



National Institutes of Health
Office of Disease Prevention

Prevention Research: Building a Healthier Future

Spotlight on 2020



Message from the Director on COVID-19



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Office of Disease Prevention

I am pleased to share our Spotlight on 2020 annual report highlighting a few of the accomplishments our Office has achieved over the last year. While this was a unique year for us all, the Office of Disease Prevention (ODP) is proud to have been able to continue our work assessing, facilitating, and disseminating prevention research while also contributing to the National Institute of Health's (NIH) response to the COVID-19 pandemic.

Our NIH colleagues have been working tirelessly to expand the capacity and accuracy of diagnostic testing across the nation; identify and implement preventative treatments and practices to promote individual and community safety; and accelerate the development of therapeutics and vaccines to tackle COVID-19, especially in our hardest-hit communities.

Seeking to understand the best strategies to prevent illness and disability has been a core component of the NIH mission since its earliest days, and it continues to be a driving force behind our response to one of the greatest public health crises in a century.

Over the past year, the ODP worked closely with NIH Institutes, Centers, and Offices to support several new NIH initiatives related to COVID-19 research.

- We contributed to the development of several funding opportunity announcements (FOAs) and Notices of Special Interest related to COVID-19 health disparities, including creating digital interventions to address the social, behavioral, and economic impact of COVID-19, and establishing community interventions to reduce the impact of COVID-19 on underserved and vulnerable populations.
- We helped fund the development of the [COVID-19 PhenX Toolkit](#), a catalog of COVID-19-related measurement protocols for investigators to use in research.
- Our Office added language to clinical trial FOAs encouraging investigators to address the design, analysis, and sample size considerations of studies evaluating group-based interventions in their applications. This guidance helps make sure that NIH-supported research, including research related to COVID-19, uses the best available methods and the findings can be reproduced by multiple scientists.
- We participated in the [Community Engagement Alliance \(CEAL\) Against COVID-19 Disparities](#). This alliance focuses on strategies for reaching communities unduly burdened by COVID-19 and encouraging them to enroll in vaccine and treatment clinical trials.
- ODP staff helped contribute to the development of FOAs and reviewed applications for the [Rapid Acceleration of Diagnostics-Underserved Populations \(RADx-UP\)](#) initiative. The RADx-UP initiative is a consortium of community-engaged research projects to address the urgent need to understand and address COVID-19 morbidity and mortality disparities among vulnerable and underserved populations across the nation.

These efforts help lay the scientific groundwork needed to address COVID-19 and future public health threats. We look forward to continuing our work and collaboration with NIH colleagues, as well as other federal and non-federal partners and stakeholders to advance disease prevention and health promotion.

A handwritten signature in black ink, appearing to read "David M. Murray". The signature is fluid and cursive, written on a white background.

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 research in disease prevention. Our work to help people in all communities live longer, healthier lives is guided by these interconnected strategic priorities and cross-cutting themes.

Conduct Portfolio Analysis & Impact Assessment



Identify Research Gaps



Improve Research Methods

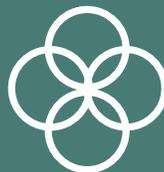


CROSS-CUTTING THEMES

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



Promote Collaborative Research



Advance Tobacco Regulatory & Prevention Science



Communicate Efforts & Findings

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 four strategic objectives.

NIH Objective

ODP Strategic Priority

ODP Cross-Cutting Theme



Spotlight on Progress

The ODP is the lead office at the NIH focused on disease prevention and health promotion. 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 2020 accomplishments.



Identifying Evidence Gaps and Moving Prevention Research Forward

Identifying and addressing research gaps in prevention is a critical part of improving the public's health.

Our Office is working to make it easier to generate the right types of studies to fill prevention research gaps by developing a standardized way of describing and reporting them. In July 2020, the NIH awarded a contract to the National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, to gather a committee of experts to outline current challenges in describing and disseminating research gaps in evidence-based clinical prevention. The committee will develop a taxonomy for characterizing evidence gaps and apply it to the existing list of gaps identified by the [U.S. Preventive Services Task Force \(USPSTF\)](#). The project is jointly funded by the ODP and [Agency for Healthcare Research and Quality \(AHRQ\)](#), with co-funding from the [Office of Behavioral and Social Sciences Research](#).

