

National Institutes of Health Minority Health and Health Disparities Strategic Plan 2021–2025

Taking the Next Steps

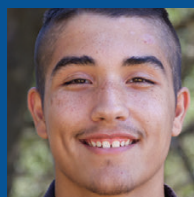


Table of Contents

NIH Director’s Foreword.....	3
Introduction	4
Minority Health and Health Disparities: Definitions and Parameters.....	6
NIH and HHS Commitment	8
Foundation for Planning.....	9
Structure of This Plan.....	10
Strategic Plan Categories	11
Scientific Research.....	11
Research Sustaining.....	11
Outreach, Collaboration, and Dissemination.....	12
Leap Forward Research Challenge	12
Summary of Categories and Goals.....	13
Scientific Research Goals and Strategies	13
Research-Sustaining Activities: Goals and Strategies	14
Outreach, Collaboration, and Dissemination Goals and Strategies.....	14
Details of Categories and Goals	16
Scientific Goals, Research Strategies, and Priority Areas.....	16
Research-Sustaining Activities: Goals, Strategies, and Priority Areas.....	23
Outreach, Collaboration, and Dissemination: Goals and Strategies	28
Leap Forward Research Challenge	32
Minority Health and Health Disparities Research.....	33
Research-Sustaining Goals.....	35
Future Plans.....	37

NIH Director’s Foreword

“Advancing the science of understanding the causes of health disparities and of developing effective interventions to reduce health disparities and improve minority health is one of my personal priorities. NIH has a major role in identifying interventions and causes of health disparities. If we can chip away at health disparities, everyone can experience the better health they deserve. Using the tools of research and our creativity to address our task, we have a moral responsibility to address health disparities. What a privilege to be engaged in this noble enterprise that has real promise to give every person the opportunity to have better health.”

— Francis S. Collins, M.D., Ph.D., Director of NIH

“As health disparities remain a potentially preventable burden, public health is impacted unnecessarily.”

— Eliseo J. Pérez-Stable, M.D., Director of the National Institute on Minority Health and Health Disparities, NIH

The publication of the Institute of Medicine report on unequal treatment, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, summarized a legacy of unequal health care and differential health outcomes for most leading causes of disability and death in the United States among African Americans compared with Whites, with selected available data on other racial and ethnic minority groups. Since then, sources of data dramatically have improved while scientific advances in basic mechanisms have strengthened our understanding of etiological pathways and potential intervention points to improve minority health, reduce health disparities, and promote health equity. The need for rigorous scientific approaches to minority health and health disparities—building on decades of studies addressing social inequality and health, behavioral epidemiology, and access to quality health care—is now increasingly being met by an expanding array of biological and data science tools that help us understand health and disease mechanisms.

The Office of Minority Health Research was founded at NIH in 1990 to provide a focus for research questions that

addressed racial/ethnic minority populations. Through congressional legislation, the Office was upgraded to the National Center on Minority Health and Health Disparities in 2000 and to the National Institute on Minority Health and Health Disparities (NIMHD) in 2010. NIMHD is charged with coordinating and leading NIH’s vision and programs on minority health and health disparities research. The topics are broad and include health determinants pertaining to the entire life course, including all populations, diseases, prevention, and health care. Research that advances understanding and improvement of health and disease in minority racial/ethnic groups in the United States requires a basic understanding of the construct of race and ethnicity, incorporating the social determinants of health in the context of science. Research to understand the causes of and define mechanisms leading to interventions to reduce health disparities is a parallel mandate, incorporating socioeconomic, geographic, and cultural factors to address conditions with negative outcomes in specific populations. NIMHD envisions an America in which all populations will have an equal opportunity to live long, healthy, and productive lives.

Introduction

Medical advances and new technologies have allowed Americans to live longer and healthier lives for the past century. These advances, however, have not helped all Americans equally, and health disparities persist, disproportionately affecting racial and ethnic minority populations, individuals of less privileged socioeconomic status (SES), underserved rural residents, sexual and gender minorities (SGMs),¹ and any subpopulations that can be characterized by two or more of these descriptions. In October 2016, SGMs were formally designated as a health disparity population for research purposes.

In the 35 years since the Heckler report was published,² pioneering researchers studying health disparities and minority health have worked to reduce the burden of premature illness and death experienced by many people from minority racial and ethnic backgrounds, SGMs, rural residents, and individuals of less privileged SES. For example, thanks to the efforts of researchers, advocates, and other stakeholders, the gap in mortality between Blacks and Whites was reduced by about half from 1999 to 2015, narrowing from 33 percent to 16 percent.³ Not all health outcomes are worse for disparity populations; in selected conditions, racial and ethnic minorities of less privileged SES have better health.⁴ However, the individuals comprising these groups still face considerable health disparities in most conditions. These disparities include shorter life expectancy; higher rates of cardiovascular disease, cancer, diabetes, infant mortality, stroke, cognitive impairment, asthma, sexually transmitted infections, and dental diseases; and differences in prevalence and outcomes of mental illness.

Health disparities are the result of differences in and interplay among numerous determinants of health, including biological factors, the environment, health behaviors, sociocultural 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 to develop interventions that may lead to reductions in health disparities and improvements in minority health that promote health equity with a systematic applied approach.

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. Furthermore, section 404N of the Public Health Service Act encourages increased research with SGM populations as a response to the mounting evidence of the health disparities experienced by SGM populations, as well as an acknowledgment of unique

1 Sexual & Gender Minority Research Office (SGMRO). **Strategic Plan to Advance Research on the Health and Well-being of Sexual & Gender Minorities: Fiscal Years 2021–2025**.

2 Heckler MM. **Report of the Secretary's Task Force on Black and Minority Health**. U.S. Department of Health and Human Services.

3 Cunningham TJ, Croft JB, Liu Y, Lu H, Eke PI, Giles WH. **Vital Signs: Racial Disparities in Age-Specific Mortality Among Blacks or African Americans – United States, 1999–2015**. *MMWR Morb Mortal Wkly Rep* 2017;66:444–456.

4 Franzini L, Ribble JC, Keddie AM. **Understanding the Hispanic Paradox**. *Ethn Dis*. 2001;11(3):496-518.

health challenges faced by SGM individuals who may be affected by a socially disadvantaged position. 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 minority health and health disparities.

Research supported by NIH has worked to reduce these disparities and improve minority health across all diseases, disorders, and conditions. As a result, all ICs contribute to the science and support activities. NIH also supports training, workforce development, capacity building, and other activities that work to reduce health disparities. This NIH strategic plan demonstrates ICs' commitment to research that improves minority health and reduces health disparities and to activities like training and capacity building that enhance the ability to reveal the new scientific knowledge needed to improve health for all Americans.

