National Institutes of Health
Office of Dietary Supplements

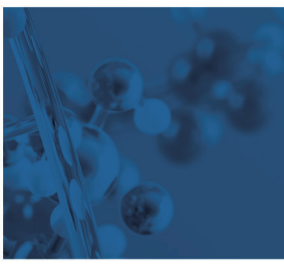
STRATEGIC PLAN FY 2025–2029

A Blueprint for a Coordinated Dietary Supplement Research Agenda at NIH

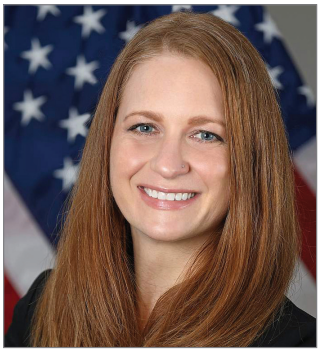






Foreword



Tara A. Schwetz, Ph.D.
Deputy Director for Program Coordination, Planning, and Strategic Initiatives, National Institutes of Health

Dietary supplements are widely available and used by more than one-half of adults and one-third of children in the United States to fill nutrient gaps and optimize health. Despite this common use, there is much to understand about the health impacts of dietary supplements. The Office of Dietary Supplements (ODS), located within the Division of Program Coordination, Planning, and Strategic Initiatives in the Office of the Director at the National Institutes of Health (NIH), is charged with ensuring that the public has confidence in the science that informs their decisions to use dietary supplements. ODS fulfills its mission through funding, promoting, and coordinating scientific studies of dietary supplements to understand their impact on the health of Americans. For 30 years ODS has been a trusted primary source of scientific information, tools, resources, and support for consumers, health care professionals, practitioners, researchers, and industry partners.

Last year, Dr. Stefan M. Pasiakos began his tenure as the new director of ODS. In this strategic plan, he and the team at ODS have outlined a visionary framework for creating an expansive dietary supplement research agenda. NIH enthusiastically welcomes this new strategic plan that will promote greater collaboration and coordination of innovative dietary supplement research with the Institutes, Centers, and Offices (ICOs) across NIH. The strategic plan clearly articulates ODS' scientific priorities of Healthy Americans, Healthy Lifespan, and Resilience, along with goals and objectives that establish a blueprint for new, collaborative dietary supplement research across NIH and the federal government. Plans to develop and communicate enhanced research methodology guidelines will help advance and harmonize the field of dietary supplement research.

I am confident that, with a talented staff and plans for strengthening and developing close partnerships with the ICOs, ODS will contribute greatly to the scientific understanding of dietary supplements and how they impact the health of our nation.

Tara A. Schwetz, Ph.D.
Deputy Director for Program Coordination,
Planning, and Strategic Initiatives
National Institutes of Health

Contents

A Message from the Director

Stefan M. Pasiakos, Ph.D.
Director, Office of Dietary Supplements, National Institutes of Health

Since I joined the National Institutes of Health (NIH) Office of Dietary Supplements (ODS) as its new director in July 2023, my primary focus has been to establish a strategic vision that positions ODS as the premier organization, authority, and convening body for advancing the study of dietary supplements. My vision for ODS emphasizes objectivity and relevance. It prioritizes collaboration and coordination across NIH while maintaining our long-standing partnerships with federal agencies and others with an interest in dietary supplements. ODS remains committed to the American public as the honest broker for advancing dietary supplement science.

I am pleased to introduce the ODS Strategic Plan for Fiscal Year 2025–2029, "A Blueprint for a Coordinated Dietary Supplement Research Agenda at NIH." The plan reimagines ODS with new goals, objectives, and strategic priorities. These build upon our competencies and ongoing activities to address our mission to coordinate collaborative, innovative, and cutting-edge dietary supplement research across NIH and other federal agencies to foster knowledge and optimize health across the lifespan.

ODS will focus on three primary goals that emphasize research, research capacity, and stewardship. Specifically, ODS will advance dietary supplement science and catalyze innovative, collaborative research; expand the capacity to strengthen the field of dietary supplement science and address emerging public health concerns; and foster stewardship, collaboration, and accountability. These goals and their interconnected objectives will enable ODS to develop new research opportunities and promote resources that build our understanding of how dietary supplements modulate resilience and health across the lifespan for all Americans.

This strategic plan reflects the collaborative work of the dedicated and passionate staff that comprise the ODS, with input and expertise provided by our colleagues and partners across NIH, other federal agencies, leading dietary supplement trade organizations, the broader scientific field of dietary supplements and nutrition, and the public. It is a blueprint for new opportunities to forge successful collaborations and advance the field with our many partners. ODS embraces the foundation this new strategic plan provides for the coordination of dietary supplement science and the translation of findings that will inform the public's choices for the safe and effective use of dietary supplements.

Stefan M. Pasiakos, Ph.D.
Director, Office of Dietary Supplements
National Institutes of Health

I. Introduction

A. Overview of the Office of Dietary Supplements

The dietary supplement market now includes more than 100,000 products, and about one-half of adults and one-third of children and adolescents in the United States use dietary supplements. Yet questions remain about their cellular mechanisms, metabolism, efficacy, safety, and effects on health. To address these questions, the Office of Dietary Supplements (ODS) leads the scientific exploration of dietary supplements across the National Institutes of Health (NIH). In this new strategic planning period (2025–2029), ODS will continue to identify dietary supplement research priorities based on public health importance and will use research coordination to address critical gaps in knowledge. ODS also will continue to translate scientific advances for researchers, health professionals, public health policy decision-makers, industry leaders, and the public. This strategic plan provides a blueprint for how ODS will help to inform and shape the dietary supplement research agenda at NIH.

FIGURE 1. ODS Reimagined

To provide a foundation for and stimulate new dietary supplement research opportunities, ODS has refined its vision, mission, and values (Figure 1). Its vision is *to be the scientific authority and convening body for advancing the study of dietary supplements*. Its mission is *to coordinate cutting-edge dietary supplement research across NIH and the federal government to foster knowledge and to optimize health across the lifespan*. Historically, ODS has organized its work around specific objectives called out by legislation—the Dietary Supplement Health and Education Act (DSHEA) of 1994 (see Appendix A)—or congressional appropriations reports that address dietary supplements. Going into its fourth decade, ODS will continue to meet the objectives of DSHEA while implementing an organizational structure that enables an agile response to emerging public health concerns and creation of effective collaborations across NIH Institutes, Centers, and Offices (ICOs) and federal partners. ODS will work to:

1. **Create a priority-based organizational culture that empowers collaboration**
2. **Identify knowledge gaps of shared and timely interest across NIH ICOs and other federal agencies**
3. **Engage with NIH ICOs and other federal agencies to develop new research to address identified knowledge gaps**
4. **Use its platform to inform its audiences about relevant dietary supplement scientific advances and stimulate new ideas and partnerships to enhance the field**
5. **Provide support for innovative use of publicly available dietary supplement resources**

Appendixes B and C include organizational charts that highlight ODS' organizational structure and its placement in the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI) in the Office of the Director at NIH.

