

# Council on Scientific Affairs

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Mascarenhas, Ana Karina, 2022, Texas, chair  
 Khajotia, Sharukh S., 2023, Oklahoma, vice chair  
 da Costa, Juliana B., 2025, Oregon  
 Dhar, Vineet K., 2024, Maryland  
 Dionne, Raymond A., 2022, Missouri  
 Duong, Mai Ly, 2022, Arizona\*  
 Fouad, Ashraf F., 2025, Alabama  
 Frazier, Kevin B., 2022, Georgia  
 Gonzalez-Cabezas, Carlos, 2022, Michigan  
 Hasturk, Hatice, 2024, Massachusetts  
 Ioannidou, Effie, 2023, Connecticut  
 Kademani, Deepak F., 2023, Minnesota  
 Kumar, Purnima, 2024, Ohio  
 Lefebvre, Carol A., 2023, Georgia  
 MacDonnell, William A., 2025, Connecticut  
 Nascimento, Marcelle M., 2024, Florida  
 Park, Jacob G., 2024, Texas  
 Villa, Alessandro, 2025, California

DeLong, Hillary R., manager

The Council's 2021-2022 liaisons include: Dr. James M. Boyle, III (Board of Trustees, Third District) and Mr. Ryan Kaminsky (American Student Dental Association).

## ***Areas of Responsibility as Set Forth in the Bylaws or Governance and Organizational Manual of the American Dental Association***

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As described in Chapter VIII, Section K.10., of the ADA *Governance and Organizational Manual*, the Council's areas of subject-matter responsibility shall be:

- a. Science and scientific research, including:
  - i. Evidence-based dentistry;
  - ii. Evaluation of professional products;
  - iii. Identification of intramural and extramural priorities for dental research every three years; and
  - iv. Promotion of student involvement in dental research.
- b. Scientific aspects of the dental practice environment related to the health of the public, dentists, and allied health personnel;
- c. Standards development for dental products;
- d. The safety and efficacy of concepts, procedures and techniques for use in the treatment of patients;
- e. Liaison relationships with scientific regulatory, research and professional organizations and science-related agencies of professional healthcare organizations; and
- f. The ADA Seal of Acceptance Program.

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\* New Dentist Member

## **Advancing ADA Strategic Goals and Objectives: Agency Programs, Projects, Results and Success Measures**

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This section presents outcomes from June 2021 to May 2022, advancing the ADA Strategic Plan, Common Ground 2025, and the ADA Science and Research Institute (ADASRI) Operating Plan.

For information related to additional scientific activities outside of the CSA responsibilities, please refer to the annual report from the ADA Science & Research Institute.

**Objective 9:** The ADA will be the preeminent driver of trusted oral health information for the public and profession.

**Initiative/Program:** ADA Clinical Evaluators (ACE) Panel Program

**Success Measure:** Number of ACE Panel Reports published in *JADA*

**Target:** Four reports per calendar year

**Range:** Three to five reports published each calendar year

**Outcome:** Since June 2021, the CSA has published four ACE Panel reports:

1. August 2021: [Intraoral Scanners](#)
2. October 2021: [Smoking Cessation](#)
3. January 2022: [Vaccine Administration](#)
4. April 2022: [Oral-Systemic Health](#)

Forthcoming reports in 2022 will highlight eldercare (antic. September 2022) and intraoral appliances (antic. November 2022).

This program has met its stated goal.

**Objective 9:** The ADA will be the preeminent driver of trusted oral health information for the public and profession.

**Initiative/Program:** ADA Seal of Acceptance Program

**Success Measure:** Review of category requirements and product submissions per year

**Target:** No defined product submission review target; review of 2-3 category requirements/year

**Range:** 1-4 category requirement reviews; no defined product submission review range

**Outcome:** The COVID-19 pandemic had a negative impact on the ADA Seal of Acceptance Program due to the lack of launch of new products by the participating companies. The number of new submissions in the last period has decreased due to prior years. From June 2021 through April 2022, the Seal program has reviewed and approved seven product submissions, and revised two product submission categories (with two more pending review). The Council will continue to support the program from a scientific point of view, but does not have control over the number of future submissions.

This program has met its stated goal.

**Objective 9:** The ADA will be the preeminent driver of trusted oral health information for the public and profession.

**Initiative/Program:** Evidence Synthesis and Translational Research

**Success Measure:** Progress of clinical resource development per approved timeline

**Target:** Publications submitted for publication according to approved work plan

**Range:** n/a

**Outcome:** The Clinical Excellence Subcommittee of CSA is currently overseeing the development of four clinical practice guidelines and several systematic reviews, some of which have adjusted targeted submission dates based on challenges resulting from the COVID-19 pandemic, staffing changes, and unanticipated changes in project direction.

