

Prevention Research: Building a Healthier Future

Spotlight on 2022



Message from the Director



David M. Murray, Ph.D.

Associate Director for Prevention
Director,
Office of Disease Prevention

Our Spotlight on 2022 annual report highlights some of ODP's key projects and accomplishments from the last year. The Office continued to make tremendous progress toward implementing our Fiscal Year 2019–2023 (FY19-23) Strategic Plan – now in its fifth and final year – and we also underwent considerable growth.

Equitable and inclusive prevention research can help reduce many health disparities. To underscore our commitment to improving health equity, in 2022 we elevated our cross-cutting theme on health disparities to a [seventh strategic priority: Address Health Disparities](#). While a health equity lens will continue to apply to activities across all ODP strategic priorities, the designation of health disparities as a distinct strategic priority better positions ODP to facilitate NIH-wide efforts in this area.

Although this is only a sampling of the work we've undertaken, we're delighted to share the following key projects and accomplishments from the past 12 months:

- We gained a better understanding of what research questions are being addressed in NIH-funded prevention research and how ODP's portfolio of co-funded projects have evolved over the past 10 years.
- The Tobacco Centers of Regulatory Science responded rapidly to assess the potential public health impact of proposed FDA rules, including one to prohibit menthol as a characterizing flavor in cigarettes.
- ODP launched Advancing Prevention Research for Health Equity (ADVANCE), an NIH-wide initiative to develop new preventive interventions and implement existing evidence-based interventions and preventive services in populations that experience health disparities and inequities.
- We consulted with multiple NIH Institutes and Centers to improve the methods used in prevention research and enhance the rigor and reproducibility of that research.
- Through the Pathways to Prevention program, we've made progress on identifying and addressing research gaps in topics of broad public health importance.
- ODP introduced the Prevention in Focus Webinar Series, which features research talks from prevention science experts making advances in public health and provide opportunities to learn about innovative prevention research directly from expert voices across the globe.

In 2023, we are looking forward to building on this progress to move prevention research forward and launching our new Strategic Plan for FY24-28.

A handwritten signature in black ink, appearing to read "David M. Murray".

Strategic Priorities and Cross-Cutting Themes

The Office of Disease Prevention (ODP) is the lead office at the National Institutes of Health (NIH) responsible for advancing and disseminating prevention research. Our work to help people in all communities live longer, healthier lives is guided by these interconnected strategic priorities and cross-cutting themes.