The scientific information discovered in basic research proposes to move along a continuum through clinical sciences until a practice or procedure that improves individual and population health can be implemented. Minority health and health disparities research can be viewed in a similar framework. Information about a racial or ethnic minority group—such as behavioral, biological, sociocultural, socio-ecological, and environmental

characteristics and attributes—placed within a health care or public health setting provides the basis for understanding minority health. Once these basic factors are identified, similarities and differences between population groups may become apparent. These population differences may or may not constitute a health disparity, since the outcome for some conditions may be better for the population presumed to be disadvantaged, such as in the Hispanic Paradox.⁵

Understanding why a racial or ethnic minority group has a specific health outcome is at the core of minority health science. Minority health research intends to identify factors contributing to health conditions, independent of whether a health disparity exists or is identified. When investigations of differences in health between diverse groups exist, where the disadvantaged population group has a worse health outcome, this defines one aspect of health disparity research. Health disparity research then strives to understand mechanisms as to why a racial or ethnic minority group has a worse health outcome compared to a reference group.

Clarifying the difference between minority health and health disparities research prompted NIMHD to develop revised definitions for the biomedical research field. These distinct definitions provide justification for a new approach for the next generation of knowledge discovery to improve minority health and reduce health disparities.

5 Ruiz JM, Steffen P, Smith TB. [Hispanic mortality paradox: a systematic review and meta-analysis of the longitudinal literature](#). *Am J Public Health*. 2013;103(3):e52-e60.

Minority Health and Health Disparities: Definitions and Parameters

Definitions of the terms “minority health” and “health disparities” have evolved as the research fields have grown and interacted with the full spectrum of scientists. Initially, the definitions were intertwined, as the researchers doing this important work have bridged both fields, and the assumption was made that minority populations always had health disparities. For NIH, this plan underscores the need to separate the science of minority health, which focuses on the health of racial and ethnic minority communities, and the science of health disparities, which focuses on differences in health outcomes for defined disadvantaged populations that are worse than the White reference population. There is clear overlap, since for many conditions, minority populations have well-defined health disparities compared with the White population in the United States. However, creating some separation of these disciplines may prove beneficial in enabling each field to make greater independent strides. Over the course of fiscal years (FYs) 2015 and 2016, NIMHD undertook a process across NIH to revise the definitions for minority health and health disparities.⁶

Minority Health Definition

Minority health (MH) refers to the distinctive health characteristics and attributes of racial and/or ethnic minority groups, as defined by the U.S. Office of Management and Budget (OMB), that can be socially disadvantaged due in part to being subject to potential discriminatory acts.

Minority Health Populations

NIH uses the racial and ethnic group classifications determined by OMB in the Revisions to Directive 15, titled *Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity*. The minority racial and ethnic groups defined by OMB are American Indian or Alaska Native, Asian, Black or African American, and

Native Hawaiian or other Pacific Islander. The ethnicity used is Latino or Hispanic.

Although these five categories are minimally required, the mixed or multiple race category should be considered in analyses and reporting, when available.

Other NIH efforts that support Tribal Nations can be found in the *NIH Strategic Plan for Tribal Health Research FY 2019–2023*.

Self-identification is the preferred means of obtaining race and ethnic identity.

Minority Health Research

Minority health research is the scientific investigation of distinctive health characteristics and attributes of minority racial and/or ethnic groups who are usually underrepresented in biomedical research to understand health outcomes in these populations.

Health Disparity Definition

A health disparity (HD) is a health difference that adversely affects disadvantaged populations, 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

⁶ [AJPH Supplement: New Perspectives to Advance Minority Health and Health Disparities Research](#). Am J Public Health. 2019;109(S1).

Health Disparity Populations

NIH defines health disparity populations as racial and ethnic minority populations (see above OMB directive), less privileged socioeconomic status (SES) populations, underserved rural populations, sexual and gender minorities (SGM), and any subpopulations that can be characterized by two or more of these descriptions.

Other NIH efforts that support SGMs can be found in the [NIH FY 2016–2020 Strategic Plan to Advance Research on the Health and Well-being of Sexual and Gender Minorities](#).

Health Determinants

There are many factors that impact an individual’s health and the risk of experiencing health disparities. These domains of influence have been expanded into “health

determinants” in order to capture areas that go beyond the social determinants and that include factors, such as individual behaviors, lifestyles, and social responses to stress; biological processes, genetics, and epigenetics; the physical environment; the sociocultural environment; social determinants; and clinical events and interactions with the health care and other systems. Each of these health determinants plays an important role in health disparities and interacts in complex ways to affect an individual’s health. For example, African American/Black women and Latinas experience lower survival rates from triple-negative breast cancer than White women with the same disease—even with similar access to care, screening mammography, and insurance coverage—due to the lack of specialized screening and lack of viable treatment options available for this form of breast cancer.⁷

7 Ko NY, Hong S, Winn RA, Calip GS. [Association of Insurance Status and Racial Disparities With the Detection of Early-Stage Breast Cancer](#). *JAMA Oncol*. 2020;6(3):385–392.

NIH and HHS 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. In April 2011, HHS released the *HHS Action Plan to Reduce Racial and Ethnic Health Disparities* (*HHS Disparities Action Plan*), a comprehensive national strategy to reduce health disparities. The HHS Disparities Action Plan sets out five goals to help achieve the vision of a nation free of disparities in health and health care.

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. In 2015, NIH released the *NIH-Wide Strategic Plan, Fiscal Years 2016–2020*, outlining a vision for biomedical research that capitalizes on new opportunities for scientific exploration and addresses new challenges for human health. The *NIH Minority Health and Health Disparities Strategic Plan* also aligns with the health promotion and disease prevention objective of the *NIH-Wide Strategic Plan* by advancing opportunities in biomedical research through evidence-based reduction of health disparities.

The *NIH Minority Health and Health Disparities Strategic Plan* follows the missions and goals outlined in these plans and addresses the current insufficient progress in improving MH and reducing HDs in the United States. The plan integrates NIMHD’s vision of an America in which all populations have equal opportunity to live long, healthy, and productive lives with NIH’s mission to seek fundamental knowledge of the nature and behavior of living systems and apply new knowledge to enhance health, lengthen life, and reduce illness and disability.

The *NIH Minority Health and Health Disparities Strategic Plan* represents a commitment by NIH to support research aimed at addressing the risk and protective factors that operate and interact on multiple levels to impact the well-being of HD populations. NIH is also committed to supporting research-sustaining activities—such as research capacity building, workforce development, outreach, and inclusion of minorities in clinical trials—that improve MH and reduce HDs, as well as activities that promote collaboration and dissemination in different fields.

The *NIH Minority Health and Health Disparities Strategic Plan* aligns NIH’s efforts to address MH and HDs with advancing scientific knowledge and innovation in the HHS Disparities Action Plan.