B. Strategic Plan Framework

To achieve its mission, ODS will focus on three goals that emphasize research, research capacity, and stewardship:

1. **To advance dietary supplement science and catalyze innovative, collaborative research to close critical knowledge gaps of public health interest**
2. **To expand the capacity to strengthen the field of dietary supplement science and address emerging public health concerns**
3. **To foster stewardship, collaboration, and accountability**

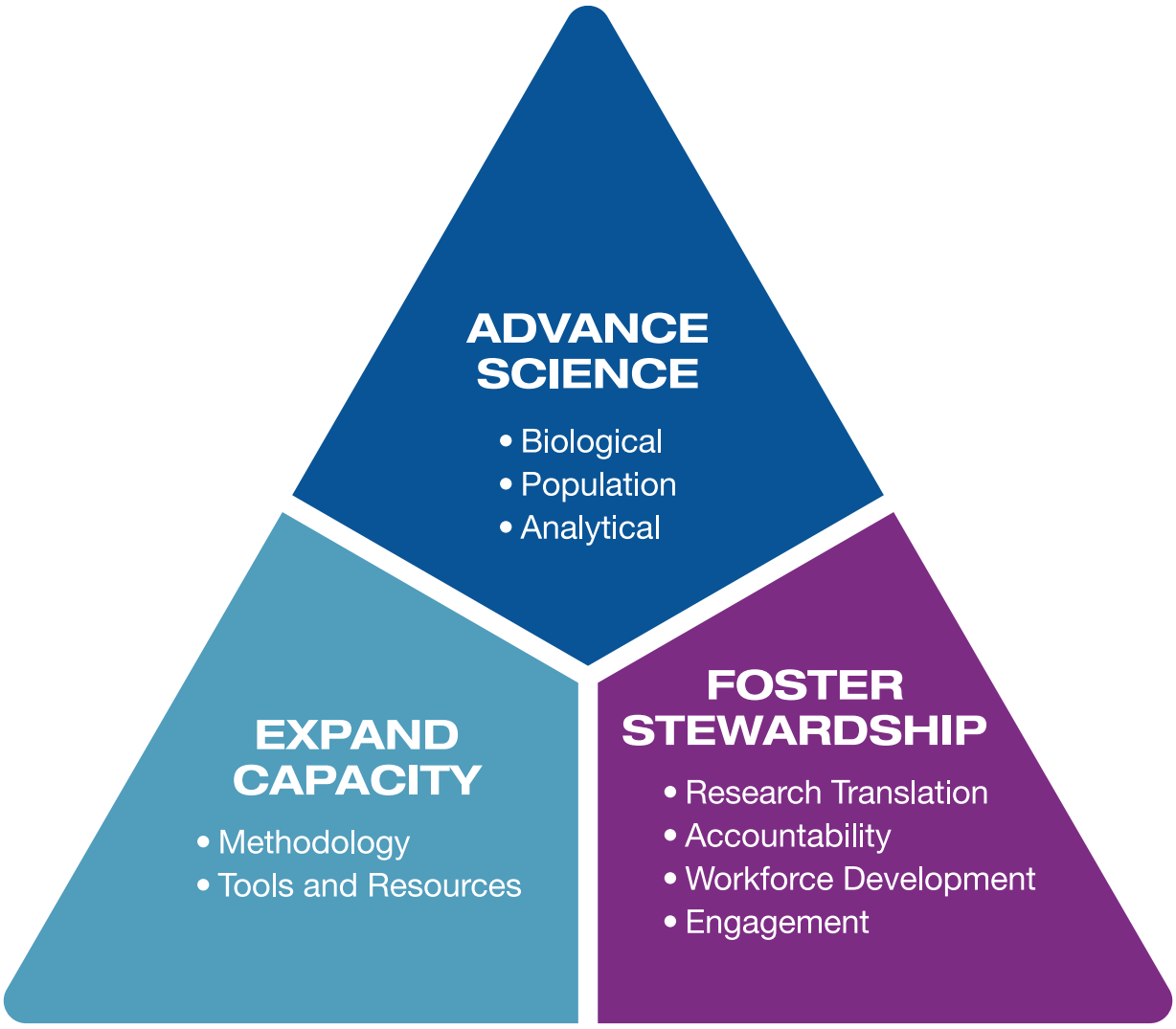
ODS staff have a depth of knowledge and expertise that supports the achievement of these goals and their interconnected objectives (Figure 2).

This strategic plan began with a reexamination of feedback from subject matter experts to an interim plan (2022–2026), followed by an iterative ODS staff process to delineate areas of scientific emphasis and opportunity. This process established goals and objectives for research, research capacity, and stewardship. It also produced key strategic priorities to advance the science of dietary supplements. Appendix D presents a full description of the strategic planning process followed for the development of the ODS 2025–2029 plan. The planning process included:

- Review of past achievements and subject matter expert feedback
- Development of new ODS vision and mission statements, goals, objectives, and strategic priorities
- Review by the NIH Dietary Supplement Research Coordinating Committee (DSRCC) and other subject matter experts
- Feedback and approval from NIH leadership

During the strategic planning process, ODS identified three cross-cutting strategic priorities of high interest across NIH that intersect with dietary supplement research. They include Healthy Americans, Healthy Lifespan, and Resilience. These priorities will guide the focus of new collaborative research coordinated by ODS. Subsequent sections of the strategic plan detail ODS goals, their objectives, and the strategic priorities of the office.

FIGURE 2. ODS Mission Driven Goals and Objectives



The goals and their objectives depicted in Figure 2 include:

Goal 1: To advance dietary supplement science and catalyze innovative, collaborative research to close critical knowledge gaps of public health interest

Research Objective 1
Advance the study of the biological effects of dietary supplements on resilience and health across the lifespan

Research Objective 2
Advance the study of population-based dietary supplement use, related nutrient intake, and their effects on resilience and health across the lifespan

Research Objective 3
Advance the study of the composition, quality, stability, safety, and efficacy of dietary supplements

Goal 2: To expand the capacity to strengthen the field of dietary supplement science and address emerging public health concerns

Research Capacity Objective 1
Strengthen and harmonize methodological approaches and promote scientific best practices in the design, conduct, and reporting of dietary supplement research

Research Capacity Objective 2
Identify and support innovative use of publicly available dietary supplement databases to inform and strengthen new research

Goal 3: To foster stewardship, collaboration, and accountability

Stewardship Objective 1
Increase knowledge of and generate interest in dietary supplement research, ODS' accomplishments and activities, and its capabilities as a DPCPSI coordinating office

Stewardship Objective 2
Develop information resources that translate dietary supplement research findings for ODS audiences

Stewardship Objective 3
Prioritize stewardship by conducting evaluations and other processes to ensure strategic alignment and measurable return on investment for all ODS activities

Stewardship Objective 4
Coordinate and support workforce and professional development opportunities

C. Implementation and Priority Setting

The overarching goal for this strategic plan period is to increase the interoperability and cross-functional nature of ODS by focusing on shared priorities. Thus, staff will work interactively when developing and implementing new activities, concepts, and research across strategic priorities. These interactions will promote communication and collaboration, ensuring a critical mass of cross-disciplinary expertise and opinions to strengthen the development of new ODS-led efforts.

Priority setting at ODS is a dynamic process that considers public health needs, knowledge gaps, and the needs and interests of its partners across NIH ICOs, federal agencies, trade organizations,

and relevant professional societies. Knowledge gaps in dietary supplement research that relate to the strategic priorities and NIH ICO interests will be identified through internal ODS deliberations as well as through collaborations with NIH ICOs, other federal partners, and experts in the field. In-depth exploration of identified gaps will be used to develop concepts that will serve as the basis for new ODS research across all strategic priorities. ODS will consider key questions to identify knowledge gaps of interest and set research priorities. Depending on the issue, population, or intervention, these questions may include:

- What are the nature and prevalence of the public health issue and its relevance to the mission/interests of NIH ICOs and federal partners?
- To what extent is the population exposed to a dietary supplement or nutrient?
- How are biomarkers of nutritional exposure status and bioavailability of dietary supplements and their constituent ingredients and metabolites measured? Are these measurements reliable? Are new methods of measurement available or on the horizon that might provide more useful information than current methods?
- What is the evidence for the health effects of dietary supplements? What amounts of dietary supplement intake or dietary consumption are safe? What amounts produce an observed biological effect or health outcome?

