- Develop and implement evidence-based health care system interventions that reduce obstacles to care and promote coordination and integration of preventive care, primary care, and behavioral health services.
- Support secondary data analyses of ongoing cohort studies and public use surveys, as well as other approaches such as simulation modeling, to determine whether health differences observed in population studies reflect health disparities arising from social, economic, and/or place-based disadvantages associated with limited access to resources.

Building Momentum
- Expand research to improve access to and coordination of health care services across specialties through innovative care delivery models and the use of health information technology, including research on the use of electronic health records (EHRs) and e-prescribing databases to reduce risks of adverse drug reactions and drug–drug interactions.
- Support rigorous research on patient-clinician communication factors in primary care and specialty settings that influence disparities in health outcomes.
- Support rigorous evaluation of community-engaged interventions to address gaps and improve implementation of evidence-based interventions in community settings, and to better understand factors that influence intervention effectiveness and adaptability.

Goal 2: Advance scientific understanding of the causes of health disparities

This goal seeks to examine the etiology of health disparities and the influence of health determinants on various stages of the life-course trajectories and across generations. It also aims to further scientific understanding of both individual and combined effects of health determinants that contribute to disparities in health outcomes. These determinants include social, environmental, behavioral, biological, and structural factors—both known and previously understudied. Research is needed to identify and better understand the integrated relationship of these determinants, especially in real-world settings. These complexities often require interdisciplinary systems science approaches to understand interactions among multiple factors and over time. Results from such research should provide a robust foundation for designing effective interventions to reduce health disparities.

Strategy 2.1: Investigate health determinants through basic, behavioral, clinical, and applied research to better understand the contributions to health disparity outcomes.

ACTION PRIORITY AREAS

Starting Line
- Identify risk factors that act as health determinants in creating and/or sustaining health disparity outcomes for NIH-designated health disparity populations.

Building Momentum
- Support research that seeks mechanisms and pathways through which health determinants contribute to worse health outcomes and identify potential intervention targets.
- Identify disparities in understudied health disparity populations.
- Support research in understudied health conditions and risk factors, including comorbidities, that may contribute to adverse health outcomes.

Strategy 2.2: Support research to examine multilevel pathways and dynamic interrelationships of health determinants that impact health disparity outcomes over the life course and across generations.

ACTION PRIORITY AREAS

Starting Line
- Explore associations between established determinants of health disparity outcomes occurring at multiple levels (e.g., environmental, health care, sociocultural, biological) to identify mechanisms and pathways for health disparity outcomes.

Building Momentum
- Examine how health disparities develop or are sustained over the life-course and across generations.
- Replicate the mechanistic and pathway analysis of determinants for additional health outcomes, health disparity populations and life-course approaches and/or across generations.
- Support the collection of data from individuals of varied ancestral backgrounds in NIH-funded and analyzed -omics research, to ensure broad representation that reflects the U.S. population.

Strategy 2.3: Identify relevant critical periods and feasible targets for health disparity interventions.

ACTION PRIORITY AREAS

Starting Line
- Link data on environmental, health care, behavioral, and/or biological health determinants from populations with backgrounds to existing systems for specific outcome ascertainment (e.g., hospitalizations, incidence of specific conditions, mortality, emphasizing life course, and age cohort perspectives).

Building Momentum

- Support research on interventions that address fundamental health determinants at key developmental or critical periods to mitigate disparities in health outcomes.

Goal 3: Develop and test interventions to reduce health disparities

This goal advances the development and testing of interventions that address health disparities and improve health outcomes. This research should capitalize on existing evidence regarding health determinants and employ a multidisciplinary approach to develop effective, context-specific strategies. Health disparities can include biological, behavioral, sociocultural, environmental, and health care system-level factors. The interventions should be intentional about which populations, time points in the life course, and risk or protective factors are targeted for reduction of health disparity outcomes. Implementation-science methods should be employed to inform feasibility, generalizability, and validity assessments of efficacious interventions.

Strategy 3.1: Design and test interventions that target known health determinants and appropriate life-course time points to improve health outcomes.

ACTION PRIORITY AREAS

Starting Line

- Adapt evidence-based interventions for implementation and evaluation in populations with documented health disparities, ensuring that cultural and contextual factors are considered.
- Develop and test interventions that target multiple socioecological levels at appropriate life-course time points to improve health outcomes within community-based populations.

