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Communication Policy

It is the communication policy of the American College of Dentists to identify and place before the Fellows, the profession, and other parties of interest those issues that affect dentistry and oral health. The goal is to stimulate this community to remain informed, inquire actively, and participate in the formation of public policy and personal leadership to advance the purpose and objectives of the College. The College is not a political organization and does not intentionally promote specific views at the expense of others. The positions and opinions expressed in College publications do not necessarily represent those of the American College of Dentists or its Fellows.

Objectives of the American College of Dentists

THE AMERICAN COLLEGE OF DENTISTS, in order to promote the highest ideals in health care, advance the standards and efficiency of dentistry, develop good human relations and understanding, and extend the benefits of dental health to the greatest number, declares and adopts the following principles and ideals as ways and means for the attainment of these goals.

A. To urge the extension and improvement of measures for the control and prevention of oral disorders;

B. To encourage qualified persons to consider a career in dentistry so that dental health services will be available to all, and to urge broad preparation for such a career at all educational levels;

C. To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

D. To encourage, stimulate, and promote research;

E. To improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient;

F. To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

G. To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public;

H. To make visible to professional persons the extent of their responsibilities to the community as well as to the field of health service and to urge the acceptance of them;

I. To encourage individuals to further these objectives, and to recognize meritorious achievements and the potential for contributions to dental science, art, education, literature, human relations, or other areas which contribute to human welfare—by conferring Fellowship in the College on those persons properly selected for such honor.

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July 23, 2024

Importance of Education in Dentistry and the Role of the College

Michael A. Graham, Executive Director

The American College of Dentists mission of "advancing excellence, ethics, professionalism, and leadership in oral health" is strongly rooted in education. Whether it's formal or informal, in the classroom, online or in a mentoring capacity, education is how dentists, students and even the public learn about the value of our four pillars and their impact on what we do every day.

In 2023 alone, over 39,000 ethics courses were completed, and more than 23,000 ethics videos were viewed on the website. But as educational programing requires continuous updating, we must do the same. Our goal is to make the website a "best in class" resource for all of dentistry to utilize whether in the classroom or online.

With that in mind, the College's Board of Regents recently developed and approved a five-year strategic plan with goals and related activities that promote and advance educating dentists and students on those aspects that make up the College's mission.

At the very top of the plan's agenda is refreshing the College's website on dentalethics.org that has provided dentistry with online courses and instructional videos that can be used in the classroom or independently by clinicians. In 2023 alone, over 39,000 ethics courses were completed, and more than 23,000 ethics videos were viewed on the website. But as educational programing requires continuous updating, we must do the same. Our goal is to make the website a "best in class" resource for all of dentistry to utilize whether in the classroom or online.

The College also is developing and implementing a leadership training program for Fellows. This past spring the College held its first such training program with nearly 30 participants. A similar leadership program is planned for the spring of 2025 – already we have a waiting list. The good news is that we are planning other local and regional leadership training programs to meet the anticipated demand. This is an exciting opportunity for our Fellows as leadership has always been one of our four pillars but activities around leadership have not been formalized.

Lastly, we are starting to plan for a second meeting that would be held in the spring, in addition to our fall annual convocation meeting. The primary purpose of this spring meeting will be to promote and educate our Fellows on the activities and topics that help our strategic plan to achieve its goals.

Through all these educational opportunities we hope to build engagement and excitement for our Fellows in the work of the College in promoting our mission!

This *JACD* issue focuses on education through the lens of dental educators and administrators, dental students, and ACD Fellows. I hope you enjoy this issue of the *JACD*.

PERSPECTIVE

Opportunities Out of Challenges in Dental Education: Two Deans' Perspectives

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Leading a college or school of dentistry in the United States has many rewarding attributes and occasional frustrations. The two authors collectively represent the experiences of almost 36 years as deans leading dental colleges. The University of Iowa, (UIowa), being in a small college town, serves a rural state with many of the health issues seen in large urban centers. No school or college is the same, but we all encounter common significant issues. While dental education has challenges (be it a public or private), we prefer to see them as opportunities (or at least as job security). In general, interest in dentistry is strong, with a record number of applicants even with the increasing number of new schools and expanded legacy programs. Second, the profession is rapidly evolving with new business

No school or college is the same, but we all encounter common significant issues. While dental education has challenges (be it a public or private), we prefer to see them as opportunities (or at least as job security). In general, interest in dentistry is strong, with a record number of applicants even with the increasing number of new schools and expanded legacy programs.

and clinical delivery models, academic, clinical, and research technologies, a changing demographic face of the profession, and multiple new workforce choices for dental graduates. Yet, ethics and professionalism, a core mission of the American College of Dentists, is a key touchstone as young providers deal with all the rapid changes around them. The clinical delivery service models of our clinics continue to expand, providing a range of opportunities, including access to care needs for our patient populations. The service safety net is a vital public good that we serve, even though our funding model is not designed to address uncompensated costs. Further, discovery research continues to rapidly expand the science of dentistry, underpinning our profession and enhancing diagnostics and therapies. While we have challenges, we choose to see them as opportunities. In this discussion, we begin with a challenge and reframe each into an aspirational opportunity.

Opportunities Out of Challenges in Dental Education: Two Deans' Perspectives

Clark M. Stanford; David Johnsen

Dental education is a specialized medical field requiring a balance of contemporary theoretical knowledge, practical skills, and adaptability to evolving medical practices and technologies. At least in North America, there has been the thought that the formal phase of education occurs in a 3–4-year period following a baccalaureate fusing the elements of a medical education with a clinical residency. It is the responsibility of the faculty and the curriculum that upon graduation, a new dentist is prepared to diagnose, treatment plan, perform, or manage anything under the practice act of Dentistry (one could call this our Prime Directive, in the parlance of Star Trek). This is much different from human medical school education, leaving veterinarian medicine education as the closest to Dentistry. We must assure the public that the longitudinal set of didactic and clinical assessments during dental school creates an honest and in-depth outcomes assessment of our students. We must assure public safety for future dental care, measured not as an average of the class but by assessments of the character, knowledge, and skills deployed by each individual graduate. Dentistry is far more than a set of procedures; it is the application of the five core American Dental Association (ADA) ethical principles that sets us apart. On a daily basis, these principles must be inculcated into every graduate. In this case, the best measure may be what a student approaching graduation does on an observed day-to-day basis. The application of knowledge, skills, and attitude are key to the ability of the public to trust a healthcare provider and thus are foundational to the use of entrustable professional activities (EPAs). EPAs are far more than clinical procedural competencies. They are a reproducible demonstration of knowledge and skills overlaid with measures of ethical character and independent application of the five core ethical principles of the profession (referred to as attitude). This creates steep learning curves. The burden of this learning curve has only become steeper with the advancement of knowledge, learning tools, and applications.

So, what keeps a dean up at night? Many things. Depending on the institution, a dean is the CEO of a large academic unit, a dental hospital, and research units and must be nimble to address short and long-term challenges occurring in each of these areas. All of the following challenges discussed in this paper have kept both of us up from time to time. At present, the recruitment and retention of faculty of the highest caliber is a significant concern because this is core to our mission. We are doing well, but we are in an "arms race" between colleges which should not exist. Faculty reflects the reputation of the college, the culture, the budget, the respect of students and patients, and the long-term sustainability of the college and literally, the profession. Faculty are also central to research activities, transforming materials, applications, procedures, and clinical trial documentation into the best evidence for our patients. For multiple reasons, higher education in the United States does not attract many US citizens to join a dental college as faculty on a full-time basis. In part, this is due to educational debt, the current profitability of private practice, unawareness of the advantages of an academic career, American culture, and family and life pressures, among many others. Students also look to role models, and perhaps we do not always do a good job being leaders of the profession. We could do better. The ADA, which recognizes the value of faculty role modeling, has recently created several significant efforts to engage dental faculty and bring them firmly into the practice community. This will be very helpful.