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, NIMHD gathered input 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, NIMHD conducted town hall meetings to collect data on critical minority health and health disparity research issues.
- In FY 2015, NIMHD led an analysis of NIH’s portfolio of minority health and health disparities research to survey the status of both fields, analyze investments, and gauge gaps in the science or supporting structures.
- During FY 2015 and FY 2016, NIMHD undertook a science visioning process to produce recommendations for advancing the fields of minority health and health disparities. Participating NIH staff and outside stakeholders suggested 10 priority recommendations each in defining etiologies and mechanisms, developing and evaluating interventions, and identifying innovative

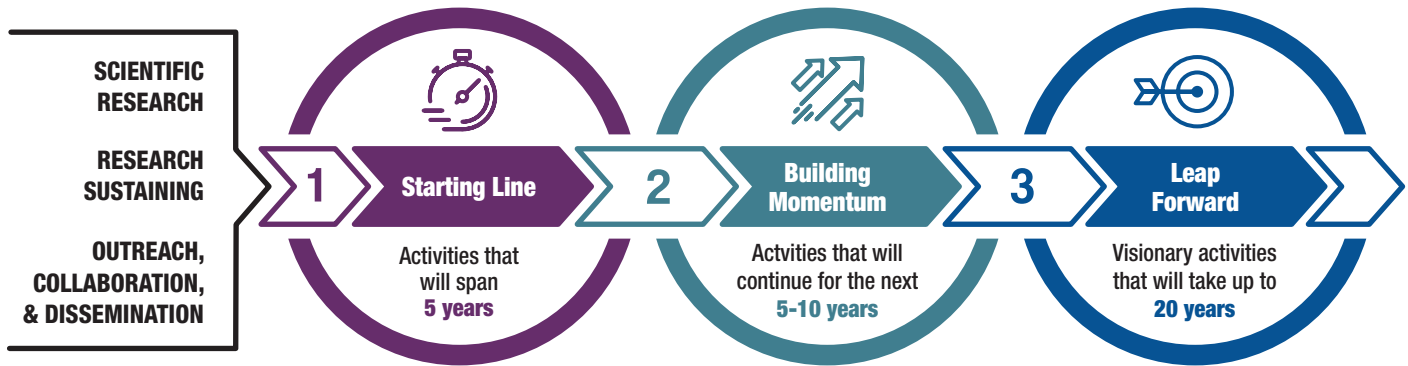
methods from a wide range of needs, to reduce disparities and improve minority health. After review by the National Advisory Council on Minority Health and Health Disparities (NACMHD), the relevant recommendations were woven into the current strategic planning efforts, which include strategies beyond the visioning process and the Minority Health and Health Disparities Research 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, NIMHD held three virtual sessions and four listening sessions across the country to collect community-level input for the *NIH Minority Health and Health Disparities Strategic Plan*.

These activities—in coordination with NIH working groups and input from a range of NIH Institutes, Centers, and Offices—were reviewed by the National Advisory Council on Minority Health and Health Disparities (NACMHD) and provide the foundation for the *NIH Minority Health and Health Disparities Strategic Plan*.

Structure of This Plan

FIGURE 1: NIH MH and HD Research Strategic Plan Priority Areas Framework



The NIH Minority Health and Health Disparities 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 MH- and 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 MH and HD research. Rather than reflecting a comprehensive listing of all relevant NIH activities, this plan describes how NIH can best advance minority health and health disparities research. Each goal is divided into strategies that are intended to capture strategic ways in which NIH can advance the sciences of MH and HD or develop key supporting structures. The priority areas consist of Starting Line and Building Momentum research efforts and activities that encompass MH and HD efforts across NIH. This plan includes 48 Starting Line activities that will span 5 years and 56 Building Momentum activities that will continue for the next 5 to 10 years (see [Figure 1](#)).

Eliminating health disparities is an indefinite priority for NIH, and NIH’s efforts in this space will continue well into the future. This plan lays out a focused vision for the next

10 years, specifying short-, intermediate-, and long-range research strategies and activities that will facilitate progress toward long-term goals.

These priority areas are described below:

- **Starting Line** priority areas represent concrete, current efforts and initiatives aimed at improving minority health and/or reducing health disparities that are underway at NIH or with NIH partners.
- **Building Momentum** priority areas represent concepts and potential initiatives for advancing the sciences of minority health and health disparities. These concepts include early ideas and initiatives being developed and considered for potential implementation.
- **Leap Forward** priorities represent trans-NIH visionary goals that can have a significant impact on improving minority health or reducing health disparities in disease and disorders.

The *NIH Minority Health and Health Disparities Strategic Plan 2021–2025* includes performance tracking and evaluation components to meet federal requirements. Most importantly, the plan aims to advance the science of minority health and health disparities and produce meaningful, measurable improvements in minority 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 minority health and/or 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

Beyond conducting research, NIH also promotes the strengthening and expansion of structures that support research throughout the scientific process. NIH supports a variety of training programs, including those that work to promote diversity of the national biomedical workforce and those that work to increase the number of scientists studying minority health and health disparities. NIH also supports strengthening the national research capacity for minority health and health disparities research, capacity building for institutions that offer doctoral degrees in the health professions or the sciences related to health and have a historical and current commitment to educating underrepresented students, and programs to facilitate their inclusion in biomedical research. These activities are essential components of NIH's minority health and health disparities research-sustaining activities.

■ Biomedical Workforce Diversity

The overall composition of the biomedical workforce—not just individuals' skills—plays a role in its effectiveness. The Notice of NIH's Interest in Diversity ([NOT-OD-20-031](#)) states, "Research shows that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogenous teams. Scientists and trainees from diverse backgrounds and life experiences bring different perspectives, creativity, and individual enterprise

to address complex scientific problems. There are many benefits that flow from a diverse NIH-supported scientific workforce, including: fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of the research, advancing the likelihood that underserved or health disparity populations participate in and benefit from health research, and enhancing public trust."

■ Minority Health and Health Disparities Scientific Workforce

As the sciences of minority health and health disparities become more complex, the need for scientists with expertise in minority health and health disparities issues and for collaboration in a multidisciplinary team must be addressed. Recruitment, training, and retention of investigators with state-of-the-art skill sets in minority health and health disparities science are essential, throughout all stages of career development.

■ Research Capacity Building

The fields of minority health and health disparities research are growing, requiring greater academic infrastructure. NIH continues to strengthen programs and initiatives aimed at building scientific infrastructure and capacity at academic institutions and other organizations to support research in minority health and health disparities. These activities will help to develop vibrant communities of researchers to move both fields forward.

■ Including Racial and Ethnic Minorities and SGM Populations in Clinical Research Involving Human Participants

NIH is committed to ensuring that individuals who identify as racial and ethnic minorities, SGMs, and women are included in clinical research. This plan suggests additional actions intended to ensure that appropriate and meaningful representation occurs in NIH-funded research.

