



GREAT MINDS THINK DIFFERENTLY

NIH Chief Officer for Scientific Workforce Diversity (COSWD) Strategic Plan



National Institutes of Health
Office of the Director
Chief Officer for Scientific Workforce Diversity

FISCAL YEARS

2022-2026

TABLE OF CONTENTS

Message From the Chief Officer for Scientific Workforce Diversity	2
Executive Summary.....	4
Overview.....	4
Goals	5
Cross-Cutting Strategies.....	5
The COSWD Strategic Plan Framework.....	6
Vision and Mission	6
The COSWD’s Goals, Cross-Cutting Strategies, and Organizational and Talent Scope.....	6
Alignment With NIH-wide Strategic Plans.....	8
Overview.....	9
The COSWD’s Background and Role in the NIH Structure	9
Background.....	9
Structure.....	9
Scientific Workforce Diversity	10
Goals: Focusing on the Evidence.....	11
Key Focus Areas	11
Relationship Among the Goals.....	11
Cross-Cutting Strategies: Leveraging Collaborations, Accountability, and Evaluation	12
Collaborations	12
Accountability.....	13
Evaluation.....	13
Applying Cross-Cutting Strategies to Achieve Goals	15
Goals, Objectives, and Tactics.....	16
GOAL 1: BUILD the Evidence	16
Progress and Plans to Build the Evidence.....	16
Cross-Cutting Strategies to Build the Evidence	18
Objectives and Tactics to Build the Evidence.....	18
GOAL 2: DISSEMINATE the Evidence.....	20
Progress and Plans to Disseminate the Evidence	20
Cross-Cutting Strategies to Disseminate the Evidence.....	21
Objectives and Tactics to Disseminate the Evidence	22
GOAL 3: ACT on the Evidence.....	23
Progress and Plans to Act on the Evidence.....	23
Cross-Cutting Strategies to Act on the Evidence	26
Objectives and Tactics to Act on the Evidence	26
References	28
Appendices	32
Appendix I: Strategic Planning Process.....	32
Appendix II: List of Acronyms	34

MESSAGE FROM THE CHIEF OFFICER FOR SCIENTIFIC WORKFORCE DIVERSITY



Marie A. Bernard, M.D.

I am pleased to share with you the National Institutes of Health (NIH) [Chief Officer for Scientific Workforce Diversity](#) (COSWD) Strategic Plan for Fiscal Years (FYs) 2022–2026. I am deeply honored to serve as the NIH thought leader in scientific workforce diversity at this important and pivotal point in history at NIH, within the Federal Government, and across the United States. My leadership of the COSWD team begins at a time of strong progress, remaining challenges, and evolving ideologies about diversity, equity, inclusion, and accessibility (DEIA).¹ This broader context, together with insights from internal and external stakeholders, helped inform this Strategic Plan.

The COSWD’s foundational work will help support its continued and future growth. Since its founding in 2014, the COSWD has sought to leverage the value of DEIA through evidence-based strategies. Research shows that diversity enhances creativity and innovation.²⁻⁷ Although demographically similar researchers tend to collaborate,⁸ diverse groups of scientists produce more successful publications and higher quality research.⁹⁻¹² Diversity also broadens the scope of scientific inquiry,¹³⁻¹⁵ including enhancing the understanding

required for addressing the health of the entire U.S. populace. Reflecting on these inequities and the diversity and innovation evidence, researchers have called for a continued focus on enhancing diversity.¹⁶ Furthermore, as a steward of public funds, NIH upholds the value of fairness in fostering an inclusive scientific workforce and scientific research. These purposes motivated the COSWD’s programs and collaborations under my predecessor Dr. Hannah A. Valentine’s leadership. Efforts outlined in the [COSWD’s 2016–2020 Strategic Plan](#) enabled considerable progress in identifying challenges and developing solutions.

Under my leadership, we will maintain and further expand on these data-driven initiatives and strategies based on mutually beneficial relationships in the intramural and extramural research communities. We will build on a strong foundation to advance the COSWD’s mission as the NIH thought leader in the science of scientific workforce diversity, helping to build research capacity through a more diverse, equitable, inclusive, and accessible workforce.

Institutional shifts further situate the COSWD to catalyze change. The COSWD holds a pivotal position as advisor to the NIH Director and catalyst for programs across NIH. In this capacity, the COSWD is well-situated to pursue its mission and support [NIH’s Interest in Diversity](#) in an evolving environment. Recent NIH-wide efforts, such as the [UNITE initiative](#) and its charge to address structural racism within the scientific community, have heightened the awareness of and interest in DEIA. Several 2021 Executive Orders also have expanded DEIA efforts within the Federal Government, motivating an NIH-wide DEIA Strategic Plan, expected in 2022.¹⁷ All have occurred against a social

backdrop highlighting enduring racial, ethnic, and other social inequities and injustices. Moreover, the [Foundations for Evidence-Based Policymaking Act of 2018](#), signed into law in January 2019, has promoted assessment and evaluation efforts among federal agencies, supporting evidence-based approaches for NIH DEIA programs.

Achieving NIH’s mission—advancing scientific knowledge to enhance health, lengthen life, and reduce illness and disability—demands cultures of inclusive excellence. The scientific workforce requires diverse talent highly engaged in developing innovative solutions to increasingly complex scientific and health challenges.¹⁸ Our efforts must extend beyond simply increasing the number of diverse individuals recruited into science; we must identify ways for enhancing career experiences and pathways.¹⁹ Indeed, diverse scientists from various groups, including those with diverse intersectional identities (e.g., by both race and gender), confront barriers across their careers.²⁰ We therefore must foster inclusive excellence to enable the scientific workforce to reach its full potential.²¹ Supporting inclusive excellence requires examining the factors—including organizational structures, policies, practices, and cultures—that may impede or promote such progress.²²⁻²³

Fostering cultures of inclusive excellence requires a data-driven, collaborative, transparent, and measurable approach. We must accurately identify barriers to and facilitators of DEIA; develop, test, and continually improve our programs and practices through rigorous evaluation; and broadly communicate these efforts with transparency to expand their impact in the scientific community. With this in mind, the COSWD’s three goals are to BUILD, DISSEMINATE, and ACT on the evidence to effect change in the scientific workforce. Such expansive efforts will be realized through our collaborations.

This Strategic Plan describes how we will pursue our goals and cross-cutting strategies to create cultures of inclusive excellence. I invite you to fully explore the plan, visit the [COSWD website](#), subscribe to the [COSWD blog](#) for regular progress updates, and follow us on [Twitter](#) and [LinkedIn](#).

Sincerely yours,

Marie A. Bernard, M.D. (she/her)
NIH Chief Officer for Scientific Workforce Diversity

EXECUTIVE SUMMARY

Overview

Mission and Vision. The mission of the National Institutes of Health (NIH) is to advance scientific knowledge to enhance health, lengthen life, and reduce illness and disability. Fulfilling this mission requires cultures of inclusive excellence—scientific environments that can cultivate and benefit from a full range of talent. The mission of the [Chief Officer for Scientific Workforce Diversity](#) team (hereafter referred to as the COSWD [pronounced KAHZ-wood]) is to be the agency’s thought leader in the science of scientific workforce diversity, using evidence-based approaches to catalyze cultures of inclusive excellence. As these cultures mature, the COSWD ultimately aims to enable NIH and NIH-funded institutions to benefit from a full range of talent, fostering creativity and innovation in science.

Plan Development. This 5-year Strategic Plan positions the COSWD to expand its evidence-based approach to achieve its mission and vision. The Strategic Plan was developed through a structured, five-step strategic planning process: (1) pre-planning to establish the planning goals, process design, and timeline; select relevant input sources; and determine data collection and analysis plans; (2) internal information gathering and framework development; (3) drafting and posting a [request for information](#); (4) reviewing public comments; and (5) revising and finalizing.

Goals and Cross-Cutting Strategies. The COSWD will pursue three goals, each with corresponding objectives and tactics: (1) build, (2) disseminate, and (3) act on the evidence to promote diversity, equity, inclusion, and accessibility (DEIA) in the scientific workforce. The COSWD will pursue evidence related to three DEIA focus areas: the value of DEIA, NIH settings, and effective programs. This breadth of evidence enables the COSWD to consider various organizational factors that may influence DEIA outcomes. To pursue its goals, the COSWD will leverage three cross-cutting strategies: (1) collaborations, (2) accountability, and (3) evaluation. These cross-cutting strategies will enable the COSWD to capitalize on its strengths as an evidence-based thought leader while creating a broader impact on the NIH scientific workforce and scientific community.