In this paper, we have chosen to highlight issues around curriculum development, technological integration, financial constraints, clinical training, and the mental health of dental students as areas that dental education must continue to focus on. Each has kept us up at night.

Curriculum Development

One of the primary challenges in dental education is ensuring the curriculum remains relevant and

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comprehensive. This takes an ongoing environmental scan of changes in clinical practice based on foundational evidence-based best practices. To change and revise curricular content implies that the curriculum will be "managed" or overseen by the faculty and that revisions will be made and/or content will be removed. For some faculty, this is anathema (yes, we were all taught things we no longer do or believe). Yet, we must evolve as disease rates change in subpopulations. This includes employing preventive strategies (e.g., silver diamine fluoride (SDF)) based on individualized risk factors and embracing a range of surgical and restorative therapies addressing the patient's needs, choices, and desires.[1-3] For example, the deployment of diagnostics and digital therapies has continued to be impacted by science as it evolves. To apply contemporary science to practice means we must be rigorous in applying critical thinking throughout the curriculum, building entrustable activities as the novice clinician becomes more and more independent.[4-6] In this way, it becomes inculcated into the provider and is more a mental reflex rather than an exercise of focused judgment. However, this is easier said than done.

1. **Keeping Up with Advancements:** Diagnostic and therapeutic dental technology and methodologies rapidly evolve and come with high costs. As an investment, we use a process of technology assessment, but once a choice is made, the fixed cost of an investment depreciates on an exponential scale.[7] For example, how often do intraoral scanning systems need to be replaced? How many units are needed, and what is the infrastructure cost each time a change is made? The cost of staying "contemporary," while important, is also a cost the student providers do not recognize, and at an enterprise size of a dental hospital (340 operatories at our current college), the scale of the investment, determination of breakeven, service costs, replacement costs, etc., are all important and can be learning opportunities for our students. Receiving gifted equipment or software comes with complex ties (administrative, technical, or financial), often not evident when the offer is made. The opportunities here are to teach dental students how to make decisions on investment in technologies (go/no go), to know the fixed and variable costs upfront along with ongoing costs relative to one's practice revenues, and the type of return on investment (ROI) they should expect.[1,8] Incorporating the latest advancements, such as digital dentistry, laser treatment, and advanced imaging techniques, into the curriculum is an opportunity in this "go/no go/not at this time" decision-making process for any dentist or educational institution and is a great lesson for the student to observe the process.
2. **Balancing Theory and Practice:** Dental education requires a delicate balance between theoretical knowledge and practical skills. The evidence of the rationale and the "why" a disease has occurred (genetic, epigenetic, environmental, and/or behavioral) leads to the potential for a mechanistic understanding of the process. Once novice clinicians begin

to understand the why, they can then ask why not and how the process can be prevented, stopped, or reversed. How does a current therapy help or worsen the etiology (think composite resin restorations as a treatment for caries in a high caries individual without addressing the caries process)? Ensuring that students are proficient in understanding the why is the first step.[9] The next is the sufficient performance of a skill with contextual feedback (a.k.a., deliberative practice) to be able to self-reflect along with the expert assessment of the skill performance, allowing the development of cognitive skill assessment to become reflexive "muscle memory".[10-12] Ericsson emphasizes the role of reflective feedback in developing psychomotor skills and emphasized the need for provider autonomy to practice (and fail) and rigorous feedback to become better at any skill.[13-16] Note that an important emphasis here is deliberate practice and feedback without one-time high-stakes assessments, which do not capture the progressive performance of the provider.[16] The dental school curriculum, therefore, must continue connecting rigorous performance in both the theory (why or why not) and progressive procedural skill performance.

3. **Interdisciplinary Approach:** Modern dental education increasingly emphasizes an interdisciplinary medical approach with a focus on the connections of oral and systemic health and underlies the role of dentistry as a key member of the primary care team.[1] Maintaining health and integrating biomedical knowledge allows dentistry to be allied partners with primary medicine, nursing, pharmacy, and the related allied health sciences. Together, a comprehensive prevention-based primary health team is the future for a significant component of oral health care. Given the historic separation of the health professions in North America, steps are being made to bridge common curriculums to enable improved collaborative communication and best practices in primary health care.[17]