Strategic Priorities



**Conduct
Portfolio
Analysis &
Impact
Assessment**



**Identify
Research
Gaps**



**Improve
Research
Methods**



**Promote
Collaborative
Research**



**Advance
Tobacco
Regulatory &
Prevention
Science**



**Communicate
Efforts &
Findings**



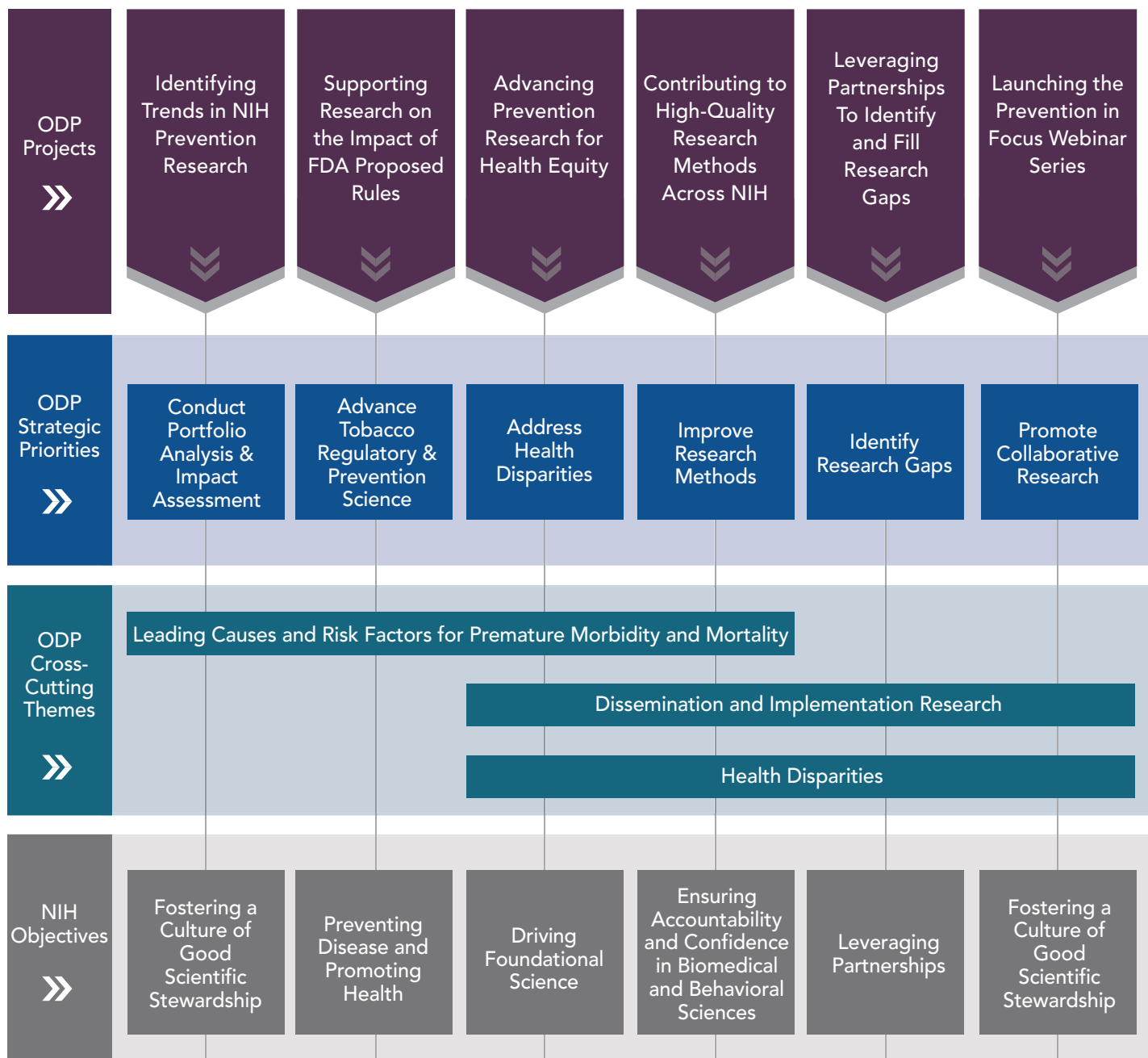
**Address
Health
Disparities**

Cross-Cutting Themes

- » Leading Causes and Risk Factors for Premature Morbidity and Mortality
- » Dissemination and Implementation Research
- » Health Disparities

Connecting ODP Projects and Priorities with NIH Objectives

Our work makes valuable contributions to NIH's goal of turning scientific discoveries into health. We are dedicated to working closely with our NIH colleagues, as well as other federal and non-federal partners, to address NIH's key objectives.



Spotlight on Progress

ODP develops new initiatives and enhances existing programs in order to advance prevention research and improve public health. Our work developing, coordinating, and implementing prevention research helps strengthen clinical practice, health policy, and community health programs.

This section highlights a few of our 2022 accomplishments.



» ODP Strategic Priority

- Conduct Portfolio Analysis & Impact Assessment

» ODP Cross-Cutting Theme

- Leading Causes and Risk Factors for Premature Morbidity and Mortality

» NIH Objective

- Fostering a Culture of Good Scientific Stewardship

Identifying Trends in NIH Prevention Research

Every year, ODP invests significant resources to [assessing the landscape of NIH-funded prevention research](#) to identify both where progress is being made and where more work is still needed. In 2022, we used our portfolio analysis expertise in new ways to shed light on NIH-funded prevention research, as well as on ODP's own activities.

