

May 22 2023

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Deputy Director, Office of Disease Prevention
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Re: National Institute of Health Office of Disease Prevention Request for Information on the NIH Office of Disease Prevention Strategic Plan for Fiscal Years 2024 - 2028.

via website: <https://rfi.grants.nih.gov/?s=63d9edb46e8d6ea804099132>

The American Association for Dental, Oral, and Craniofacial Research (AADOCR) is the leading professional community for multidisciplinary scientists who advance dental, oral, and craniofacial research. We appreciate the opportunity to share our thoughts on the request for information on the Office of Disease Prevention (ODP) strategic plan for fiscal years 2024 – 2028. AADOCR recognizes and applauds the ODP's efforts toward assessing, facilitating, and stimulating research in disease prevention, and disseminating the results of this research to improve public health. To respond to this request for comments, AADOCR engaged its Science Information Committee and its Board of Directors.

Systematically monitor NIH investments in prevention research and the progress and results of that research

- Objective 1.3: Partner with NIH Institutes, Centers, and Offices and other federal agencies to disseminate ODP portfolio analysis tools and related data.

Oral health is a key indicator of general health, well-being, and quality of life, while at the same time sharing modifiable risk factors with some of the most prevalent non-communicable diseases - cardiovascular diseases (CVD), cancer, diabetes, and chronic respiratory diseases. Oral diseases are among the most common NCDs worldwide, affecting an estimated 3.5 billion people¹ – representing more than half of the global population. The combined estimated number of cases of oral diseases globally is about 1 billion higher than the combined number from all five main NCDs². As of 2019, the most prevalent oral diseases/conditions were untreated dental caries (2.5 billion cases), severe periodontal disease (1 billion cases), and edentulism (350 million cases)¹. It is therefore important that we take a preventative approach that includes the dissemination and implementation of results from preventative research related to oral diseases. **AADOCR supports close collaboration and coordination between the ODP and the National Institutes of Dental and Craniofacial Research (NIDCR)** to disseminate ODP portfolio analysis tools and related data and to coordinate of funding initiatives related to oral disease prevention.

Identify prevention research areas for investment or expanded effort by NIH.

- Objective 2.1: Work with a variety of partners to identify needs in prevention research.
- Objective 2.3: Work across ODP and with NIH Institutes, Centers, and Offices and other partners to identify the most promising/feasible prevention research gaps that warrant greater investment or expanded effort.

As mentioned earlier, AADOCR is the leading professional community for multidisciplinary scientists who advance dental, oral, and craniofacial research. AADOCR is well positioned to support and represent the dental, oral, and craniofacial research community, provide scientific career development, increase opportunities for scientific exchange, advance prevention science research related to dental, oral, and craniofacial health, and facilitate the application of research findings. The International Association for Dental Research's (IADR) scientific groups and networks are the backbone of the association. Comprised of 25 scientific groups and 10 networks, these communities bring colleagues across disciplines together to inspire and promote high-quality research in a wide breadth of DOC scientific areas. Therefore, **AADOCR is primed to work with ODP and the NIDCR to discern further prevention research areas for investment or expanded effort by the NIH that is inclusive of dental, oral, and craniofacial research.**

- Objective 2.2: Compare identified needs in prevention research with the current NIH portfolio to identify prevention research gaps (i.e., those areas that are not being addressed or have insufficient funding).

There is research – over 7 decades' worth – pointing to the safety and effectiveness of fluoride to prevent tooth decay. Dental caries (tooth decay) remains the most prevalent chronic disease in both adults and children and fluoridated water is a simple, equitable, and effective strategy that can help millions of people^{3,4} However, there have been frequent and persistent challenges to water fluoridation. Therefore, **AADOCR supports research on water fluoridation to continue to confirm its safety and effectiveness, in the current context of fluoride availability and within optimal levels.** Research is needed that further demonstrates the safety of the low fluoride exposure concentrations (less than 1.5 mg/L), including those in fluoridated drinking water, and examining total fluoride exposure. There has been a trend of people drinking more non-fluoridated bottled water instead of community fluoridated tap water⁵. More research is also needed to better understand if fluoride dietary supplements and fluoridated water help improve bone health and prevent fractures. Additionally, more research is needed to further demonstrate the positive impact of fluoride in different delivery systems and community water fluoridation on reducing oral health disparities amongst children as well as across the lifespan.

Advance tobacco regulatory and prevention science.

- Objective 5.5: Facilitate development of resources and research opportunities to address gaps in tobacco prevention intervention, research, measurement, and methodology.