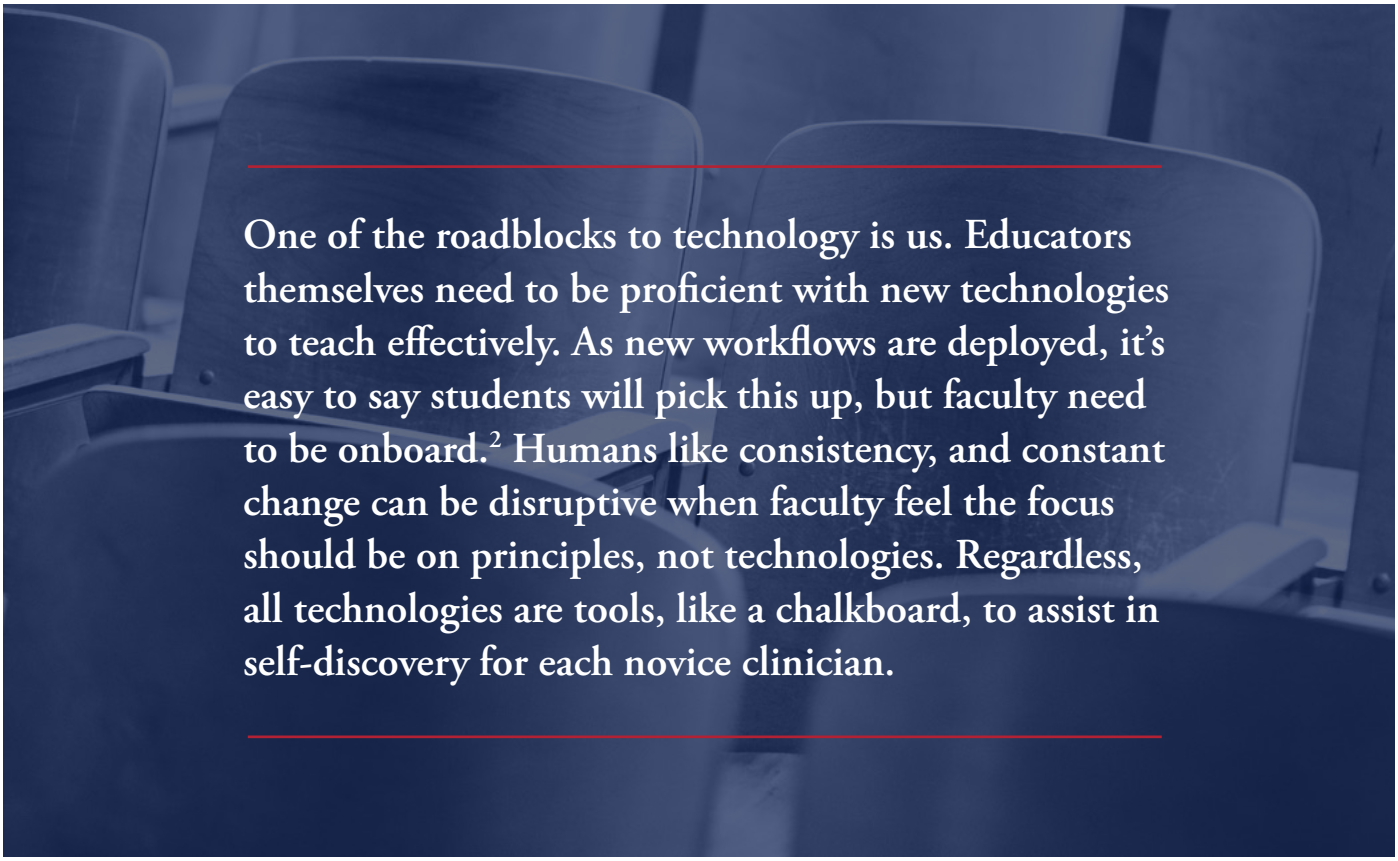
Technological Integration

The integration of novel technologies in dental education presents both opportunities and challenges.

1. **Access to Cutting-Edge Tools:** Ensuring students have access to the latest dental technologies, such as CAD/CAM systems and 3D printing, is essential for their education. Partnerships with industry are helpful and supportive within reason.[18] The primary purpose of incorporating new technologies needs to be based on a measurable improvement in outcomes (quality, efficiencies, reduced cost, improved learning/unit time).[19] As mentioned, the high cost of these tools can be prohibitive given the rapid obsolescence. Second, the technology tools used in the education of didactic content (Curriculum Management Systems), electronic assessment systems, and various simulations like artificial intelligence and augmented reality (AI/AR) technologies in the simulation phase of education are all technologies that may be useful. Still, the ROI/student and the measurable outcomes derived from the investment are unclear.[20-24] Yes, high-tech simulation can be a selling point to attract students, but does AR/Robotic simulation improve the development and skill acquisition of novice learners? Time will tell.

2. **Training Faculty/Educators:** One of the roadblocks to technology is us. Educators themselves need to be proficient with new technologies to teach effectively. As new workflows are deployed, it's easy to say students will pick this up, but faculty need to be onboard.[2] Humans like consistency, and constant change can be disruptive when faculty feel the focus should be on principles, not technologies. Regardless, all technologies are tools, like a chalkboard, to assist in self-discovery for each novice clinician.

   When considering faculty development, it is also important to expand faculty awareness



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and application of knowledge around learning styles and approaches to engaging the adult learner. This involves technologies and a better understanding of the learner. Our dental student learners are typically in their mid-twenties and are adults, neurocognitively. We must shift from knowledge transfers (the lecture) to contextualized learning that means something to the learner (the educational field of andragogy). This is partly happening with the expanded use of small group learning, team-based learning, and project-based learning approaches in higher education. We must have our faculty prepared for these changes.

Thus, continuous professional development and training programs are necessary and are opportunities to recruit highly talented clinical providers from private practice. One aspect of faculty development is the recognition faculty will enter (and exit) the academy at different points in their careers.

A key observation has been as providers approach the twilight of their clinical career, teaching part-time at a college can be an amazing career-extender (a term coined by Dr. Mert Aksu, Dean of Detroit Mercy School of Dentistry). Nothing refreshes more than wanting to give back and working with incredibly smart young people. Seeing the realization of a complex concept or the joy on the face of a novice provider when they have managed a difficult situation is simply remarkable.

3. **Virtual Learning:** The COVID-19 pandemic highlighted the importance of virtual learning platforms.[3, 25-27] New approaches to learning hold the promise to allow more inter-institutional sharing of content and avoid replication, as well as allowing students to access a variety of resources they can repackage into content that means something to them.[22] One of the largest cultural issues arising from the advent of virtual learning is shifting the focus to the student as an adult learner, shifting the focus away from

While it is more challenging to assess the qualifications of international candidates, the expanded networks have allowed highly educated, talented clinicians who are wonderful and engaging as educators to come to and support US education. They bring a high respect and dedication to their roles, a rich cultural diversity of clinical and research experiences, and many clinical advancements to America.

the faculty as the sole content expert, and emphasizing lifelong learning from day one of professional education. This underscores the ethics of the profession to take personal responsibility for one's learning and to contextualize the content in ways that are meaningful to the learner.[28] The learner must be held accountable for mastering higher levels of learning, far beyond lecture knowledge. Professional education must prepare the novice learner to understand the anticipated stages of professional clinical development over one's career, recognizing it will take years to become an "expert."[29-31]

Financial Constraints

Financial issues are a significant challenge in dental education, affecting both students and institutions.

1. **Tuition:** Dental education is expensive to deploy.[32] While a full discussion on student debt is beyond the purpose of this paper, it is important that the reader understand the total cost of educating one student. It typically costs a college about $120,000 (in 2024 dollars) to educate one DDS/DMD student per year (or about ~$480,000/dental graduate). Part of this is the nature of a combined academic and novice clinician performing irreversible surgical procedures on human beings. The level of supervision and guidance are key for patient safety and competent clinical experiences, but these come at a significant cost. Given this, tuition (public or private) has risen over the past twenty years, with tuition now covering about 50% of the cost of educating and training a general dentist (DDS or DMD). This was not the case in the past. The reasons for this cost shift, especially in public institutions, are multiple but include political choices made in states to cost shift to the recipients of the education. Second, University budgets are squeezed, and units having other revenue streams (e.g., clinical revenues, certificate programs, residency programs, faculty practices) are seen by the central campus as opportunities to transfer costs to the local unit (another thing that keeps us up at night).[32-35] Finally, universities see robust dental applicant pools for the number of available training slots and see opportunities to start new programs (at a profit). The result is the financial debt to enter the profession (about $300k in 2023 based on the American Dental Education Association (ADEA) senior survey: https://www.adea.org/data/Seniors/2023-Survey/) for the average new dentist. More worrisome is the psychological barrier for talented first-generation students or students from disadvantaged households from even considering dentistry as a profession. In part, this has led to an increase of 12% in the past two years in students graduating without debt, implying there may be a shift in students who are even contemplating the profession (https://www.adea.org/data/Seniors/2023-Survey/).
2. **Funding for Institutions:** Dental schools require significant funding to maintain facilities, acquire new technologies, provide care, and hire highly qualified faculty and staff. Funding

takes the form of operational, program, and capital funding. Conventionally, dental schools rely on tuition, clinical revenues, and some state support for operational costs. Most of the costs are human resource related (typically 70%). In a service-related operation, hiring and retaining highly qualified faculty and staff is expensive – and thus, a dental college budget looks very different than a private practice. Philanthropy fulfills an important aspect of faculty recruitment, retention, and program support, but it can rarely be used for operational costs. Capital projects are typically funded using multiple sources (e.g., state, university, clinical revenues, philanthropy, and debt service), but these are one-time projects and need considerable ongoing operational support to cover costs. The challenge is securing long-term adequate funding to reduce reliance on tuition.