Identifying and addressing the barriers to inclusion of minorities (i.e., racial and ethnic and other HD populations, such as SGMs) in clinical research and developing tools to help researchers enhance minority recruitment should facilitate efforts to promote minority health and reduce health disparities. Furthermore, NIH-funded investigators need to be held accountable for proposed recruitment targets when launching research studies with human participants. Including minority populations in clinical studies and data sets is critical to ensure that people from all racial and ethnic backgrounds and other HD populations share in the benefits of new scientific discoveries.

Outreach, Collaboration, and Dissemination

NIH supports outreach, collaboration, and dissemination efforts that are needed to ensure that key MH and HD research findings are shared with the people and communities that need them. This plan focuses on expanding community outreach and enhancing dissemination efforts, as well as building community to enhance networks of MH and HD researchers and stakeholders across the nation and within NIH.

■ **Outreach and Dissemination**

Promoting the capacity to translate research findings into recommendations to be implemented in clinical and public health practice is essential for reducing health disparities. NIH can support appropriate stewardship by considering factors related to dissemination of MH and HD research at every stage of the research

process. These efforts are needed to ensure that evidence-based interventions become part of established, everyday practice and integrated into the public health process.

■ **Community Engagement and Building**

As part of the outreach and dissemination process, broadening and strengthening the community of minority health and health disparities stakeholders—including health disparity communities, researchers, clinicians, advocacy groups, government employees, and policy makers—expands the potential avenues for collaboration and progress toward evidence-based practice and policy. This plan offers strategies for engaging and enhancing MH and other HD communities at multiple levels to help support the research of both fields.

Leap Forward Research Challenge

Leap Forward priority areas are expected to have a significant impact on advancing the field of minority health and health disparities research over the next 10 to 15 years. NIH challenged itself and the research community to be bold and strive for transformational progress across the continuum of research in minority health and health disparities. Leap Forward priority areas represent aspirational activities that NIH hopes to embark upon to improve minority health or to reduce a health disparity in scientific research and in research-sustaining activities.

Summary of Categories and Goals

Scientific Research: Goals and Strategies

Goal 1: Promote research to understand and to improve the health of racial/ethnic minority populations

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

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 explore multilevel pathways and dynamic interrelationships of health determinants that affect 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 within the context of specific populations and appropriate life course time points to influence specific health disparity 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 health disparity 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, including biological models, 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, sex and gender, and relevant health determinants data for use in identifying health disparities and underlying causes through emerging techniques found in data science.
- **Strategy 4.5:** Identify and strengthen rigorous quantitative and qualitative methods to enable analysis on small populations and subpopulations.
- **Strategy 4.6:** Evaluate minority health and health disparities proposals, programs, and policies to assess the effectiveness in improving minority health and/or reducing health disparities.

Research-Sustaining Activities: Goals and Strategies

Goal 5: Support training to enhance diversity and to promote training and career advancement of minority health and health disparities researchers

Workforce Diversity

- **Strategy 5.1:** Support individual-level programs to train individuals from health disparity populations in the biomedical sciences.
- **Strategy 5.2:** Support current and novel institution-level programs at institutions that have a historical and current commitment to educating underrepresented students and at less research-intensive institutions to enhance the ability of these programs to recruit, train, and retain a diverse biomedical research workforce.
- **Strategy 5.3:** Promote diversity-supporting recruiting programs at research-intensive institutions to expand the pool of applicants from health disparity groups underrepresented in biomedical research.

Minority Health and Health Disparities Scientific Workforce

- **Strategy 5.4:** Support training and mentorship programs for minority health and health disparities researchers at all stages of career development and leadership development.
- **Strategy 5.5:** 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 minority health and health disparities complexities.

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

- **Strategy 6.1:** Support programs to enhance capacity for minority health and 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 appropriate representation of minority and other health disparity populations in NIH-funded research

- **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 the inclusion of minorities and other health disparity populations in research.
- **Strategy 7.2:** Promote and enforce accountability for inclusion of diverse populations by tracking originally proposed recruitment strategies and objectives to ensure sufficient samples for analyses of subpopulation data.
- **Strategy 7.3:** Promote inclusion of minorities and other health disparity populations in big data sets, clinical research, and future big science initiatives.

Outreach, Collaboration, and Dissemination: Goals and Strategies

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

- **Strategy 8.1:** Develop and test best practices for dissemination and implementation of minority health and health disparities research discoveries into different settings and with different populations.
- **Strategy 8.2:** Conduct studies to determine strategies for effective population-specific communication and outreach to inform recruitment and retention into clinical research studies and databases, design of culturally tailored health interventions, and community engagement and participation in research.
- **Strategy 8.3:** Generate strategies and tools to transform minority health and health disparities best practices into policies.

Goal 9: Cultivate and expand a community of minority health and health disparities researchers and advocates

- **Strategy 9.1:** Build an NIH interdisciplinary community of scholars around minority health and health disparities research to coordinate disparities science and to foster accountability and integration of minority health and health disparities science 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 relevant to minority health and health disparities research.
- **Strategy 9.3:** Establish partnerships with nongovernmental groups (e.g., mentoring networks, advocacy groups, industry and private groups, science communities, grantees) to advance the development, improvement, and utilization of minority health and health disparities definitions, methods, measures, metrics, interventions, and best practices.

DETAILS OF CATEGORIES AND GOALS

SCIENTIFIC GOALS, RESEARCH STRATEGIES, AND PRIORITY AREAS

There are challenges measuring health disparities, including identifying how to measure the health disparity and selecting appropriate benchmark populations. The following scientific goals and research strategies focus on measurement to provide solutions to these obstacles and advance minority health and health disparities research.

GOAL 1: Promote research to understand and to improve the health of racial/ethnic minority populations

This goal advances the understanding of health determinants that contribute to the health status of minority populations, including 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, better interventions can continue to be developed to improve the health of minority groups. In addition, research into the determinants that affect minority health may lead to new knowledge about the health differences experienced by minority groups.

STRATEGY 1.1: Examine health determinants that underlie resilience or susceptibility to diseases and conditions experienced by racial/ethnic minority populations.

ACTION PRIORITY AREAS

Starting Line:

- Expand support for large-scale observational, epidemiologic, and longitudinal cohort studies focused on multiple co-occurring chronic diseases and conditions in minority populations.
- Support ancillary etiologic studies using existing cohorts to examine the interplay between biological, behavioral, socioecological, sociocultural, and environmental health determinants in minority populations, as well as interactions with health care and public health systems.
- Support interdisciplinary minority 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, including international research, to identify genomic factors that contribute to U.S. racial and ethnic differences in health outcomes.

- 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 as well as identify opportunities for developing more effective and contextually tailored interventions.
- Accelerate efforts to define the critical contributions of oral health to overall health and disease in minority populations through studies to identify genetic and genomic risk or protective factors that contribute to racial and ethnic differences in health outcomes, mediating or moderating influences of the microbiome, diet and nutrition, access to preventive dental and health care across the life course, and co-occurring chronic diseases and conditions.
- Expand support for research to identify sociocultural factors and other positive resources that promote population health and contribute to resiliency at the individual, family, and community levels.
- Support oversampling of racial/ethnic minority participants in population-based and patient-oriented studies to increase power to detect hypothesized racial/ethnic differences and enable analysis and comparison of racial/ethnic subpopulations.