Study Designs Used To Address Prevention Research Questions

We can learn a great deal about the research questions being addressed in a field by examining the types of study designs used. According to a [new analysis from ODP](#), between Fiscal Years 2012 and 2019 (FY12-FY19), the four types of study designs that were most prominent in NIH-supported prevention research were:

- Observational designs (63.3%)
- Analyses of existing data (44.5%)
- Methods research (23.9%)
- Randomized intervention designs (17.2%)

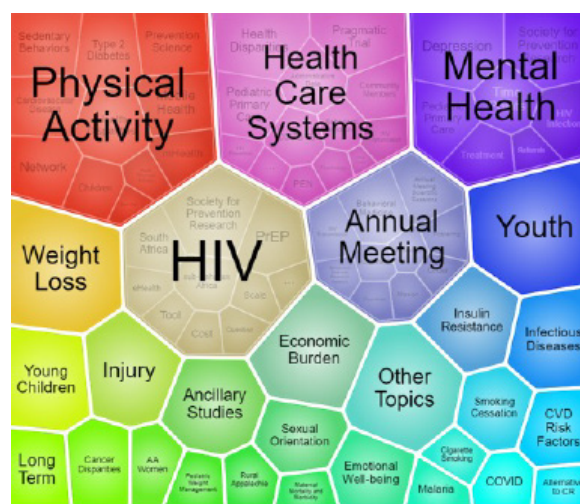
The fact that observational designs and analyses of existing data were dramatically more common suggests that much of NIH-funded prevention research continues to focus on questions of association and identification of risk and protective factors. Randomized intervention designs were included far less often, indicating that a much smaller fraction of the NIH prevention research portfolio is focused on developing and testing interventions that could be used to modify risk or protective factors or to change a health-related outcome.

Allocation of ODP Co-Funding

Unlike most NIH Institutes and Centers, ODP doesn't directly award grants or research projects. However, each year, we use a portion of our budget to [co-fund](#) high-priority, meritorious NIH prevention research grants, meetings, and federal initiatives identified by our federal partners.

Using ODP's [framework for classifying research by category and topic \(PDF\)](#), we summarized all co-funding applications from FY12 to FY21. Over the past 10 years:

- ODP has co-funded 236 unique projects totaling more than \$17.8 million.
- The number of projects ODP has co-funded increased by more than 300%, from 14 in FY12 to 55 in FY21.
- ODP co-funded grants cover a wide array of risk factors and topics, including physical activity, COVID-19, maternal health, and emotional well-being.
- The reach of ODP co-funds extends beyond NIH to other agencies in the U.S. Department of Health and Human Services, including the Centers for Disease Control and Prevention.



As always, we continue to publish the findings of our analyses in peer-reviewed journals. We will also add a new feature to our website we're calling "Research Snapshots" which will make our data available in new and more engaging ways. We encourage you to check [our website](#) regularly to discover the story behind the facts and figures of NIH prevention research!

» ODP Strategic Priority

- Advance Tobacco Regulatory & Prevention Science

» ODP Cross-Cutting Theme

- Leading Causes and Risk Factors for Premature Morbidity and Mortality

» NIH Objective

- Preventing Disease and Promoting Health

Supporting Research on the Impact of FDA Proposed Rules

The long-awaited FDA-proposed rules to [prohibit menthol as a characterizing flavor in cigarettes and ban all characterizing flavors \(other than tobacco\) in cigars](#) were published in April 2022. These tobacco product standards can potentially reduce youth experimentation with combusted tobacco products (for example, cigarettes, cigars, and cigarillos) and increase the number of smokers who quit. Although it could take years for the regulations to take effect, it is important to assess the potential impact of the proposed policies on tobacco use and public health.