One approach to this is a cultural shift of a dental school or college from being viewed as a "training facility" where patients receive care at a lower cost to one where the institution is a "dental hospital." In a dental hospital (common around the world), a government-owned, multispecialty facility provides direct primary and advanced care, allowing supervision of novice providers. The novice provider's efforts are billed under the faculty (the common medical model). Another way to think about this is that dental colleges or schools are essentially large multispecialty Dental Service Organizations (DSOs) operating with a large group of inexperienced providers where part of the cost of care is defrayed by the novice provider (called tuition). What if the faculty were principally responsible for most of the care in this DSO model and student learners were guests? This faculty-provider model focuses on faculty clinical service with robust clinical programs and emphasizes a role in clinical production (and less on other attributes of the academy). Yes, there are risks with this model. These systems evolved in many countries through a combination of government policy, investment, and a societal culture of the highest respect for faculty professors as providers of care. Much like a medical hospital, learners are guests, and there are a range of learners at different levels providing care as the primary mission, and education is seen as an important complement to clinical care delivery.

Clinical training is a cornerstone of dental education, supplying both educational and public services to the community. An advantage of many clinics is the ability to provide underserved communities with high-quality oral health care.[36] This service mission is vital to communities, the relationship of the university as a partner, and to gaining an understanding for each student as to the impacts of the determinants of health on oral and systemic health are invaluable.

Given the faculty shortage in US colleges, we have seen a significant shift to internationally trained full-time faculty. While it is more challenging to assess the qualifications of international candidates, the expanded networks have allowed highly educated, talented clinicians who are wonderful and engaging as educators to come to and support US education. They bring a high respect and dedication to their roles, a rich cultural diversity of clinical and research experiences, and many clinical advancements to America. The impact on teaching,

research, and excellence in patient care reflects the excellent educational programs in their home countries. It allows us to benefit from them as ambassadors of dental education.

3. **Scholarships and Financial Aid:** Providing sufficient scholarships and financial aid opportunities to students is crucial for maintaining diversity and accessibility in dental education. The impact of scholarships may be more for rural students, veterans, first-generation students (no dentists in the family), or those from under-resourced families.

   While everything helps, the promise of scholarships is supportive of and a small piece of multiple funding sources to assist students in debt management. Higher education also recognizes the impact of debt on alumni choices and uses debt management education and counseling while in school, and provides comprehensive information on opportunities in the public sector (military service, community health centers, FQHCs, and academic careers) as options to help service debt loads.

Access to Clinical Training

Clinical training is a cornerstone of dental education, supplying both educational and public services to the community. An advantage of many clinics is the ability to provide underserved communities with high-quality oral health care.[36] This service mission is vital to communities, the relationship of the university as a partner, and to gaining an understanding for each student as to the impacts of the determinants of health on oral and systemic health are invaluable.[1,36,37] To provide adequate and equitable access to clinical experiences poses several opportunities.

1. **Comprehensive Care, Clinical Procedures, and Requirements:** One of the challenges of traditional dental education is an expectation of a set number of specific procedures (a.k.a., "requirements") to graduate. The ethical and moral challenges with this traditional notion are, first, the assumption that a pre-set number of procedures somehow determines "competency," second, the approach reduces each patient to a procedure in the mind of the student ("she's my denture patient"), third, it creates gaming amongst students with ghosting/hiding/paying or reserving patients and, fourth, it creates challenges assessing the patient volumes needed to be managed when a technical procedure is required less and less (e.g., the three-unit bridge). The focus should be on robust and varied student clinical experiences in the contemporary dentistry world, not on the restorative norms of a previous generation. One additional challenge occurs in colleges with large advanced clinical specialty programs. In this case, patient care experiences may start with a pre-doctoral student only to move the clinical experience to the specialty clinic. This creates tension, resistance, resentment, and complaints of a lack of experience (e.g., molar endodontics). Worse, it undercuts the reciprocal relationship of respect between the generalist dental student and the specialist resident. These emotional lessons, in turn, can be carried into practice.

2. **Quality of Clinical Training:** Ensuring that each student has a comprehensive set of clinical experiences with high-quality training can be challenging when the patient volumes available do not match the number of pre-doctoral student providers. A uniform set of experiences for each student is a fundamental part of the Commission on Dental Accreditation (CODA) accreditation process for US and Canadian schools and colleges of dentistry. This has led some schools to increase regional clinics to enhance the diversity of clinical experiences and to serve specific populations with travel and scheduling needs.[20]

3. **Geographical issues related to clinical care:** Patients in underserved areas will often have access to care issues related to Medicaid ac-

ceptance, state policies, and the ability to find providers. In turn, they will travel long distances to seek care at a regional dental school/college, creating uncertain transportation issues, cost of time off work, delayed care, canceled appointments, etc. This unpredictability impacts clinical student experiences, and with a lack of clinical experience comes frustrations and anxiety in accomplishing the time-based requirements to complete the program. A potential opportunity is partnering with local community health clinics (CHC) and Federally Qualified Health Centers (FQHC) to provide access to care and enhanced student experiences. The challenge here is the level of assessment allowed at these sites, especially under the current CODA accreditation standards.

Mental Health and Well-Being

The demanding nature of dental education has been shown to impact student wellness and mental health status. This is in addition to the stress created by the 2020 pandemic and is a recognition of the role of provider health and the neurodiversity of the student body. In addition to physical myofascial pain, many neurodiverse students present with anxiety, depression, Attention Deficit Hyperactivity Disorder (ADHD), dyslexia, autism spectrum, and related mental health issues. The role of embedded mental health counseling and student academic career advising has become well recognized.

1. **High Stress Levels:** A professional dental curriculum is challenging in terms of depth, scope, and time commitment. Students rarely come from a baccalaureate taking multiple large classes, being in class almost all the time, and with the same classmates for four years. The nature of many students interested in dentistry tends to be detailed perfectionists, and now, grouped together, creates a high level of performance anxiety. Added to this is the constant rate at which content material is presented to the student, and the ability to contextualize and frame the content in a way they can relate to is limited to non-existent. Attempts are being made to modernize the binge/purge nature of memorization. There have been calls to streamline curriculum, create open study times, and shift away from knowledge-based lectures to allied team-based and small-group learning models. One aspect that has been occurring is to reconsider the timeframe of dental education. Moving to measures of entrustable professional activities (or Milestones) may provide opportunities to shift away from the lock-step model we have been in. We already see a sizable number of students requiring assessment accommodations and extended curriculums (a.k.a. altered curriculums) that are challenging to support with our older systems. Our accreditation process (CODA), licensing boards, and physical/cultural aspects of colleges impact this flexibility, too. Yet, students are changing and to encourage the best & the brightest to our profession we need to provide multiple pathways to success. Each of these approaches is useful to explore if the outcome of reducing stress can be achieved.

Part of the challenge of "work-life balance" is that it means something different to different students and something else to the faculty. The focus, though, needs to be on outcomes. Can the learner demonstrate higher learning knowledge, skills, and attitudes? Is this seen through applications of current best evidence and approaches gathering, applying, evaluating, and critiquing the outcomes of care from their clinical decision-making process?

2. **Work-Life Balance:** Dental students often struggle to maintain a healthy work-life balance due to the demanding nature of their studies and clinical training. In part, allowing students to own the content and have the flexibility of controlling their schedules is a step in this direction. The use of pre-recorded presentations and student notes that the student can repackage to create their own learning podcast is one example of owning the content. Part of the challenge of "work-life balance" is that it means something different to different students and something else to the faculty. The focus, though, needs to be on outcomes. Can the learner demonstrate higher learning knowledge, skills, and attitudes? Is this seen through applications of current best evidence and approaches gathering, applying, evaluating, and critiquing the outcomes of care from their clinical decision-making process?
3. **Support Systems:** Providing students with adequate mental health support and resources is crucial. As mentioned, institutions need to offer counseling services and/or identify community services if this is what is desired, create stress management workshops and academic advising, and maintain supportive environments to help students.