Scope. The COSWD’s efforts will focus on the NIH intramural, extramural, and external scientific workforce, including NIH-funded institutions. These efforts will be pursued in strong collaboration with aligned stakeholders. They also will cover a range of talent life cycle and career stage initiatives, including recruitment, development, reward, and retention practices. This multifaceted approach is intended to cultivate cultures of inclusive excellence beyond reporting on the diverse U.S. population in numbers.

Given its extensive mission, the COSWD will prioritize activities in keeping with collaborative opportunities as they arise. Outlined below are the COSWD’s three goals and corresponding objectives and three cross-cutting strategies, which will be leveraged to pursue the goals. These goals, objectives, and cross-cutting strategies—along with specific tactics—are described in further detail throughout this Strategic Plan.

Goals

GOAL 1: BUILD the evidence by using research insights and NIH as a testbed for innovative scientific programs to enhance DEIA in the workforce.

- **Objective 1.1.** Expand the knowledge of quality scientific research on scientific workforce DEIA issues.
- **Objective 1.2.** Examine and identify effective DEIA programs and fill gaps in programming by collaborating with NIH Institutes, Centers, and Offices (ICOs).
- **Objective 1.3.** Evaluate piloted DEIA programs to assess program impact.

GOAL 2: DISSEMINATE the evidence through work with the biomedical scientific community, from trainees to established tenured scientists.

- **Objective 2.1.** Inform and engage the scientific community on the science of scientific workforce diversity.
- **Objective 2.2.** Consult stakeholders on evidence-based practices to reduce bias and create inclusive cultures.
- **Objective 2.3.** Evaluate and continually improve the COSWD's dissemination efforts.

GOAL 3: ACT on the evidence by advancing integrated, institution-wide systems to address bias, equity, mentoring, and work-life issues.

- **Objective 3.1.** Enhance DEIA across the NIH scientific workforce through supporting or expanding successful DEIA programs.
- **Objective 3.2.** Promote incentive structures that encourage practices and programs supporting DEIA.
- **Objective 3.3.** Evaluate and develop improvements for implemented DEIA programs in the NIH scientific workforce.

Cross-Cutting Strategies

- **Collaborations** will enhance programs' depth and reach while creating a more integrated culture of DEIA across the biomedical scientific workforce.
 - » The COSWD will enhance and expand internal and external collaborations to inform, communicate, and implement evidence-based practices.
- **Accountability** will enable leaders to focus on the appropriate issues and ensure alignment of incentives.
 - » The COSWD will collaborate with stakeholders to establish practices and metrics to support leaders in creating and maintaining cultures of inclusive excellence.
- **Evaluation** will guide the COSWD and stakeholders to effective solutions.
 - » The COSWD will conduct assessments and advise on program effectiveness to rigorously inform strategies, practices, and improvements.

THE **COSWD** STRATEGIC PLAN FRAMEWORK

VISION

To enable NIH and NIH-funded institutions to benefit from a full range of talent, fostering creativity and innovation in science.

MISSION

To be the NIH thought leader in the science of scientific workforce diversity, using evidence-based approaches to catalyze cultures of inclusive excellence.

The COSWD's Goals, Cross-Cutting Strategies, and Organizational and Talent Scope

Goals

GOAL 1:

BUILD the evidence

By using research insights and NIH as a testbed for innovative scientific programs to enhance DEIA in the workforce.

GOAL 2:

DISSEMINATE the evidence

Through work with the biomedical scientific community, from trainees to established tenured scientists.

GOAL 3:

ACT on the evidence

By advancing integrated, institution-wide systems to address bias, equity, mentoring, and work-life issues.

Cross-Cutting Strategies to Pursue Goals

Collaborations

Enhance and expand internal and external collaborations to inform, communicate, and implement evidence-based practices.

Accountability

Collaborate with stakeholders to establish practices and metrics to support leaders in creating and maintaining cultures of inclusive excellence.

Evaluation

Conduct assessments and advise on program effectiveness to rigorously inform strategies, practices, and improvements.

Organizational and Talent Scope

The COSWD focuses exclusively on the scientific workforce (Table 1). At NIH, the scientific workforce is defined as occupations that directly lead or conduct basic and/or clinical research and those occupations that provide scientific oversight for extramural research.²⁴ The external scientific workforce is defined as those researchers supported by NIH-funded research awards. The COSWD recognizes that many other professionals support the entire biomedical scientific enterprise. Internally, the [Office of Human Resources \(OHR\)](#) and the [Office of Equity, Diversity, and Inclusion \(EDI\)](#) focus on DEIA across the entire NIH workforce. Externally, there are comparable entities at academic and research institutions focused on DEIA across their respective workforces.

Table 1. COSWD’s Organizational Scope

NIH Scientific Workforce		External Biomedical Scientific Workforce
Intramural Research Program (IRP)	Extramural Research Program (ERP)	
<ul style="list-style-type: none"> The IRP is the internal NIH research program known for its synergistic approach to biomedical science. Includes approximately 1,200 principal investigators and more than 4,000 trainees/fellows conducting basic, translational, and clinical research, making NIH the largest biomedical research institution in the world. 	<ul style="list-style-type: none"> The ERP awards research grants to the external biomedical scientific community. More than 1,800 ERP scientific staff manage NIH research administration, ensuring scientific integrity, public accountability, and effective stewardship of the NIH extramural research portfolio. 	<ul style="list-style-type: none"> More than 80% of NIH’s funding is awarded for extramural research, largely through almost 50,000 competitive grants that support more than 300,000 researchers at more than 2,500 universities, medical schools, and other research institutions in every U.S. state.

Holistic Perspective on the Talent Life Cycle

- Through thought leadership and leveraging collaborations, the COSWD will help to facilitate progress across the talent life cycle (Figure 1).
- To pursue its goals, objectives, and cross-cutting strategies, the COSWD’s tactics will seek to enhance recruitment, development, and reward practices. In turn, these efforts will help enhance cultures of inclusive excellence in support of retention.



Figure 1. COSWD’s Holistic Approach to Talent Life Cycle

Alignment With NIH-wide Strategic Plans

The goals and cross-cutting strategies described in this COSWD Strategic Plan align with the [Fiscal Years \(FYs\) 2021–2025 NIH-wide Strategic Plan](#) framework, as well as the NIH-wide DEIA Strategic Plan expected to be released in 2022.¹⁷ The latter will align with the [NIH-wide Strategic Plan framework](#) and is under development in response to [Report 116-450 on H.R. 7614: Diversity at NIH Working Group and Strategic Plan](#) and [Executive Order 14035](#), which orders federal agencies to develop agency-wide DEIA strategic plans in support of a Federal Government-wide DEIA strategic plan. These NIH-wide and COSWD strategic plans support the strategic plans of the [U.S. Department of Health and Human Services \(HHS\)](#), of which NIH is an operating division. These plans include an HHS DEIA Strategic Plan, developed in 2022 in accordance with Executive Order 14035.

The NIH-wide Strategic Plan framework presents three objectives: (1) advancing biomedical and behavioral sciences; (2) developing, maintaining, and renewing scientific research capacity; and (3) exemplifying and promoting the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science. Table 2 shows how the COSWD Strategic Plan’s goals and cross-cutting strategies align with these objectives.

Table 2. Alignment of NIH-wide and COSWD Strategic Plans

NIH-Wide Strategic Plan Objective	COSWD Strategic Plan Goals and Cross-Cutting Strategies
<p>(1) Advancing biomedical and behavioral sciences.</p>	<p>GOAL 1: BUILD the evidence</p> <ul style="list-style-type: none"> The COSWD will leverage and pursue DEIA research in collaboration with stakeholders. The focus will be on foundational insights and theories and applied interventions to diversify talent and enhance organizational outcomes.
<p>(2) Developing, maintaining, and renewing scientific research capacity.</p>	<p>GOALS 2 and 3: DISSEMINATE and ACT on the evidence</p> <ul style="list-style-type: none"> NIH recognizes that achieving its mission requires a talented, diverse workforce. The crux of the COSWD’s mission is enhancing the scientific workforce. The COSWD’s goals to disseminate and act on the scientific workforce DEIA evidence aim to strengthen the scientific workforce, both within and beyond NIH.
<p>(3) Exemplifying and promoting the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.</p>	<p>Cross-Cutting Strategies: COLLABORATIONS, ACCOUNTABILITY, and EVALUATION</p> <ul style="list-style-type: none"> The COSWD’s three cross-cutting strategies to pursue its goals reflect NIH’s plans to leverage partnerships (collaborations), ensure accountability and confidence in sciences (accountability), and foster a culture of good scientific stewardship (evaluation).