Building Momentum

- Design and test strategies to improve access to and quality of care for health disparity populations within the health care system.
- Assess the implementation of interventions within clinical settings and determine their impact on health outcomes.
- Develop and test interventions to improve symptom self-management and health-related quality of life for individuals experiencing chronic and overlapping health conditions.

Strategy 3.2: Embed implementation science within intervention studies to inform efforts to scale, sustain, and translate efficacious interventions within and across populations and settings.

ACTION PRIORITY AREAS

Starting Line

- Develop and test practical and sustainable adaptations within routine health care settings to improve health outcomes and enable dissemination of effective practices.
- Incorporate elements of implementation and scalability into the design and testing of interventions to enhance related effectiveness in real-world settings, particularly resource-limited clinical and community settings.

Building Momentum

- Develop guidance for NIH-supported researchers conducting intervention studies to include analyses of the pathways and mechanisms by which health disparity interventions produce observed effects.

- Expand research in areas of implementation science with emphasis on clinical and public health systems processes for delivering prevention and treatment.
- Develop criteria to assess whether interventions have sufficient evidence for demonstrating success and create and maintain a compendium of evidence-based interventions with demonstrated success in reducing health disparities in the United States.

Strategy 3.3: Promote prevention and evaluate the impact of upstream interventions on distal health disparity outcomes across the lifespan and across generations.

    <u>ACTION PRIORITY AREAS</u>

Starting Line
- Develop, implement, and evaluate participatory multilevel interventions to reduce exposures to environmental factors that contribute to poor health outcomes in populations facing disproportionate health burdens, and assess the impact on early biomarkers of associated chronic diseases and conditions.
- Develop and evaluate school-based prevention and health promotion interventions related to health behaviors and mental health.

Building Momentum
- Promote research on the benefits of preventive interventions, including their effects on overall health, disease prevention, and potential inter-generational impacts.
- Review available evidence to identify key gaps in prevention science related to health disparities and promote targeted research on preventive services to improve health outcomes.
- Develop and evaluate workplace-based prevention and health promotion interventions related to health behaviors and mental health.

Goal 4: Create and improve scientific methods, metrics, measures, and tools that support health disparities research

The science of health disparities is a relatively new discipline; therefore, drawing expertise from many different fields of study to advance scientific understanding and improve health outcomes in various populations necessitates researchers to employ a range of methods, metrics, measures, and tools to identify, quantify, and address health disparities. Development and adaptation of common indicators, measures, and methods are needed to enable comparisons among populations, to quantify the roles of various health determinants in influencing and impacting a health disparity, and to promote interdisciplinary collaboration.

Strategy 4.1: Identify and test the adoption of common indicators to quantify the status of health disparities across different diseases/conditions and populations.

    <u>ACTION PRIORITY AREAS</u>

Starting Line
- Compile measurement tools (surveys and administered tests) in multiple languages relevant to the study population and region.
- Develop common standards for capturing data on health disparities, including health determinants that encompass social determinants, with support from the National Library of Medicine.

Building Momentum
- Develop tools to measure health indicators for health disparities research.
- Develop language-accessible measurement tools that can measure differences in population responses applicable to the region.

Strategy 4.2: Define the continuum from health differences to health disparities, both qualitatively and quantitatively across multiple dimensions, as well as develop contextually informed clinical and statistical measures of disparities reductions.

ACTION PRIORITY AREAS

Starting Line
- Set priorities and a research agenda around health disparities measures and metrics.
- Determine standardized metrics for assessing changes in health disparities over time.

Building Momentum
- Collect and disseminate longitudinal data on specific health disparities to develop measures of clinical and population-level change over time.

Strategy 4.3: Apply complex systems modeling approaches to identify and predict relationships between health determinants and health disparity outcome measures.

ACTION PRIORITY AREAS

Starting Line
- Promote interdisciplinary collaboration among health researchers and experts in computational approaches to further the development of modeling- and simulation-based systems science methodologies.

Building Momentum
- Asses multilevel interventions in the context of these simulation modeling and systems science research projects.
- Develop innovative model systems to advance understanding of disabilities that can lead to disparities in access and utilization of health care, rehabilitation treatments, and knowledge of preventative measures.

