

**Director's Report to the
National Advisory Dental and Craniofacial Research Council
September 2024**

NIDCR Update

[**Celebrating 75 Years of the Science That Unites Us**](#). To commemorate their 75th anniversaries, NIDCR and the National Heart, Lung, and Blood Institute (NHLBI) cohosted the *NHLBI and NIDCR Joint 75th Anniversary Symposium: The Science that Unites Us* on May 22, 2024. The symposium showcased the institutes' histories, notable accomplishments, and overlapping areas of research. For the symposium recording, visit the [event page](#).

[**Ambassador Nkengasong Discusses Global HIV/AIDS Response**](#). The *Barnes Global Health Lecture*, cohosted by the Fogarty International Center and NIDCR, returned on June 5 for the first time since the pandemic hiatus. The speaker, Ambassador John Nkengasong, Ph.D., Global AIDS Coordinator and Senior Bureau Official for Global Health Security and Diplomacy, discussed his vision for a future when HIV/AIDS strategy transitions from an infectious disease crisis to disease management.

[**New Program to Advance Native Community-Led Research on Substance Use and Pain**](#). To support research led by Native communities addressing overdose, substance use, and pain, NIH launched the Native Collective Research Effort to Enhance Wellness (N CREW) Program, totaling about \$268 million over seven years, pending the availability of funds. NIDCR participates in the N CREW program.

[**Recording Now Available: Community Water Fluoridation Webinar**](#). NIDCR and the American Dental Association held an online panel discussion on community water fluoridation research and its effectiveness. Watch the panel address the future directions of fluoride-related research.

[**Simplified Peer Review Process for Research Grant Applications Starts January 25, 2025**](#). NIH plans to reduce the complexity of the peer review process for most research project grants, starting with submissions due January 25, 2025. The simplified framework will focus on three central criteria: how important the research is, how rigorous and feasible the methods are, and whether the investigators and institution can carry out the project.

[**Modified NIH Fellowship Application Review Process Starts January 25, 2025**](#). NIH plans to change the application and review criteria for fellowship applications to reduce reputational bias, beginning with submissions due January 25, 2025. The new criteria aim to identify the most promising candidates by focusing on three areas: the candidate's preparedness and potential, their research training plan, and the sponsor's and institution's commitment to the candidate.

NIDCR-Supported Science Advances

[**Dental Visits Increase with Support from Pediatric Providers**](#). An NIDCR-funded clinical trial demonstrated that primary care pediatric clinicians could influence parents' decisions to take their children to the dentist. Children's dental visits increased when providers were trained to talk to parents about oral health, perform quick oral exams, and provide dental referrals during annual medical wellness checkups.

[Exploring the Mouth's Microbial Wonders](#). To microbes, our mouth is an entire world unto itself — the gums, tongue, and teeth are habitats as distinct as the earth's jungles, deserts, and Arctic. From tiny bacterial "towns" to "microbial dark matter" that continues to elude scientists, more than 65 years of NIDCR research continues to reveal their impact on health.

[A Peek Inside the Hoon Lab](#). In a video, NIDCR Senior Investigator Mark Hoon, Ph.D., and doctoral student Yizhen Zhang describe their work to understand how the brain modifies sensory signals to change our perception of pain under different circumstances. What they learn could help scientists find safer alternatives to opioids for treating pain.

[Mapping Mucus in a Mouse](#). NIDCR Associate Director and Senior Investigator Kelly Ten Hagen, Ph.D., and researchers at the National Institute of Environmental Health Sciences mapped mucus proteins that line the sinuses and nasal passages of mice. Their findings may shed light on how enzymes that modify mucus proteins may protect against COVID-19 and other diseases.

NIH/HHS Update

[NIH Findings Show Risks and Benefits of AI Medical Decision-Making](#). Researchers at the National Library of Medicine found that an artificial intelligence model solved medical quiz questions — designed to test health professionals' abilities to diagnose patients — with high accuracy. However, AI models made mistakes in explaining the answers. The findings highlight the importance of evaluating AI technology before introducing it into a clinical setting.

[NIH Launches Pilot to Test Feasibility of a National Primary Care Research Network](#). NIH will invest about \$30 million to pilot the Communities Advancing Research Equity for Health initiative, a national primary care research network that integrates clinical research with community-based primary care. The initiative aims to improve access to clinical research, particularly for people historically underrepresented in clinical research or underserved in health care.

[NIH Scientists Develop AI Tool to Predict Immunotherapy Responses](#). In a proof-of-concept study, researchers at the National Cancer Institute developed an artificial intelligence tool that uses routine clinical data — such as that from a simple blood test — to predict whether someone's cancer will respond to immunotherapy drugs. The model may help clinicians determine if immunotherapy drugs are effective for treating a patient's cancer.

Personnel Update

Michael Collins, M.D., retired as the Chief of the Skeletal Disorders and Mineral Homeostasis Section in NIDCR's Division of Intramural Research on July 1, 2024. Dr. Collins began his career at NIDCR in 1996 as a fellow in the Inter-Institute Endocrinology Training Program, ultimately becoming a Senior Investigator in 2015. His lab studied bone and mineral metabolism by conducting clinical and translational research on rare diseases such as fibrous dysplasia, hypoparathyroidism, and FGF23-related hypo- and hyperphosphatemia. His work advanced the understanding of basic processes in bone and mineral physiology and provided evidence-based guidelines for clinical practice and new treatments for the diseases he studied. He was mentor to scores of trainees and investigators across the NIH.