OVERVIEW

The COSWD's Background and Role in the NIH Structure

Background

To ensure that NIH continues to attract the best talent to biomedical research, the agency is committed to enhancing the diversity of its scientific workforce, including funded researchers. The Advisory Committee to the NIH Director (ACD) Working Group on Diversity in the Biomedical Research Workforce (WGDBRW) deliberated on this issue and [provided recommendations](#) that were endorsed by the ACD and provided to the NIH Director in June 2012. The WGDBRW undertook its general charge to examine the factors that contribute to the current state of diversity in the biomedical and biobehavioral research workforce and its specific charge to examine the findings and implications of the [2011 report by Donna K. Ginther and colleagues entitled *Race, Ethnicity, and NIH Research Awards*](#).

The NIH-commissioned study by Dr. Ginther and colleagues examined the funding probability of R01 applications to support Ph.D. researchers during FYs 2000–2006, based on the supported researchers' race and ethnicity, using data from NIH's grants database and other sources. After controlling for confounders, Ginther and colleagues found persistent, significant disparities in the R01 funding probability for applications to support African American/Black researchers compared to White researchers. While NIH has made some progress in closing the funding gap over time, the disparities remain. In FY 2022, NIH is reviewing data to determine whether further progress has been made to close the "Ginther Gap."

A key recommendation of the 2012 ACD WGDBRW report was to establish centralized coordination of NIH scientific workforce diversity, led by an established biomedical scientist with expertise in diversity in academic settings. Accordingly, NIH appointed [Hannah Valantine, M.D., as the first COSWD in March 2014](#), a position she held until her retirement in 2020. [Marie A. Bernard, M.D.](#), was appointed as Acting COSWD in October 2020 and [officially named the NIH COSWD in May 2021](#).

Structure

The [COSWD](#) is structured within [NIH](#), an operating division of [HHS](#), and is part of the [NIH Office of the Director](#). The COSWD reports directly to the NIH Director. The COSWD's central organizational position aligns with its NIH-wide mission to be the agency's thought leader in the science of scientific workforce diversity, using evidence-based approaches to catalyze cultures of inclusive excellence. As these cultures of inclusive excellence mature, the COSWD ultimately aims to enable NIH and NIH-funded institutions to benefit from a full range of talent, fostering creativity and innovation in science.

The NIH COSWD [Marie A. Bernard, M.D.](#), leads NIH scientific workforce diversity efforts by overseeing and staffing the COSWD team, co-chairing key committees and efforts ([ACD Working Group on Diversity \(WGD\)](#), the [UNITE initiative](#), the NIH DEIA Strategic Planning Committee, and others), and developing approaches to measure and evaluate DEIA programs in the scientific workforce. The COSWD team comprises operational, programmatic, UNITE, and communications staff members with biomedical, clinical, behavioral, and social science expertise.

Scientific Workforce Diversity

The COSWD's evidence-building efforts focus on enhancing many forms of diversity within the scientific workforce, including [underrepresented populations in the U.S. biomedical, clinical, behavioral, and social sciences research enterprise](#). The COSWD's efforts are guided by the [Notice of NIH's Interest in Diversity](#) and will continue to be informed by NIH's and HHS's approaches to diverse groups. In its aim to incorporate diverse voices, the COSWD will collaborate with and be informed by other NIH entities whose missions and strategic plans focus on diverse groups, such as the [Office of Research on Women's Health \(ORWH\)](#), the [Sexual & Gender Minority Research Office \(SGMRO\)](#), and the [Tribal Health Research Office \(THRO\)](#).²⁵

The following categories are identified as examples of underrepresented groups in the [Notice of NIH's Interest in Diversity](#):

- Individuals from racial and ethnic groups who have been shown by the National Science Foundation (NSF) to be underrepresented in health-related sciences on a national basis: Black or African American, Hispanic or Latino, American Indian or Alaska Native, Native Hawaiian, and Pacific Islander.
- Individuals with disabilities, who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, as described in the [Americans with Disabilities Act of 1990, as amended](#).
- Individuals from disadvantaged backgrounds, defined as those who meet two or more of the following criteria:
 - » Were or currently are homeless, as defined by the McKinney-Vento Homeless Assistance Act (Definition: <https://nche.ed.gov/mckinney-vento/>).
 - » Were or currently are in the foster care system, as defined by the Administration for Children and Families (Definition: <https://www.acf.hhs.gov/cb/focus-areas/foster-care>).
 - » Were eligible for the Federal Free and Reduced Lunch Program for 2 or more years (Definition: <https://www.fns.usda.gov/school-meals/income-eligibility-guidelines>).
 - » Have/had no parents or legal guardians who completed a bachelor's degree (see <https://nces.ed.gov/pubs2018/2018009.pdf>).
 - » Were or currently are eligible for Federal Pell Grants (Definition: <https://www2.ed.gov/programs/fpg/eligibility.html>).
 - » Received support from the Special Supplemental Nutrition Program for Women, Infants, and Children as a parent or child (Definition: <https://www.fns.usda.gov/wic/wic-eligibility-requirements>).
 - » Grew up in one of the following areas: (1) U.S. rural area, as designated by the Health Resources and Services Administration's [Rural Health Grants Eligibility Analyzer](#), or (2) Centers for Medicare and Medicaid Services-designated Low-Income and Health Professional Shortage Areas ([qualifying ZIP Codes are included in this file*](#)). Only one of the two possibilities listed can be used as a criterion for the disadvantaged background definition.
- Women at the graduate level and beyond in scientific fields.

* Must have a spreadsheet application to download the file.

Goals: Focusing on the Evidence

Key Focus Areas

The COSWD will focus on building, disseminating, and acting on evidence across three foci related to DEIA in the scientific workforce—the value of DEIA, NIH settings, and effective programs (Table 3). Given the broad scope of potential foci, the COSWD will prioritize and strategize on the most impactful areas to catalyze change and engage with stakeholders regularly, with priorities evolving over time.

Table 3. Key Focus Areas for Evidence-Based Goals

(1) Value of DEIA	(2) NIH Settings	(3) Effective Programs
<ul style="list-style-type: none">The effects of DEIA in scientific settings	<ul style="list-style-type: none">NIH settings (intramural, extramural, and external) to inform data-driven approaches to programs at NIH and/or across the biomedical research enterprise	<ul style="list-style-type: none">Effective approaches for designing, implementing, and improving programs, policies, and interventions to enhance DEIA and develop cultures of inclusive excellence

Relationship Among the Goals

The three COSWD goals of build, disseminate, and act may, in some cases, be linear, with each step successfully informing the next. In practice, the complexities of program design and implementation demand a more flexible approach to pursuing each goal. The relationship among building, disseminating, and acting on these foci will often be cyclical or iterative and, at times, non-linear (Figure 2). For example, after initial program implementation, additional evidence building may be required to inform the program further. Thus, a given program may have components that intersect with more than one of the three goals.

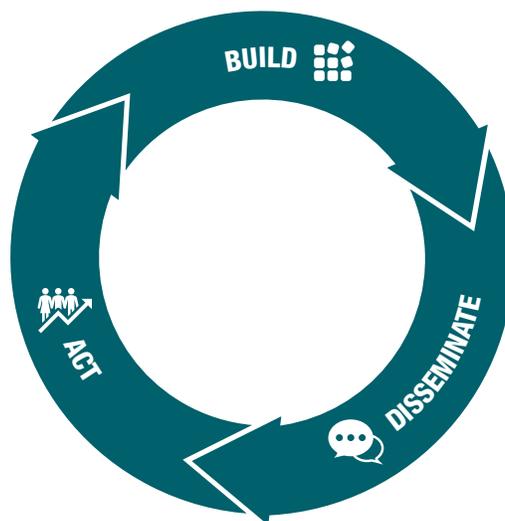


Figure 2. Relationship Among the COSWD Goals

Cross-Cutting Strategies: Leveraging Collaborations, Accountability, and Evaluation

The COSWD will leverage three cross-cutting strategies—(1) collaborations, (2) accountability, and (3) evaluation—to pursue its evidence-based goals. These strategies were developed based on a combination of the COSWD’s internal priority assessment and stakeholders’ insights focused on both the COSWD’s strengths and the DEIA and workforce areas that require improvement.