The ODP will use this information as part of our collaboration with AHRQ to support the USPSTF. The results should also be useful to other national expert groups—such as the Community Preventive Services Task Force—that evaluate evidence to make recommendations for preventive services. A final report summarizing the committee's findings and describing the evidence gaps taxonomy and its application will be available in December 2021.

Another way that the ODP tackles research gaps is through the [Pathways to Prevention \(P2P\) program](#).

The 2019 P2P workshop on [Achieving Health Equity in Preventive Services](#) highlighted areas where more research is needed to reduce disparities in the use of clinical services for early detection and prevention of common chronic conditions such as cancer, heart disease, and diabetes. Filling those gaps could save lives and have a transformative impact on the health of our nation. In February 2020, the ODP; the National Institute on Minority Health and Health Disparities; the National Cancer Institute; the National Heart, Lung, and Blood Institute; and the National Institute of Diabetes and Digestive and Kidney Diseases brought together partners from across the federal government to develop [an action plan \(PDF\)](#) for addressing the workshop panel's recommendations for future research.

In December 2020, the P2P program focused on how physical activity is likely to have wide-ranging impacts on the overall health and wellbeing of people who use wheeled mobility devices (i.e., wheelchairs, scooters, and rollators), but more research is needed on what types and amounts of activity are safe and effective. The ODP, the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development's National Center for Medical Rehabilitation Research, and the National Institute of Neurological Disorders and Stroke held the virtual P2P Workshop: [Can Physical Activity Improve the Health of Wheelchair Users?](#) to better understand the potential benefits of physical activity interventions for people at risk of using, or currently using, wheelchairs. The workshop panel's report outlining research gaps and priorities for the field will be published in early 2021.



Our Office is working to make it easier to generate the right types of studies to fill prevention research gaps.



NIH Objective
Managing for Results

ODP Strategic Priority
Conduct Portfolio
Analysis & Impact
Assessment

ODP Cross-Cutting Theme
Leading Causes and Risk
Factors for Premature
Morbidity and Mortality

“ We can better identify opportunities for strategic investments and meet the needs of both the research workforce and the nation’s health. ”

Expanding Our Analysis of the NIH Prevention Research Portfolio

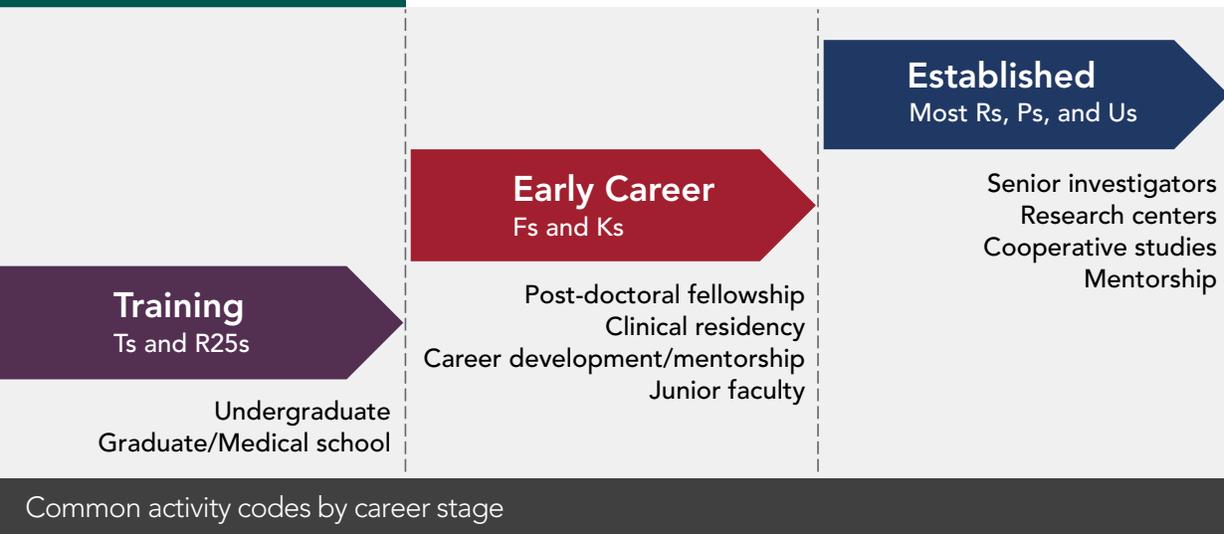
The ODP plays an important role in [monitoring the NIH prevention research portfolio](#), allowing us to understand the NIH’s investment in prevention research. Since 2015, the ODP has been developing methods and tools to better analyze the NIH prevention research portfolio.