Strategy 4.4: Support movement toward standardization, collection, reporting, and leveraging of measures of health determinants in both existing and emerging data sources, including administrative clinical data, to foster linkages between health and relevant health determinants data for use in identifying health disparities and underlying causes through emerging data science techniques.

ACTION PRIORITY AREAS

Starting Line
- Promote analysis and publication of research results that include relevant and appropriately sized samples from populations experiencing health disparities.

Building Momentum
- Sponsor and support workshops that result in technical reports and publications related to specific measurement issues in health disparities research, such as statistical analysis of

small samples, self-identified demographic characteristics, and ancestry informative markers.

- Review and compile major papers on measures and metrics in health disparities to create a repository of technical papers, tools, and publications.

Strategy 4.5: Identify and strengthen rigorous quantitative and qualitative methods to enable analysis on small populations and subpopulations.

<u>ACTION PRIORITY AREAS</u>

Starting Line
- Foster methodologies for conducting small population analyses.

Building Momentum
- Map the state of the science for qualitative and quantitative studies with small populations and subpopulations.
- Develop research agendas for health disparity measurement in small populations and subpopulations.

Strategy 4.6: Evaluate research proposals, programs, and policies to assess effectiveness in reducing health disparities.

<u>ACTION PRIORITY AREAS</u>

Starting Line
- Develop educational materials for program officers, program analysts, evaluators, and policy analysts on measures, metrics, and their use in outcome assessments of health disparity research.

Building Momentum
- Assess the effects of social policies on health disparities.
- Assess the impact of previous NIH grants that were identified as focusing on health disparities.

Research-Sustaining Activities: Goals, Strategies, and Priority Areas

Programs that promote a well-equipped biomedical workforce, enhance and strengthen the health disparities research workforce, and provide infrastructure for research capacity-building activities are needed. Continued efforts to include all US populations in research and clinical trials are essential components of NIH's commitment to advancing scientific knowledge and improving health outcomes.

Goal 5: Support training and career progression of health disparities researchers

NIH's continued promotion of a highly skilled workforce will facilitate further advancements in the field of health disparities research. A well-prepared research workforce with experience in studying health disparities is necessary to address complex scientific challenges. Programs that support individual career development and institutional capacity-building will enhance the expertise available in the field, leading to greater progress in improving health outcomes for affected populations.

Strategy 5.1: Support training and mentorship programs for health disparities researchers at all stages of career development and leadership development.

ACTION PRIORITY AREAS

Starting Line
- Support programs to train and mentor researchers with expertise in mi health disparities from pre-college or university through early-stage investigator career stages.

Building Momentum
- Take steps to enhance, renew, or expand NIH's portfolio of scientific education, training, and mentoring opportunities for health disparity researchers from pre-college or university stages through established senior investigator careers.

Strategy 5.2: Incorporate development of specialized research skills into health disparities training programs, including core and emerging skills that are important for measuring, understanding, and identifying solutions to address health disparities complexities.

ACTION PRIORITY AREAS

Starting Line
- Support programs to provide researchers opportunities to enhance existing research capabilities or to acquire new research capabilities in HD-related science at the graduate student, junior scientists, and senior scientist levels of career stages.

Building Momentum
- Take steps to enhance, renew, or add to NIH's portfolio of intramural and extramural programs dedicated to the development of specialized research skills into health disparities research programs, including those fostering the development of scientists from medical dental veterinary and other heal science disciplines.

Goal 6: Strengthen the national capacity to conduct health disparities research

This goal promotes the expansion of the national capacity to conduct health disparities research. Creating and/or enhancing infrastructure to support novel and existing research approaches will facilitate further advancements in the field. Programs that address research preparedness at the institutional level will strengthen the capability of researchers to conduct novel and applied research.

Strategy 6.1: Support programs to enhance capacity for health disparities research at institutions of all sizes.

ACTION PRIORITY AREAS

Starting Line
- Support relevant investigator-initiated research projects and multidisciplinary research centers in less research-intensive academic institutions.
- Support multidisciplinary centers and networks with local, regional, national, and international shared research resources such as databases, informatics cores, and biospecimen repositories to foster collaborative translational research addressing health disparities in the United States.

- Build research capacity in community-based organizations that are positioned to conduct population health research on understudied populations because of their trusted relationships within those communities.