AADOCR recognizes that tobacco use is one of the largest public health threats in the world⁶. Reports show that most people who use cigarettes began smoking as an adolescent⁷; and nearly nine out of 10 smokers started smoking by age 18⁷. Additionally, since 2014, electronic nicotine delivery systems (ENDS), specifically e-cigarettes, have been the most commonly used tobacco-derived product among U.S. youth⁸. In 2022, about 1 in 10 (2.5 million) U.S. middle and high school students reported current e-cigarette use⁹. Adolescents who use e-cigarettes are 3.5 times more likely to report using traditional cigarettes and 4 times more likely to continue their use past 30 days¹⁰. Therefore, **AADOCR supports the development of research opportunities that foster more behavioral studies that discern effective mechanisms to prevent adolescents from acquiring a nicotine habit.** In addition to the health consequences for the ENDS user, the effects of the exhaled aerosols on others are also a concern. Further research is needed on the health effects of secondary exposure to ENDS aerosols.

Promote and coordinate prevention research that addresses health disparities.

- Objective 6.2: Assess the NIH prevention research portfolio related to health disparities to identify research, infrastructure, and training gaps and develop strategies to address those gaps.

Access to dental care is limited for higher-need / lower-income populations where major social gradients exist¹¹. Prevention is mainly delivered in the dental chair, which perpetuates the problems of the interventionist care model - the dentist is responsible for “delivering” prevention; patients are “consumers” rather than participants in this preventive approach¹². The current model of dental care and the conventional focus of “preventive dentistry” unfortunately targets only a fraction of the structural and

procedural causes leading to existing oral health inequalities (figure 1)¹¹. Therefore, widespread dental prevention efforts need to examine the myriad causes of the lack of penetration of prevention to broad patient populations where access to dental care is limited. **AADOCR supports further prevention research that examines the varied**

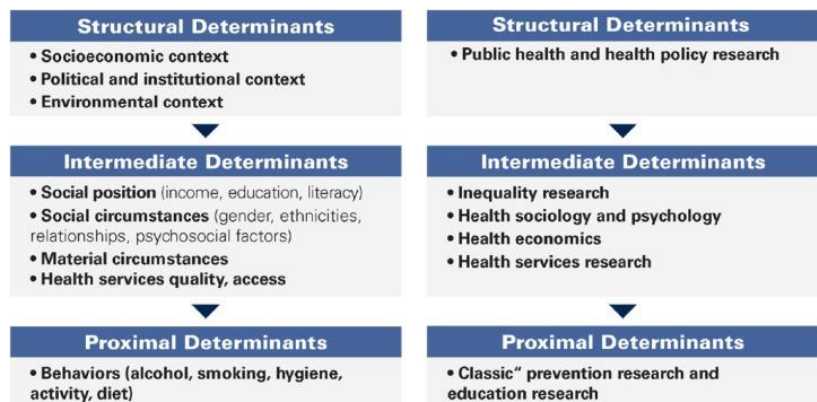


Figure 1 The pathway to (unfair) disease distribution (left) and research levels (right) suited to address the underlying structural or procedural causes (Schwendicke et al).

determinants that continue to perpetuate the systemic inequities in oral health care and diseases. It is important to note that this area of research requires a lot of interdisciplinary collaborative work and community engagement. Collaboration is needed across agencies with multiple institutional funding streams.

Improve the availability and visibility of information about prevention research, inform diverse audiences about the scope and impact of disease prevention research, and engage with ODP's partners to enhance and support ODP's mission.

- Objective 7.1: Improve the availability and visibility of information about prevention research and promote prevention-related events conducted by NIH and other federal agencies.

Progress in dentistry is often defined along technological advances facilitating reconstructive procedures, while the biological underpinnings are not as well aligned⁶. Many dental practitioners focus on treating the symptoms of oral diseases versus emphasizing prevention and prevention research. This clinical paradigm stems from existing dental educational models with a greater emphasis in some schools on the technical principles without similar attention paid to the prevention of disease and how it can be applied in the dental practice setting⁶. Therefore, **AADOOCR supports working closely with dental school deans to disseminate and transfer knowledge gained from prevention research with their students and residents and integrate this knowledge into their educational curricula.** It would also be beneficial to extend this knowledge transfer to educational programs in the community/ K-12 level of school curriculum to improve health literacy and positive health behaviors.

AADOOCR appreciates the opportunity to provide comments on the request for information on the NIH ODP strategic plan for fiscal years 2024 – 2028. AADOOCR stands ready to work with ODP to flesh out prevention research gaps in dental, oral, and craniofacial sciences and mechanisms through which ODP can increase the dissemination of the data obtained.

If you have any further questions, please contact Dr. Makyba Charles-Ayinde, Director of Science Policy, at mcayinde@iadr.org.

Sincerely,



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Chief Executive Officer

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