STRATEGY 1.2: Develop and assess interventions to improve the health status of minority populations.

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 minority populations.
- Develop and implement evidence-based health care system interventions that reduce socioecological barriers 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 minority health differences observed in population studies reflect health disparities arising from social, economic, and/or environmental disadvantages based on group characteristics historically linked to discrimination or exclusion.

Building Momentum:

- Establish a national consortium to develop, validate, and implement assessment tools that can be used in primary care settings for early detection and diagnosis of cognitive impairment and decline, as well as Alzheimer’s disease and related dementias, which are frequently underdiagnosed in aging minority populations, often due to cultural and logistic barriers.
- 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 address potential risks of adverse drug reactions and drug–drug interactions in minority patient populations.
- Support rigorous research on patient–clinician communication factors in primary care and specialty settings that lead to an increase or decrease in health disparities in patient 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.
- Support innovative research incorporating strengths-based approaches, behavioral economics principles, and multilevel intervention strategies to promote overall health in disadvantaged minority populations and reduce the incidence of preventable diseases and conditions in early childhood, such as dental decay and overweight/obesity.
- Expand local, regional, and national efforts to assess the impact of policies and policy changes on racial/ethnic minority population health and delineate specific

mechanisms by which policies or policy changes mitigate or exacerbate social, economic, and environmental disadvantages.

- Strengthen the capacity of community members, health professionals, policy makers, and community organizations to assess and utilize research findings to effect positive, systemic changes to reduce health disparities.

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, including the intersection of sex, gender, geography, and race and ethnicity. It also seeks to further the scientific understanding of both the individual effects on health disparities and the complex interactions among health determinants that affect health disparities. These health determinants include both studied and unstudied determinants as well as known and unknown determinants. 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 behind health determinants that confer worse outcomes in health disparity populations and identify feasible intervention targets for health disparity outcomes.
- Identify disparities in understudied health disparity populations—for example, sexual and gender minorities (SGMs) and Native Hawaiians and other Pacific Islanders.
- Support research in understudied health conditions and risk factors that affect health, such as comorbidities and/or violence, that disproportionately affect health disparity populations.

STRATEGY 2.2: Support research to examine multilevel pathways and dynamic interrelationships of health determinants that affect 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 mechanistic and pathway analyses of determinants for additional, related health outcomes, health disparity populations, and life course approaches and/or across generations.
- Support the collection of diverse ancestral backgrounds in NIH-funded and analyzed -omics data sets to achieve representation similar to the U.S. population.

STRATEGY 2.3: Identify modifiable or reversible determinants of health disparities during relevant critical periods that can serve as feasible targets for health disparity interventions.

ACTION PRIORITY AREAS

Starting Line:

- Link data on environmental, health care, sociocultural, behavioral, and/or biological health determinants in racial, ethnic, socioeconomically, sexual identity, geographically, and ancestrally diverse cohorts to existing systems for specific outcome ascertainment (e.g., hospitalizations, incidence of specific conditions, mortality, emphasizing life course, age cohort perspectives).

Building Momentum:

- Support research that enables culturally relevant and appropriate interventions to disrupt fundamental determinants at critical periods that produce health disparity outcomes for priority populations.

GOAL 3: Develop and test interventions to reduce health disparities

This goal advances the development and testing of population-specific interventions that reduce adverse health differences and poor health outcomes. This research should capitalize on existing evidence on health determinants to develop interventions that are culturally appropriate and develop new evidence, drawing on research from many different scientific disciplines. Health disparities can include biological, behavioral, socio-cultural, 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 within the context of specific populations and appropriate life course time points to influence specific health disparity outcomes.

ACTION PRIORITY AREAS

Starting Line:

- Adapt evidence-based interventions for implementation and evaluation within health disparity populations in culturally appropriate ways that consider the role of cultural processes in health disparity outcomes.
- Develop and test interventions that target multiple socioecological levels at appropriate life course time points to improve health disparity 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 system processes and settings, and determine the effects on health disparity outcomes and populations.
- Develop and test interventions to improve symptom self-management and health-related quality-of-life outcomes in health disparity populations 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 disparity 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 low-resource clinical and community settings that serve health disparity populations.

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.
- Use implementation science approaches to understand and promote the adoption of evidence-based interventions to reduce health disparities.
- Expand research in areas of implementation science with emphasis on clinical and public health systems processes for delivering preventive and treatment interventions in health disparity populations.
- 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.

ACTION PRIORITY AREAS

Starting Line:

- Develop, implement, and evaluate participatory multi-level interventions to reduce exposures to environmental factors for which exposures create adverse health effects in disadvantaged populations, 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 assessments of the long-term

impact on direct measures of health, health-related outcomes, and inter-generational transmission of health disparities.

- Review available evidence to identify key gaps in prevention science related to health disparities, and promote targeted research on preventive services with the aim to increase population health equity.
- 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, drawing on expertise from many different fields of study. This diversity of thought presents unique opportunities, allowing researchers to bring methodologies from all parts of academia to bear on reducing health disparities. Researchers have access to a variety of powerful methods, metrics, measures, and tools to identify when health disparities exist, what causes a disparity, and when a disparity is affected. This diversity can present a challenge, however, in understanding health disparities data across the field. Development and adaptation of common indicators, measures, and methods is 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. Population-based data systems should include representative samples of minority and health disparity populations to facilitate methods development and testing.

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

ACTION PRIORITY AREAS

Starting Line:

- Compile measurement tools (surveys and administered tests) in non-English languages applicable to the 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 measurement tools in non-English languages 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, and 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 the metric that can be established to standardize a disparity reduction.

Building Momentum:

- Collect and disseminate longitudinal data about specific health disparity conditions to develop measures of clinical change over time that apply to different subpopulations.

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:

- Assess 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 and inequities in access and utilization of health care, rehabilitation treatments, and knowledge of preventive 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, sex and gender, and relevant health determinants data for use in identifying health disparities and underlying causes through emerging techniques found in data science.

ACTION PRIORITY AREAS

Starting Line:

- Promote analysis and publication of research results that include relevant and appropriately sized samples from health disparity populations.

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 race and ethnicity, 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.
- Identify a representative from NIMHD and the NIH-wide Minority Health and Health Disparities Measurement and Methods Committee to collaborate with NIH’s Office of Data Science Strategy (ODSS) to facilitate the inclusivity and external validity of calculations and labels that affect health disparity populations.

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

ACTION PRIORITY AREAS

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 minority health and health disparities proposals, programs, and policies to assess the effectiveness in improving minority health and/or reducing health disparities.