Building Momentum
- Build community-based research hubs that serve as resource centers to foster collaborative, community-engaged research to address health disparities.
- Accelerate efforts to advance understanding of links between environmental exposures and health outcomes to promote environ literacy and support disease prevention efforts targeted to entire communities or regions at risk.
- Develop innovative ways to sustain community-based place-based health disparities research beyond individual grant cycles and provide the means for community partners and citizen scientists to be more actively engaged with research.

Strategy 6.2: Develop and test methods to foster, coordinate, and promote the field of health disparities among research institutions and organizations.

    ACTION PRIORITY AREAS

Starting Line
- Disseminate the Health Disparities Research Framework to inform and attract researchers from various scientific disciplines to explore the interplay between biological, behavioral, social, cultural, place-based, and clinical determinants of health.

Building Momentum
- Partner with organizations that certify/license community health workers (CHWs) to standardize training of CHWs in intervention research, and assess the impact on health disparity intervention research, efficiency, safety, scientific rigor, and reproducibility.
- Expand NIH efforts to advance citizen science in the field of health disparities as a distinct research enterprise led by citizen scientists and community organizations, going beyond traditional approaches to community-engaged research led by academic institutions.

Goal 7: Ensure participation in NIH-funded research is scientifically appropriate

This goal promotes the participation of individuals from populations not adequately represented in biomedical research and those experiencing health disparities in all federally funded research involving human participants. Ensuring broad participation in research requires careful consideration throughout the research process, encompassing study design, implementation, and analyses. By employing evidence-based strategies for outreach, study design, and recruitment, researchers can enhance representation to determine whether clinical advances are effective across all population groups. Broader participation may also provide more meaningful insight into the underlying causes of health disparities and contribute to the development of more effective interventions.

Strategy 7.1: Provide guidance, recommendations, and technical assistance for NIH-funded researchers in appropriate study design and best practices for recruitment to ensure compliance with laws, regulations, and policies regarding representative participation in clinical trials.

Starting Line
- Support the development of technical assistance and best-research-practice centers to ensure that researchers have knowledge of proper study design and recruitment practices that enhance participation in research.

Building Momentum
- Develop general guidance for researchers on how to best incorporate and include participants in research.
- Expand local, regional, and national efforts to assess the impact of policies and policy changes on the health of all populations, identifying mechanisms by which policies influence social, economic, and environmental factors affecting health outcomes.

Strategy 7.2: Promote and enforce accountability for participation in clinical trials by tracking originally proposed recruitment strategies and objectives to ensure sufficient samples for analyses of subpopulation data.

ACTION PRIORITY AREAS

Starting Line
- Educate and provide support to research centers regarding optimal recruitment strategies for increasing representative participation.

Building Momentum
- Develop Requests for Information (RFIs) to generate recommendations for improved tracking of recruitment strategies and objectives to ensure sufficient sample sizes for analysis of health disparity populations and related subpopulation data.

Strategy 7.3: Promote analysis of populations experiencing health disparities in big data sets, clinical research, and future big science initiatives.

ACTION PRIORITY AREAS

Starting Line
- Support established and new research centers in the engaging communities with limited healthcare access to facilitate recruitment and retention in big data science research.

Building Momentum
- Develop systematic monitoring mechanisms to assess successful recruitment and retention of health disparity populations in NIH-supported research.
- Strengthen national efforts to increase representation of health disparity populations in disease registries and public health surveillance systems to improve understanding and awareness of population health differences within and between groups and across geographic regions.

Outreach, Collaboration, and Dissemination: Goals and Strategies

Outreach, collaboration, and dissemination efforts enable the communication of key findings of health disparities research to be shared with the people and communities that need them. These

activities help advance the development of dissemination plans to enhance networks of researchers and stakeholders across the nation and within NIH.

Goal 8: Promote evidence-based community engagement, dissemination, and implementation of health disparities research best practices.

This goal advances evidence-based community outreach and dissemination, and implementation of findings from research into clinical, community, and everyday settings. Dissemination and implementation strategies should be embedded as core components of the research process from the initial stages. Developing and testing strategies for dissemination and implementation of scientific advances will facilitate the translation of research into policy and practice.

Strategy 8.1: Develop and test best practices for dissemination and implementation of research findings related to health disparities research discoveries into different settings and with different populations.