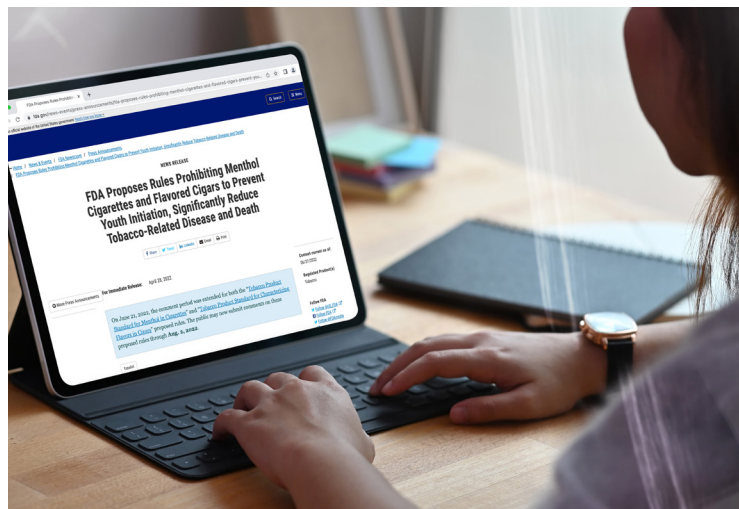
The Tobacco Regulatory Science Program-funded Tobacco Centers of Regulatory Science (TCORS) advance scientific understanding of tobacco product composition and design, toxicity, addiction, health effects, behaviors, communication, marketing, and the impact of potential FDA regulations. They have been well positioned to respond rapidly to research questions relevant to the proposed FDA rules.

For example:

- [Bold et al.](#) investigated the potential impact of banning menthol cigarettes on smoking behavior and abuse liability. They found that menthol smokers who were switched from smoking their usual brand of menthol cigarettes to a matched brand of non-menthol cigarettes smoked significantly fewer cigarettes per day and had significantly lower nicotine dependence scores. This research suggests that banning menthol may decrease smoking and reduce the addictive potential of cigarettes among current menthol smokers.
- Using a simulation model, [Issabakhsh et al.](#) assessed the impact of a menthol ban on the non-Hispanic Black population in the United States. Their findings indicate that a ban on menthol in cigarettes would result in substantial health gains in the non-Hispanic Black population and reduce health disparities between Black individuals and the rest of the U.S. population.
- A product standard banning characterizing flavors (other than tobacco) in cigars will likely reduce the appeal of cigars, particularly to youth and young adults. While the [2009 Tobacco Control Act](#) banned cigarettes with characterizing flavors other than menthol, the standard was not applied to cigars. [Delnevo et al.'s study](#) of retail data from 2009–2020 shows that flavored cigar sales in convenience stores increased significantly, but nonflavored cigar sales did not change during this period. Of note is the marketing of “concept” or ambiguous flavor descriptions (e.g., “Jazz”), which may circumvent flavored tobacco bans.

A [special issue of the journal Tobacco Control](#) includes more TCORS research on the impact of flavor-restricting policies.

The NIH and FDA have renewed their commitment to the TCORS program with an estimated \$160 million to support eight centers for the next five years. Awards in response to the [reissued Request for Applications](#) are expected in September 2023.



» ODP Strategic Priority

- Address Health Disparities

» ODP Cross-Cutting Themes

- Leading Causes and Risk Factors for Premature Morbidity and Mortality
- Dissemination and Implementation Research
- Health Disparities

» NIH Objective

- Driving Foundational Science

Advancing Prevention Research for Health Equity

In 2022, ODP launched [Advancing Prevention Research for Health Equity \(ADVANCE\)](#). ADVANCE is an NIH-wide initiative to develop new preventive interventions and implement existing evidence-based interventions and preventive services in populations that experience health disparities and inequities. ODP is facilitating and coordinating ADVANCE to solicit and support high-impact intervention research relevant to the missions and subject areas of multiple NIH ICs.