Collaborations

Residing within the NIH Office of the Director, the COSWD is poised to enhance internal and external collaborations to act as a catalyst for change. The COSWD’s central organizational position situates it to leverage strong collaborations across NIH to facilitate continued progress. Such collaborations are essential for NIH to realize the full impact of the COSWD-catalyzed programs, develop and test new programs, and ensure that best practices are implemented on a meaningful scale across NIH and the scientific enterprise more broadly.

The COSWD’s internal collaborations will include stakeholders with diverse missions, including those with a primary focus on (1) pursuing scientific research or clinical practice; (2) supporting diverse science, technology, engineering, and mathematics (STEM) talent pools in some capacity; and (3) providing cross-cutting strategic support. The COSWD will collaborate with [NIH’s ICOs and their leaders](#), as well as with the [Office of Intramural Research](#) and [Office of Extramural Research](#), which serve as the governing and oversight bodies of the intramural and extramural workforces, respectively. The COSWD’s DEIA-related stakeholders include (1) ICOs primarily focused on DEIA training and health research (e.g., health disparities and equity), with some examples including the [National Institute of General Medical Sciences \(NIGMS\)](#), [National Institute on Minority Health and Health Disparities \(NIMHD\)](#), [ORWH](#), [SGMRO](#), and [THRO](#); and (2) offices and programs serving in DEIA practitioner roles (e.g., by designing or implementing practices, programs, or policies to enhance DEIA), with some examples including [EDI](#), [OHR](#), and the [NIH UNITE initiative](#). The COSWD’s collaboration with the [Division of Program Coordination, Planning, and Strategic Initiatives](#) will help support the COSWD’s evidence-based approach and cross-cutting evaluation strategy.

The COSWD has engaged with other federal agencies and external organizations to shape and advance its efforts. The COSWD will continue to collaborate, where appropriate, with external academic, research, or other entities to support its mission. The COSWD will continually explore opportunities for synergistic collaborations, both internally and externally.

Value of Collaborations for the COSWD’s Goals:

- Facilitate greater information flow, which can help to increase innovation.²⁶⁻²⁷
- Create cultures of inclusive excellence.²⁸
- Enable the COSWD to capitalize on its strengths as a thought leader and change catalyst while creating a broader impact that requires the involvement of many individuals and groups.

Accountability

Both thought leadership and DEIA demand a culture of accountability pursued collaboratively with the designated stakeholders for various activities. Responsible thought leadership requires drawing on and promoting high-quality, evidence-based insights. Socially good-willed actions can unwittingly derail organizational progress when not rigorously examined. Seemingly effective programs may have null or even unexpected adverse effects. Similarly, DEIA goals may be more successfully pursued with accountability for achieving the goals.

In continuing to pursue its goals, the COSWD will first and foremost model accountability in its catalyst role and, furthermore, promote accountability at NIH through its programmatic efforts. The COSWD will use scientific evidence, reliable data, and appropriate metrics to inform its approaches to DEIA. The COSWD will communicate sound, evidence-based information to collaborators and the broader scientific community, sharing limitations or caveats when relevant. To facilitate a broader culture of accountability, the COSWD will support efforts to align leaders' DEIA efforts with their performance metrics and evaluations.

Value of Accountability for the COSWD's Goals

- Ensure that root problems are accurately identified and practices are implemented to address identified problems.²⁹
- Inform program design or improvements in ways that are aligned with organizational goals.³⁰
- Support efforts to hold individuals accountable for progress to help facilitate change.³¹

Evaluation

Evaluation is the core of the COSWD's pursuit of evidence-based goals, informing program management and ensuring accountability. It forms the basis for determining whether to pursue an effort, how to do so effectively, and how to improve programs. Evaluation helps us to identify whether and why a program is working, the factors influencing observed outcomes, and areas where adjustments may be made to improve outcomes. Insights from a given program evaluation may help guide other efforts with judicious thought under appropriate conditions.

The COSWD will design and conduct evaluation as a regular part of its programmatic efforts, beginning in the design phase and continuing throughout a program's life cycle. The COSWD and its collaborators will identify appropriate outcomes, metrics for assessing outcomes, and timelines (which may be in stages, with short-, medium-, and/or long-term outcomes or impact) on a programmatic basis, given the variation in program purposes and scope. A program's purpose, characteristics, and intended outcomes will drive the evaluation approach and activities. For example, formative evaluations will be appropriate for assessing pilot programs as the COSWD works to build evidence. Outcome evaluations will enable us to assess effectiveness by examining whether an initiative has achieved its intended outcomes. Process evaluations will allow us to ascertain whether programs were implemented as intended, which is especially relevant for initiatives in which the COSWD transfers implementation responsibilities.³²

Across programs, the COSWD will pursue both formal and informal evaluation activities. As with the evaluation type, program features will drive specific activities. Formal activities include developing the research design and methods. Depending on the effort, this may include specifying the evaluation goals and program outcomes; selecting the relevant evaluation type; identifying appropriate metrics and data; and determining an approach for data collection, analysis, and insight development, among other activities. Informal activities may include periodic discussions with collaborators on process or implementation experiences and challenges.

Value of Evaluation for the COSWD's Goals

- Assist stakeholders in determining which programs align with the COSWD's goals, objectives, and cross-cutting strategies to best allocate resources.
- Identify program strengths to magnify, or weaknesses or unintended consequences that require remediation, and the parameters to sunset duplicative programs.³³
- Advise on program enhancements or future opportunities based on evaluation insights.³⁴

Applying Cross-Cutting Strategies to Achieve Goals

Table 4. Summary Table Applying Cross-Cutting Strategies to Achieve Goals

GOALS	Cross-Cutting Strategies		
	Collaborations	Accountability	Evaluation
<p>1</p> <p>BUILD the Evidence</p>	<ul style="list-style-type: none"> Identify and promote best practices from ICOs across NIH. Work together, when appropriate, through external collaborations, such as academic or other research-focused institutions and societies, to stay abreast of the latest scientific findings and insights on DEIA. 	<ul style="list-style-type: none"> Pilot the design of new programs using scientific evidence by applying and drawing on theoretical or empirical insights to diversify talent and enhance organizational outcomes. 	<ul style="list-style-type: none"> Develop and implement program evaluations for pilot initiatives to assess their viability for further implementation. Collaborate, where appropriate and feasible, with NIH programs on evaluating the effectiveness of their piloted DEIA initiatives.
<p>2</p> <p>DISSEMINATE the Evidence</p>	<ul style="list-style-type: none"> Communicate <i>to</i> and <i>through</i> ICOs and DEIA stakeholders at NIH and across the scientific community. 	<ul style="list-style-type: none"> Pursue a rigorous, balanced, and fact-based approach to disseminate evidence, enabling the COSWD to be a trusted expert advisor on the science of scientific workforce diversity. 	<ul style="list-style-type: none"> Assess the effectiveness of communication strategies to ensure that tactics are measurable and successful. Evaluate the value and effectiveness of the evidence disseminated to stakeholders and identify and implement recommendations for further improvement.
<p>3</p> <p>ACT on the Evidence</p>	<ul style="list-style-type: none"> Scale up successful efforts through ICO collaborations to increase impact across NIH and the scientific community. Transfer select COSWD-piloted programs for ICO management to enable continued growth. 	<ul style="list-style-type: none"> Support efforts to integrate leaders' DEIA efforts into their performance metrics and evaluations. Expand the DEIA commitment through co- or transferred program ownership. 	<ul style="list-style-type: none"> Evaluate the COSWD's direct programs and the COSWD-informed programs implemented by ICOs to assess a broader range of outcomes and impact.

GOALS, OBJECTIVES, AND TACTICS

GOAL 1: BUILD the Evidence



Build the evidence by using research insights and NIH as a testbed for innovative scientific programs to enhance DEIA in the workforce.

Progress and Plans to Build the Evidence

Pursuing Activities Based on Research Evidence. During the past several years, the COSWD has stayed abreast of multidisciplinary research on scientific workforce DEIA. The COSWD has pursued this knowledge through [reviewing research and examining diversity issues in NIH's scientific workforce](#). The COSWD will continue to expand on these evidence-building pursuits as its foundational goal. These efforts will then inform our evidence-based communications and actions as the NIH thought leader on the science of scientific workforce diversity.

