About

The National Institute of Dental and Craniofacial Research (NIDCR) aims to improve dental, oral, and craniofacial health. It also addresses public health challenges such as pandemics, dental and orofacial pain, temporomandibular disorders, substance use disorders, mental health, oral cancers, craniofacial defects, salivary dysfunctions, caries, periodontal disease, and health disparities within its mission.
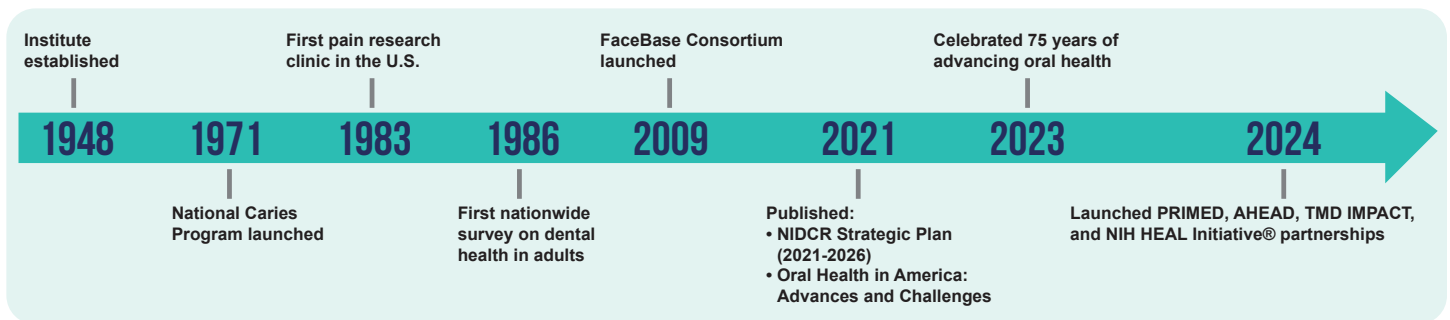
History

- The Institute was established on June 24, 1948, to address a troubling issue that prevailed during World War II—oral health in America was so poor that nearly 20 percent of military recruits were rejected because they failed to meet the minimum dental requirements.

- In 2023-2024, NIDCR celebrates its 75 years of advancements while planning for integrative research that will dramatically improve the nation's oral and overall health.

NIDCR Director
Rena D'Souza, D.D.S., M.S., Ph.D.

Timeline

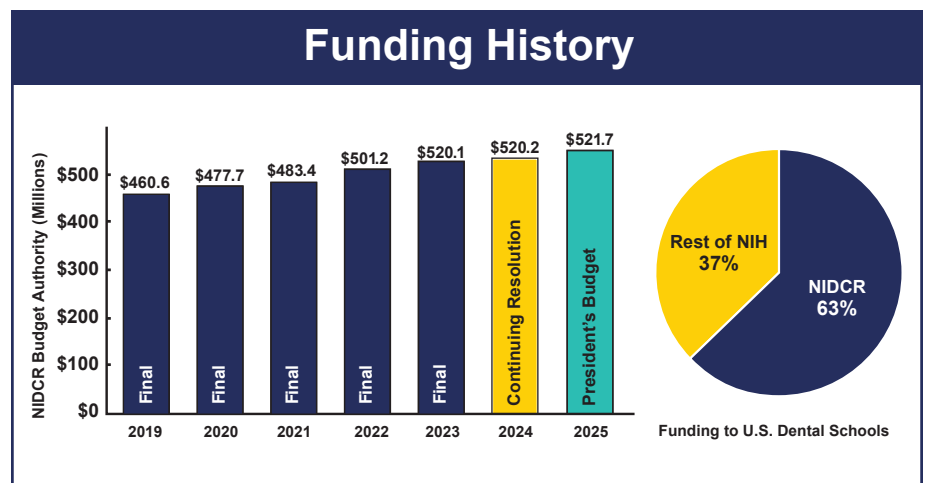| Year	Above	Below
1948	Institute established	
1971		National Caries Program launched
1983	First pain research clinic in the U.S.	
1986		First nationwide survey on dental health in adults
2009	FaceBase Consortium launched	
2021		Published: • NIDCR Strategic Plan (2021-2026) • Oral Health in America: Advances and Challenges
2023	Celebrated 75 years of advancing oral health	
2024		Launched PRIMED, AHEAD, TMD IMPACT, and NIH HEAL Initiative® partnerships

Research Highlights

- Uncovered the importance of biglycan protein for building strong and healthy bones, providing new insights into fracture healing and diseases marked by bone loss, such as osteoporosis.

