NIH Chief Officer for Scientific Workforce Diversity

Strategic Plan Draft

Fiscal Years
2022–2026

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

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Message from the Chief Officer for Scientific Workforce Diversity

I am pleased to share with you the National Institutes of Health (NIH) Chief Officer for Scientific Workforce Diversity Strategic Plan for fiscal years 2022–2026. I am deeply honored to serve as the NIH thought leader in scientific workforce diversity at this important and powerful point in history at NIH, within the Federal Government, and across the United States. My leadership of the Chief Officer for Scientific Workforce Diversity team (hereafter referred to as COSWD) begins at a time of strong progress, remaining challenges, and evolving ideologies about diversity, equity, inclusion, and accessibility (DEIA). This broader context, together with insights from internal and external stakeholders, helped inform the present 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.[1-6] Though demographically similar researchers tend to collaborate,[7] diverse groups of scientists produce more successful publications and higher quality research.[8-11] Diversity also broadens the scope of scientific inquiry,[12-14] including enhancing the understanding required for addressing the health of the entire U.S. populace. Reflecting on diversity and innovation evidence, researchers have called for a continued focus on enhancing diversity.[15] 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. Valantine'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 (i.e., a more diverse, equitable, inclusive, and accessible workforce) at NIH.

Institutional shifts further situate the COSWD to catalyze change. Recent NIH-wide developments, such as the UNITE initiative to address structural racism within the scientific community have heightened the scientific community's awareness and interest in DEIA. Several 2021 Executive Orders also have expanded DEIA efforts within the Federal Government. All have occurred against a social backdrop highlighting enduring racial and other social inequities and injustices. Moreover, the Foundations for Evidence-Based Policymaking Act of 2018 ("the Evidence Act"), 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 a culture of inclusive excellence. The scientific workforce requires diverse talent highly engaged in developing innovative solutions to increasingly complex scientific and health challenges. Our efforts must extend beyond simply increasing the number of diverse individuals recruited into science. They must identify ways for enhancing career experiences and pathways for the scientific workforce to reach its full potential.[16] Further, they must promote a truly inclusive organizational culture.[17] While diversity contributes to innovation, biases can still constrain the

career success of innovative diverse scientists.[18-19] Supporting an inclusive culture requires examining various factors—including organizational structures, policies, practices, and cultures—that may impede or promote such progress.[20]

Fostering an inclusive culture 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 strategic goals are to BUILD, DISSEMINATE, and ACT on the evidence to effect change in the scientific workforce. Such expansive efforts will be further realized through our collaborations.

This Strategic Plan describes how we will pursue our goals to create cultures of inclusive excellence. I invite you to explore the plan in full, 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.
NIH Chief Officer for Scientific Workforce Diversity

Executive Summary

Purpose. The National Institutes of Health's (NIH) mission to advance scientific knowledge to enhance health, lengthen life, and reduce illness and disability 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 COSWD) 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 five-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; selecting relevant input sources; and determining data collection and analysis plans; (2) internal information gathering and framework development; (3) drafting and posting a request for information; (4) culling and reviewing public comments; and (5) revisions and finalization.

Goals and 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 diversity, NIH settings, and program effectiveness. 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 strategies will enable the COSWD to capitalize on its strengths as an evidence-based thought leader while creating a broader impact in the NIH scientific workforce and scientific community.

Scope. The COSWD's efforts will focus on the NIH intramural, extramural, and external scientific workforce, including the 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 merely better reflecting 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 cross-cutting strategies, which will be leveraged to pursue its presented three goals and corresponding objectives. These strategies, goals, and objectives—and specific tactics—are described in further detail throughout this Strategic Plan.

Cross-Cutting Strategies

- **Collaborations** will enhance programs' depth and reach while creating a more integrated culture of DEIA across the biomedical workforce.
    - The COSWD will enhance and expand internal and external collaborations to inform, communicate, and implement evidence-based practices.
- **Accountability** will enable leaders' focus on the appropriate issues and ensure alignment of incentives.
    - The COSWD will establish practices and metrics that can 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.