The COSWD has focused on a range of research examining the effects and value of DEIA. Recently, we focused on current educational, organizational, and cultural barriers to and facilitators for enhancing DEIA. We have focused especially on the effects of [implicit bias](#) on decision making and workplace interactions, as well as programs and practices intended to reduce biases and enhance DEIA.

Furthermore, the COSWD has conducted research to understand DEIA conditions at NIH and in the broader scientific research workforce. As part of the NIH Anti-Harassment Program, a [Workplace Climate and Harassment Survey \(WCHS\)](#) was administered in January 2019 to NIH staff, including NIH employees, contractors, fellows, and trainees. The WCHS results provided important context about the NIH workplace and are informing strategies about the development of NIH programs that can improve the workplace. Additionally, the COSWD developed and fielded [two COVID-19 impact surveys](#)—the NIH COVID-19 Impact on Extramural Researchers Survey and the NIH COVID-19 Impact on Extramural Institutions Survey—to assess the effects of the COVID-19 pandemic on the research workforce and research institutions and identify the potential implications on underrepresented groups in the scientific workforce.

In addition to the evidence basis of DEIA conditions and outcomes, we also focus on the evidence basis of program performance. Goodwill efforts to enhance DEIA do not necessarily achieve the intended DEIA and organizational outcomes. Unintended consequences—such as backlash or heightening the salience of a group stereotype—or simply null effects can thwart such efforts. DEIA progress hinges on program effectiveness. Developing an evidence-based understanding of mechanisms that may shape DEIA program effectiveness helps guide program design.

Developing and Testing New Insights. The COSWD has established strong relationships within NIH and beyond to better understand the barriers to DEIA. The COSWD initially co-led the African American/Black R01 Funding Disparity Working Group to examine the underlying causes of the [African American/Black R01 funding gap](#) identified in research by Dr. Donna K. Ginther and

colleagues. The COSWD also has assembled and led [Diversity Catalysts](#)—representatives across ICOs who advise on implementing initiatives designed to enhance scientific workforce diversity using evidence-based strategies.

The COSWD has drawn on insights from these rich resources—peer-reviewed or other quality research by the COSWD or its collaborators—to inform some of its current signature programs and efforts. In FY 2020, the COSWD launched an [NIH-wide Implicit Bias e-Learning resource](#), which covers the concepts of diversity and why it matters, and subsequently became available for general access. It also reviews the scientific literature on implicit biases that limit diversity and practices that can mitigate these biases and help foster diversity.

In 2021, NIH established the ACD WGD [Subgroup on Individuals with Disabilities](#) to identify strategies that support individuals with disabilities in the biomedical research workforce. The subgroup is charged with developing suggestions that will ultimately go to the ACD as considerations to best support individuals with disabilities in the scientific workforce. To accomplish this charge, the subgroup is pursuing several evidence-building strategies. Through collaboration with the subgroup, the COSWD will enhance its focus on accessibility in the scientific workforce.

Evidence-based research and its application has enabled the COSWD to serve as a trusted advisor to stakeholders working to enhance diversity in their ICOs and programs. In this way, the COSWD models accountability as a thought leader, providing evidence-based consulting informed by reputable sources. For example, since 2016, the COSWD has leveraged its knowledge on diversity and implicit bias to advise NIH search committees and Boards of Scientific Counselors on review, bias mitigation approaches, and inclusive workforce practices. In addition, the COSWD has provided hundreds of instructional presentations to universities, professional societies, industry, and federal stakeholders.

Building Forward. The COSWD is differentiated from other entities at NIH by its combined subject matter expertise on scientific workforce diversity, research methodology to examine such issues, and central positioning to widely effect change through thought leadership and collaborations. Building strong and appropriate evidence remains the foundational strategy to guide the scientific community's DEIA efforts. Thus, the COSWD aims to further examine how DEIA shapes scientific outcomes, such as research quality and innovation, and how well programs designed to enhance more diverse and inclusive cultures perform.

Through Collaborations. Through NIH program collaborations, the COSWD will pilot programs that encourage greater inclusion across various workforce settings. These programs will be guided by evidence suggesting the potential for positive outcomes and will be performed collaboratively with other entities with interests in this space. Collaborations across congruent efforts, such as through [Diversity Catalysts](#) and the [NIH UNITE initiative](#), among others, will help the COSWD identify opportunities for pilot collaborations.

Through Accountability. Building valuable evidence requires strong research accountability practices that can be applied to carefully designed and executed pilot programs. The COSWD will work strategically with collaborators to ensure efficient and impactful accountability for all components of programs that are launched.

Through Evaluation. Importantly, the COSWD will continue integrating program evaluation into its standard program design and implementation practices. With quantitative and/or qualitative data and input from our collaborators, the COSWD will evaluate the impact of all piloted programs. We will work to disseminate the outcomes of these evaluations and promote successful adoption by others.

Furthermore, the COSWD will leverage its evaluation capacity to work with collaborators on DEIA program evaluation, where such collaborators may serve as the pilot program lead.

Cross-Cutting Strategies to Build the Evidence

Collaborations	Accountability	Evaluation
<ul style="list-style-type: none"> Identify and promote best practices from ICOs across NIH. Work together, when appropriate, through external collaborations, such as academic or other research-focused institutions and societies, to stay abreast of the latest scientific findings and insights on DEIA. 	<ul style="list-style-type: none"> Pilot the design of new programs using scientific evidence by applying and drawing on theoretical or empirical insights to diversify talent and enhance organizational outcomes. 	<ul style="list-style-type: none"> Develop and implement program evaluations for pilot initiatives to assess their viability for further implementation. Collaborate, where appropriate and feasible, with NIH programs on evaluating the effectiveness of their piloted DEIA initiatives.

Objectives and Tactics to Build the Evidence

Objective 1.1. Expand the knowledge of quality scientific research on scientific workforce DEIA.

Tactics

- The COSWD will maintain current knowledge on the state of the science about scientific workforce diversity and pursue opportunities to publish on these issues.
- To design, evaluate, and communicate on programs, the COSWD will pursue a deeper understanding of the relevant secondary research and/or insights from its own or other NIH entities' program outcomes.
- The COSWD will develop insights directly from leading experts through COSWD-hosted events (e.g., seminars, conferences) with scholars and/or practitioners focused on scientific workforce diversity issues. Seminar insights will be summarized and widely disseminated to foster continued thought in the area.

Objective 1.2. Examine and identify effective DEIA programs and fill gaps in programming by collaborating with NIH ICOs.

Tactics

- Identify and subsequently facilitate exchange on effective DEIA strategies managed by NIH Diversity Catalysts, ideas generated from the [NIH UNITE initiative](#), and other DEIA collaborators, such as the ACD, with the support of the WGD and WGD Subgroup on Individuals with Disabilities.

- Maintain and expand outreach to universities and other research institutions to learn about DEIA programs.
- Assess and develop strategies to fill gaps in scientific workforce DEIA programming.

Objective 1.3. Evaluate piloted DEIA programs to assess program impact.

Tactics

- Develop and implement evaluation plans for piloted programs with collaborators.
- Assess the intended and actual effects of piloted programs to inform dissemination and action plans.

GOAL 2: DISSEMINATE the Evidence



Disseminate the evidence through work with the biomedical scientific community, from trainees to established tenured scientists.

Progress and Plans to Disseminate the Evidence

Communicating on DEIA. During the past several years, the COSWD has pursued several efforts to disseminate information about DEIA in the scientific workforce. Internally, these efforts have focused on facilitating information sharing (e.g., through meetings of Diversity Catalysts); enabling transparency in ICOs' DEIA progress (e.g., through data monitoring and reporting to the [NIH Equity Committee](#)); and providing DEIA advisory services, such as the COSWD's evidence-based implicit bias education offerings.

The COSWD has provided [implicit bias education](#) through the Learning Management System NIH-wide e-Training, in-person workshops, and presentations to search committees to reduce bias and enhance their candidate review processes. At the time of this Strategic Plan's development, the implicit bias e-Training is being expanded to provide NIH staff with strategies for further fostering an inclusive workplace by creating psychological safety and enhancing employee engagement.³⁵

Externally, dissemination efforts have focused on employing a strategic communications plan to cover DEIA issues through public media channels, such as the [COSWD blog](#), social media (e.g., [Twitter](#), [LinkedIn](#)), scientific reports and products, and invited speaking engagements. The COSWD's blog and social media platforms have been effective tools for sharing the science of scientific workforce diversity and related NIH or ICO insights and initiatives, such as funding opportunity announcements (FOAs), conferences, and interviews with ICO leaders.

