



A Monthly Newsletter from Executive Director Richard W. Valachovic, D.M.D., M.P.H.

*In this month's letter, Dr. Rick Valachovic, Executive Director of the American Dental Education Association, shares some wisdom from the archives and the latest news from NIH on the research front.*

### **Our Commitment to Research: Past, Present, and Future**



*We must never lose sight of the fact that research and discovery are the foundations of our profession.*

Last month, I had the pleasure of perusing the first issue of the *Journal of Dental Education* in connection with the journal's upcoming 75th anniversary. Interestingly enough, the first article in the first issue (1936) showcased a study by Dr. Isaac Schour, who would later become Dean at the University of Illinois at Chicago College of Dentistry and serve as president of the International Association for Dental Research. The paper presented six case studies to illustrate how dental schools might "train students, both undergraduate and graduate, to do research, and to inculcate in the minds of all students an intelligent appreciation of and respect for research."

As our member institutions contemplate how best to meet the latest CODA standards related to research, they might want to consult this hidden treasure. (Only a few library copies of this publication survive, but a [pdf copy](#) is now available on our website.) Dr. Schour shared many useful insights into the cultivation of young minds, and although his primary mission was the recruitment and preparation of future researchers, he was no less concerned about the majority of dental students. Noting that even a few hours a week in the laboratory is enough to make students "feel at home," he predicted that as future clinicians, "They will not avoid scientific reports in the journals but will eagerly await the findings of research and help to test their applications."

Earlier this year, ADEA released a new set of [Strategic Directions](#) for 2011 to 2014. Among them: "Promote the importance of research as the foundation of dental education and of the science and practice of dentistry." This signals ADEA's commitment to encouraging the integration of research into the mission of all our member institutions while recognizing that what is appropriate for one may not be appropriate for all.

How ADEA will pursue this commitment was one of the topics addressed at the annual gathering last month of the four ADEA Advisory Committees that advise the ADEA Board of Directors: Legislative Advisory Committee, Minority Affairs Advisory Committee, Women's Affairs Advisory Committee, and the Center for Educational Policy and Research Advisory Committee. These four committees form the ADEA Institute for Policy and Advocacy (ADEA IPA). Members were treated to a presentation by the always lively Dr. Lawrence A. Tabak, whom many of you know from his decade as Director of the [National Institute of Dental and Craniofacial Research](#) (NIDCR). Larry is now Principal Deputy Director of the [National Institutes of Health](#) (NIH). He spoke to us at length about new research funding opportunities available through NIH and their potential benefits for dental educators and their home institutions.

In keeping with the NIH motto, "Turning Discovery into Health," the agency has proposed the creation of a [National Center for Advancing Translational Sciences](#) (NCATS). Why focus on translational research at this moment in time? Larry gave three rationales:

- There has been a deluge of new discoveries, including an explosion in our understanding of the molecular basis of disease.
- Science allows us to integrate complex biomedical data sets to enable a systems approach to studying pathophysiology.
- There are unmet therapeutic needs for many rare and neglected diseases, and what we learn from these will inform our understanding of common diseases.

Even more important for all of us, he made a compelling case for why research matters to dentistry,

and it boils down to this: "You are either at the table, or you are on the menu." Pointing out that there has been a flood of discoveries with implications for therapeutic interventions, he bluntly asked those gathered, "How many of your colleagues are contributing to these?"

As I reported in last month's [Charting Progress](#), a decreasing proportion of NIDCR's extramural funding is going to dental institutions. "So many rare diseases are associated with craniofacial dysmorphology. We should be leading this research, not following," Larry asserted. He also exhorted our institutions to do more to let students avail themselves of [research opportunities](#) at NIH.

Larry suggested two steps that dental education can take to begin to remedy this situation: work to integrate the oral cavity into the health care system and train students to be comfortable with research. In his words, "They need to be able to pick up the *New England Journal of Medicine* and be facile with it."

Despite the occasional chiding, Larry ended his presentation on a positive note, emphasizing the enormous opportunities available through NIH and our profession's leadership in areas as diverse as biofilm and health disparities. "We have so much to contribute," he concluded.