1. Caries Management Guideline Series: Caries Prevention (new), *anticipated submission for publication moved from Q1 2022 to Q3 2024*
2. Caries Management Guideline Series: Restorative Treatments (new), *anticipated submission for publication in Q4 2022*
3. ADA/FDA Radiograph Guideline (update), *anticipated submission for publication moved from Q4 2021 to mid-late 2022*
4. Adult Dental Sedation and Anesthesia, *delivery of project format and timeline to be finalized at June 2022 CSA meeting*
5. Dental Extractions Prior to Head and Neck Cancer Treatment, *submitted for publication in Q1 2022*

The two caries-related clinical practice guidelines (CPGs) are part of a multi-year project, which aims to assist clinicians in determining the types of preventive, diagnostic, and therapeutic interventions that should be used when managing caries in children and adults. Given the expansive nature of this project, CSA supported the development of a guideline series over the course of approximately four years. An acute pain guideline was developed under a cooperative agreement with the University of Pittsburgh and the ADASRI, funded by the US Food and Drug Administration (FDA). The Council served in an oversight capacity. With CSA's recommendation, the guideline was approved by the ADA Board of Trustees in April 2022 for ADA endorsement. The radiograph guidance update also is being developed with input from the FDA. The dental sedation guideline is a collaborative effort being developed in response to a request from the Council on Dental Education to help inform ADA policy related to education and training in dental sedation. Finally, a systematic review addressing dental intervention prior to head and neck cancer treatment was submitted for publication in *JADA* in February 2022; this represents the final Council deliverable in response to HOD Resolution 86H-2016.

The deliverables under this program are delayed.

**Objective 9:** The ADA will be the preeminent driver of trusted oral health information for the public and profession.

**Initiative/Program:** ADA Dental Standards

**Success Measure:** Establishment of annual priorities; continued review of and input on new or ongoing standards development

**Target:** Approve annual standards priorities by January 2022; provide feedback on standards development per timelines, as appropriate

**Range:** n/a

**Outcome:** In January 2022, the Council adopted annual priorities to guide its engagement with the ADA Standards Committee on Dental Products (SCDP). Two standards that fall within these priorities are

currently under Council review: Sequential Orthodontic Aligners and Dental Abrasive Powders and Pastes. The dental aligners standard has undergone several stages of writing and review, for which the Council and ADA have provided timely feedback; it is now in the final review process. The findings of a SCDP taskforce assigned to investigate the second standard under review (powders and pastes) were presented at the March 2022 SCDP annual meeting. A status report will be provided to the Council at its June 2022 meeting.

This program has met its goal.

### ***Additional Council Related Projects***

#### ***Research Priorities Development***

In June 2022, the Council approved three-year intramural and extramural research priorities for the ADA (note: this is a CSA subject area of responsibility specified in the *ADA Governance and Organizational Manual*). The intramural priorities help guide the Council and the ADA in prioritizing the work of the Council; the extramural priorities assist ADA advocacy and communication efforts to promote dental, oral, and craniofacial research to external stakeholders. Those documents appear as Appendix 1 and 2 to this Annual Report.

### **Emerging Issues and Trends**

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The Council is an important contributor to deliberations of the ADASRI Board of Directors, and periodically informs the ADASRI Board of Directors on its research priorities and projects. The CSA chair is a full voting member of the ADASRI Board; the CSA vice chair attends all ADASRI Board meetings as an invited guest. At the November 2021 ADASRI Board meeting, the CSA chair informed the ADASRI Board that a key finding from the Council's 2021 Self-Assessment Survey was a desire to better understand the relationship between CSA and ADASRI. To help address this issue, the ADASRI Board chair convened a workgroup, which includes the CSA chair, vice chair, and selected current and past Council members, to clarify the respective roles and responsibilities of the ADASRI Board and CSA with respect to science and research. In December 2021, the CSA chair also convened a workgroup of current and past CSA members to review the Council's duties and responsibilities, as specified in the *ADA Bylaws* and the *ADA Governance and Organizational Manual*. Recommendations from the CSA workgroup will be considered at the Council's June 2022 meeting. Once approved by the Council, the recommendations will be shared with the ADASRI Board workgroup.

### **Responses to House of Delegates Resolutions**

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**Resolution:** 65b-2021 — Amendment of the Policy, Research Funds

**Resolved,** that the ADA advocate for external funding to enhance gender, racial and ethnic diversity and equity across the research workforce in the oral and craniofacial health sciences.