Disseminating Forward. In response to stakeholders' needs, the COSWD will enhance its communication efforts by more richly disseminating evidence on scientific workforce DEIA issues and practices. We will share practices and programs with demonstrated effectiveness (i.e., an established evidence basis through evaluation) and leverage data, when appropriate, to inform other programs' DEIA efforts. In this way, the COSWD intends to further establish its role as the NIH thought leader on scientific workforce diversity and catalyze improved practices through highly visible platforms. Furthermore, by opening communication pathways, the COSWD seeks to increase potential opportunities for innovative ideas resulting from information sharing.

Through Collaborations. Widely and effectively disseminating the evidence requires collaboration with internal and external stakeholders. The COSWD launched the [Scientific Workforce Diversity Seminar Series \(SWDSS\)](#) in fall 2021 to disseminate evidence on important DEIA topics by developing and leveraging diverse internal and external collaborations. Through the SWDSS initiative, the COSWD collaborates with subject matter experts across the United States to communicate insights based on their research and practitioner work. The series, promoted to both the NIH workforce and the broader scientific community, focuses on conveying scientific research on DEIA issues; communicating new, useful, and multiple views based on the research; and sharing actionable insights in support of moving from evidence dissemination to action. Additionally, the COSWD works with ICOs to publish

blog posts featuring the latest DEIA research and insights. The COSWD will pursue continued and additional collaborations by hosting forums, such as those for SWDSS or other events, and presenting on DEIA at other institutions.

Through Accountability. Successfully disseminating evidence as a thought leader demands a rigorous, balanced, and fact-based approach. The COSWD will maintain these standards in seeking out and sharing perspectives. The COSWD seeks to provide multiple or even competing insights on issues to the extent that they are grounded in reputable research rather than based solely on opinion. Some emerging insights or hypothesized best or promising practices can be valuable to share under certain circumstances, particularly when there may be stakeholders with opportunities to pilot them. Disseminating less established but promising practices and striving to disclose the limitations or caveats, when appropriate, will benefit the DEIA community.

Through Evaluation. Responsibly disseminating evidence on an ongoing basis requires evaluating communication approaches and the value of the disseminated evidence for the COSWD stakeholders. Therefore, the COSWD will pursue practices to assess the reach of its information through various channels. We will evaluate the benefits of having disseminated evidence by soliciting feedback from stakeholders and participants as is relevant for the program. The COSWD will ascertain the extent to which dissemination efforts achieve their intended objectives. Insights from these evaluations will inform recommendations intended to shape the substantive content and communication strategy continually.

Cross-Cutting Strategies to Disseminate the Evidence

Collaborations	Accountability	Evaluation
<ul style="list-style-type: none">• Communicate <i>to</i> and <i>through</i> ICOs and DEIA stakeholders at NIH and across the scientific community.	<ul style="list-style-type: none">• Pursue a rigorous, balanced, and fact-based approach to disseminate evidence, enabling the COSWD to be a trusted expert advisor on the science of scientific workforce diversity.	<ul style="list-style-type: none">• Assess the effectiveness of communication strategies to ensure that tactics are measurable and successful.• Evaluate the value and effectiveness of the evidence disseminated for stakeholders and identify and implement recommendations for further improvement.

Objectives and Tactics to Disseminate the Evidence

Objective 2.1. Inform and engage the scientific community on the science of scientific workforce diversity.

Tactics

- Inform and engage NIH and the broader scientific community on scientific workforce diversity issues, including program effectiveness (e.g., through the COSWD's recently launched SWDSS initiative).
- Establish and host forums for more expansive discussion and engagement on specific DEIA efforts, such as the [Fostering Cohort Recruitment Virtual Forum](#), to cover the science behind models, such as the COSWD-conceived and supported [Faculty Institutional Recruitment for Sustainable Transformation \(FIRST\)](#) initiative, which have attempted to hire cohorts of scientists to enhance diverse perspectives.
- Communicate evidence-based findings on the science of diversity throughout NIH and the broader scientific community, including through the COSWD blog, social media platforms, and other communications tools.

Objective 2.2. Consult stakeholders on evidence-based practices to reduce bias and create inclusive cultures.

Tactics

- Develop and implement evidence-based learning content on creating cultures of inclusive excellence to support leadership development efforts.
- Provide scientific workforce DEIA knowledge or guidance to internal or external audiences through speaking engagements and other means of disseminating evidence.

Objective 2.3. Evaluate and continually improve the COSWD's dissemination efforts.

Tactics

- Evaluate the COSWD's programmatic and communication components (e.g., social media, media relations, digital/online analytics, web content strategy, other strategic communications) to ensure that the efforts achieve program purposes and support the scientific community.

GOAL 3: ACT on the Evidence



Act on the evidence by advancing integrated, institution-wide systems to address bias, equity, mentoring, and work-life issues.

Progress and Plans to Act on the Evidence

Recruiting and Developing Talent. The COSWD has spearheaded, co-led, or advised several NIH-wide programs designed to recruit and provide professional development for exceptional scientists, at various career stages, with a strong commitment to diversity. These efforts have focused on both the NIH intramural and external NIH-funded workforce. Some examples include the following:

- **[The COSWD Recruitment Search Protocol.](#)** Since 2016, the COSWD has served scientific search committees across NIH to recruit exceptional talent to the biomedical enterprise. The COSWD developed and implemented the first phase of an effective, systematic recruitment search protocol for identifying highly qualified, diverse candidates for various scientific positions, from tenure-track investigators to the highest levels of ICO leadership. This strategy has enabled search committees to recruit top talent often overlooked when relying on traditional recruitment practices, with approximately 10 percent of the COSWD-identified candidates ultimately hired. With this initial phase realized, the COSWD has turned to expand and enhance its impact through an NIH-wide Recruitment Protocol Scale-Up initiative, enabling ICO-designated recruitment strategists to support their ICOs' hiring needs.
- **[Faculty Institutional Recruitment for Sustainable Transformation \(FIRST\).](#)** In 2018, the COSWD worked with NIH Institute and Center (IC) collaborators to develop the FIRST program, managed by the NIH Common Fund and designed using research which shows that cluster hiring leads to more diverse, inclusive research environments, with built-in networks increasing retention, improving socialization, and reducing isolation among diverse faculty. In 2021, [NIH awarded funding](#) to six institutions to enhance DEIA, support faculty cohorts, and change institutional culture, and to one institution to serve as the Coordination and Evaluation Center to help assess the impact of institutional change strategies and other innovative approaches implemented at FIRST cohort sites. Two additional rounds of competitive award cohorts will be funded in FY 2022 and FY 2023. It is anticipated that the COSWD, in collaboration with Common Fund leadership and the managing ICs, will follow the outcomes from this initiative and determine what components of the intervention are scalable for wider dissemination and implementation.
- **[Distinguished Scholars Program \(DSP\).](#)** To build a scientific community of inclusive excellence, the NIH Office of Intramural Research (OIR) and the COSWD coordinate the NIH DSP, which uses a cohort recruitment model to select faculty who have demonstrated a commitment to diversity and inclusion. Established in 2018, the DSP provides a supportive environment in which scholars receive mentoring from esteemed NIH senior investigators, professional development, and networking opportunities with NIH leadership. As of FY 2021, 54 scholars have been recruited into the program. The DSP is an example of where the NIH OIR served as a testbed for a program that NIH has scaled up nationally through the FIRST initiative.

- [Future Research Leaders Conference \(FRLC\)](#). Since its inception in 2015, the FRLC has focused on attracting and providing career guidance to early-career scientists interested in pursuing careers in NIH's Intramural Research Program (IRP), including through core pathways such as the [Stadtman Tenure-Track Investigators program](#), [Lasker Clinical Research Scholars program](#), [Distinguished Scholars Program](#), and the [Independent Research Scholar Program](#). In 2021, the COSWD enhanced the FRLC program to better align with its NIH IRP recruitment objectives. The reinvigorated program was developed by evaluating and adjusting previous practices and closely collaborating with IRP leadership and IC stakeholders.
- [Diversity Program Consortium \(DPC\)](#). The DPC, a national collaboration managed by the NIGMS, focuses on developing, implementing, assessing, and disseminating innovative, effective approaches to research training and mentoring. During its first 5-year phase beginning in 2014, the DPC consisted of three complementary initiatives: [Building Infrastructure Leading to Diversity \(BUILD\)](#), [National Research Mentoring Network](#), and the [Coordination and Evaluation Center](#). For its second, and final, 5-year phase, two initiatives were added: [Sponsored Programs Administration Development Program](#) and the [DPC Dissemination and Translation Awards](#). The DPC initiatives have demonstrated considerable progress, including hundreds of [publications](#) resulting from faculty pilot projects and interventions, the development of logic models, short-term and long-term hallmarks of success, site-level and consortium-wide evaluation plans, and consortium governance guidance. The COSWD supports the DPC through a subcommittee of the ACD WGD, which generates advice and guidance for the ACD WGD as the program evolves.