D. Leveraging Partnerships

ODS' strategic plan will leverage its core competencies in biological, population, and analytical sciences to create new research opportunities focused on Healthy Americans, Healthy Lifespan, and Resilience. The intersection of these research objectives and cross-cutting strategic priorities allows for a more complete identification of whether, how, and why dietary supplements may or may not have an impact on resilience and health of all Americans across the lifespan. A more robust understanding of dietary supplements use and their impact on health will be gained by including other social, behavioral, environmental, dietary, economic, and market-driven factors that influence not only the lives of the populations being studied but also the integrity of the dietary supplements being consumed. Strong partnerships with NIH ICOs, other federal agencies, academic experts, and industry researchers will support ODS in its efforts to expand fundamental knowledge of dietary supplements and will help identify best practices for applying that knowledge for the betterment of the health of the U.S. populations. These partnerships expand the range of subject matter expertise beyond the ODS' core competencies. They also enhance collaboration, allow for pooled resources, and provide opportunities for constructive dialogue. ODS will continue to foster these partnerships by developing strategic liaisons inside NIH, across the federal government, and with nongovernmental partner groups. We aim to share key dietary supplement research findings, develop educational opportunities, and gather feedback on new research activities.

The NIH Dietary Supplement Research Coordinating Committee (DSRCC) was established in 2022 to increase collaboration among NIH ICOs with programs that focus on dietary supplements and/or the intersection of dietary supplements, natural products, and nutrition research. Members include program staff from NIH ICOs that have an interest in or fund extramural research related to dietary supplements as well as representatives from key federal agency partners with shared interests in dietary supplements. The DSRCC provides research coordination through the exchange of programmatic and scientific information, collaborative planning, and the implementation of relevant activities that focus on scientific gaps in dietary supplement

research. The DSRCC also addresses emerging and intersecting dietary supplement research areas related to each NIH ICO's programmatic interests. The group works to promote collaborative research across NIH and within the federal government and to identify programmatic and policy issues and activities that impact ODS or to which ODS can contribute. Throughout this strategic plan period, ODS will lean on the DSRCC to initiate and expand collaborations with NIH ICOs and external colleagues and to identify opportunities to close critical knowledge gaps within its cross-cutting strategic priorities.

II. ODS Priorities: Supporting Dietary Supplement Research

A. Goals and Objectives

ODS priorities are organized around three goals—research, research capacity, and stewardship—each with a set of specific objectives. Together these goals will create and support the development of a dietary supplement research agenda.

1. Research

Goal: To advance dietary supplement science and catalyze innovative, collaborative research to close critical knowledge gaps of public health interest

ODS research is rooted in its core competencies in biological, population, and analytical sciences and the knowledge gained from historical and current ODS activities. ODS' goal is to coordinate the development and support of broad research opportunities that leverage the expertise of NIH and its partners across the federal government and dietary supplement research community.

Research Objective 1

Advance the study of the biological effects of dietary supplements on resilience and health across the lifespan

Currently, about one-half of adults and one-third of children and adolescents in the United States consume dietary supplements. Some use them to address known nutrient deficiencies while others consume them to improve their health or to prevent future health problems. ODS' focus on biological sciences reflects the importance of understanding how dietary supplements affect health and the intrinsic and extrinsic factors that may modulate those effects.

For decades, ODS has supported NIH ICO efforts to advance the understanding of how dietary supplements affect health. For example, ODS has collaborated with researchers from the National Eye Institute (NEI) to provide ongoing support for *The Age-Related Eye Disease Studies* (AREDS and AREDS2). These clinical trials tested whether taking a mix of dietary supplements could prevent the onset of age-related macular degeneration (AMD) in older adults or slow the progression of AMD in people who have it. Although the supplement formulations (which contain the antioxidants vitamin C, vitamin E, and beta-carotene, plus zinc and copper) did not prevent AMD onset, they did reduce the risk of developing advanced AMD by about 25 percent in those already diagnosed with the degenerative condition. Because high doses of beta-carotene supplements can increase the risk of lung cancer in people who smoke, a second study (AREDS2) examined the effectiveness of the same supplement with lutein and zeaxanthin in place of beta-carotene.

The AREDS2 supplement reduced the risk of AMD progression even more than the original AREDS supplement. A 10-year follow-up assessment of the AREDS2 study confirmed the benefits of replacing beta-carotene with lutein and zeaxanthin. The results of new analyses indicate that, in addition to slowing the progression from intermediate to advanced AMD, the AREDS2 supplement may help preserve central vision in people with late-stage dry AMD.

In another example of collaboration on biomedical science with other federal agencies, ODS works with the Department of Defense (DoD) Consortium for Health and Military Performance (CHAMP) on systematic reviews that explore dietary supplements, immune health, and resilience outcomes. The reviews include expert panel recommendations that provide evidence-based insight into strategic decisions for future research. The collaboration also created an interagency agreement (IAA) to explore mechanisms and effectiveness of dietary supplement ingredients and their potential to minimize environmental heat injury. These preliminary studies suggest that astaxanthin and curcumin can provide synergistic benefits to protect mitochondrial integrity and enhance resilience outcomes in mice models of heat-induced skeletal muscle injury. The study is ongoing and seeks to further understand the pathways and mechanisms that drive these outcomes and inform the design of future studies in humans. ODS will continue its partnership with the DoD, finding new opportunities that strengthen the value of the collaboration.

The above-mentioned examples demonstrate how ODS leverages its mission as a coordinating office to drive innovation across NIH and the federal government. Going forward, ODS will emphasize biological sciences by reengaging existing strategic partnerships and developing new ones across NIH ICOs. The goal of these partnerships will be to enhance the knowledge of how dietary supplements may affect resilience and health across the lifespan by identifying the mechanisms through which they work. Knowledge gaps to explore include:

- Underlying biological states and mechanisms that influence a system's cellular, molecular, physiologic, and behavioral/psychological response to stress or disease
- Protective pathways, disease prevention, and health promotion
- Interactions among diet, dietary supplement use, individual health behaviors, medications, and exposomes (environmental and lifestyle exposures) that impact health

Research Objective 2

Advance the study of population-based dietary supplement use, related nutrient intake, and their effects on resilience and health across the lifespan

Adequate nutritional intake is critical for optimal health and development throughout the lifespan. Developing a complete profile of nutrient intake (from food as well as dietary supplements), along with a profile of the nutritional and health status of all Americans, is vital for the development of effective nutrition policy. Because much of the data in this area are based on self-report, ODS will increase the rigor and reproducibility of population research by identifying improved participant recruitment and data collection strategies, continuing to augment dietary assessment data with objective measures (such as well-validated biomarkers and metabolomic studies), and employing new technologies such as wearable devices.

ODS' collaborations with the Centers for Disease Control and Prevention (CDC) and National Center for Health Statistics' (NCHS) Division of Health and Nutrition Examination Surveys (DHANES) have advanced the ability to describe total nutrient intakes that include both dietary supplements and food as well as biochemical markers of nutrient status of

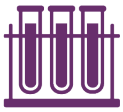
public health concern for the U.S. population. ODS has supported the development of population-based data collection methods and tools for investigating dietary supplement usage patterns in segments of the population. These collaborations resulted in new methods to collect data from the National Health and Nutrition Examination Survey (NHANES) on the use and composition of infant formula; improved dietary supplement questionnaires (including validation studies of questionnaires); and input on dietary assessment in the Dietary Guidelines for Americans planning guide.