Goals

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

- **Objective 1.1.** Expand the knowledge of quality and emerging scientific research on scientific workforce diversity.
- **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 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.** Align appropriate scientific diversity metrics and leadership performance evaluations.
- **Objective 3.3.** Evaluate and develop improvements for implemented DEIA programs in the NIH scientific workforce.

COSWD Strategic Plan Framework

Vision and Mission

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.

In Brief: COSWD's Goals, Strategies, and Organizational Scope

Goals

Goal 1: BUILD the evidence

- By using research insights and NIH as a testbed for innovative scientific programs to enhance diversity 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

- 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. 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. 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. However, internally, the Office of Human Resources and Office of Equity, Diversity, and Inclusion focus on the entire workforce. Externally, there are comparable entities at academic and research institutions.

NIH Scientific Workforce		External Biomedical Scientific Workforce
Intramural Research Program (IRP)	**Extramural Research Program (ERP)**	
▪ The IRP is the internal research program of NIH known for its synergistic approach to biomedical science. ▪ Includes approximately 1,200 Principal Investigators and more than 4,000 Postdoctoral Fellows conducting basic, translational, and clinical research, making it the largest biomedical research institution in the world.	▪ The ERP awards research grants to the external 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.	▪ 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 state.

Holistic Perspective on the Talent Life Cycle

- Through thought leadership and leveraging collaborations, the COSWD Office will help to facilitate progress across various stages of the talent life cycle.
- To pursue goals, the COSWD's objectives and tactics will seek to enhance recruitment and develop and reward practices. In turn, these efforts will help enhance the organizational culture in support of retention.

Recruit → **Develop and Reward** → **Retain**

Alignment with NIH-wide Strategic Plans

The fiscal year (FY) 2022–2026 COSWD Strategic Plan goals align with the FYs 2021–2025 NIH-wide Strategic Plan framework, as well as the forthcoming NIH-wide Diversity, Equity, Inclusion, and Accessibility (DEIA) Strategic Plan. The latter will align with the NIH-wide Strategic Plan framework and is under development in response to Executive Order 14035, which orders federal agencies to develop agency-wide DEIA strategic plans in support of a Federal Government-wide DEIA strategic plan.

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 1 shows how the COSWD Strategic Plan goals and strategies align with these objectives.

Table 1. Alignment of NIH-wide and COSWD Strategic Plans

NIH-wide Strategic Plan Objective	COSWD Strategic Plan Goals and Strategies
(1) Advancing biomedical and behavioral sciences	**Goal 1:** **BUILD the evidence** ▪ 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 enhance workplace outcomes.
(2) Developing, maintaining, and renewing scientific research capacity	**Goals 2 and 3:** **DISSEMINATE and ACT on the evidence** ▪ 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.
(3) Exemplifying and promoting the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science	**Cross-Cutting Strategies:** **COLLABORATIONS, ACCOUNTABILITY, and EVALUATION** ▪ 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

COSWD 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 Ginther and colleagues, "Race, Ethnicity, and NIH Research Awards."

The NIH-commissioned study by Dr. Ginther et al. 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 et al. 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.

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 has appointed two Chief Officers for Scientific Workforce Diversity, Dr. Hannah Valantine in March 2014 and, after serving as the acting Chief Officer from October 2020, Dr. Marie A. Bernard in May 2021.

Structure

The COSWD is structured within NIH, an operating division of the U.S. Department of Health and Human Services, 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.

NIH COSWD Dr. Marie A. Bernard 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 Diversity, Equity, Inclusion, and Accessibility Strategic Planning Committee; and others), and developing approaches to measure and evaluate DEIA programs in the scientific workforce. The COSWD team comprises operations, programmatic, UNITE, and communications staff members with biomedical, 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 following categories are identified as examples of underrepresented groups in the Notice of NIH's Interest in Diversity (NOT-OD-20-031: Notice of NIH's Interest in Diversity):

- Individuals from racial and ethnic groups that have been shown by the National Science Foundation to be underrepresented in health-related sciences on a national basis: Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, Native Hawaiians, and other Pacific Islanders.
- 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 (WIC) 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 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 the 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.