At the 2021 House of Delegates, the Council presented a proposed amendment to the existing Policy Statement on Research Funds (*Trans.* 1984:519; 1999:974; 2016:302). The House adopted the first resolved clause (65aH-2021); however, testimony on the second resolved clause was mixed, with particular emphasis on the lack of data provided by the Council to support this position. Ultimately, the House voted to refer the second statement back to the Council for further study; with a report back to the House of Delegates in 2022. The Council will review the request at its June 2022 meeting, and a response with proposed action will be submitted to the 2022 House of Delegates.

### **Self-Assessment**

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The Council is next scheduled to conduct a self-assessment in 2026.

## Policy Review

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In accordance with Resolution 170H-2012, Regular Comprehensive Policy Review (*Trans.2012:370*), the CSA reviewed seven Association policies.

- **Evidence-Based Dentistry (*Trans.2001:462; 2012:469; 2017:275*)**. The Council reviewed the existing policy and recommended revisions to bring it in alignment with current ADA structure, remove unnecessary historical context, and better reflect current needs.
- **Scientific Assessment of Dental Restorative Materials (*Trans.2003:387*)**. The Council reviewed the existing policy and recommended minor revisions for clarity and to bring the policy in-alignment with current organizational terminology.
- **Use of Laboratory Animals in Research and Training (*Trans.1964:254; 2006:329; 2017:279*)**. The Council reviewed the existing policy and recommends that it be retained as written.
- **Precapsulated Amalgam Alloy (*Trans.1994:676*)**. The Council reviewed the existing policy and recommended minor revisions to reflect current terminology and positions of the ADA.
- **Complementary and Alternative Medicine in Dentistry (*Trans.2001:461; 2017:277*)**. The Council reviewed the existing policy and recommended revisions related to clarity and currentness.
- **Study of Human Remains for Forensic and Other Scientific Purposes (*Trans.2002:421*)**. The Council reviewed the existing policy and recommends that it be retained as written.
- **Use of Amalgam as Restorative Material (*Trans.1986:536*)**. The Council reviewed the existing policy and recommended minor revisions to reflect current terminology and positions of the ADA.

Only those above-listed policy recommendations involving revisions were forwarded to the 2022 House of Delegates for consideration.

## Council Minutes

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For more information on recent activities, see the Council's [minutes](#) on ADA.org.

**APPENDIX 1****ADA Council on Scientific Affairs  
Intramural Scientific Research Priorities: 2023-2026****CSA Intramural Research Priorities (2023-2026)**

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The CSA recommends that the ADA support scientific research in the following categories for 2023-2026:

- 1) Innovative devices, technologies, and therapeutics**
  - a. Artificial Intelligence (AI) technology for oral healthcare assessment and patient management
  - b. Novel in-office treatments
  - c. Oral hygiene products
  - d. Regenerative therapies
  - e. Tele-dentistry (scientific aspects of clinical use)
  
- 2) Health disparities and population health**
  - a. Health inequity and health delivery models
  - b. Oral health literacy
  - c. Population and practitioner health, including behavioral health
  - d. Social and commercial determinants of health

## APPENDIX 2

### ADA Council on Scientific Affairs Extramural Research Priorities: 2023-2026

#### Background/Purpose

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As America's leading voice for oral health, the ADA advocates for strong investment in scientific research for the advancement of oral health care and improvement of patient and population health outcomes. Beginning in 2020, and every three years thereafter, the ADA Council on Scientific Affairs (CSA) has a duty to define intramural and extramural research priorities that are practical and clinically relevant to practicing dentists. These priorities are aimed at improving the safety and effectiveness of existing dental treatments, techniques and products; as well as promoting the development and evaluation of novel treatments, techniques, and products that are most likely to impact dental practice in the near future.

The ADA Extramural Research Priorities are shared with external organizations, dental schools and funding agencies to promote further study and external financial support for these priorities. Triennial updates help ensure that the document addresses existing and emerging research needs and priorities in dentistry, with input from ADA members and other critical stakeholders.

As America's leading advocate for oral health, the ADA strongly supports the dental research and educational enterprise, and takes a leading role in promoting, conducting and critically reviewing research on topics related to dentistry and its relationship to the overall health of individuals and populations. The ADA will continue to serve as a facilitator of the national dental research effort, identify priority topics for research, and help ensure the timely dissemination of information to the profession.

#### CSA Extramural Research Priorities (2023-2026)

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##### **Priority 1: Strengthen and Support the Nation's Investment in the Oral Health Research Infrastructure**

1. Expand the oral health research infrastructure across the scientific/science continuum to facilitate research conduct and scholarly activity.
2. Invest in training to improve diversity and inclusivity within the oral health research workforce.
3. Support "big data" and health services research, including use of the dental practice-based research network to improve oral health surveillance and monitoring, with the goal of promoting the integration of evidence-based (or scientifically-supported) therapeutics and best practices within the overall health care system.