Population sciences will remain key to identifying nutrient and other bioactive deficiencies or excesses that might impact the health of the whole U.S. population or subgroups and for generating hypotheses to inform new biological and analytical sciences research. For example, to help inform future supplement recommendations, population data from epidemiological surveys that include dietary supplement data programs (such as NHANES, the NIH *All of Us Research Program*, and the Environmental influences on Child Health Outcomes [ECHO] program) might be combined with findings from biological and analytical research. When possible, biomarkers that provide independent assessment of intake and nutrient status will be used to validate self-reported intake data. Currently the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA) are working together to establish dietary biomarkers development centers to explore, develop, and validate metabolomics-based dietary intake biomarkers. ODS' biological, population, and analytical researchers will seek to develop partnerships with NIDDK, USDA NIFA, and other NIH ICOs involved in the development of these biomarkers of nutritional status and intake.

To better advance the health of all Americans, future work will investigate differences that might exist between various segments of the population (e.g., by rural/urban, chronically ill/not chronically ill,

military/civilian, or family status). Population-based nutrition and health outcome research will seek to address knowledge gaps in:

- Diet and dietary supplement use patterns and their interactions and implications for nutrient deficiencies and excesses, health outcomes, lifestyle behaviors (i.e., physical activity and sleep), and dose-related effects of dietary supplements
- Nutrient requirements and dietary reference intake gaps
- Nutrient intake, food security, and nutritional and health status



Research Objective 3

Advance the study of the composition, quality, stability, safety, and efficacy of dietary supplements

Dietary supplements commonly contain mixtures of vitamins, minerals, and/or other natural products, such as botanicals. Even supplements marketed as having a single active ingredient—such as an extract from the leaf of a plant—may in fact contain numerous unique phytochemicals in a milieu of hundreds or even thousands of other chemical compounds. Relatively simple single-chemical entities may occur in marketed products as different chemical isomers (e.g., cis- or trans-resveratrol, vitamin E as a mixture of tocopherols and tocotrienols) or as a unique formulation marketed for its purportedly enhanced bioavailability (e.g., chemical modifications of curcumin). In addition to this complexity, tens of thousands of supplement products are available on the U.S. market that combine anywhere from two to dozens of purported active dietary ingredients. To understand exactly what is being studied, dietary supplements used in biomedical investigations must be rigorously identified and characterized, including details of dissolution and disintegration to ensure bioefficacy. This characterization helps ensure product integrity and enhances researchers' ability to understand and learn from any variability in outcomes associated with changes in product composition.

ODS Analytical Methods and Reference Materials (AMRM) staff have developed and expanded the availability of reliable, scientifically valid analytical methods for quantitative and qualitative characterization of dietary supplements and their ingredients. In partnership with the National Center for Complementary and Integrative Health (NCCIH), ODS also supports the Consortium for Advancing Research on Botanical and Other Natural Products (CARBON) Program to promote collaborative, transdisciplinary research on the safety, effectiveness, and mechanisms of action of botanical dietary supplements that have a high potential to benefit human health and to support the development of methods and resources that will enhance the progress of this research.

The knowledge gained and resources developed through AMRM and CARBON will propel ODS analytical sciences work forward to identify product integrity research gaps and develop new research opportunities that address:

- Dietary supplement ingredients, composition, quality, and integrity
- Dietary supplement safety, bioavailability, bioconvertibility, and bioefficacy
- Biomarkers of nutritional status and dietary supplement intake

2. Research Capacity

Goal: To expand the capacity to strengthen the field of dietary supplement science and address emerging public health concerns

ODS will utilize its strengths in methodology and database content development to enhance its research capacity, serving as an integrated resource as knowledge gaps are identified and new collaborative research is developed. To ensure that research methods used in ODS-funded research are appropriate and rigorous, ODS staff will work with experts at NIH and in the field to develop a harmonized set of research methods best practices that can confidently be applied to a variety of dietary supplement research projects. Databases that support dietary supplement research and have been developed with ODS support will be maintained and modernized as needed to optimize their use by researchers and other audiences.

Research Capacity Objective 1

Strengthen and harmonize methodological approaches and promote scientific best practices in the design, conduct, and reporting of dietary supplement research

Dietary supplement research spans cell, animal, clinical, and population-based studies with numerous areas of focus. For example, studies to evaluate the health effects of dietary supplements focus on the underlying biological mechanisms of action and the safety and effectiveness of dietary supplement interventions. This includes preclinical and translational research to inform clinical trials. Research on exposure to dietary supplements in the United States uses population-based survey data to capture nutrient and dietary supplement intake. The correlation of dietary supplement intake with health outcomes depends on the identification and measurement of biomarkers of nutrient exposure, status, and function in relation to chronic disease in populations and individuals.

The ability to compare, reproduce, and replicate published research results is essential for building scientific knowledge. For dietary supplement research, this requires the development of best practice guidance for rigor, reproducibility, and transparency. This also requires methodological techniques that can be applied to a variety of research paradigms with a focus on research design, intervention development, measurement, and analysis.

Through its previous work, ODS has set groundwork for developing research best practices that can be applied to various types of dietary supplement research. For example, AMRM has enhanced the foundation for biomedical research on the health effects of nutrients and botanical constituents and their metabolites by advancing their analytical characterization in dietary supplements and clinical/biological samples. In addition to providing resources for assuring that scientifically valid analytical methods and well-characterized reference materials are available to interested parties, AMRM evaluates the resource needs of the dietary supplement community, maintains a repository of tools and information, and provides guidance to investigators on questions of natural product integrity.

To facilitate the use of appropriate and rigorous research paradigms for investigating the safety and efficacy of dietary supplements and their ingredients, ODS supports and organizes workshops on the latest knowledge and emerging approaches in the study of dietary supplements. ODS also encourages the development and use of appropriately validated biomarkers of nutrient status in ODS-supported studies of the health effects of dietary supplement ingredients. ODS has worked with CDC's NCHS and the USDA's Agriculture Research Service (ARS) Human Nutrition Research Center (HNRC) to develop tools to evaluate dietary supplement use more precisely in national health surveys and other large cohorts. As mentioned

in the population research discussion, ODS will strengthen its collaborations with NIDDK, USDA NIFA, the Office of Nutrition Research (ONR), and the NIH Foundation, all of which are currently engaged in developing biomarkers of nutritional intake and nutrient status. ODS will collaborate with partners to develop appropriate recruitment and data collection methods to ensure that data on intake and dietary supplement use of all Americans are collected accurately.

Expanding existing ODS methodological resources, ODS will work to strengthen dietary supplement research. It will:

- Establish best practices to bolster experimental design and methodological rigor, reproducibility, and transparency applied to ODS- and NIH-funded dietary supplement research
- Develop projects to identify biomarkers of nutrient intake and status
- Develop population-based research designs and data collection tools to encourage broad participation to enhance the reliability and applicability of research outcomes
- Develop dietary supplement assessment methodology that links dietary supplement and nutrient intake data with food and supplement composition data

Research Capacity Objective 2

Identify and support innovative use of publicly available dietary supplement databases to inform and strengthen new research

More than 100,000 dietary supplements are on the market in the United States that contain nutrients (and often other bioactive ingredients) that may affect human health. These products also often contain “excipient” ingredients used in product formulation. Resources that provide documentation on each dietary supplement product and its composition are necessary for researchers, clinicians, and consumers to understand what is consumed and how those ingredients affect overall nutrient intake.

The Dietary Supplement Label Database (DSLD) was developed in collaboration with experts from NIH, CDC, NHANES/NCHS, the U.S. Food and Drug Administration (FDA), USDA, the Department of Commerce, and DoD. It contains virtually all information printed on dietary supplement labels including supplement facts information; other added ingredients such as fillers, binders, and flavorings; directions for use; health claims; and any listed cautions. It also contains images of product labels. Data in DSLD are used by researchers to more precisely identify dietary supplement ingredients consumed.