Of course, getting from our current position to one in which all of our member institutions can participate in mission-appropriate research and produce research savvy students can feel daunting at times. Many in our community are grappling with how to develop student fluency with scientific literature. Others question how smaller, newer schools can reasonably compete for funding opportunities at NIH. Some answers may lie in a broader understanding of research and the diverse contributions our institutions can make to the advancement of science in all of our academic dental institutions.

During the Q & A, I asked Larry whether he thought it was reasonable for our institutions with less developed research programs to collaborate with those we think of as research powerhouses. He called partnering among schools a practical solution, one in keeping with the evolution of the scientific enterprise. "We have moved from individual investigators to duos and trios to networks such as the human genome project," he remarked, indicating that collaboration among dental schools makes sense in this context.

He also mentioned NIH's current support of "collaboratories" that bring together health care delivery organizations for collaborative research. According to the NIH website, the word "collaboratory" was first used in 1989 to describe a "center without walls." This concept of a science laboratory dispersed across multiple sites yet integrated through the use of computer network technologies opens all sorts of possibilities for collaboration across institutions.

This struck a chord with several in the audience. ADEA's Associate Executive Director and Director of the Center for Equity and Diversity, Dr. Jeanne Sinkford, called on our schools to collaborate with the health and behavioral science schools on their campuses, and Dr. John Williams, ADEA Vice President for Deans and Dean at the Indiana University School of Dentistry, called on ADEA to become "intentional" about pairing research intensive institutions with other member institutions across the entire research spectrum. Throughout the discussion, it became clear that our members have developed a multifaceted understanding of research, one that encompasses basic science, clinical science, translational, educational, and public health research.

Larry Tabak seemed to share this view, and his suggestion that our students need a broader education in terms of the behavioral and social determinants of health further underlined it.

Despite the excitement surrounding research at the start of the 21st century, we still face enormous challenges, which Larry acknowledged by beginning his otherwise upbeat presentation on a somber note. Several years back, disparities in success rates for funding awards among racial and ethnic groups came to the agency's attention, and true to its research mission, the agency conducted a study to determine the extent of the problem. Larry shared the study's findings, which are detailed in a paper published this past August under the title "[Race, Ethnicity, and NIH Research Awards](#)" in *Science Magazine*.

As described in the agency's press release, the study "found that, even after controlling for education, institution, and other factors that influence the likelihood of success, black investigators were still 10 percentage points less likely than white investigators to receive a new research project grant." The study also shed light on possible causes for the disparities, which suggest potential remedies. Because prior service on an NIH review panel is positively correlated with greater success in receiving grants, the agency's Center for Scientific Review has initiated a new Early Career Reviewer program that it hopes will give investigators from underrepresented groups the experience they need to create successful research proposals. You can read more about the NIH response to the study in an [article](#) co-authored by Larry and Dr. Francis S. Collins, Director of the National Institutes of Health, in the same edition of *Science*.

So, to get back to the question posed earlier, why does research matter for dental education at this point in time? We must never lose sight of the fact that research and discovery are the foundations of

our profession. As our current ADEA President Dr. Leo Rouse put it during a discussion of ADEA's role in promoting research toward the conclusion of the same meeting, "We need to move away from procedurally-based curricula and place more emphasis on understanding diseases and the best ways to treat them." ADEA's Immediate Past President, Dr. Sandra Andrieu, echoed his words when she summed up much of the challenges that face us. "We say we want oral health to be part of overall health—that we want to be recognized by our peers as critical members of the health care team—but we are our own worst enemies. Our curricular content tends to be procedure-based rather than disease-based. It defines so many of the things we do and contradicts so many of the goals we espouse."

These are goals we've been writing about since at least 1936. Let's seize today's opportunities for funding, collaboration, shared curriculum, and technical assistance; train a cadre of first-rate investigators and nurture the ones already within our ranks; and make sure that *all* our students graduate with an appreciation for the value of research and the ability to access and apply the knowledge it provides.



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