- In saliva of young children with severe tooth decay, discovered cavity-causing bacteria that piggyback on fungi, allowing them to spread faster and better resist medications designed to kill them.

- Showed a medication, denosumab, significantly reduced abnormal bone structure in patients with a rare bone disorder called Fibrous Dysplasia or McCune-Albright Syndrome.

- Corrected abnormal calcium levels in 13 patients with a rare genetic condition called autosomal dominant hypocalcemia type 1.

Facts and Funding

- Largest funder of oral health research in the world.

- Funds research that informs the practices of more than **200,000** dental healthcare providers in the United States.

- Provides **63 percent** of NIH funding to U.S. dental schools.

- Trains dentist-scientists and clinicians; supports **82 percent** of NIH awardees who have dental or oral health-related degrees.

- Awards about **44 percent** of its extramural budget to dental schools.

Funding History

NIDCR Budget Authority (Millions)

Year	Amount	Type
2019	$460.6	Final
2020	$477.7	Final
2021	$483.4	Final
2022	$501.2	Final
2023	$520.1	Final
2024	$520.2	Continuing Resolution
2025	$521.7	President's Budget

Pie chart: Rest of NIH 37%, NIDCR 63%
Funding to U.S. Dental Schools

Recent Accomplishments

- Began a partnership with the Helping to End Addiction Long-term® Initiative, or NIH HEAL Initiative®, to address **oral complications arising from pharmacotherapies used to treat opioid use disorders.**

- Launched **Sjögren's Team for Accelerating Medicines Partnership (STAMP)** through the Accelerating Medicines Partnership® Autoimmune and Immune-Mediated Diseases (AMP® AIM) Program – includes NIDCR intramural researchers and is supported by five NIH components as well as industry and foundations.

- Released over **1,000 data sets** through **FaceBase** – a community-driven hub for data-intensive research on face and skull development.

Current Activities

- The **Practice-based Research Integrating Multidisciplinary Experiences in Dental Schools (PRIMED)** program is providing transformative clinical research experiences, skills development, and mentoring within a national network of dental schools.

- To enhance early detection of head and neck cancers, NIDCR is supporting studies to identify and validate biomarkers through the **Advancing Head and Neck Cancer EArly Detection Research (AHEAD) program.**

- Through the **Restoring Joint Health and Function to Reduce Pain (RE-JOIN) Consortium**, the NIH HEAL Initiative® is supporting interdisciplinary studies of nerves in the temporomandibular (jaw) joint and seeking new approaches to pain relief.

- To improve clinical care for temporomandibular disorders (TMD), NIDCR launched the planning phase for a national, NIH-wide program called the **TMD Collaborative for IMproving PAtient-Centered Translational Research (TMD IMPACT).**
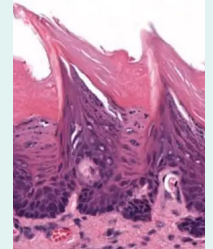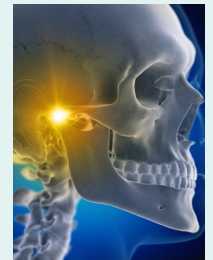
New and Future Initiatives

- **Accelerating Product Excellence in Innovation and for Clinical Adoption (APEx)** will build on the momentum of the Dental, Oral, and Craniofacial Tissue Regeneration Consortium (DOCTRC), accelerating preclinical product development through innovation, commercialization, and clinical adoption of diagnostics and therapeutics for a variety of healthcare applications.

- **Bacteriophage Therapy: Tipping the Balance to Oral Health** will encourage foundational research on the potential therapeutic uses of bacteriophages (viruses that attack bacteria) to prevent or treat oral diseases such as dental caries (tooth decay) or periodontal (gum) disease.

- **Community-based participatory research consortium: Advancing DAta and Practice Transformation (ADAPT) for Caries Equity** will support collaborative community-based interventions and a data ecosystem to accelerate progress towards reducing dental caries disparities and inequities.

- **Determining the Tri-directional Relationship Between Oral Health, Nutrition, and Comprehensive Health** will enhance research to better understand the connections between nutrition, systemic health, and dental, oral, and craniofacial health, and to develop nutritional interventions at sites of dental care.

- **Organs-on-a-Chip in Dental, Oral, and Craniofacial Research** will use a multidisciplinary approach to develop tissue chips that mimic the dynamic mechanical and functional processes of dental, oral, and craniofacial tissues for preclinical studies.

- Leveraging **whole person health** to **decrease oral health disparities** through federal partnerships.