The Dietary Supplement Ingredient Database (DSID), a collaborative effort with the USDA HNRC, is a repository of reports that detail analytically validated supplement content measurements for estimating exposures to some of the most commonly consumed supplement product categories. To date, data are available for child, adult, and prenatal multivitamin/mineral supplements as well as calcium, vitamin D, omega-3 supplements, and caffeine. Dissolution and disintegration studies conducted on some categories of dietary supplements (e.g., calcium and green tea) have indicated potential efficacy gaps with implications for NIH research and individual usage. While DSID has made tremendous advancements by pairing analytical data with population-based data, future efforts will focus on using these resources to inform development of new research opportunities that reflect ODS research objectives and cross-cutting

strategic priorities.

ODS has also developed and updated the Computer Access to Research on Dietary Supplements (CARDS) database that contains information on federally funded research projects of dietary supplements since 1999. Researchers and the public use CARDS to explore federal investments in dietary supplement research categorized according to dietary ingredient, health condition, and study type.

The focus of dietary supplement database work will be to:

- Maintain, update, and ensure continued public access to these databases
- Link databases directly with dietary intake assessment tools to provide data on nutrient and non-nutrient contributions of dietary supplements to total intake
- Utilize databases and existing partners to inform new ODS research

3. Stewardship

Goal: To foster stewardship, collaboration, and accountability

ODS strives to support the scientific workforce and the development of research resources and infrastructure that help advance knowledge of dietary supplements. Updated communication vehicles and resources will be used to generate interest in dietary supplement research, translate research findings with transparency, and amplify ODS' role in creating innovative collaborations and opportunities with NIH ICOs and other federal agencies. By supporting the NIH DSRCC, expert panel meetings, workshops, and the Mary Francis Picciano Dietary Supplement Research Practicum, ODS will work to enhance the knowledge of the dietary supplement workforce. Internally, ODS staff will have access to professional development opportunities and other resources as they develop new research opportunities. Program efficiency and accountability will be enhanced through the identification and implementation of the best NIH tools for analysis and evaluation of ODS activities. These tools will help staff develop priority-based portfolio analyses, assess the progress of ODS research, and identify new directions and priorities. In addition, ODS staff will support new efforts by creating effective approaches to increase interest, responsivity, and accountability while maximizing public health impact.

Stewardship Objective 1

Increase knowledge of and generate interest in dietary supplement research, ODS' accomplishments and activities, and its capabilities as a DPCPSI coordinating office

Strategically communicating scientific advances and ODS activities and messages supports ODS' partnerships while also distributing up-to-date and relevant research findings and resources to NIH ICOs, federal government, academic and industry researchers, health professionals, policymakers, and consumers.

By working closely with NIH ICO communication teams, ODS will increase awareness of its work, research and funding opportunities, and resources while also helping to strengthen existing and develop new partnerships. These collaborations also will allow for exchange of valuable information on best communications practices and provide guidance on ODS' outreach strategy and key messages. ODS communications staff also will engage existing and potential partners outside of NIH to increase awareness of ODS' activities and accomplishments and offer opportunities to participate in workshops, seminars, and other educational events.

As ODS updates its informational products and resources it will simultaneously identify best ways to provide those resources to its many different audiences through a renewed website and modernized communication vehicles.

To amplify its mission as a coordinating office, ODS will:

- Communicate key ODS messages about activities and research findings throughout NIH and other federal and academic research communities
- Respond to inquiries about dietary supplements from researchers, health care providers, consumers, and others, including media requests
- Maintain and improve technologies used for communicating ODS information
- Support ODS-sponsored workshops, seminars, and other events

Stewardship Objective 2

Develop information resources that translate dietary supplement research findings for ODS audiences

Disseminating pertinent and trustworthy scientific information is an important component of ODS' mission of supporting innovative and cutting-edge research on dietary supplements to foster knowledge and optimize the health of the population. One of ODS' collective goals is to translate the latest dietary supplement science to key audiences. ODS science and information resources have included dietary supplement fact sheets, newsletters, and videos of ODS seminars and webinars.

ODS will improve its resources by identifying best practices for conveying scientific information to researchers, health professionals, and consumers and adapting its current resources as needed.

The work on information resources focuses on:

- Identifying new scientific advances in dietary supplement research
- Translating scientific information into materials appropriate for different ODS audiences
- Maintaining informational resources on dietary supplements

Stewardship Objective 3

Prioritize stewardship by conducting evaluations and other processes to ensure strategic alignment and measurable return on investment for all ODS activities

Committed to scientific stewardship, ODS will ensure that all activities are of the highest quality and implemented with accuracy, efficiency, and objectivity. To achieve this ODS will utilize existing tools and develop processes that help maximize impact.

ODS will use tools, such as those available through the NIH Office of Portfolio Analysis (OPA), to identify NIH-funded research projects relevant to dietary supplements. Portfolio analyses will help identify potential collaborators to develop concepts and implement new research. It also will allow for the characterization of research by topic, study design, intervention, and populations studied. Analyses also can look at methodologies deployed to ensure effective data capture. Portfolio analyses of ODS-supported research will also help ODS assess the breadth of their NIH and other federal

partner collaborations and can help identify new opportunities.

ODS will ensure efficient initiation and coordination of collaborations and research by using accountability procedures to track progress and key research findings for each of its supported efforts. This will include the development of new funding determination processes and feedback mechanisms that support the analyses and evaluations that help identify and implement improvement to maximize efficiency and demonstrate accomplishments against goals and objectives. These analyses will help ODS fully understand the progress and value of its activities.

To assist in the management and progress of ODS' research, ODS will leverage NIH resources for evaluation and reporting, including the Strategic Tracking and Reporting Tool (START) developed by the NIH Office of Evaluation, Performance, and Reporting (OEPR). START provides analysis of strategic plan tracking, performance monitoring, evaluation, and other administrative data.

Additional qualitative evaluation techniques will be applied as warranted to obtain feedback on processes and perceived impact.

ODS is well positioned to prioritize stewardship and will:

- Train ODS research program staff in the development of NIH funding opportunities, contract development, and IAAs to support new activities
- Develop feedback mechanisms to gather research progress and findings for all ODS-supported activities
- Develop standards for ODS research accountability
- Implement and train staff in the use of analysis tools and methods

Stewardship Objective 4

Coordinate and support workforce and professional development opportunities

Continuous improvement of administrative, budgetary, and management functions enhances efficiencies and ensures that organizations provide a supportive environment in which to conduct their work. At ODS this includes professional development opportunities and activities for staff, including programmatic and officewide budget reviews; development and implementation of efficient administrative processes; and communication of core ODS office values that include respect, curiosity, and accountability.

To develop the dietary supplement research workforce, ODS offers educational opportunities that include the Mary Frances Picciano Dietary Supplement Research Practicum and the ODS Seminar Series. The Practicum is a multiday educational opportunity that provides fundamental knowledge of dietary supplements to faculty, students, and practitioners with a serious interest in this subject. Through the ODS Seminar Series, experts in dietary supplement science share recent research developments with researchers, health professionals, trade associations, and consumers.

ODS supports other research and training programs that build future research capacity for studying the role of dietary supplements in health and disease prevention. For example, the NIH intramural ODS Research Scholars Program stimulates long-term career interest in pursuing dietary supplement-related research.