The initial focus of ADVANCE is to integrate the latest knowledge and methodological advances in both prevention research and health disparities science to prevent or reduce leading risk factors for death and disability. In June 2022, ADVANCE published its first funding opportunity, the [Notice of Special Interest \(NOSI\): Preventive Interventions to Address Cardiometabolic Risk Factors in Populations that Experience Health Disparities \(NOT-OD-22-154\)](#), with participation from 11 Institutes and Centers (ICs). The NOSI emphasizes interventions to address cardiometabolic risk factors such as poor nutrition, physical inactivity, and high blood pressure to prevent a wide range of chronic health conditions.




ADVANCE also published the [Notice of Special Interest \(NOSI\): Administrative Supplements to Support Research on Preventive Interventions with Populations that Experience Health Disparities \(Admin Supp Clinical Trial Optional\) \(NOT-OD-22-159\)](#), with participation from 13 ICs. This NOSI prioritized preventive interventions that move beyond the individual level to address social and structural determinants of health instead (for example, food deserts, marketing of alcohol or tobacco that targets specific populations, and societal stigma). It also strongly encouraged activities conducted in collaboration with relevant community, service system, and (or) health care partners. ODP ultimately funded more than \$2.8 million in [administrative supplements](#) that build on existing projects at seven ICs. These supplements address a variety of prevention topics, including nutrition, physical activity, alcohol and substance use, mental health, violence, liver disease, and HIV. They also focus on a range of populations, including African Americans, Asian Americans, American Indians, Hispanics/Latinos, sexual and gender minorities, and people who live in rural settings.

An [additional eight administrative supplements submitted to the NOSI from five ICs were funded by other NIH partners](#), including the Office of AIDS Research; the Division of Program Coordination, Planning, and Strategic Initiatives; and the National Institute on Minority Health and Health Disparities.

We are excited by the interest in ADVANCE across NIH and the extramural community, and we look forward to developing future prevention initiatives related to cancer, mental health, and alcohol and drug use, as well as research training and professional development in prevention and health disparities.

Leading Risk Factors of Death in the United States (2019)

- | | |
|---|---|
|  | 1. Tobacco |
|  | 2. High systolic blood pressure |
|  | 3. High fasting plasma glucose |
|  | 4. Dietary risks |
|  | 5. High body mass index |
|  | 6. High low-density lipoprotein (LDL) cholesterol |
|  | 7. Kidney dysfunction |
|  | 8. Alcohol misuse |
|  | 9. Non-optimal temperature (exposure to extreme heat or cold) |
|  | 10. Drug misuse |
|  | 11. Occupational risks |
|  | 12. Air pollution |
|  | 13. Low physical activity |

 Behavioral risks  Metabolic risks  Environmental/occupational risks

Source: Institute for Health Metrics and Evaluation Global Burden of Disease Study <http://ihmeuw.org/5yqt>

» ODP Strategic Priority

- Improve Research Methods

» ODP Cross-Cutting Themes

- Leading Causes and Risk Factors for Premature Morbidity and Mortality
- Dissemination and Implementation Research
- Health Disparities

» NIH Objective

- Ensuring Accountability and Confidence in Biomedical and Behavioral Sciences

Contributing to High-Quality Research Methods Across NIH

ODP is working with NIH Institutes and Centers (ICs) on research methods used in large projects or initiatives that involve randomization of groups or delivery of interventions to groups. Parallel group-randomized trials, individually randomized group-treatment trials, and stepped wedge group-randomized trials in particular face additional methodological issues beyond those found in traditional randomized controlled trials. The appropriate methods are often different and are always more complex.

ODP has expertise with these issues, and we consult with ICs to help strengthen their projects' study design, data analysis, and sample size methods. We work with ICs at all stages – from providing feedback on the methods outlined in new funding opportunities to providing guidance on the design and analytic issues that may arise over the course of a funded project.