Workforce Shortages and Diversity

Ensuring a diverse and adequately staffed dental workforce is another challenge facing dental education.

1. **Faculty Recruitment and Retention:** As mentioned previously, attracting and retaining qualified faculty members can be difficult, particularly in specialized areas. Yet, there are many opportunities. Part of the shortage of faculty is caused by students being unaware of the diversity of activities that a faculty does, the networking opportunities, the range of new ideas, and the camaraderie of the academy. This is on us as role models. For some, this constant change of activities (teaching, patient care, research, committee work, etc.) leads to greater fulfillment since one knows they are impacting the next generation. As mentioned, North American institutions have benefited from recruiting some of the best faculty talent in the world, which has greatly expanded our educational programs' academic diversity. This is something to cherish and respect. In addition, the ability of private practice clinicians to help the academy towards the later stages of their own clinical career can be a significant career extender and refreshes the clinician. There are lots of opportunities when one works with highly talented young people!
2. **Diversity:** Promoting diversity within the student body and faculty is essential for fostering an inclusive learning environment. This ongoing societal challenge speaks to the value of role models in the community. The ADEA graduate surveys repeatedly indicate that 50% or more of dental students, including historically defined underrepresented minorities, decide to become dentists in the middle to high school years (https://www.adea.org/DentEdTrends/). Much of this is related to those key role models in their community that encourage, mentor, and create learning opportunities to show young people how they can become members of a wonderful profession.
3. **Global Health Disparities:** Dental education must also address global health disparities by preparing students to work in diverse environments and with underserved populations. This is an ongoing opportunity as our communities change around us and we need to prepare culturally aware young providers who recognize everyone's value. This requires a curriculum that includes global health topics and opportunities for international experiences.

Conclusion

Addressing the challenges and creating opportunities in dental education requires a multifaceted approach involving curriculum innovation, technological integration, financial support, and mental health resources. Educational institutions must continue to work collaboratively with stakeholders, including government bodies, private sectors, and professional organizations, to develop sustainable solutions. We recognize this will take a multiprong approach. Dentists are great at problem-solving, and we are confident dental education will remain relevant, accessible, and of the highest quality, ultimately leading to a well-prepared dental workforce capable of meeting the rapidly evolving needs of our society. This is also a *Prime Directive*!

REFERENCES

1. Latta MA, Radniecki SM. Challenges and opportunities in preparing dentists for primary care. *J Dent.* 2024;145:104976.
2. Walinski CJ, et al. Optimizing teaching effectiveness in dental education for a new generation of learners. *J Dent Educ.* 2023;87(2):182-188.
3. Bateman H, et al. Undergraduate dental education: an education or training? *Br Dent J.* 2021;231(10):619-621.
4. Johnsen DC. Critical thinking: Inquiring culture, learning outcomes examples, a call for learning models, and outcomes. *J Dent Educ.* 2022;86(11):1423-1424.
5. Johnsen DC, et al. Conceptualizing the next patient interaction: A clinical skillset using an emulation model in critical thinking. *J Dent Educ.* 2022;86(12):1602-1610.
6. Kelly GM, Roberts A, Lynch CD. A literature review: Entrustable professional activities, an assessment tool for postgraduate dental training? *J Dent.* 2022;120:104099.
7. Bhatia S, et al. Health technology assessment for oral health in the past decade: a scoping review. *Int J Technol Assess Health Care.* 2023;39(1).
8. Islam NM, et al. Adopting artificial intelligence in dental education: A model for academic leadership and innovation. *J Dent Educ.* 2022;86(11):1545-1551.
9. Shabayek M, et al. Integrating patient-centered caries management in dental education-A practical approach. *J Dent Educ.* 2023;87(10):1397-1400.
10. Kahneman D, Tversky A. On the reality of cognitive illusions. *Psychol Rev.* 1996;103(3):582-91; discussion 592-6.
11. Tversky A, Kahneman D. The framing of decisions and the psychology of choice. *Science.* 1981;211(4481):453-8.
12. Tversky A, Kahneman D. Judgment under Uncertainty: Heuristics and Biases. *Science.* 1974;185(4157):1124-31.
13. Ericsson KA. Towards a science of the acquisition of expert performance in sports: Clarifying the differences between deliberate practice and other types of practice. *J Sports Sci.* 2020;38(2):159-176.
14. Ericsson KA. Expertise and individual differences: the search for the structure and acquisition of experts' superior performance. *Wiley Interdiscip Rev Cogn Sci.* 2017;8(1-2).
15. Ericsson KA, Nandagopal K, Roring RW. Toward a science of exceptional achievement: attaining superior performance through deliberate practice. *Ann N Y Acad Sci.* 2009;1172:199-217.
16. Ericsson KA. Deliberate practice and acquisition of expert performance: a general overview. *Acad Emerg Med.* 2008;15(11):988-94.
17. Leary KS, et al. An emulation model in critical thinking used to develop learning outcomes in interprofessional practice. *Clin Exp Dent Res.* 2019;5(4):406-412.
18. Bengio Y, et al. Managing extreme AI risks amid rapid progress. *Science.* 2024;384(6698):842-845.

19. Coleman AJ, Finn GM, Nattress BR. Interprofessional education in dentistry. *Br Dent J*. 2018;225(3):257-262.
20. Pillai S, et al. Integration of an evidence-based caries management approach in dental education: The perspectives of dental instructors. *J Dent Educ*. 2024;88(1):69-81.
21. Maragha T, et al. Thriving in foreign learning environments: The case of hands-on activities in early years of dental education. *J Dent Educ*. 2024;88(2):176-189.
22. Schropp L, et al. Use of artificial intelligence software in dental education: A study on assisted proximal caries assessment in bitewing radiographs. *Eur J Dent Educ*. 2024;28(2):490-496.
23. Thorat VA, et al. The Role of Chatbot GPT Technology in Undergraduate Dental Education. *Cureus*. 2024;16(2).
24. Bandiaky ON, et al. Impact of haptic simulators in preclinical dental education: A systematic review. *J Dent Educ*. 2024;88(3):366-379.
25. Haden NK, et al. Dental education 2026: A scenario exploration. *J Dent Educ*. 2022;86(3):343-351.
26. Kerkstra RL, et al. Dental education practices during COVID-19: A scoping review. *J Dent Educ*. 2022;86(5):546-573.
27. Sukumar S, Dracopoulos SA, Martin FE. Dental education in the time of SARS-CoV-2. *Eur J Dent Educ*. 2021;25(2):325-331.
28. Sharab L, et al. Reshaping dental faculty development using collective healthcare experiences. *J Dent Educ*. 2023;87(9):1234-1241.
29. Lee GSJ, et al. Teaching Medical Research to Medical Students: a Systematic Review. *Med Sci Educ*. 2021;31(2):945-962.
30. Ramsburg L, Childress R. An initial investigation of the applicability of the Dreyfus skill acquisition model to the professional development of nurse educators. *Nurs Educ Perspect*. 2012;33(5):312-6.
31. Peña A. The Dreyfus model of clinical problem-solving skills acquisition: a critical perspective. *Med Educ Online*. 2010;15.
32. Formicola AJ. Current State of Dental Education: Executive Summary. *J Dent Educ*. 2017;81(8):1008-1014.
33. Formicola AJ, et al. Advancing Dental Education in the 21st Century: Phase 2 Report on Strategic Analysis and Recommendations. *J Dent Educ*. 2018;82(10).
34. Formicola AJ. Considering Students' Cost of a Dental Education: Return on Investment and Debt to Income Ratio. *J Dent Educ*. 2017;81(8).
35. Bailit HL, et al. Financing clinical dental education. *J Dent Educ*. 2008;72(2 Suppl):128-36.
36. Elsheli J, Patrick A, Stokes C. Community-based education programmes in the context of dental education: A scoping review. *Eur J Dent Educ*. 2024;28(2):576-590.
37. Johnsen DC, Wright JT. Achieving oral health for all: Accepting the challenge. *J Am Dent Assoc*. 2024;Jul;155(7):553-555.