ACTION PRIORITY AREAS

Starting Line
- Test best practices for dissemination and implementation of research discoveries in various diseases and conditions into communities that experience health disparities.

Building Momentum
- Develop and test an agency-wide Language Access Plan (LAP) to improve access to health communication modalities, such as online and/or written materials, for dissemination and implementation of discoveries to communities with low health literacy.

Strategy 8.2: Conduct studies to identify effective communication and outreach strategies for various populations to improve recruitment and retention in clinical research studies and databases, inform intervention design, and foster community engagement.

ACTION PRIORITY AREAS

Starting Line
- Disseminate culturally appropriate educational materials and evidence-based interventions to appropriate communities to increase participation in research studies and clinical trials amongst health disparity populations.

Building Momentum
- Design and conduct educational interventions to engage communities and encourage participation in health disparity research and evaluate the effects of appropriate outreach strategies related to basic, behavioral, clinical, and genomic research participation.

Goal 9: Cultivate and expand a community of researchers and collaborators

This goal promotes community health disparities-focused research within NIH, HHS, and beyond. The community should include NIH, other government agencies, academia, and the private sector. Through collaboration and partnerships, the community should advance the science and reduce the economic burden of health disparities. The development of this community also may help to ensure research questions are integrated into mainstream and ensure that the impact of health disparities is considered across disciplines.

Strategy 9.1: Build an NIH interdisciplinary community of scholars focused on health disparities to enhance coordination, accountability, and integration of these research efforts within NIH research activities.

ACTION PRIORITY AREAS

Starting Line
- Promote intramural training opportunities, such that projects are designed with enough power for subpopulation or granular analysis in conjunction with primary analyses.
- Promote extramural training such that projects are designed with enough power for subpopulation or granular analysis in conjunction with primary analyses.

Building Momentum
- Ensure the dissemination and diffusion of research activities and results to various groups within NIH.
- Create an annual event at NIH to showcase science with regard for the health determinants and integration into biomedical research.

Strategy 9.2: Promote interagency collaboration and coordination with federal departments and agencies, including use of common data elements (CDEs) and data sharing.

ACTION PRIORITY AREAS

Starting Line
- Improve the generalizability of findings by coordinating with other federal agencies in the development and administration of population surveys that use common data elements.
- Improve health literacy by working with sister agencies to develop and disseminate research-based educational information.

Building Momentum
- Provide research results to working groups for the Healthy People 2030 initiative and similar federal initiatives to facilitate data sharing for decision-making.

Strategy 9.3: Establish partnerships with nongovernmental groups (e.g. mentoring networks, patient organizations, professional groups, science communities) to advance the development, improvement, and use of definitions, methods, measures, metrics, interventions, and best practices.

ACTION PRIORITY AREAS

Starting Line
- Disseminate NIH health disparity research priorities and research results through lecture series and workshops to a variety of audiences, including current and potential researchers.
- Generate interest in NIH health disparity research priorities and research results through onsite activities at NIH campuses to various groups of secondary school and undergraduate students.
- Improve health literacy through nationwide initiatives that increase the public's access to science-based information about health disparity illnesses and conditions.

Building Momentum
- Improve health literacy through nationwide initiatives that increase the public's access to science-based information about illnesses and conditions in appropriate formats that influence health.
- Provide overall coordination of community groups to identify research priorities for illnesses or conditions to disseminate relevant findings and/or foster additional research innovation.

Leap Forward Research Challenge

Leap Forward priority areas represent visionary science that aims to advance research addressing health disparities. These leaps present bold actions to improve health outcomes and to reduce health disparities across relevant diseases, disorders, and conditions.

The Leap Forward priority areas represent one way the ICs will comply with the 21st Century Cures Act, as described in [Section 2031 of P.L. 114–255](), to promote collaborations of research projects across all NIH ICs and Offices focused on reducing and/or eliminating health disparities.