Key Focus Areas

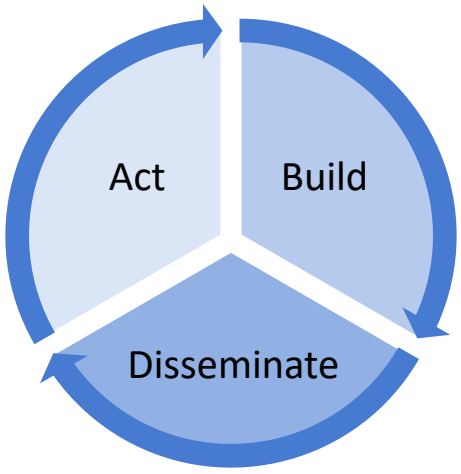
The COSWD will focus on building, disseminating, and acting on evidence across three foci related to DEIA in the scientific workforce: the value of diversity, NIH settings, and effective programs (see Table 2). Given the broad scope of potential foci, the COSWD will prioritize and strategize on the most impactful areas to catalyze change and leverage stakeholders regularly, with priorities evolving over time.

Table 2. Key Focus Areas for Evidence-Based Goals

(1) Value of Diversity	(2) NIH Settings	(3) Effective Programs
▪ Effects of diversity, equity, inclusion, and accessibility in scientific settings	▪ NIH settings (intramural, extramural, and external) to inform data-driven approaches to programs at NIH and/or across the scientific workforce ecosystem	▪ Effective approaches for designing, implementing, and improving programs, policies, and interventions to enhance diversity 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. 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.



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

Given that the COSWD resides 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-initiated programs, develop and test new programs, and ensure that best practices are implemented at 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 Institutes, Centers, or Offices (ICOs) and their leaders across NIH, 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, National Institute on Minority Health and Health Disparities, Office of Research on Women's Health, Sexual & Gender Minority Research Office, and the Tribal Health Research Office; 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 the Office of Equity, Diversity, and Inclusion, Office of Human Resources, 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 evaluation strategy. The COSWD will additionally 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.[21-22]
- Create a culture of DEIA commitment.[23]
- 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.

+ Value of Accountability for the COSWD's Goals

- Improve the accuracy of root problems identified and implement practices to address problems.[24]
- Inform program design or improvements in ways that are aligned with organizational goals.[25]
- Hold individuals accountable for progress to help facilitate change.[26]

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 the 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 develop 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 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.[27]

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 COSWD's Goals

- Assist stakeholders in determining which programs meet strategic objectives to best allocate resources.
- Identify program strengths to magnify, or weaknesses or unintended consequences that require remediation, and the parameters to sunset duplicative programs.[28]
- Advise on program enhancements or future opportunities based on evaluation insights.[29]

Table 3. Summary Table Applying Strategies to Achieve Goals

Goals	Strategies		
	Collaborations	Accountability	Evaluation
(1) Build the Evidence	▪ Identify and promote best practices from ICOs across NIH. ▪ Collaborate, when appropriate, through external collaborations, such as academic or other research-focused institutions, to stay abreast of the latest scientific findings and insights on diversity, equity, and inclusion.	▪ Pilot the design of new programs using scientific evidence by applying and drawing on theoretical or empirical insights to enhance talent and organizational outcomes.	▪ 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 diversity initiatives.
(2) Disseminate the Evidence	▪ Communicate *to* and *through* ICOs and DEIA stakeholders at NIH and across the scientific community.	▪ Pursue a rigorous, balanced, and fact-based approach to disseminate evidence, enabling COSWD to be a trusted expert advisor on the science of scientific workforce diversity.	▪ Assess the effectiveness of communication strategies to ensure successful reach tactics. ▪ Evaluate the value and effectiveness of the evidence disseminated to stakeholders; identify and implement recommendations for further improvement.
(3) Act on the Evidence	▪ 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.	▪ Support efforts to integrate leaders' DEIA efforts into their performance metrics and evaluations. ▪ Expand the DEIA commitment through co- or transferred program ownership.	▪ 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 using research insights and NIH as a testbed for innovative scientific programs to enhance diversity 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. In the coming years, 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.

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 (https://diversity.nih.gov/science-diversity/swd-seminar-series-september).