Strengthening Pre-Dental Ethics Education

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The ethics and professionalism core, which forms the basis of all clinical learning and development, is a vital component of dental education. As a result, ethics and professionalism courses are included in the curricula of dental schools nationwide. But are dental ethics taught before dental school, especially in the context of pre-dental communities, and if so, in what way? In addition to explaining why and how the introduction of The ADA Principles of Ethics and Code of Conduct (the ADA code) might be better rooted at an earlier stage of learning for those interested in pursuing a career in dentistry, this article aims to demonstrate how ethics education appears to be lacking in the majority of pre-professional university programs.[1]

Strengthening Pre-Dental Ethics Education

Rivers Singley; Alex Ha

Professional education in dentistry exists to educate future dentists who are equipped and committed to helping society gain the benefits of good oral health. Ultimately, dentistry depends on individuals committed to treating society and their patients ethically, thus justifying teaching professional ethics in dentistry.[2]

A survey on academic integrity was sent in 1998 to the academic deans of 55 US dental schools, with a response rate of 84 percent.[3] The survey showed that reported incidents of academic dishonesty occurred in most dental schools, with the average school dealing with 1 to 2 cases per year, and the most common incidents of dishonest behavior involving copying or aiding another student during a written exam or writing an untrue patient record entry or recording a faculty member's name into a chart.[3] In 2007, the American Dental Association investigated cheating allegations by at least a dozen students from several established dental programs nationwide. They were alleged to have improperly obtained questions for an exam that was an assessment step toward fulfilling qualifications for dental licensure.[4]

In an article published in the 2004 issue of the Journal of Dental Education, Dr. Charles Bertolami proposed that our ethics curricula do not work due to the limitations of didactic education. He suggested that ethics should be taught as a "pre-curriculum" course prior to entering dental school and that dental school ethics courses should be elective and consist of small groups of students who are guided towards introspection to understand their true self-interests.[5] In 2023, researchers in Iran and Australia developed a three-part questionnaire where the specific questions included students' behavior, attitudes, and interpretation of cheating statistics at their respective schools. The results revealed that around 65.6% of students were generally aware of a fraud problem in the school, and a further 55.2% of students believed that instructors should do more to prevent cheating during exams.[5]

A 2019 Korean study also conducted a survey of 375 dental students, in which students rated whether they were involved in any cheating behaviors and their attitudes regarding each behavior. Most students admitted to having engaged in at least one cheating behavior (92.2%), indicating that cheating behaviors were a very serious and prevalent problem at this dental college. Of the 28 cheating behaviors, the top 6 reasons given for cheating were, in order of frequency: leaving class after signing the attendance list, shifting patient care to peers during exam periods, stealing practice items from peers, intentionally skipping waiting list turns to avoid difficult cases or certain faculty members, submitting peers' clinical assist records as one's own, and asking a classmate to sign the class attendance list.[6]

A European review of ethics education in the dental curriculum looked at inherent teaching challenges and the potential for future developments. The study concluded that although great strides have been made in improving ethics in dental education, further dialogue is needed to better include patient views and develop a more theoretically robust approach to self-reflection.[7]

Another review evaluated the dental curriculum's continued ethical education improvement in North American and Gulf Cooperation Council (GCC) countries. Significant impediments to development in North American countries were the effects of a compressed four-year curriculum, reliance on professional regulations, insufficient emphasis on patient perceptions, and a lack of a more conceptually sound approach to self-assessment. In contrast, among GCC countries, the most significant barriers to improving the dentistry curriculum were identified as deficient leadership attributes and low research

Ultimately, dentistry depends on individuals committed to treating society and their patients ethically, thus justifying teaching professional ethics in dentistry.

output. It was found that while both the North American and GCC regions would benefit from new dental curricula, the process of ongoing development of dental curricula is slow, particularly in GCC countries.[8] As a result, more in-depth dental ethics education is required.

The Institute of Medicine held a meeting on the future of dental education in the early 90's. It surveyed dental school seniors' opinions on curriculum components that were under or overstressed and found that respondents generally felt that ethics education was given an appropriate amount of focus within the dental school curriculum.[9] However, it is the opinion of the authors that more and earlier ethics education is needed to promote professional ethical development in dental students. Predental societies have the potential to impact ethics education even before formal enrollment in dental school.

Topics discussed at predental society meetings include things such as volunteer and shadowing opportunities, Dental Admission Test (DAT) prep, interview prep, extracurricular opportunities, and program application assistance. However, in the authors' experience, dental ethics is rarely discussed. The authors believe that more dental ethics education would be valuable at the pre-dentistry level.

The American Student Dental Association (ASDA) plays a significant role in helping pre-dental societies become more cohesive and involved in leadership and outreach early on in one's career. Additionally, there is a Predental Advisory Committee (PAC) within ASDA, for which the pre-dental consultant serves as Chair of the National PAC and is a non-voting consultant to the ASDA Council on Membership. This consultant also receives funding to attend the National ASDA Leadership Conference, which exemplifies ASDA's stance that pre-dental exposure to leadership and professionalism is necessary and beneficial.[10] ASDA states that its membership provides opportunities to play a role in the dental community that otherwise may not be available, except through ASDA.[11]

Many predental students participate in volunteer service events. The authors of this paper recognize how crucial a background in dental ethics is in navigating these events. At Louisiana Mission of Mercy (LA MOM), for example, which the authors participated in, pre-dentistry volunteers were unknowingly immersed in the ADA Code during their volunteer experience. In retrospect, the principles of patient autonomy, nonmaleficence, justice, beneficence, and veracity were clearly on display. When seating patients, patients were advised on what procedures were treatment planned and asked whether they wanted to proceed, demonstrating patient autonomy.