Workforce development efforts, whether they be training, career development, or support for junior and mid-level scientists, provide opportunities

to close gaps for researchers. To enhance the workforce ODS will:

- Enhance existing workforce development and training opportunities
- Develop ODS operations standards to support an efficient and positive work environment
- Explore ways to better engage with outside research entities to inform them of funding and collaboration opportunities

III. Cross-Cutting Themes

The ODS cross-cutting themes include Healthy Americans, Healthy Lifespan, and Resilience. Although these are presented individually below, they integrate not only with the different ODS goals but also with each other. For example, research on health and resilience across different life stages will include studies that focus on segments of the U.S. populations. Although we highlight these three strategic priorities, we also consider additional relevant factors in new research opportunities. These include issues that impact nutrient status and health outcomes and factors that facilitate dietary supplement research. With this interactive lens, ODS will deepen knowledge of dietary supplements and health.

A. Healthy Americans

Dietary supplement research stresses the importance of improving the health of all Americans. Understanding the effects of dietary supplements on health outcomes requires investigation into dietary supplement use within the context of understanding of how biological and social conditions impact the use and the effects of dietary supplements.

With a high rate of dietary supplement use among all Americans, it would not be surprising to find a higher intake among certain groups of people. One example is those living with chronic diseases such as hypertension, cardiovascular disease, obesity, and diabetes. Population-based research would seek to understand the dietary supplement use patterns of those living with chronic diseases and how those patterns compare across diseases and to those without any chronic diseases or conditions. Biological research will seek to understand how dietary supplements impact the prevention of chronic diseases, how they influence the course of the diseases or conditions, and how they interact with medications used to treat chronic conditions. An example of how ODS could better understand the relationship between dietary supplements and chronic disease is through the lens of understanding how dietary supplements are used by people seeking to combat obesity with GLP-1 medications. ODS can identify knowledge gaps in dietary supplements marketed for weight loss and in nutrition-related outcomes related to GLP-1 therapies where nutrient ingredient dietary supplements could play a role in closing nutrient gaps. Addressing these knowledge gaps is crucial to inform clinical practices, policy decisions, public health guidelines for safe use of dietary supplements, and improved nutrition-related health outcomes for GLP-1 users. The ultimate goal is preventing nutrient deficiencies associated with GLP-1s use and ensuring safety of dietary supplements.

ODS also can focus on populations at greatest risk of nutrient deficiencies such as those facing food insecurity, defined as the limited or uncertain availability of nutritionally adequate and safe foods or the limited or uncertain ability to acquire acceptable foods in socially acceptable ways. Studies have documented higher rates of diabetes, hypertension, obesity, heart disease, and other chronic diseases among adults living with food

insecurity, and adults living with food insecurity have lower intakes of vitamin A, vitamin B6, calcium, magnesium, and zinc from their diets. Analyses of NHANES data that included dietary supplement intake found a higher prevalence of micronutrient inadequacy among adults living with food insecurity for copper; potassium; niacin; and vitamins C, D, E, and K in both men and women as well as inadequate levels of selenium only in men.

To better understand how dietary supplements impact the health of all Americans, ODS recognizes the need to improve methods for recruitment in research studies and development of data collection methodologies to increase participation. This is one of the objectives of the research capacity objective addressing rigor, reproducibility, and transparency.

New research will consider factors that include differences in biological mechanisms and outcome measures, community- and population-level dietary patterns, access to food and dietary supplements, and motivations for and attitudes surrounding use of nutritional and non-nutritional dietary supplements (e.g., botanicals, probiotics). These factors impact the utilization of and access to nutrients and phytochemicals in supplements and conventional food and might influence health of all Americans and across the lifespan.

B. Healthy Lifespan

Throughout life, people experience different stages of physical and cognitive growth, development, and health. Each stage—including pregnancy, lactation, infancy, childhood, adolescence, adulthood, menopause, and old age—involves changing nutritional needs and potential concerns.

During infancy and childhood, recommended intakes of macronutrients and most micronutrients are higher relative to body mass compared with those during adulthood. Older adults have an increased need for some nutrients while requiring less of others. At all stages of life nutrient inadequacies and, in some instances, excessive intakes, are associated with adverse health effects. However, the debate continues about the effect of dietary supplementation on health optimization across the lifespan.

The National Academy of Medicine's Food and Nutrition Board established estimated average requirements and adequate intakes as age- and sex-specific nutrient intake goals. The Dietary Guidelines for Americans 2020–2025 (DGA) identified calcium, potassium, dietary fiber, and vitamin D as dietary components of public health concern for the general U.S. population because low intakes are associated with risk of chronic disease. Conclusions from an analysis of 2003–2018 NHANES data suggest that nutrient intake and the percentage of the population meeting nutritional recommendations among U.S. adults have changed little over time. They also suggest that dietary supplement intake may help many U.S. adults meet nutrient requirements.

Other analyses of NHANES data support this conclusion. Data indicate that all age groups use dietary supplements and that dietary supplements contribute to increased intakes of nutrients; decreased population prevalence of inadequacy; and, for a small proportion of the population, nutrient excess. For example, an analysis of NHANES data from 2017 to 2018 showed that more than half of U.S. adults 20 to 59 years of age and about three-quarters of those older than 60 years of age used any dietary supplement in the past 30 days. The use of any dietary supplements and the number of supplements increases with age. The data also show that approximately one-third of children and adolescents used dietary supplements in the past 30

days. Analyses from earlier years found slightly less than one-fifth of infants and toddlers used dietary supplements, as did approximately three-fourths of pregnant and lactating women. The identification of nutrients of concern and the simultaneous widespread use of dietary supplements across all age groups call for additional investigations to understand associations among dietary supplement use, disease prevention, and health optimization at different ages and life stages as well as the biological mechanisms through which dietary supplements impact health.

Pregnant and lactating women have unique nutrient needs. ODS is planning a prenatal supplement workshop. The workshop will review the current state of the science for prenatal supplements; evaluate whether the nutrient levels in these supplements are appropriate for achieving optimal health outcomes; provide recommendations for further research; and, if sufficient data are available, suggest next steps to develop a scientific consensus on the appropriate ranges of nutrient content for prenatal supplements marketed in the United States.

The effects of dietary supplements on various chronic diseases or conditions remain unclear as does the understanding of how dietary supplements interact with other dietary supplements, medications, and lifestyle factors such as sleep, physical activity, and overall dietary intake. Age- and sex-limited population-based analyses can identify nutrients and chronic diseases or conditions of greatest concern and can inform new biological research to explore the mechanisms through which select dietary supplements influence specific chronic diseases or conditions at specific life stages. Analytical science-related activities may seek to understand factors in supplements that influence their uptake and metabolism; their ability to influence nutritional status; and their interactions with other dietary supplements, medications, or lifestyle. Some conditions and diseases to consider may include mucosal immunity, digestive diseases, autoimmune or immune-mediated diseases, and cardiorespiratory and cardiovascular diseases. Longevity and factors affecting lifespan and quality of life, including obesity, physical activity, cardiometabolic dysregulation, sarcopenia, and age-related physical and cognitive function decline, also may be considered.

C. Resilience

A focus on dietary supplements and resilience supports ongoing resilience research efforts at NIH and the U.S. Department of Health and Human Services (HHS) Office of Disease Prevention and Health Promotion's Federal Plan for Equitable Long-Term Recovery and Resilience (Federal Plan for ELTRR). Given the high-level focus on resilience throughout the HHS and ODS' demonstrated success in coordinating resilience research efforts across the NIH through its coordination of the NIH Resilience Research Working Group, ODS will devote resources to clearly delineating the role of dietary supplements in advancing the science of resilience.