We have consulted on the methods used in a variety of research initiatives, including implementation research to prevent and control the risk of heart and lung disease, testing whether an intervention delivered at home can improve the cardiovascular health of mothers and children, and trials addressing topics like suicide prevention and weight loss. Specifically:

- ODP serves on the Biostatistics and Design Working Group for the [NIH Health Care Systems Research Collaboratory](#). We meet regularly with the investigators working on 21 trials supported by the Collaboratory to strengthen study design, data analysis, and sample size methods.
- We lead a Technical Assistance Working Group that meets regularly with the investigators of the seven awardee institutions in the NHLBI's [Disparities Elimination through Coordinated Interventions to Prevent and Control Heart and Lung Disease Risk \(DECIPHeR\) Alliance](#). This has led to substantial changes in study design, data analytic plans, and sample size estimation methods.
- The Office provides guidance on design, analytic, and other issues as a member of the Data Safety Monitoring Boards for the National Center for Complementary and Integrative Health's Pain Management Collaboratory and for NHLBI's [RAndomized Cluster Evaluation of Cardiac ARrest Systems \(RACE-CARS\)](#) trial.
- ODP co-chairs the Design and Analysis Subcommittee and serves on the Steering Committee for NHLBI's [Early Intervention to Promote Cardiovascular Health of Mothers and Children \(ENRICH\)](#) trial.



ODP is also attentive to the methods in research projects that are put forward by our federal partners for ODP co-funding. Before we award any co-funding request for a research grant, ODP reviews the proposed design, analytic, and sample size methods and provides feedback to the investigators as appropriate. This ensures ODP is co-funding prevention research projects that use the highest quality and most appropriate research methods possible.

These NIH-wide consultations and collaborations improve the methods used in prevention research supported by NIH and enhance the rigor and reproducibility of that research.

» ODP Strategic Priority

- Identify Research Gaps

» ODP Cross-Cutting Themes

- Dissemination and Implementation Research
- Health Disparities

» NIH Objective

- Leveraging Partnerships

Leveraging Partnerships To Identify and Fill Research Gaps

A critical part of our work is collaborating with partners across NIH and the federal government to identify prevention research areas that warrant greater investment and expanded effort.

One way we do this is through ODP's Pathways to Prevention (P2P) Program, which uses an unbiased, evidence-based process to identify research gaps. In 2022, ODP made progress on three P2P workshops addressing topics of broad public health importance:

- More than 700 attendees joined the P2P Workshop: [Nutrition as Prevention for Improved Cancer Health Outcomes](#), co-sponsored by ODP; the National Cancer Institute; National Institute on Aging; the Office of Nutrition Research; *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD); and the NIH Office of Dietary Supplements. Health care providers and decision-makers need high-quality research and a comprehensive review of the evidence to make progress toward clinical guidelines for preventive care related to malnutrition among people with cancer. Following the workshop, the independent panel developed a conceptual framework to help navigate this complex topic and identified 18 recommendations to move the field forward.
- ODP also worked with the NIH Office of Research on Women's Health; National Heart, Lung, and Blood Institute (NHLBI); NICHD; and National Institute on Minority Health and Health Disparities to convene the P2P Workshop: [Identifying Risks and Interventions to Optimize Postpartum Health](#). The first year after the end of pregnancy is an especially vulnerable time for people who give birth, and more work needs to be done to predict and prevent poor postpartum health outcomes. Speakers touched on a wide range of topics including mental health, cardiovascular risks, access to care, and reproductive justice. The independent panel's draft recommendations will be posted for public comment in 2023.
- Partners from over 20 federal agencies came together to develop an action plan in response to the 2021 P2P Workshop: [Improving Rural Health Through Telehealth-Guided Provider-to-Provider Communication](#). These efforts are particularly timely given the dramatic increase in the use of telehealth in response to the COVID-19 pandemic and the growing challenges faced by rural populations affecting access to care.



We also collaborate with federal and community-based partners through our work with the Healthy People initiative, which sets data-driven national health objectives for the decade. In October 2022, ODP partnered with the HHS Office of Disease Prevention and Health Promotion, the Centers for Disease Control and Prevention's National Center for Health Statistics, and the National Library of Medicine on [a webinar series that highlighted examples of how libraries can use Healthy People data and resources](#) to impact health outcomes in their communities.