The ODP’s [analysis of NIH prevention research](#) has traditionally focused on funded research using the 12 most common [activity codes](#). While they represent more than 90% of all new research awards and almost 85% of all dollars used in NIH research supported by extramural grants and cooperative agreements, these activity codes (i.e., most Rs, Ps, and Us) are also the ones typically used by more established investigators.

In 2020, the ODP expanded the scope of our portfolio analysis work. We began analyzing more activity codes to capture additional aspects of NIH’s investment in prevention research, notably new and early-stage investigators.

Assessing activity codes that represent pre- and post-doctoral fellowship, training, and career development awards means we will be able to develop a more complete picture of the prevention research workforce pipeline, from undergraduate and graduate students all the way to junior faculty members and established investigators.

Including research projects conducted by investigators across all career levels in our analysis may also give us a better idea of who is doing what in prevention research—for example, whether trainees and new investigators are studying different topics than more established researchers or using different methods. We also may be able to uncover emerging trends and patterns, which can help us better identify opportunities for strategic investments and meet the needs of both the research workforce and the nation’s health.



Common activity codes by career stage

Developing Training Resources for Prevention Researchers

Providing training in prevention science methods to researchers at the NIH and across the larger prevention research community is an important part of the [ODP's strategic plan](#). Training strengthens the skills necessary to conduct rigorous scientific research and encourages the use of the best methods. This, in turn, helps promote the rigor and reproducibility of NIH-supported prevention research.

The COVID-19 pandemic has meant that more researchers are actively seeking out, and taking advantage of, online training resources. We saw a 54% increase in traffic to our training resources in 2020. We are fortunate that though the pandemic has changed the way we work, learn, and live, we are still able to connect virtually to share knowledge and build skills.

The ODP has several online training resources that can help you learn something new or expand your understanding of a specific research method.

- [Methods: Mind the Gap Webinar Series](#)
Hour-long webinars that cover topics spanning research design, measurement, inter-intervention, data analysis, and other methods in prevention science. They are led by experts in their respective research methodology. New webinars are typically held monthly, and past webinars are recorded and available on our website.
- [Pragmatic and Group-Randomized Trials in Public Health and Medicine](#)
A 7-part online course to help investigators design and analyze group-randomized trials. It includes video presentations, slide sets, suggested reading materials, guided activities, and a list of course references.
- [Training in Prevention Research Methods](#)
A collection of federal courses, webinars, and online tutorials in study and intervention design, data analysis, and measurement methods.
- [Resources for Researchers](#)
A library of federal tools and resources designed to help researchers develop and conduct prevention research projects in a variety of topic areas. It includes data instruments, research findings, clinical practice guidelines, and examples of translating research into practice through public health programs, policies, and interventions.
- [Research Methods Resources](#)
Resources for the design and analysis of group- or cluster-randomized trials and individually randomized group-treatment trials to help investigators meet NIH requirements for clinical trial applications.

Improving public health depends on finding better evidence-based interventions to reduce risk factors and prevent or delay the onset of health conditions. We cannot make progress in these areas unless we are using the best available methods in prevention science and constantly striving to develop better methods. The ODP is committed to enhancing the rigor and reproducibility of prevention research by continuously expanding our repository of training resources for prevention researchers around the world.



Training strengthens the skills necessary to conduct rigorous scientific research and encourages the use of the best methods.



Multiple chronic conditions are challenging and resource-intensive to assess and address, and they are often poorly captured in research studies.

Partnering to Drive Innovative Research to Address Multiple Chronic Conditions

Multimorbidity—also referred to as multiple chronic conditions (MCCs)—is defined as the co-occurrence of two or more chronic health conditions. A health condition is often considered chronic if it has lasted for more than 3 months. MCCs can be challenging and resource-intensive to assess and address, and they are often poorly captured in research studies.

To address unmet needs and gaps related to MCCs, we developed and published two Funding Opportunity Announcements (FOAs). These FOAs solicit innovative research to better understand, measure, and intervene on multimorbidity.

They focus on two important areas:

1. The need for standardized measures and methods for studying and understanding multimorbidity
2. The need to better identify the factors that contribute to multimorbidity and develop interventions to address these conditions.