The NIH Resilience Research Working Group defines resilience as the capacity to resist, adapt to, recover, or grow from a challenge. It suggests that over time, a system's response to challenge might show various degrees of reactions that likely fluctuate in response to the severity of the challenge, the length of time exposed to the challenge, and/or innate biological factors.

ODS began exploring resilience outcomes in investigations of dietary supplement ingredients as part of its efforts to address evidence gaps pertaining to the benefits and/or harms of dietary supplement use. Inconsistent methods, endpoints, and study design strategies have contributed to the

heterogeneity in the scientific literature on potential resilience outcomes related to dietary supplements. ODS will promote the use of resilience research frameworks that focus on enhancing protective pathways to investigate the effects of dietary supplements on health.

The resilience research framework developed by the ODS-led NIH Resilience Research Working Group differs from previously published resilience models in its intentional focus on the system rather than the stressor. The framework considers that different stressors and risks can be constant occurrences and that understanding factors that strengthen or protect a system despite stress exposure can lead to a multipronged approach to health optimization. A special issue of Stress & Health titled "Harmonizing the Science of Resilience," led and coauthored by ODS staff, included contributions from 32 authors from across NIH ICOs, the United States Army Research Institute of Environmental Medicine (USARIEM), and academia. Each article examines research conducted in different resilience domains, identifying alignment with the working group's resilience framework. ODS used the resilience framework to develop a resilience research category for the NIH Research Condition and Disease Categorization system, identifying and reviewing 819 resilience research grants funded in 2023 from 12 NIH ICOs.

In September of 2024, ODS organized a workshop titled "Coordinating Measures and Metrics to Advance the Biomedical Science of Resilience" focused on identifying measures and metrics necessary to fully capture the protective pathways that elicit resilience and optimize human health across the lifespan. The workshop stimulated interest among NIH, federal, and academic researchers in the intersection of resilience outcome metrics across scientific domains. Workshop participants expressed great interest in expanding resilience research collaborations and will work with ODS to publish a special issue on resilience metrics.

Future work in the area of resilience may include mechanistic studies of dietary supplement ingredients and clinical studies that explore potential biomarkers of resilience to facilitate discovery of new protective pathways influenced by dietary supplements. For example, ODS may seek to better understand how dietary supplements impact the microbiome to offer protective effects for menopausal transitions or autoimmune diseases, ultimately resulting in long-term resilience outcomes.

IV. Appendixes

A. ODS Statutory Authority in the Dietary Supplement Health and Education Act (DSHEA) of 1994

(a) ESTABLISHMENT. —The Secretary shall establish an Office of Dietary Supplements within the National Institutes of Health.

(b) PURPOSE. —The purposes of the Office are—

(1) to explore more fully the potential role of dietary supplements as a significant part of the efforts of the United States to improve health care; and

(2) to promote scientific study of the benefits of dietary supplements in maintaining health and preventing chronic disease and other health-related conditions.

(c) DUTIES. —The Director of the Office of Dietary Supplements shall—

(1) conduct and coordinate scientific research within the National Institutes of Health relating to dietary supplements and the extent to which the use of dietary supplements can limit or reduce the risk of diseases such as heart disease, cancer, birth defects, osteoporosis, cataracts, or prostatism;

(2) collect and compile the results of scientific research relating to dietary supplements, including scientific data from foreign sources or the Office of Alternative Medicine;

(3) serve as the principal advisor to the Secretary and to the Assistant Secretary for Health and provide advice to the Director of the National Institutes of Health, the Director of the Centers for Disease Control and Prevention, and the Commissioner of Food and Drugs on issues relating to dietary supplements including —

(A) dietary intake regulations;

(B) the safety of dietary supplements;

(C) claims characterizing the relationship between —

(i) dietary supplements; and

(ii)(I) prevention of disease or other health-related conditions; and

(II) maintenance of health; and

(D) scientific issues arising in connection with the labeling and composition of dietary supplements;

(4) compile a database of scientific research on dietary supplements and individual nutrients; and

(5) coordinate funding relating to dietary supplements for the National Institutes of Health.

(d) DEFINITION. —As used in this section, the term "dietary supplement" has the meaning given the term in section 201(ff) of the Federal Food, Drug, and Cosmetic Act:

(1) means a product (other than tobacco) intended to supplement the diet that bears or contains one or more of the following dietary ingredients:

(A) a vitamin;

(B) a mineral;

(C) an herb or other botanical;

(D) an amino acid;

(E) a dietary substance for use by man to supplement the diet by increasing the total dietary intake; or

(F) a concentrate, metabolite, constituent, extract, or combination of any ingredient described in clause (A), (B), (C), (D), or (E);

(2) means a product that—

(A)(i) is intended for ingestion in a form described in section 411(c)(1)(B)(i); or (ii) complies with section 411(c)(1)(B)(ii);

(B) is not represented for use as a conventional food or as a sole item of a meal or the diet; and

(C) is labeled as a dietary supplement;

(3) does—

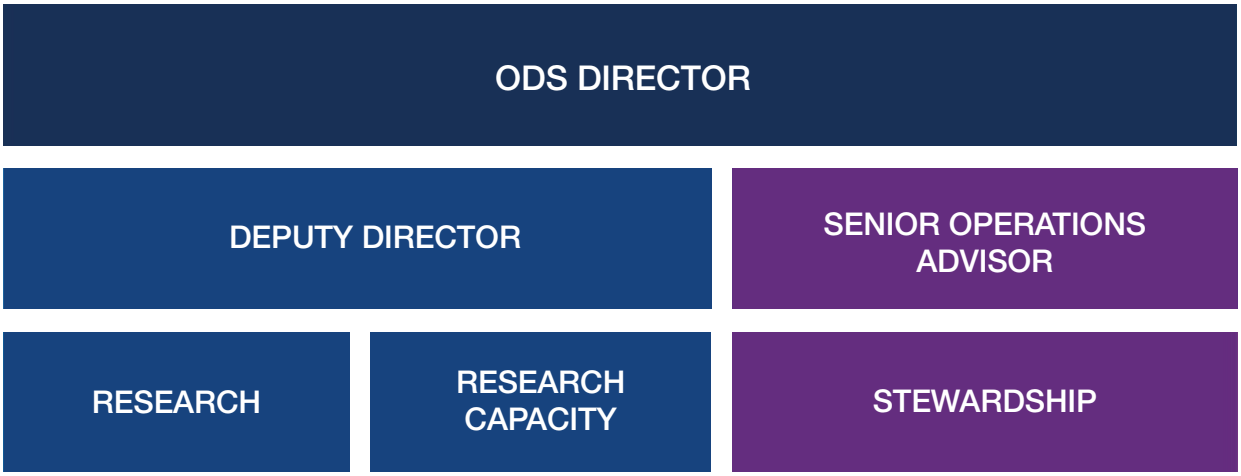
(A) include an article that is approved as a new drug under section 505 or licensed as a biologic under section 351 of the Public Health Service Act (42 U.S.C. 262) and was, prior to such approval, certification, or license, marketed as a dietary supplement or as a food unless the Secretary has issued a regulation, after notice and comment, finding that the article, when used as or in a dietary supplement under the conditions of use and dosages set forth in the labeling for such dietary supplement, is unlawful under section 402(f); and