Acting Forward. Multifaceted approaches are required to effect change on a meaningful scale. Therefore, the COSWD's efforts will collectively address a range of talent life cycle stages. Some will target recruitment; others will aim to enhance development, work experiences, and organizational culture to support retention. These efforts will consider the career stages along the scientific pathway, with some intended to support early-career scientists and others to promote later career development. The COSWD's efforts also will focus on the NIH intramural and extramural workforces, as well as the biomedical research enterprise beyond NIH.

NIH funds numerous DEIA programs, which collectively address a range of career stage and scientific focus areas. Such programs provide the COSWD with potential opportunities for future collaborations, including evaluating program effectiveness or identifying valuable practices. Knowledge from these implemented programs may help guide future DEIA efforts within those initiatives and/or for other initiatives.

Some examples of ongoing NIH DEIA-related funding programs include the following:

- [Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity \(AIM-AHEAD\)](#), a program managed by the NIH Office of Data Science Strategy designed to establish mutually beneficial and coordinated partnerships to increase the participation and representation of researchers and communities currently underrepresented in the development of artificial intelligence/machine learning models and enhance the capabilities of this emerging technology, beginning with electronic health record data.
- [Diversity Supplement FOAs and Other FOAs. PA-21-071: Research Supplements to Promote Diversity in Health-Related Research](#) are provided to enhance the diversity of the research workforce by recruiting and supporting students, postdoctorates, and eligible investigators from diverse backgrounds, including those from groups that have been shown to be underrepresented in

health-related research. There also are many [other diversity-focused NIH FOAs](#). Some have begun requiring that applications include a Plan for Enhancing Diverse Perspectives in the proposed research to foster diversity and inclusivity in the research community (e.g., BRAIN Initiative, Bridge to Artificial Intelligence [Bridge2AI] Program).

- [Maximizing Opportunities for Scientific and Academic Independent Careers \(MOSAIC\)](#), an NIGMS-sponsored funding program to enhance diversity within the academic biomedical research workforce by facilitating the transition of promising postdoctoral researchers from diverse backgrounds into independent, tenure-track, or equivalent research-intensive faculty positions.
- [Research Centers in Minority Institutions \(RCMI\)](#), an NIMHD-sponsored program that supports specialized research centers in institutions that offer doctoral degrees in the health professions or the sciences related to health and have an historical and current commitment to educating underrepresented students.
- [Science Education Partnership Awards \(SEPA\)](#), an NIGMS-sponsored program that funds innovative prekindergarten to grade 12 STEM and Informal Science Education educational projects.
- [Transformative Research to Address Health Disparities and Advance Health Equity](#), an NIH Common Fund program that supports innovative research aimed at preventing, reducing, or eliminating health disparities and health inequities. This program also is intended to increase the competitiveness of investigators and expand the research base dedicated to health disparities research at minority-serving institutions.

Given the many areas of potential focus, the COSWD will prioritize efforts based on collaborative opportunities and available evidence, applying its three cross-cutting strategies:

Through Collaborations. The COSWD will establish strong collaborations to impact the talent, career stage, and organizational contexts outlined. We will maintain and further act as a catalyst for change. In doing so, we will seek strategic opportunities for facilitating change, ensuring that NIH-wide, ICO, or program-specific ownership will be substantively advantageous for the pursued effort. For example, the COSWD Recruitment Protocol Scale-Up initiative has enabled greater depth (through ICOs' strong alignment with their own hiring needs) and breadth (through more searches supported) of recruitment efforts than was feasible in the initial phase of the initiative, when the COSWD team conducted all searches.

Through Accountability. Accountability by all collaborators is essential, with the COSWD serving primarily as a catalyst. The COSWD will collaborate with ICOs to support integrating leaders' DEIA efforts into their performance metrics and evaluations. The COSWD may consider other transparency mechanisms that emerge through building the evidence, such as practices that facilitate transparency in search committee practices.

Through Evaluation. Formative evaluations will help inform whether an initiative—be it program, practice, intervention, or otherwise—may be effective when implemented more broadly or after initial improvement. Process and outcome evaluations will enable additional insights, including outcomes that remain unknown in an early pilot. Furthermore, the scale-up of some efforts may inherently lead to new roles and approaches that could shape outcomes. These evaluation efforts may be applied to existing NIH DEIA programs to help inform their future operations. The COSWD will design evaluations, collaborate with scientific leaders when appropriate, or advise collaborators on evaluation to understand the impact of implemented initiatives.

Cross-Cutting Strategies to Act on the Evidence

Collaborations

- Scale up successful efforts through ICO collaborations to increase impact across NIH and the scientific community.
- Transfer select COSWD-piloted programs for ICO management to enable continued growth.

Accountability

- Support efforts to integrate leaders' DEIA efforts into performance metrics and evaluations.
- Expand the DEIA commitment through co- or transferred program ownership.

Evaluation

- Evaluate the COSWD's direct programs and the COSWD-informed programs implemented by ICOs to assess a broader range of outcomes and impact.

Objectives and Tactics to Act on the Evidence

Objective 3.1. Enhance DEIA across the NIH scientific workforce through supporting or expanding successful DEIA programs.

Tactics

- Pursue the scale-up of programs designed to attract and recruit excellent talent committed to diversity. Potential examples include training and advising IC recruitment strategists to identify highly qualified, diverse talent using the [COSWD Recruitment Search Protocol](#); programmatic efforts such as conferences; or other approaches identified by the COSWD through pilot efforts.
- Support and amplify the impact of programs designed to develop scientific talent through training and mentoring. Potential examples include supporting cohort hiring models as implemented in the [Distinguished Scholars Program](#) and [FIRST](#), providing leadership for the [NIH Common Fund Diversity Program Consortium](#), and launching a program for enhancing workforce diversity and promoting a self-reinforcing culture of mentoring among NIH's extramural program staff.

Objective 3.2. Promote incentive structures that encourage practices and programs supporting DEIA.

Tactics

- Support ICOs in developing and implementing appropriate scientific workforce DEIA metrics for performance evaluations.
- Establish programs to reward DEIA efforts, such as [Administrative Supplements to Recognize Excellence in DEIA Mentorship](#).
- Advise external academic and research leaders on practices to align scientific workforce diversity goals and leadership performance.

Objective 3.3. Evaluate and develop improvements for implemented DEIA programs in the NIH scientific workforce.

Tactics

- Design or coordinate with collaborators on evaluation plans for assessing scaled-up programs' performance and impact.
- Collaborate with select program leaders across NIH to evaluate the impact of their DEIA programs.

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- ²⁷ Zhang G, Tang C. [How R&D partner diversity influences innovation performance: An empirical study in the nano-biopharmaceutical field. *Scientometrics*. 2018;116\(3\):1487–1512. doi:10.1007/s11192-018-2831-6](#)
- ²⁸ For research showing the value of organization-wide manager support through diversity task forces, see Dobbin F, Kalev A. [Why firms need diversity managers and task forces. In: M. Pilati, H. Sheikh, C. Tilly, and F. Sperotti, eds. *How Global Migration Changes the Workforce Diversity Equation*. Newcastle, UK: Cambridge Scholars Publishing, 2014](#).
- ²⁹ For an evidence-based review of practices and policies, including increased accountability and transparency, to enhance diversity, see Galinsky A, Todd A, Homan A, et al. [Maximizing the gains and minimizing the pains of diversity: A policy perspective. *Perspectives on Psychological Science*. 2015;10\(6\):742–748. doi:10.1177/1745691615598513](#).
- ³⁰ For a “small wins approach” to organizational change, including diagnosing source issues (e.g., the nature of bias), see Correll SJ. [SWS 2016 Feminist Lecture: Reducing gender biases in modern workplaces: A small wins approach to organizational change. *Gender & Society*. 2017;31\(6\):725–750. doi:10.1177/0891243217738518](#).
- ³¹ Castilla EJ. [Achieving meritocracy in the workplace. *MIT Sloan Management Review*. 2016;57\(4\)](#).
- ³² See [Office of Management and Budget, M-20-12. Phase 4 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Program Evaluation Standards and Practices](#) for a summary of evaluation types.