The FOAs are a direct result of the work of the ODP-led multimorbidity [Scientific Interest Group](#), a trans-NIH group that includes representatives from 12 Institutes and Centers across NIH.

The development of the FOAs was informed by a literature review of 18 randomized clinical trials that evaluated interventions to improve outcomes in patients with multimorbidity. The primary takeaways from this review were that

more randomized-controlled trials are needed; the overall findings for interventions effects are mixed; interventions may be more effective if they are targeted to risk factors (such as depression and functional difficulties); and MCCs are complex and improving health outcomes can be difficult.

We are excited about these FOAs and look forward to them producing innovative and rigorous research to better measure, understand, and address multimorbidity.

PAR-20-179:
Advancing Research To Develop Improved Measures and Methods for Understanding Multimorbidity (R01 Clinical Trial Optional)

PAR-20-180:
Identifying Innovative Mechanisms or Interventions That Target Multimorbidity and Its Consequences (R01 Clinical Trial Optional)

Collaborating to Address the Youth Vaping Epidemic

The number of youth and young adults using e-cigarettes—also called vaping devices or electronic nicotine delivery systems (ENDS)—has dramatically increased in the past few years. The health effects of using e-cigarettes, either alone or in combination with combustible cigarettes, are not fully understood in youth particularly since their cardiovascular and respiratory systems, and brains are still developing.

Despite the dangers, research shows that many youth do not perceive significant risk from using e-cigarettes. E-cigarette prevention and cessation interventions for this population is still emerging, and research to determine the effectiveness of these interventions is urgently needed.

To address these research gaps, ODP staff, including members of the [Tobacco Regulatory Science Program](#), co-funded and helped plan a workshop on [E-Cigarette Prevention and Cessation in Youth and Young Adults](#).

Workshop organizers invited 28 experts from tobacco, alcohol, and substance use research to discuss gaps, barriers, and opportunities related to preventing and stopping e-cigarette use in youth and young adults. Participants shared experiences and lessons learned from school- and media-based prevention programs and discussed research needs in cessation interventions and prevention research policy.

Workshop participants identified six research gaps areas, noting the need for more surveillance methods and additional research to study the impact and effectiveness of prevention programs, media campaigns, policies, and cessation interventions. They also outlined several research opportunities and cross-cutting themes related to prevention and cessation of e-cigarette use in youth and young adults. A white paper is currently being developed that will expand on workshop deliberations and research opportunities.

Research to determine the effectiveness of prevention and cessation interventions in youth is urgently needed.

In 2020:

3.6 million youth used e-cigarettes

19.6%
of high school
students

4.7%
of middle school
students

currently
use
e-cigarettes

Source: Wang TW, Neff LJ, Park-Lee E, Ren C, Cullen KA, King BA. E-cigarette Use Among Middle and High School Students — United States, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1310–1312.

Office of Disease Prevention 2020 at a Glance

Mind the Gap Webinars

89%
Increase in Average
Webinar Attendance
Over Last Year

10 Webinars

3,645 

Attendees

68%
Increase in Traffic to
Mind the Gap Pages
Over Last Year

6,118 

YouTube Views

Research Coordination and Funding

9 ODP-Led Funding
Opportunity Announcements

345 Active Prevention-Related FOAs
on the ODP Website

\$3.27M Awarded for
Co-Funded
Projects

45 Co-Funded Projects
» 2 for COVID-19
» 2 for Maternal Mortality 

Scientific Activities

5
Papers Published
in Peer-Reviewed
Journals

7
Presentations and
Posters Given at National
Conferences (includes
virtual meetings)

ODP Resources

Research Methods Resources

38% Increase in
Traffic Over
the Last Year **1,041** Sample Size
Calculations

Training in Prevention Research Methods

130  Most Popular
» Data Science
» Dissemination & Implementation
Resources
» Study Design

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

26% Increase
in Traffic **813** YouTube
Views

Resources for Researchers

190  Most Popular
» Dissemination & Implementation
Resources
» Evidence-Based Practices
» Research Tools

Digital Outreach

Twitter 

1,221
New Followers

21,020
Total Followers

Email 

22,238
Total Subscribers

Website Visits

137,033 

 Website
prevention.nih.gov

 Email Updates
prevention.nih.gov/subscribe

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[@NIHprevents](https://twitter.com/NIHprevents)