ACTION PRIORITY AREAS

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 minority health and health disparities.
- Assess the impact of previous NIH grants that were identified as focusing on minority health and/or health disparities.

DETAILS OF CATEGORIES AND GOALS

RESEARCH-SUSTAINING ACTIVITIES: GOALS, STRATEGIES, AND PRIORITY AREAS

Programs that promote diversity of biomedical workforce, enhance and strengthen the minority health and health disparities research workforce, and provide infrastructure for research capacity-building activities are needed. Continued efforts to include minorities in research and clinical trials are essential components of NIH's minority health and health disparities activities.

GOAL 5: Support training to enhance the diversity of the biomedical workforce and to promote training and advancement of minority health and health disparities researchers

NIH’s continued promotion of a skilled and diverse workforce will facilitate further advancements in the fields of minority health and health disparities research. A modern and robust workforce with diverse skill sets and core competencies unique to minority health and health disparities research is needed to address complex research questions. Programs that address MH and HD workforce preparedness at the individual level will enhance the expertise of the field and lead to improved capacity for promoting minority health and addressing health disparities. Individuals identifying as racial and ethnic minorities, individuals with less privileged SES, and individuals with disabilities are often underrepresented in the biomedical research workforce. Diversity of the biomedical workforce can be improved through both individual-level programs and institutional infrastructure aimed at increasing domestic and international opportunities for individuals from health disparity populations, including underrepresented groups, to pursue scientific careers. A diverse biomedical workforce also ensures an assortment of ideas, perspectives, and backgrounds among the researchers and scientists contributing to breakthroughs in biomedical research.

STRATEGY 5.1: Support individual-level programs to train individuals from health disparity populations in the biomedical sciences.

ACTION PRIORITY AREAS

Starting Line:

- Link interested students and early-career scientists from diverse backgrounds, including underrepresented groups, to researchers across various research disciplines, both at NIH and in the extramural research community. NIH encourages these links to be established from pre-college or university stages through junior faculty stages to enhance the biomedical research training pipeline.

- Enable individuals from diverse backgrounds, including underrepresented groups, to achieve research career independence by providing networking events, best practices, and guidance on NIH grantsmanship and the peer review processes to facilitate (1) both short- and long-term success in NIH grant application submissions and (2) achievement of tenure in a suitable time-frame and reentry into the biomedical workforce. These resources may be offered at symposia and workshops, in NIH announcements, at scientific meetings, and on training websites.

Building Momentum:

- Take steps to enhance, renew, or expand NIH’s portfolio of scientific education and training opportunities for individuals from health disparity populations, including underrepresented groups, for all career stages from pre-college or university through tenure-track faculty.

STRATEGY 5.2: Support current and novel institution-level programs at institutions that have a historical and current commitment to educating underrepresented students and at less research-intensive institutions to enhance the ability of these programs to recruit, train, and retain a diverse biomedical research workforce.

ACTION PRIORITY AREAS

Starting Line:

- Support intramural NIH and extramural programs that enable institutions that have a historical and current commitment to educating underrepresented students and less research-intensive institutions to recruit, train, and retain scholars from health disparity populations, including underrepresented groups, in biomedical science across all career stages from undergraduate through junior faculty stages across various basic, clinical, and data science research domains.

Building Momentum:

- Take steps to enhance research and training environments at NIH and in the extramural research community for undergraduate, graduate, and medical institutions serving underrepresented students.

STRATEGY 5.3: Promote diversity-supporting recruiting programs at research-intensive institutions to expand the pool of applicants from health disparity groups underrepresented in biomedical research.

ACTION PRIORITY AREAS

Starting Line:

- Support recruiting efforts to interest individuals from underrepresented backgrounds to apply for opportunities to access and make contributions to NIH-supported research projects in research-intensive institutions. These opportunities will help them develop the essential skills and knowledge required to achieve their next level of career goals.

Building Momentum:

- Take steps to enhance diversity and inclusion efforts at research-intensive institutions to provide a more welcoming environment for prospective researchers from underrepresented backgrounds from pre-college or university stages through junior faculty stages.

STRATEGY 5.4: Support training and mentorship programs for minority health and 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 minority health and 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 minority health and health disparity researchers from pre-college or university stages through established senior investigator careers.

STRATEGY 5.5: Incorporate development of specialized research skills into health disparities training programs, including core and emerging skills that are important for measuring, understanding, and addressing minority health and 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 MH- and HD-related science at the graduate student, junior scientist, 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 minority health and health disparities research programs, including those fostering the development of scientists from medical, dental, veterinary, and other health science disciplines.

GOAL 6: Strengthen the national capacity to conduct minority health and health disparities research

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

STRATEGY 6.1: Support programs to enhance capacity for minority health and health disparities research at all institutions.

ACTION PRIORITY AREAS

Starting Line:

- Support relevant investigator-initiated research projects and multidisciplinary research centers in less research-intensive academic institutions—such as institutions that have a historical and current commitment to educating underrepresented students and primarily undergraduate institutions—that train significant numbers of individuals from health disparity populations.
- Support multidisciplinary centers and networks with local, regional, national, and international shared research resources such as databases, informatics cores, and biospecimen repositories that have meaningful inclusion to foster collaborative translational research relevant to U.S. health disparity populations.
- Build research capacity in community-based and tribal organizations that are positioned to conduct population health research on understudied racial and ethnic minority populations because of their trusted relationships with those populations.
- Support annual meetings, symposia, and research education programs across the United States to foster the development of a diverse cadre of faculty, students, and community partners who are committed to pursuing research on minority health and health disparities.

Building Momentum:

- Build community-based research hubs that serve as resource centers in order to foster collaborative, community-engaged research to address minority health and health disparities.
- Accelerate efforts to advance understanding of links between environmental exposures and health outcomes to promote environmental health literacy and support disease prevention efforts targeted to entire communities or regions at risk.

- Develop innovative ways to sustain community-based environmental 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 NIMHD Health Disparities Research Framework to inform and attract researchers from various scientific disciplines to explore the interplay between biological, behavioral, social, cultural, environmental, 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 appropriate representation of minority and other health disparity populations in NIH-funded research

This goal promotes the inclusion of individuals from minority and other health disparity populations (e.g., SGMs, rural, less privileged SES) in all federally funded research with human participation. Promoting inclusion in research requires attention throughout the research process, encompassing study design, implementation, and analyses. Using evidence-based strategies for

outreach within minority communities and study design to enable subpopulation analyses, researchers can promote higher levels of representation among minority groups and SGMs to understand whether clinical advances are equally effective among all population groups. Appropriate inclusion of minorities may also support more meaningful insight into the etiology of minority health concerns and could inform more effective, culturally competent interventions in minority populations.

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 the inclusion of minorities and other health disparity populations in research.

ACTION PRIORITY AREAS

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 for including underrepresented health disparity populations in research.