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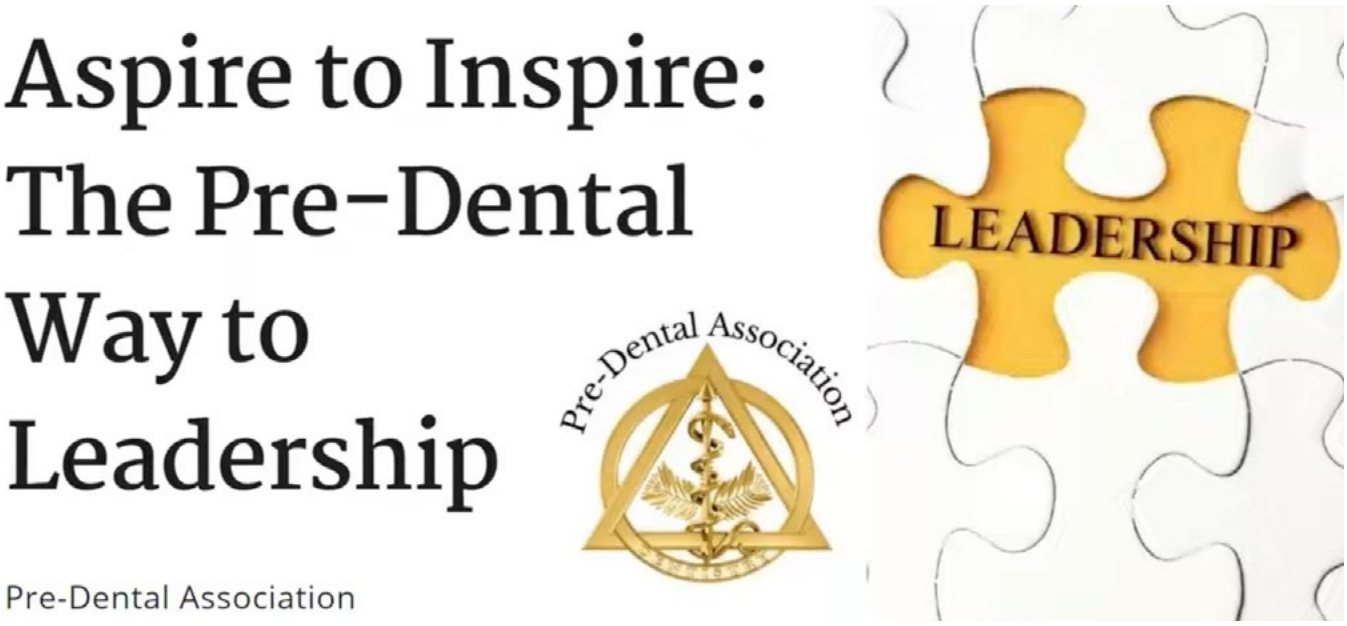

Nonmaleficence was exemplified by dentists and hygienists alike, treating patients with competence. Because time was short and resources limited, dentists triaging patients had to demonstrate the principles of justice and beneficence by prioritizing dental procedures that would most benefit the individual patients and be fair to all patients. Finally, transparency was demonstrated between the dental care team and patients, demonstrating veracity. Without veracity, other principles would be compromised, resulting in less-than-optimal care. This is just one example of why an early education in dental ethics is important.

ASDA has developed a Pre-dental Organization Toolkit, which covers topics ranging from the history of ASDA, leadership roles, and key ASDA contacts to how to start a pre-dental chapter and maintain the momentum of an existing chapter.[12] While this Toolkit contains much helpful information, it would benefit students if ASDA incorporated and linked more ethics and professionalism information into it. That said, there are valuable resources available to gain a heightened awareness of dental ethics. One example is a YouTube video on pre-dental leadership, entitled "Aspire to Inspire: The Pre-Dental Way to Leadership," in which four students discuss what leadership means to each and how to strengthen oneself for greater personal growth potential.[13] While leadership benefits students of all levels, connecting the five principles of dental ethics into leadership conversations is necessary. In a report of first-year dental students' perceptions of their primary learning outcomes from a course in ethics and professionalism, students perceived an increased awareness of their roles and more extended obligations as professionals immediately following the course.[14]

The American College of Dentists (ACD), as well as its affiliates, the American Society for Dental Ethics (ASDE) and the Student Professionalism and Ethics Association (SPEA), could be valuable resources for helping to infuse ethics education into the ASDA model for pre-dental students. The mission of the ACD is to advance excellence, ethics, professionalism,

While leadership benefits students of all levels, connecting the five principles of dental ethics into leadership conversations is necessary. In a report of first-year dental students' perceptions of their primary learning outcomes from a course in ethics and professionalism, students perceived an increased awareness of their roles and more extended obligations as professionals immediately following the course.

and leadership in dentistry; similarly, ASDE strives to lead education and scholarship in dental ethics.[15, 16] SPEA is the student section of ACD, and it has a strong national presence.

ASDE was responsible for presenting a program at the 2023 ACD annual session entitled "ACD Ethical Dilemma Videos – a Valuable Tool for Practitioners and Educators." One example of how ASDE could influence pre-dental students is by promoting these videos for use in pre-dental societies' work groups. These videos present true-to-life scenarios involving oral health providers facing dilemmas in private practice, dental, education, and research settings. They are useful tools for helping students apply ethical decision-making models to each situation. Viewing these dilemmas and working through these cases can bring awareness to issues and help students navigate ethical decision-making in dentistry.

In conclusion, the authors feel that it would be of benefit for the ACD and or ASDE and SPEA to promote ethics education to pre-dentistry students through an organized outreach program and open more lines of communication with pre-dental advisors on college campuses. This would enable advisors to serve as better mentors for promoting ethics-related learning opportunities to their pre-dental students and the societies that they may have formed. Moreover, the ACD may consider making more ethics dilemmas videos indigenous to student dentists, featuring them within their own unique clinical environs.

Finally, since one component of the ACD's Strategic Plan 2024 – 2029 is to "Expand and enhance our communications to advance the ACD pillars – excellence, ethics, professionalism, and leadership – with members of the oral health delivery team,"[17] it might well be in the College's purview to actively promote an understanding of dental ethical issues and problem-solving at the earliest phase of one's career.

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REFERENCES

1. American Dental Association. *Principles of Ethics and Code of Conduct*. 2023. Accessed June 18, 2024. https://www.ada.org/about/principles/code-of-ethics?gad_source=1&gclid=CjwKCAjwi_exBhA8EiwA_kU1MrXCy71y9-Uh4LN5dRvHICjojIMsD9wrQ2RYEkMoem6SSPw_RyN_lxoCzkYQAvD_BwE
2. Nash DA. On ethics in the profession of dentistry and dental education. *Eur J Dent Educ*. 2007;11(2):64-74. DOI: https://doi.org/10.1111/j.1600-0579.2007.00448.x
3. Beemsterboer PL, Odom JG, Pate TD, Haden NK. Issues of academic integrity in U.S. dental schools. *J Dent Educ*. 2000;64(12):833-838. PMID: 11197944.
4. 2 dentistry scandals rock UCLA. *Los Angeles Times*. November 14, 2007. Accessed June 18, 2024. https://www.latimes.com/archives/la-xpm-2007-nov-14-me-ucla14-story.html
5. Irani S, Kamverdi Z, Soltanian A, Bagheri O. Academic dishonesty in the dental faculty: relations among student's behavior, attitudes, and interpretation. Avicenna *J Dent Res*. 2023;15(2):70-75. DOI:10.34172/ajdr.2023.1643
6. Choi J. Cheating behaviors and related factors at a Korean dental school. *Korean J Med Educ*. 2019;31(3):239-249. DOI: 10.3946/kjme.2019.134
7. Patrick AC. A review of teaching ethics in the dental curriculum: challenges and future developments. *Eur J Dent Educ*. 2017;21(4). DOI: 10.1111/eje.12230
8. Afrashtehfar KI, Ghanem J, Calvo J. Dental Curriculum's Continuing Improvement in The North American and Gulf Cooperation Council (GCC) Education Systems. *Open Dent J*. 2021;15(1):601-604. http://dx.doi.org/10.2174/1874210602115010601
9. Institute of Medicine (US) Committee on the Future of Dental Education, Field MJ, eds. Dental Education at the Crossroads: Challenges and Change. Washington (DC): *National Academies Press* (US); 1995. DOI: 10.17226/4925
10. Danesh D. Personal and professional development as an ASDA predental leader. *ASDA Blog*. July 6, 2016. Accessed June 18, 2024. www.asdablog.com/personal-and-professional-development-as-an-asda-predental-leader/
11. Ahmed A. Serving the profession before dental school. *ASDA Blog*. July 11, 2014. Accessed June 18, 2024. www.asdablog.com/serving-the-profession-before-dental-school/?doing_wp_cron=1695062452.8401660919189453125000
12. *Predental Organization Toolkit*. American Student Dental Association. Accessed June 18, 2024. www.asdanet.org/docs/publications/how-to-guides/predental-club-toolkit.pdf
13. Ghazel, et al. Aspire to Inspire: The Pre-Dental Way to Leadership. Performance by Ghazel, et al., *YouTube*. September 28, 2022. Accessed June 18, 2024. www.youtube.com/watch?v=SffmJA7jODw
14. Sharp HM, Kuthy RA. What do dental students learn in an ethics course? An analysis of student-reported learning outcomes. *J Dent Educ*. 2008;72(12):1450-1457. PMID: 19056623
15. *About the American College of Dentists*. American College of Dentists. Accessed June 18, 2024. www.acd.org/about-us/
16. Ragalis K, More F. *American Society for Dental Ethics Newsletter* Fall 2023. American Society for Dental Ethics. July 1, 2023. Accessed June 18, 2024. www.societyfordentalethics.org/_files/ugd/7fdcf4_0b158b388cb24598830105689c44cfc3.pdf
17. American College of Dentists. *American College of Dentists Strategic Plan 2024-2029*. Accessed June 18, 2024. https://issuu.com/college1920/docs/outward_facing_acd_strategic_plan_1-24_f