In addition to the evidence basis of DEIA conditions and outcomes, we also focus on the evidence basis of program performance. Good-willed 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. Beyond conducting secondary research, the COSWD has established strong relationships within NIH and beyond to better understand the barriers to diversity. 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, who are 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. It also reviews the scientific literature on implicit biases that limit diversity

and practices that can mitigate these biases and help foster diversity. That e-Learning, as referenced above, is now available for general access at the COSWD website (https://diversity.nih.gov/Implicit_Bias/story.html).

In 2021, NIH established the ACD WGD (co-chaired by COSWD Dr. Bernard) Subgroup on Individuals with Disabilities to identify strategies that support differently abled individuals in the biomedical research workforce. The subgroup is charged with developing suggestions that will ultimately go to the ACD as considerations to best support differently abled individuals 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 based on 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 practices. In addition, the COSWD has provided numerous instructional presentations to universities, professional societies, industry, and federal stakeholders.

Building Forward. The COSWD is differentiated 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 diversity efforts. Thus, the COSWD aims to further examine how diversity 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 extant 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 integrate program evaluation into its standard program design and implementation practices. With quantitative 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.

Strategies to Build the Evidence

Collaborations	Accountability	Evaluation
▪ Identify and promote best practices from ICOs across NIH. ▪ Collaborate, 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 diversity, equity, and inclusion.	▪ Pilot the design of new programs using scientific evidence by applying and drawing on theoretical or empirical insights to enhance talent and organizational outcomes.	▪ 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 diversity initiatives.

Objectives and Tactics to Build the Evidence

Objective 1.1. Expand the knowledge of quality and emerging scientific research on scientific workforce diversity.

>> Tactics

- The COSWD will continue to maintain and expand a repository of evidence-based information, especially peer-reviewed academic publications, to facilitate program design, evaluation, and communication.
- 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 diversity strategies managed by NIH Diversity Catalysts, ideas generated from the NIH UNITE initiative, and other DEIA collaborators, such as the ACD, with support of the WGD and WGD Subgroup on Individuals with Disabilities.
- Maintain and expand outreach to universities and other research institutions to learn about diversity programs.
- Assess and develop strategies to fill gaps in scientific workforce diversity 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 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 Diversity. The COSWD has pursued several efforts to disseminate information about scientific workforce diversity during the past several years. Internally, these efforts have focused on facilitating information sharing (e.g., through meetings of Diversity Catalysts), enabling transparency in ICOs' diversity progress (e.g., through data monitoring and reporting to the NIH Equity Committee), and providing diversity advisory services with the COSWD's evidence-based implicit bias education offerings most visible to key stakeholders and staff.

As noted, the COSWD has provided implicit bias education through the Learning Management System NIH-wide e-Learning course and in-person workshops, and lectures to search committees to reduce bias and enhance their candidate review processes. At the time of this Strategic Plan's development, e-Training is being expanded to provide all NIH staff, especially leaders, with strategies for further fostering an inclusive workplace by creating psychological safety and enhancing employee engagement.[30]

Externally, dissemination efforts have focused on employing a strategic communications plan to cover diversity issues through public media channels, such as the COSWD blog, social media posts, newsletters, scientific reports and products, and invited speaking engagements. The COSWD's blog and social media have served as platforms for sharing the science of scientific workforce diversity and related NIH or ICO insights and initiatives, such as funding opportunities, 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' diversity 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. Recently, the COSWD launched a new initiative, the Scientific Workforce Diversity Seminar Series (SWDSS), designed to disseminate evidence on important diversity topics, by developing and leveraging diverse internal and external collaborations. Through the SWDSS initiative, the COSWD collaborates with leading experts 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.

Strategies to Disseminate the Evidence

Collaborations	Accountability	Evaluation
▪ Communicate *to* and *through* ICOs and DEIA stakeholders at NIH and across the scientific community.	▪ 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.	▪ Assess the effectiveness of communication strategies to ensure successful reach tactics. ▪ Evaluate the value and effectiveness of evidence disseminated for stakeholders; 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 diversity efforts, such as the Fostering Cohort Recruitment Virtual Forum to cover the science behind initiatives, 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 and social media platforms.

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 inclusive cultures 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 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 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:

- **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% 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 seven institutions funding through FIRST to support their efforts to enhance diversity in the biomedical research enterprise, primarily to support faculty cohort hires and institutional culture change. Two additional rounds of competitive awards 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 ICOs, 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 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. 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.