##### **Priority 2: Integrate Dental and Medical Aspects of Dental and Craniofacial Research to Improve Patient Care**

1. Examine the relevance of oral health to the overall health and well-being of individuals and populations, and promote the resulting evidence of those examinations.
2. Promote the integration of oral diseases and oral health quality-of-life outcomes into health studies and initiatives.
3. Explore the impact of environmental, behavioral, and social determinants on oral health outcomes across a patient's lifespan within diverse\* population groups.

4. Examine the complexity of the human oral microbiome and its interactions with other human ecosystems.
5. Promote the integration of oral health care within precision health care.
6. Support basic and translational scientific efforts to better understand biologic mechanisms that explain the interconnection between oral and overall health in complex models that recognize genetic, epigenetic, molecular, cellular and environmental levels.
7. Support research to develop patient treatment protocols and decision support tools to enhance dental response to pandemics and other public health emergencies. This research includes the following areas:
  - Risks of disease transmission in the dental clinic, with emphasis on aerosolized and airborne infectious agents;
  - Development of contemporary patient care delivery paradigms;
  - Mechanisms for the effective triage of care;
  - Emergency treatment assessment criteria;
  - Facility design and engineering protocols for office environmental safety

**Priority 3: Improve Prevention and Management of Oral Diseases and Conditions across a Patient's Lifespan within Diverse\* Population Groups**

1. Support studies on the etiology, prevention and management of common oral diseases and conditions; including (in alphabetical order):
  - Dental caries
  - Dental acid erosion
  - Oral and oropharyngeal cancer
  - Peri-implant diseases
  - Periodontal disease
  - Pulpitis and apical periodontitis
  - Salivary gland dysfunction
2. Support the development of evidence-based clinical practice guidelines for the prevention and management of oral diseases and conditions. Diseases and conditions of interest include (in alphabetical order):
  - Dental caries
  - Oral and oropharyngeal cancer
  - Peri-implant diseases
  - Periodontal disease
  - Pulpitis and apical periodontitis
3. Support research on the role of tobacco, nicotine, and marijuana products in oral disease etiology and exacerbation (including vaping and e-cigarettes), and promote findings to increase awareness of their impact on oral health.

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\* Diverse population groups include, but are not limited to: geriatric individuals, children and adolescents; pregnant and medically-complex patients; and vulnerable populations (e.g., disabilities, etc.). Diversity considerations also include research into gender-specific responses to preventive and therapeutic strategies used to address oral diseases and conditions.



4. Explore the mechanisms of pain and management of acute and chronic dental pain (including patient expectations and perceptions of pain) and promote pain diagnosis and evidence-based treatment.
5. Expand the understanding of the underpinnings of inflammatory responses associated with oral diseases and conditions to include the innate immune response, modulation of adaptive immune response, neuro-inflammatory pathways and epithelial barrier functions, with the goal of developing applications for individual and population health.

**Priority 4: Encourage the Dissemination and Implementation of New Evidence-Based Technologies, Tools, and Strategies to Improve Oral Health Outcomes**

1. Support research, including educational research, on the implementation of evidence-based strategies (including barriers of implementation), including clinical practice guidelines, risk assessment protocols, and other clinical decision support tools, to enhance the prevention and management of common oral diseases and conditions, including acute dental pain, caries, periodontal disease, and oral cancer.
2. Support research on the effectiveness of teledentistry and other virtual consultation applications to improve patient health outcomes.
3. Support and promote research for the development, testing, and use of safe, novel restorative materials and biomimetic materials for oral and craniofacial health care, including the restoration and regeneration of hard and soft tissues affected by trauma, disease and developmental defects.

**Priority 5: Encourage Research into Environmental and Occupational Risks and Concerns for the Oral Care Community**

1. Advance the understanding of mental health conditions that impact oral health care providers, particularly during a public health emergency; this includes mental health research aimed at both dental teams and patients.
2. Support studies for the development of safe and effective infection control procedures and protocols for use in dental treatment environments; this includes research to address:
  - Risk of disease transmission within dental settings;
  - Personal protective equipment; and
  - Disease monitoring to protect the health of patients and the dental team.
3. Encourage research that focuses on other occupational health hazards, including but not limited to:
  - Retinal damage
  - Hearing loss
  - Chemical exposure
  - Material allergies
  - Psychological hazards (i.e., stress, mental health)
  - Physical hazards (i.e., musculoskeletal)
4. Promote the development, assessment and use of sustainable products, materials and equipment to conserve natural resources and to minimize the impact on our environmental ecosystems.