³³ For examples, see Kalev A, Dobbin F, Kelly E. [Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American Sociological Review*. 2006;71\(4\):589–617. doi:10.1177/000312240607100404](#); Castilla EJ, Benard S. [The paradox of meritocracy in organizations. *Administrative Science Quarterly*. 2010;55:543–676. doi:10.2189/asqu.2010.55.4.543](#).

³⁴ Pfeffer J, Sutton RI. [Evidence-based management. *Harvard Business Review*. January 2006](#).

³⁵ For research on engaging leaders in establishing psychological safety, see Edmondson A. [The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth](#). Hoboken, NJ: John Wiley & Sons, 2018. For an overview of the importance of employee engagement, see Harter JK, Schmidt FL, Agrawal S, Blue A, Plowman SK, Josh P, Asplund J. [The Relationship Between Engagement at Work and Organizational Outcomes, 2020 Q12® Meta-Analysis. 10th Edition. 2020. Gallup, Inc](#). For the role of DEIA practices in enhancing engagement, see Downey SN, van der Werff L, Thomas KM, Plaut VC. [The role of diversity practices and inclusion in promoting trust and employee engagement. *Journal of Applied Social Psychology*. 2015;45\(1\):35–44. doi:10.1111/jasp.12273](#).

APPENDICES

Appendix I: Strategic Planning Process

Overview

Development of the COSWD's Strategic Plan used a five-step process: (1) pre-planning to establish the planning goals, process design, and timeline; select relevant input sources; and determine data collection and analysis plans; (2) internal information gathering and framework development; (3) drafting and posting a request for information; (4) public comments; and (5) revisions and finalization.

The COSWD's Strategic Plan was informed by an extensive environmental scan, designed and conducted by the COSWD senior leadership and staff, together with research firm contractor ICF Next. The environmental scan included analyses of the following data sources:

1. Strengths, Weaknesses, Opportunities, and Threats (SWOT) workshops, held in December 2020 (NIH Diversity Catalysts) and August 2021 (NIH key informants), as well as three individual SWOT interviews with NIH partners in August and September 2021.
2. In-depth interviews, conducted in August and September 2021, with NIH partners in leadership roles pertaining to DEIA efforts.
3. One-to-one meetings with Marie A. Bernard, M.D., and ICO leadership (every IC Director and Scientific Director), held throughout mid-2021.
4. Input from numerous meetings with external scientific groups, including more than 70 presentations by Marie A. Bernard, M.D., since beginning her service as the Chief Officer for Scientific Workforce Diversity on October 1, 2020.

Feedback from the data sources outlined above was collected through a multi-stage process to accommodate an interim period during which the Chief Officer for Scientific Workforce Diversity, Marie A. Bernard, M.D., served as the Acting Chief. This approach also enabled the COSWD's initial strategic priorities to be further refined through an iterative process. Responses from these data sources were analyzed and developed into key themes and specific insights, which informed the development of the Strategic Plan.

Internal Input: Senior Leadership and DEIA Stakeholders

Strengths, Weaknesses, Opportunities, and Threats (SWOT) Workshops. The COSWD, together with ICF Next, conducted three strategic priority planning sessions—one with the NIH Diversity Catalysts in December 2020 and two with unique groups of IRP/ERP, IC, and Office and Director leadership in August 2021. Together, these groups enabled us to learn perspectives from those more directly focused on DEIA efforts, by virtue of their role as Diversity Catalysts (and whose primary NIH positions are diverse), and those with senior-level business and scientific insights in their respective leadership roles.

IRP and ERP leadership insights were elicited through individual interviews, rather than group sessions, but using the same question set. This approach also was used for one IC Director who was unavailable for the group sessions. These interviews were conducted in August and September 2021.

The sessions were structured with a SWOT approach, used for strategic planning to identify internal and external drivers that may determine an organization's ability to meet its stated goals and objectives. SWOT participants were provided with a brief overview of strategies, activities, and initiatives currently being pursued by the COSWD and mapped to the goals and objectives of the COSWD's FYs 2016–2020 Strategic Plan. For the August 2021 sessions, participants were additionally provided with a new in-progress vision, mission, and high-level goals to orient their feedback.

For the Diversity Catalysts session, all then-current 65 members were provided with an opportunity to participate in the SWOT discussion and/or contribute their ideas asynchronously via an online board. For the leadership sessions, each group consisted of five leaders to enable a more robust discussion. In total, 13 leaders participated through the SWOT sessions or SWOT-formatted interviews.

In-Depth Interviews. The COSWD, together with ICF Next, designed plans for 1-hour in-depth interviews conducted with nine NIH staff whose work relates closely to DEIA and/or COSWD priority topics by virtue of supporting diverse STEM talent pools in some capacity. The interviews focused on their perceptions of DEIA challenges more generally and in their office specifically, their awareness and perceptions of the COSWD and its initiatives, additional ways the COSWD could support their efforts or help them achieve their mission, and the COSWD's positioning in the broader NIH environment, particularly as it relates to the UNITE initiative.

1:1 Meetings with Marie A. Bernard, M.D., and ICO Leadership. Dr. Bernard met with all 27 NIH IC Directors and Scientific Directors to discuss strategic priorities as she assumed the role of the COSWD. She also met with the leadership of several Employee Resource Groups, including those for individuals from racial and ethnic groups that have been shown by the NSF to be underrepresented in health-related sciences on a national basis, LGBTQ+, and individuals with disabilities. These meetings provided important insights on NIH scientific workforce needs and ways that the COSWD could serve those needs.

Meetings with Marie A. Bernard, M.D., and Scientific Leaders Outside of NIH. Starting with her appointment as Acting Chief Officer for Scientific Workforce Diversity on October 1, 2020, Dr. Bernard met with numerous scientific groups and leaders to gather informal feedback regarding future directions for the COSWD team. This included approximately 70 formal scientific presentations. Insights from these formal and informal meetings contributed to a broader understanding of scientific workforce diversity needs and opportunities for the COSWD to meet those needs.

Draft Comments. The COSWD solicited and incorporated feedback on the draft Strategic Plan from the Steering Committee Diversity Working Group, an internal advisory group to the NIH Steering Committee established by the NIH Director to provide advice on diversity and inclusion issues affecting the intramural and extramural research communities and the NIH workforce.

External Input: Request for Information

Draft Comments. The COSWD solicited and considered feedback on the draft Strategic Plan from the public through a [request for information](#), open from January 12, 2022 to February 10, 2022.

Appendix II: List of Acronyms

Acronym	Definition
ACD	Advisory Committee to the NIH Director
COSWD	Chief Officer for Scientific Workforce Diversity Team
DEIA	Diversity, Equity, Inclusion, and Accessibility
DPC	Diversity Program Consortium
DSP	Distinguished Scholars Program
EDI	Office of Equity, Diversity, and Inclusion
ERP	NIH's Extramural Research Program
FIRST	Faculty Institutional Recruitment for Sustainable Transformation
FRLC	Future Research Leaders Conference
FY	Fiscal Year
HHS	U.S. Department of Health and Human Services
IC	NIH Institute or Center
ICO	NIH Institute, Center, or Office
IRP	NIH's Intramural Research Program
NIGMS	National Institute of General Medical Sciences
NIH	National Institutes of Health
NIMHD	National Institute on Minority Health and Health Disparities
NSF	National Science Foundation
OHR	Office of Human Resources
OIR	Office of Intramural Research
ORWH	Office of Research on Women's Health
SGMRO	Sexual & Gender Minority Research Office
STEM	Science, Technology, Engineering, and Mathematics
SWDSS	Scientific Workforce Diversity Seminar Series
THRO	Tribal Health Research Office
UNITE	The UNITE initiative comprises five committees with separate but coordinated objectives: U nderstanding stakeholder experiences through listening and learning; N ew research on health disparities, minority health, and health equity; I mproving the NIH culture and structure for equity, inclusion, and excellence; T ransparency, communication, and accountability with our internal and external stakeholders; and the E xtramural research ecosystem—changing policy, culture, and structure to promote workforce diversity.
WGD	Working Group on Diversity
WGDBRW	Working Group on Diversity in the Biomedical Research Workforce



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Chief Officer for Scientific Workforce Diversity

