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The mission of ADEA is to lead institutions and individuals in the dental education community to address contemporary issues influencing education, research and the delivery of oral health care for the overall health of the public.

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JADA GUEST EDITORIAL**An Ounce of Prevention: The Vital Role of Research Funding in Preserving the Oral Health of the Public and the Dental Profession**

If the United States is serious about improving the nation's oral health, and reducing oral health disparities, it is critical that we continue to invest in dental, oral and craniofacial research—and in the pipeline to develop and support future oral health researchers. Research is critical to discovering new ways to prevent and address oral disease, and this activity yields an added benefit. Developing innovative approaches to reduce persistent oral health disparities enables better *overall* health. As former Surgeon General C. Everett Koop once said, "You're not healthy without good oral health."

Research published within the past 50 years has significantly enhanced our understanding of disease processes and expanded the tools we have to prevent, diagnose and treat dental, oral and craniofacial conditions. Yet, oral diseases persist on a scale that is poorly understood and wholly unacceptable. The 2010 Global Burden of Disease study showed that 3.9 billion people had oral conditions, with untreated dental caries in permanent teeth the most prevalent disease, affecting 35% of the world's population.ⁱ Despite the relatively high standard of living in the United States, one in five Americans is afflicted with dental caries according to the Centers for Disease Control and Prevention (CDC).ⁱⁱ In 2012, the CDC also found that 7% of U.S. adults had no natural teeth.ⁱⁱⁱ

National expenditures on dental services represent just a small portion of overall national health spending, less than \$1.8 billion out of \$2.9 trillion in 2013. To put this in perspective, in a 2012 Agency for Healthcare Research and Quality report, the total expenses related to heart conditions were \$101 billion.^{iv} We have both a human and vested interest in doing better, and investment in research can help set that path.

We are still far from knowing all there is to understand about the disease process and what it takes to eradicate oral diseases. Achieving this objective will require research on many fronts — including research on the microbiota of the mouth, oral-systemic relationships, behavioral sciences, environmental influences, prevention, population health strategies aimed at overcoming oral health disparities, genetics and genomics to facilitate new diagnostic techniques and personalized health care. We also will need research on how we can best prepare dental professionals to deliver more effective care and to educate individuals and communities about preserving their own oral health.

Research also helps define us as a profession. The dental profession must continue to support clinically relevant science to advance our knowledge of comprehensive patient care or it has the potential to devolve into a trade. Embracing a multifaceted research agenda and joining forces in truly integrated partnerships to secure funding are essential first steps that could ultimately reap huge rewards, transforming dentistry from being primarily procedure-based to being evidence-based. This approach allows us to technologically advance care that is focused on risk assessment, prevention and disease management. It also sustains dentistry's role in promoting *overall* health by working with the other health professions.

There is widespread support for biomedical research in the United States, but Congress needs greater encouragement to act. Since the last major federal investment in health research came to an end in 2003, congressional appropriations have leveled off, reducing the purchasing power of National Institutes of Health dollars by nearly 25% in the past decade.^v This is bad for the public's health but also for its pocketbook. Biomedical research has been an economic engine, fueling growth in the pharmaceutical, IT and health care delivery sectors.^{vi} More importantly, the impact of research on the health of the American people is intimately tied to our nation's productivity. We accept this premise in medicine, and it is equally true in oral health. If the U.S. is to maintain its competitive edge and ensure economic vitality for all, funding for research must be viewed as a key contributor to success.

The dental profession no longer can afford to be complacent in the face of eroding support for research. The reduction in U.S. government funding for basic scientific research comes at a time when other nations — in both the developed and the developing world—are investing. According to Research America, countries such as China, Japan, the United Kingdom and Germany are “rapidly and doggedly” increasing their health research capacities.

The American Dental Association (ADA), the American Dental Education Association (ADEA) and the American Association for Dental Research (AADR) have come together to tackle these challenges, recognizing that everyone benefits when research and discovery are woven into the fabric of the dental profession. This collaboration among our associations is not new, but this effort represents an unprecedented degree of cooperation. Whether by forming regional consortia that can pool and leverage resources, addressing policy barriers that limit growth in the number of researchers, or promoting a culture of research throughout the dental profession, our associations are committed to working in concert to ensure a robust environment for oral health research.

AADR will continue to lead the research community; ADEA will deploy its faculty development capability to prepare more researchers and encourage its member institutions to increase their research capacities; the ADA will urge its members to educate lawmakers and the public about the importance of funding research; and all of us will speak with a single, unified voice on this issue.

By uniting now to stave off further waning in the nation's commitment to biomedical research, we hope to inoculate our communities against a future in which dentistry finds itself ill-equipped to seize the greatest scientific advances of the day for the benefit of our patients and the broader public.

We call on our members to recognize the central value of research — for our profession as well as for the health of the public — and to join with us, furthering this critical work by lending your own voices to the call for support for this national priority.

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ⁱ Marcenes W, Kassebaum NJ, Bernabé E, Flaxman A, Naghavi M, Lopez A, Murray CJL. Global burden of oral conditions in 1990-2010: a systematic analysis. *J Dent Res* July 2013, 92:592-59. (As per Chris Fox. Not read.)

ⁱⁱ <http://www.cdc.gov/nchs/data/databriefs/db96.htm>

ⁱⁱⁱ http://www.cdc.gov/nchs/data/series/sr_10/sr10_260.pdf

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http://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2012&Table=HCFY2012_CNDXP_C&_Debug=

^v Collins FS. Exceptional opportunities in medical science: a view from the National Institutes of Health. *JAMA* January 13, 2015, 313(2) 131-2.

^{vi} Inferred from 2/20/2011 Bloomberg News article, "The Budget Scalpel and Medical Research" by Albert Hunt. http://www.nytimes.com/2011/02/21/us/21iht-letter21.html?_r=0