Innovative Research Areas

- Promote research that reduces new HIV infections and increases viral suppression of people with HIV.
- Foster research that uncovers contributors and develops interventions to reduce maternal mortality and severe maternal morbidity in the United States.
- Reduce disparities in pre-term birth and infant mortality.
- Implement measures to increase representation of various ancestral backgrounds in NIH-supported and analyzed genomic data sets.
- Increase rates of colorectal cancer screening, follow-up, and referral-to-care for people who face barriers to healthcare access.
- Improve understanding of incidence patterns, symptoms, diagnosis, and disease trajectories for vascular cognitive impairment and dementia for those at higher risk.
- Bring curative genetic therapies for sickle cell disease (SCD) into first-in-human clinical trials.
- Support community-based implementation research to reduce cardiovascular health disparities, sustain adoption of evidence-based interventions, mitigate disparities in adoption of health behaviors, and promote enhanced characterization of social determinants of health to improve cardiovascular health and disease prevention across the lifespan and maximize impact on population health.
- Build on global experiences to optimize health care and clinical outcomes in rural and socioeconomically compromised areas in the United States by engaging training programs in biomedical engineering departments in the United States toward the development of technology.
- Support research to test multilevel approaches to improve adoption of evidence-based asthma interventions for people with high rates of asthma-related emergency visits and hospitalizations.
- Support development of a synthetic or hybrid data set which conforms to FAIR (findable, accessible, interoperable, and reusable) open data principles and models groups of people with varied backgrounds to improve the accuracy of research methods and metrics.

- Understand the rates of hearing impairment by population.
- Support research that advances implementation of evidence-based interventions and tools for reducing untreated dental decay for people with limited access to dental care by 10 percent to 25 percent.
- Identify differences in factors that cause progression to end-stage renal disease (ESRD) for people with a higher burden of chronic kidney disease.
- Identify factors that contribute to the disparities in diabetes management, including HbA1c (glycated hemoglobin), and target those factors through rigorous clinical trials and adaptive population-based interventions to improve outcomes among people experiencing disparities.
- Address the leading causes of morbidity and mortality for people affected by health disparities by leveraging the Clinical and Translational Science Awards (CTSA) Program to improve clinical trial design, develop targeted interventions, and facilitate dissemination of effective healthcare strategies.
- Identify mechanisms underlying disparities in suicide rates, as well as develop and test strategies to improve suicide risk prevention and detection among people at risk.
- Develop and test innovative approaches to improve access, engagement, and quality of mental health care for people experiencing disparities in mental health outcomes.
- Understand the underlying etiologic pathways for differing rates of systemic lupus.
- Assess the efficacy of interventions to improve access to and use of surgical and non-surgical treatments for osteoarthritis.
- Characterize and understand how adverse environmental exposure profiles that occur during early life stages may enhance vulnerability to diseases of adulthood.
- Examine health behaviors and disease prevention strategies in people with different characteristics.
- Understand the underlying etiologic pathways that help explain the higher rates of glaucoma for people at risk.
- Support research to document and understand occupational health differences linked to the type of employment and work conditions (e.g., safety, work shifts, paid leave, health insurance).
- Support research to examine the effectiveness, financing, and sustainability of programs using community health workers, patient care coordinators, and other peers to deliver prevention and self-management interventions.
- Support research to improve the use of recommended preventive services that target three leading causes of death in the United States—cancer, heart disease, and diabetes—through community-engaged and culturally relevant interventions implemented across multiple clinical and community settings.
- Investigate how the built environment impacts chronic disease prevention and management in clinical and community settings in screening, early diagnosis, treatment and self-management, and prevention of complications of chronic diseases in the clinical setting.
- Identify evidence-based interventions to prevent and reduce alcohol misuse, including underage and excessive alcohol use, particularly for people with higher rates of alcohol-related harm.
- Assess the role of health information technology in improving access to care, quality of care, and overall health outcomes for people experiencing disparities.

Future Plans

Implementation Plan

Progress will be monitored annually by tracking NIH's progress toward the set goals and the targets under Starting Line and Building Momentum. This process will assess progress, monitor budgets, and provide feedback to NIH on the implementation process.

- Promote the implementation of goals, strategies, and priorities.
- Create a system to track and monitor progress toward achieving the goals, strategies, and priorities.

Evaluation Plan

- Evaluate the strategic plan through qualitative and quantitative metrics without overly prescriptive endpoints.
- Measure utility of strategic plan to multiple stakeholders. Measure impact by co-sponsored Funding Opportunity Announcements (FOAs, changes in portfolio, project self-evaluations, and others.

Gap analysis based on NIH's ICs responses to priority area request