- **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, with the reinvigorated program developed by evaluating and adjusting previous practices and closely collaborating with IRP leadership and IC stakeholders.

- **Diversity Program Consortium (DPC).** The DPC, which is a national collaboration managed by the National Institute of General Medical Sciences, 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 Advisory Committee to the Director Working Group on Diversity, which generates advice and guidance for the ACD as the program evolves.

Acting Forward. Multifaceted approaches are required to effect change at a meaningful scale. Therefore, the COSWD's efforts will collectively address a range of talent life cycle stages. Some will focus more on recruitment and others on various aspects of development and enhancing the overall work experience and organizational culture. Furthermore, they will focus on various career stages, with some focusing on early-career scientists and others providing support for later career development. They also will focus on the NIH intramural and extramural workforces, as well as the biomedical research enterprise beyond NIH.

NIH funds numerous diversity 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, either within those initiatives and/or for other initiatives.

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

- **Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC)**, a National Institute of General Medical Sciences (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 interdependent, tenure-track or equivalent research-intensive faculty positions.
- **Science Education Partnership Awards**, an NIGMS-sponsored program that funds innovative prekindergarten to grade 12 STEM and Informal Science Education educational projects.
- **Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD)**, a funding program 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.
- **Research Centers in Minority Institutions**, a National Institute on Minority Health and Health Disparities-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.
- **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.
- **Diversity Supplement funding opportunities.** 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.
- **Other funding opportunity announcements (FOAs).** There are many other diversity-focused NIH FOAs (https://extramural-diversity.nih.gov/guidedata/data). 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. Current examples include the BRAIN Initiative and the Bridge to Artificial Intelligence (Bridge2AI) Program.

Given the many phases 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 enact our role 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. Early pilot 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. Evaluation of the initiative's more complete implementation 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 in order to understand the impact of implemented initiatives.

Strategies to Act on the Evidence

Collaborations	Accountability	Evaluation
▪ 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.	▪ Support efforts to integrate leaders' DEIA efforts into performance metrics and evaluations. ▪ Expand the DEIA commitment through co- or transferred program ownership.	▪ 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 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. Align appropriate scientific diversity metrics and leadership performance evaluations.

>> Tactics

- Support ICOs in developing and implementing appropriate scientific workforce diversity metrics for performance evaluations.
- 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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Appendices

Appendix I: Strategic Planning Process

Overview

The 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) 1:1 meetings with Dr. Marie A. Bernard and ICO leadership, held throughout mid-2021. Dr. Bernard met with every IC Director and Scientific Director.
(4) Input from numerous meetings with outside scientific groups, including more than 30 presentations by Dr. Bernard 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 current Chief Officer for Scientific Workforce Diversity Dr. Marie A. Bernard 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 diversity 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 onto 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 mission, vision, and high-level goals to orient their feedback.

For the Diversity Catalyst 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 Dr. Marie A. Bernard and ICO Leadership. Dr. Bernard met with every NIH IC Director and Scientific Director to discuss strategic priorities as she assumed the role of the COSWD. She also met with the leadership of several Employee Resource Groups, including African American/Black senior scientists, Hispanics/Latinos, Asian American and Native Hawaiian/Pacific Islander, 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 Dr. Marie A. Bernard 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 more than 30 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.

External Input: Request for Information

Draft Comments (forthcoming). The COSWD will solicit feedback on the draft Strategic Plan from the public through a request for information.

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
ERP	NIH's Extramural Research Program
FCR	Faculty Cohort Recruitment
FIRST	Faculty Institutional Recruitment for Sustainable Transformation
FRLC	Future Research Leaders Conference
FY	Fiscal Year
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
OIR	Office of Intramural Research
STEM	Science, Technology, Engineering, and Mathematics
SWDSS	Scientific Workforce Diversity Seminar Series
UNITE	The UNITE initiative comprises five committees with separate but coordinated objectives: Understanding stakeholder experiences through listening and learning; New research health disparities, minority health, and health equity; Improving the NIH culture and structure for equity, inclusion, and excellence; Transparency, communication, and accountability with our internal and external stakeholders; and Extramural 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