» ODP Strategic Priority

- Promote Collaborative Research

» ODP Cross-Cutting Themes

- Dissemination and Implementation Research
- Health Disparities

» NIH Objective

- Fostering a Culture of Good Scientific Stewardship

Launching the Prevention in Focus Webinar Series

Building on the success of several of ODP's long-running webinar and lecture programs like [Methods: Mind the Gap](#) and the [Early-Stage Investigator Lecture](#), the Office rolled out an exciting addition to our suite of online events – the [Prevention in Focus Webinar Series](#). Prevention in Focus webinars feature research talks from prevention science experts making advances in public health. This webinar series provides the scientific community and the public opportunities to learn about innovative prevention research directly from expert voices across the globe.

The idea for a new webinar series emerged from one of ODP's core activities – the [Prevention Scientific Interest Groups \(SIGs\)](#), which bring together representatives from across the NIH and other federal agencies to collaborate on and address unmet prevention research needs. Initially named the Prevention SIG Webinar Series, ODP worked with the Comorbidity SIG members to hold four webinars focused on the measurement, prevention, and management of comorbid disease (the occurrence of two or more diseases or conditions at the same time) in 2021. The first webinar to officially kick off the series highlighted the use of evidence to transform the health care of people living with multiple chronic conditions.



The success of the initial comorbidity-focused webinars inspired us to expand the scope to cover a more diverse selection of prevention research topics. The webinar series was officially renamed "Prevention in Focus," and the newly minted series began in January 2022 with a timely session about the [manifestations and current best treatments for multisystem inflammatory syndrome in children following COVID-19](#). This webinar hails as one of ODP's most attended webinars to date, drawing nearly 1,000 registrants and hundreds of views on the [Prevention in Focus YouTube playlist](#).

The Prevention in Focus webinars have gone on to explore areas as diverse as screening, physical activity, health disparities, and dissemination and implementation science. [Past webinars](#) include:

- [Spreading Effective Interventions to Support Healthy Child Growth: CDC's Data Modernization and Implementation Science Efforts](#)
- [World Health Organization Guidelines on Physical Activity and Sedentary Behavior for Persons with Disabilities: Process to Practice](#)
- [Say "Yes!" to Health Literacy in Cancer Prevention and Control](#)

In late 2022, the webinar series came full circle by returning to the topic of comorbid disease, concentrating on three publications authored by Comorbidity SIG members on [innovative methods for measuring multiple chronic conditions](#). The discussion that emerged during the webinar is prompting the Office to explore new ways of fostering engagement with prevention researchers.

Prevention in Focus webinars have highlighted the significance of prevention in people of all ages and states of health by featuring high-profile speakers working "on the ground" conducting important prevention research. ODP looks forward to the series inspiring more innovation and collaboration in prevention science for years to come.

Office of Disease Prevention 2022 at a Glance

Webinar Series

Methods: Mind the Gap

9 Webinars 2,749 Attendees



Prevention in Focus

6 Webinars 1,555 Attendees



Research Coordination and Funding

6 New ODP-led funding opportunities in collaboration with 21 ICs

10 Active tobacco regulatory science funding opportunities supported by NIH and FDA

Participated in 45 new funding opportunities

\$2.8M Awarded in administrative supplements funded by the ADVANCE initiative

75 Co-funded projects

8 Addressed research gaps identified by the Pathways to Prevention program

Scientific Activities

10



Papers published in peer-reviewed journals

11



Presentations and posters given at national conferences

ODP Resources

Research Methods Resources

22,384 Visits



Training in Prevention Research Methods

131 Trainings



Resources for Researchers

226

Resources

Most popular topics:

- Dissemination and Implementation
- Health Disparities/Health Equity
- Measurement

Pragmatic and Group-randomized Trials in Public Health and Medicine Online Course



762 YouTube views

Digital Outreach

Twitter

656

New followers



22,355

Total followers



Email

45,966

Total subscribers



20,360

YouTube views

Website visits

187,326



Website
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