(B) not include—

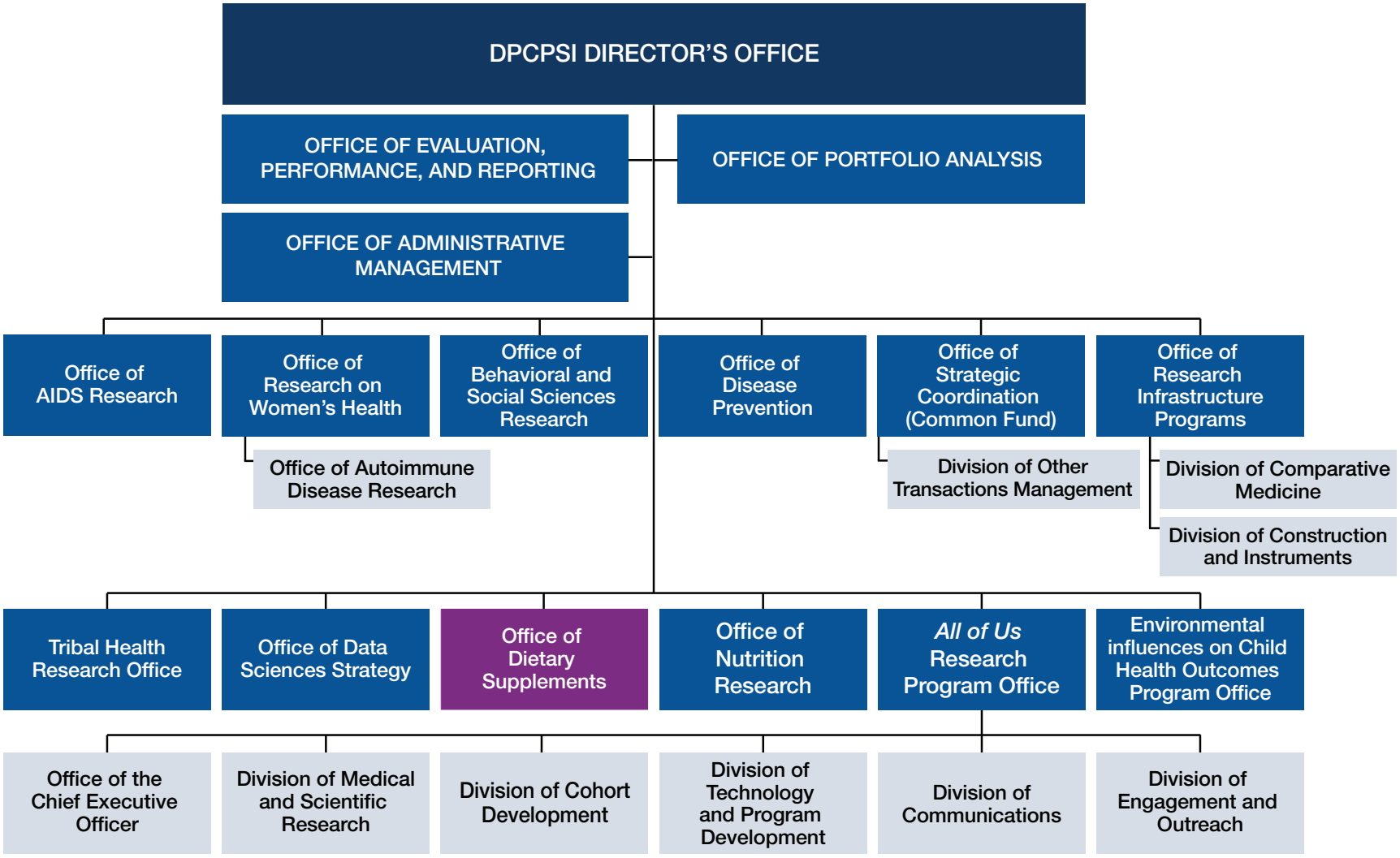
(i) an article that is approved as a new drug under section 505, certified as an antibiotic under section 5077, or licensed as a biologic under section 351 of the Public Health Service Act (42 U.S.C. 262), or

(ii) an article authorized for investigation as a new drug, antibiotic, or biological for which substantial clinical investigations have been instituted and for which the existence of such investigations has been made public, which was not before such approval, certification, licensing, or authorization marketed as a dietary supplement or as a food unless the Secretary, in the Secretary's discretion, has issued a regulation, after notice and comment, finding that the article would be lawful under this Act.

B. ODS Organizational Management



C. DPCPSI Organizational Management



D. Strategic Planning Process

1 ODS individual review of accomplishments and goals

In preparation for the development of the strategic plan, ODS reviewed past and current progress and accomplishments as well as future goals for 2025–2029.

2 ODS office mission, vision, and priorities development

Priority setting for this strategic plan began with a reexamination of expert feedback on an interim plan developed for 2022–2026 to identify innovative ideas for ODS direction and ODS organizational structure. A small group of ODS staff used an iterative process to consider key questions about dietary supplement science (as described above) and delineate areas of scientific emphasis and opportunity. This process established strategic priorities and research objectives to advance biomedical research on dietary supplements. ODS staff also identified core research capacity and stewardship objectives.

3 Expert feedback

ODS is committed to engaging leaders across NIH Institutes, Centers, and Offices (ICOs) and representatives of the scientific community, industry, and other federal agencies in the strategic planning process. ODS gathered feedback from the Dietary Supplement Research Coordinating Committee (DSRCC) and ODS-partner review groups (NIH, federal, and external partners) on the goals, objectives, and strategic priorities that shape the 2025–2029 strategic plan.

4 Refinement of strategic plan

Reviewer feedback stimulated discussion among ODS staff regarding potential changes to include in the next version of the strategic plan.

5 Council of Councils review and feedback

A revised version of the plan was presented to the NIH Division of Program Coordination, Planning, and Strategic Initiatives Council of Councils and feedback was incorporated..

6 Public Comment

Known interested parties and the public were alerted to the availability of the strategic plan for comment through a Federal Register notice. ODS publicized the notice through its listserv, a notice on its website, and direct email with colleagues and other contacts. All feedback gathered was used to revise the ODS 2025–2029 strategic plan.

7 Finalized Strategic Plan

ODS shared a final version of the plan with NIH leadership for their approval and release to the public.

E. Glossary

AMRM	Analytical Methods and Reference Materials
AMD	age-related macular degeneration
AREDS	Age-Related Eye Disease Studies
ARS	Agriculture Research Service
CARBON	Consortium for Advancing Research on Botanical and Other Natural Products
CARDS	Computer Accesss to Research on Dietary Supplements
CDC	Centers for Disease Control and Prevention
CHAMP	Consortium for Health and Military Performance
DGA	Dietary Guidelines for Americans
DHANES	Division of Health and Nutrition Examination Survey
DoD	Department of Defense
DPCSI	Division of Program Coordination, Planning, and Strategic Initiatives
DSHEA	Dietary Supplement Health and Education Act
DSID	Dietary Supplement Ingredient Database
DSLD	Dietary Supplement Label Database
DSRCC	Dietary Supplement Research Coordinating Commitee
ECHO	Environmental Influences on Child Health Outcomes
ELTRR	Equitable Long-Term Recovery and Resilience
FDA	U.S. Food and Drug Administration
HHS	U.S. Department of Health and Human Services
HNRC	Human Nutrition Research Center
IAA	Interagency Agreement
ICOs	Institutes, Centers, and Offices (of NIH)
NCCIH	National Center for Complementary and Integrative Health
NCHS	National Center for Health Statistics
NEI	National Eye Institute
NHANES	National Health and Nutrition Examination Survey
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIFA	National Institute of Food and Agriculture
NIH	National Institutes of Health
ODS	Office of Dietary Supplements
OEPR	Office of Evaluation, Performance, and Reporting
ONR	Office of Nutrition Research
OPA	Office of Portfolio Analysis
START	Strategic Tracking and Reporting Tool
USARIEM	U.S. Army Research Institute of Environmental Medicine
USDA	U.S.Department of Agriculture

National Institutes of Health
Office of Dietary Supplements

https://ods.od.nih.gov/