Building Momentum:

- Develop general guidance for NIH researchers on how to best incorporate and include underrepresented health disparity populations in research.
- Expand local, regional, and national efforts to assess the impact of policies and policy changes on minority population health, and delineate specific mechanisms by which policies or policy changes mitigate or exacerbate systemic social, economic, and environmental disadvantages.

STRATEGY 7.2: Promote tracking of 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 inclusion of underrepresented health disparity populations in research.

Building Momentum:

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

STRATEGY 7.3: Promote inclusion of minorities and other health disparity populations in big data sets, clinical research, and future big science initiatives.

ACTION PRIORITY AREAS

Starting Line:

- Support established and new research centers in the engagement of underserved health disparity communities for 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.

DETAILS OF CATEGORIES AND GOALS

OUTREACH, COLLABORATION, AND DISSEMINATION: GOALS AND STRATEGIES

Outreach, collaboration, and dissemination efforts enable the communication of key findings of minority health and 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 minority health and health disparities researchers and stakeholders across the nation and within NIH.

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

This goal advances evidence-based community outreach and dissemination, and implementation of findings from minority health and health disparities 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 minority health and health disparities research discoveries into different settings and with different populations.

ACTION PRIORITY AREAS

Starting Line:

- Test best practices for dissemination and implementation of minority health and health disparities research discoveries in diverse diseases and conditions into rural communities, communities with a high proportion of populations with limited English proficiency, and communities with a high proportion of populations with low health literacy.

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 minority health and health disparities research discoveries for conditions in rural communities, communities where English is not the primary language, and communities with low health literacy.

STRATEGY 8.2: Conduct studies to determine strategies for effective population-specific communication and outreach to inform recruitment and retention into clinical research studies and databases, design of culturally appropriate health interventions, and community engagement and participation in research.

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 underserved communities and encourage participation in health disparity research and evaluate the effects of culturally appropriate outreach strategies related to basic, behavioral, clinical, and genomic research participation.

STRATEGY 8.3: Generate strategies and tools to transform minority health and health disparities best practices into policies.

ACTION PRIORITY AREAS

Starting Line:

- Assess outreach tools and strategies that address minority health and health disparity concerns, including risk and prevention, to determine best evidence-based practices to be implemented and promoted into policies for care.

Building Momentum:

- Enhance targeted efforts that result in shorter lag time between collecting evidence and adopting evidence-based efforts in dissemination/implementation that drive policy decisions.

- Ensure that culturally appropriate strategies and tools are properly disseminated and implemented in relevant populations, in an effort to influence policy with successful evidence-based methods.
- Establish working relationships with policy think tank organizations to inform policymakers on successful minority health and health disparity practices that should be disseminated and implemented on a larger scale.

GOAL 9: Cultivate and expand a community of minority health and health disparities researchers and advocates

This goal promotes a community of minority health and 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 sciences of minority health and health disparities as well as integrate supporting structures and activities, such as quarterly or biannual science highlights and discussions at major NIH meetings. The development of this community also may help to ensure that MH and HD research questions are integrated into mainstream, disease-focused scientific communities and ensure that the impact of health disparities is considered across disciplines.

STRATEGY 9.1: Build an NIH-wide interdisciplinary community of scholars around minority health and health disparities research to coordinate disparities science and to foster accountability and integration of minority health and health disparities science within NIH research activities.

ACTION PRIORITY AREAS

Starting Line:

- Promote intramural training opportunities that support minority health and health disparities science, such that projects are designed with enough power for subpopulation or granular analysis in conjunction with primary analyses.

- Promote extramural training opportunities that support minority health and health disparities science, 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 health disparity research activities and results to diverse groups within NIH.
- Create an annual event at NIH to showcase health disparities 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 and data sharing relevant to health disparities research.

ACTION PRIORITY AREAS

Starting Line:

- Improve the generalizability of health disparity research 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 to specific health disparity communities.

Building Momentum:

- Provide research results to working groups for the Healthy People 2030 initiative and similar federal initiatives to facilitate health disparity data sharing for decisionmaking.

STRATEGY 9.3: Establish partnerships with nongovernmental groups, such as mentoring networks, foundations, professional organizations, advocacy groups, industry, science communities, and grantees, to advance the development, improvement, and utilization of minority health and health disparities 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 health disparities researchers.
- Generate interest in NIH health disparity research priorities and research results through onsite activities at NIH campuses to diverse populations of secondary school and undergraduate students.
- Improve health literacy through nationwide initiatives that increase the public's access to science-based information about specific health disparity illnesses and conditions.

Building Momentum:

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



LEAP FORWARD RESEARCH CHALLENGE

Leap Forward priority areas represent visionary science that aims to reshape the sciences of minority health and health disparities. These leaps present bold progressive actions to improve minority health 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.

Minority Health and Health Disparities Research

- Promote research that reduces new HIV infections by 75 percent by 2030, especially in African American or Black, Hispanic or Latino, and SGM populations, which are disproportionately affected by HIV.
- Promote research that increases viral suppression to 85 percent of persons with HIV from health disparity populations, especially African American or Black and Hispanic or Latino men who have sex with men and other SGM populations, by 2030.
- Promote research that increases pharmacological curative treatment of hepatitis C infection among American Indian and Alaska Natives by 50 percent by 2030.
- Foster research that uncovers contributors and develops interventions to reduce maternal mortality and severe maternal morbidity in the United States over the next 10 years in order to address the disparities between African American or Black and American Indian and Alaska Native women compared with White women.
- Reduce racial and ethnic, socioeconomic, and/or geographic disparities in pre-term birth and infant mortality over the next 10 years.
- Implement measures to increase diverse ancestral representation from African Americans or Blacks, Hispanics or Latinos, American Indians, Alaska Natives, and Pacific Islander populations in NIH-supported and analyzed genomic data sets, in order to approach proportional representation of the U.S. population by 2030.
- Increase rates of colorectal cancer screening, follow-up, and referral to care among racial and ethnic minority populations, persons of less privileged SES, SGM populations, and underserved rural populations, to attain targeted national standards by 2030.
- Increase access to medications for opioid use disorder among those incarcerated or recently released so that 75 percent of persons in all racial and ethnic subpopulations of the incarcerated or recently released persons are linked with such care by 2030.
- Improve understanding of incidence patterns, symptoms, diagnosis, and disease trajectories for vascular cognitive impairment and dementia in racial and ethnic minority populations by 2030.
- Bring curative genetic therapies for sickle cell disease (SCD) into first-in-human clinical trials within five years and increase the proportion of Medicaid and Medicare beneficiaries with SCD who receive disease-modifying therapies.
- Support community-engaged, 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 overall population health in five high-burden communities by 2030.
- Build on global experiences to dramatically transform health care and clinical outcomes in rural and socioeconomically disadvantaged populations in the United States by engaging 25 percent of the training programs in certified biomedical engineering departments in the United States (approximately 30) by 2030, to drive the development of recognized and active health care disparities technology development.
- Support research to test at least three multilevel approaches to improve adoption of evidence-based asthma interventions in African American or Black, Hispanic or Latino (e.g., Puerto Rican), and socioeconomically disadvantaged communities with the goal of reducing asthma-specific emergency room visits, hospitalizations, and symptom days in these populations by 2030.

- Support development of one synthetic or hybrid data set which conforms to FAIR (findable, accessible, interoperable, and reusable) open data principles and models racially and ethnically diverse communities in order to test methods and metrics and address possible biases due to underrepresentation of minorities and women within the next 10 years.
- Define the rates of hearing impairment by race and ethnicity by 2030.
- Support research that advances implementation of evidence-based interventions and tools for reducing untreated dental decay in racial and ethnic minority and low-income populations across the lifespan by 10 percent to 25 percent by 2030, with the long-term potential for improved health for all communities.
- Identify differences in factors that cause progression to end-stage renal disease (ESRD) and find informative subpopulations among African Americans or Blacks, Hispanics or Latinos, American Indians, Alaska Natives, Pacific Islanders, and Asians with chronic kidney disease by 2030.
- Identify factors contributing to the disparity between Whites and African Americans or Blacks, Hispanics or Latinos, American Indian, Alaska Natives, Pacific Islanders, and Asians in control of HbA1c (glycated hemoglobin), and target those factors through rigorous clinical trials and adaptive population-based interventions by 2030.
- Address the leading causes of morbidity and mortality in NIH-designated health disparity populations by 2030 by leveraging the network of Clinical and Translational Science Awards (CTSA) Program to (1) develop research into underlying factors related to clinical trial design and conduct to improve outcomes and/or reduce disparities, (2) demonstrate the effectiveness of delivering treatments that consider the health care context of a given minority or health disparity population(s), and (3) assess strategies for the pragmatic dissemination and uptake of these interventions into routine health care settings by 2030.
- Identify mechanisms that account for marked differences in suicide rates across racial and ethnic groups and SGM populations, as well as develop and test strategies to improve suicide risk prevention and detection among population groups at risk within the next 10 years.
- Develop and test innovative approaches to remediate barriers that contribute to documented inequities in access, engagement, and quality of mental health treatment and services, and/or the effectiveness and outcomes of evidence-based mental health interventions for health disparity populations by 2030.
- Understand the underlying etiologic pathways for the higher rates of systemic lupus among African American women and Latinas compared to White women by 2030.
- Assess the efficacy of interventions to reduce disparities between racial and ethnic minority populations and Whites in access to and use of existing surgical and nonsurgical interventions for osteoarthritis by 2030.
- Characterize and understand how adverse environmental exposure profiles that occur during early life stages may enhance vulnerability to diseases of adulthood disproportionately in health disparity populations.
- Understand the acute and long-term health impacts of natural and human-made disasters on less privileged SES and minority populations and the health care systems serving them. In addition, understand the individual, community, and health care system response prevention factors to improve the acute and long-term health, well-being, and resiliency of those affected.
- Assess differences and similarities in wellness and disease prevention behaviors given the intersectionality of race and ethnicity, geographic area, SGM populations, and SES by 2030.
- Understand the underlying etiologic pathways that help explain the higher rates of glaucoma among African Americans or Blacks compared with Whites by 2030.

- Within the next 5 years, synthesize the latest evidence regarding the **immigrant paradox** in health outcomes to better define protective factors, such as resilience or social support; differentiate the protective factor profiles of various immigrant groups; and/or determine the extent to which methodological, measurement, or sampling artifacts explain the paradox.
- By the year 2030, conduct research to examine the impact of laws, policies, and structural determinants of health on defined health disparities with emphasis on non-health societal sectors, such as transportation, housing, communications, water and energy providers, agriculture, land use, public safety, education, and criminal justice.
- Support research to document and understand occupational health disparities as determined by the type of employment and work conditions (e.g., safety, work shifts, paid leave, health insurance) controlling for race and ethnicity, SGM populations, SES, and geographic residence by 2030.
- Over the next 5 years, 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 to reduce disparities.
- By the year 2030, support research to achieve health equity in the use of recommended preventive services that target three leading causes of death in the United States—cancer, heart disease, and diabetes—through culturally derived and community-engaged interventions that include multiple clinical and community settings.
- Promote research examining the role of the built environment and its interactions with multiple individual behavioral, biological, and cultural factors as well as health care systems that promote health equity in screening, early diagnosis, treatment and self-management, and prevention of complications of chronic diseases in the clinical setting across the next 5 years.
- Support experimental research using simulations to understand potential bias in peer review of minority health and health disparity-related applications due to characteristics of applications or of reviewers by 2030.
- Identify evidence-based interventions to prevent and reduce alcohol misuse, including underage and excessive alcohol use, among health disparity populations.
- Over the next five years, support research that examines health information technology and its impact on minority health and health disparity populations access to care, quality of care, and overall health outcomes.

Research-Sustaining Goals

- Increase the overall proportion of participants from diverse populations included in NIH-funded clinical research to 40 percent by 2030 and within specific major disease categories.
- Increase the diversity of institutions conducting genomic research and training by investing in faculty at such institutions, along with curriculum-building partnerships, to accelerate workforce development in underrepresented and under-resourced communities within the next 10 years.
- By 2030, promote research collaborations between U.S. and Latin American scientists addressing prevention of childhood obesity and diabetes in U.S. Latinos and in Latin America.
- Increase training opportunities for students from health disparity populations, including underrepresented groups, to learn about health equity and biomedical research in low- and middle-income countries.
- Increase our understanding of cancer trends and outcomes in the context of disparities and subpopulations through the expansion of the Surveillance, Epidemiology, and End Results program to include 50 percent of the population by 2030.
- Increase the number of underrepresented biomedical scientists as defined by the National Science Foundation from current levels by 25 percent by 2030.

- Cultivate a cadre of biomedical and behavioral investigators trained in implementation research who are fully prepared to bridge NIH mission areas in both clinical and nonclinical, real-world settings by increasing (a) the number of investigators overall and (b) the number of investigators from underrepresented backgrounds with requisite skills by 25 percent by 2030.
- Develop a toolbox of consensus common data elements (CDEs) on sociodemographic characteristics, population descriptors, and social determinants of health, and require use of CDEs in future Funding Opportunity Announcements (FOAs) by 2030.
- Develop a new program to enable investigators who have participated in diversity-enhancing programs sponsored by NIH to recognize and apply for continuing educational opportunities, such as the Ruth L. Kirschstein National Research Service Award (NRSA) and institutional training awards for predoctoral or postdoctoral training positions, K99-R00, and other training grant opportunities.
- Support individual-level programs to train individuals from health disparity populations, including those that are underrepresented in the biomedical sciences



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 (see **Figure 2**).

- 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 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 requests.

FIGURE 2: Strategic Plan Monitoring and Tracking