HEALTH

Prioritizing Well-being to Advance Dental Education




(pictured from left)

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Prioritizing Well-being to Advance Dental Education

Sophia G. Saeed; Hubert K. Chan; Carlos S. Smith; Romesh P. Nalliah

The ADEA U.S. Dental School Faculty Open Positions Report shows 645 open positions in 2022–23, a 68.4% increase from 383 in 2018–19.[2] In the past four years, seven new dental school programs in the U.S. have received initial accreditation by the Commission on Dental Accreditation (CODA).[3] With unfilled positions on the rise, where will the dental community acquire sufficient faculty for all these programs? We need help, but help isn't coming.

Introduction

Picture this: robots restoring your teeth and placing implants, digitally created orthodontic treatment plans, 3D-printed dentures, nanohydroxyapatite remineralization of early carious lesions, artificial intelligence (AI) calculating bone loss and identifying potential caries on radiographs, wearable technology providing large amounts of health-related data. It is an exciting time for dentistry and dental education!

Now consider this: the greatest number of faculty vacancies ever in the modern history of dental education, fewer tenured positions than ever before, below-market salaries for dental educators, continually declining reimbursement rates from third-party payers, growing health inequities among the richest and poorest patients, and an increasingly medically complex and aging population of patients. It is also a challenging time for dentistry and dental education.

Both scenarios exist concurrently, and the constant tension between trying to keep pace with advancements and just trying to survive is draining. In a dynamic environment with limited resources, happy and engaged faculty can drive innovation and inclusivity and, ultimately, higher student achievement and better oral health outcomes for patients.

The Diagnosis: Oral Health Educators are Unwell

In a recent Nature poll, 75% of respondents reduced their work efforts since March 2020, with 73% working in academia – a phenomenon known as quiet quitting or silent resignation.[1] This trend will likely impact oral health education if it hasn't already. The ADEA U.S. Dental School Faculty Open Positions Report shows 645 open positions in 2022–23, a 68.4% increase from 383 in 2018–19.[2] In the past four years, seven new dental school programs in the U.S. have received initial accreditation by the Commission on Dental Accreditation (CODA).[3] With unfilled positions on the rise, where will the dental community acquire sufficient faculty for all these programs? We need help, but help isn't coming.

The existing faculty shortage results in many dental education institutions operating on a 'hustle culture' to meet the demands of delivering complex competency-based education programs.[4] Faculty are assigned additional roles and responsibilities beyond the scope of their job descriptions, not due to qualifications, experience, or even interest, but because there is no one else to do the work. The workload deficit left behind from the majority of open faculty positions in U.S. dental schools is redistributed among existing faculty.[2] When looking at the factors that influence the ability of U.S. Dental Schools to fill open positions, 37% of respondents in 2022–23 cite lack of response to the position announcement, up from 14% in 2018–19.[2] Fewer people are interested in becoming faculty than ever before: the hustle is not appealing.

Technology may help, however, an op-ed in the Harvard Business Review cautions that, "Technology does not purge the need for human labor but rather changes the type of

labor required."[5] From email to virtual reality, many technologies enable work to be done asynchronously – it does not reduce work – and students and faculty are at risk of burnout. Educational advances often require additional faculty and/or additional faculty time (consider problem-based learning and flipped classrooms). Advancement is aligned with overwork, and this drive to push beyond our limits in oral health education results in burnout and suboptimal execution for our students and patients, which is neither sustainable nor desirable.

Burnout is an occupational syndrome characterized by a high degree of emotional exhaustion and depersonalization and a low sense of personal accomplishment at work, which can lead to mental health issues such as anxiety and depression.[6] Physical manifestations of burnout include increases in chronic illnesses such as hypertension, hyperlipidemia, cardiac diseases, and physical pain.[7] Healthcare providers experience burnout as a result of prioritizing patients over their own health and wellness. However, health educators have an additional burden – they also care for students.

A recent study centered around wellness among dental educators suggests that younger age groups are more susceptible to burnout risk.[8] Gen Z is the most stressed generation in history, and they will be relied upon to fill future open faculty positions.[9] They will look for jobs that provide financial stability, meaningful work/life balance, and psychological safety. Faculty positions that offer this will appeal to them and their commitment to serve others.

A workforce that is well performs better and is more adaptable. For example, for many years, dental educators have wanted to meaningfully address social determinants of health (SDOH) for our patients, but this requires additional resources. Therefore, we haven't accomplished this. The US Surgeon General advisory cites a 2022 survey of over 1,500 physicians that found that 61% feel they have little to no time and ability to effectively address their patients' SDOH, and 83% believe that addressing patients' SDOH contributes to physician burnout rates.[6]

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Supporting wellness and well-being for all also requires attention to diversity, equity, inclusion, and belonging – a sense of community cannot be achieved without these values. As oral health providers, we made an oath to do no harm – how can we be true to that oath when we are harming ourselves through overwork and burnout? Oral health education institutions have a moral imperative to ensure the health and safety of their faculty, staff, students, residents, and patients. The future of dental education must prioritize the wellness of its workforce before it is able to raise the next generation of oral health professionals.

The Treatment: Caring for Our Own so We Can Care for Others

Some institutions and leaders have accepted that educators are unwell. Wellness centers, wellness healthcare benefits, meditation classes, and resiliency training have been introduced to help combat burnout. These initiatives have some benefits, but they are often fleeting. They focus on *personal attributes*, which sends the message to

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Table 1. Domains of Workplace Environment and examples of action items to promote well-being.

	Example Action Items to Promote Well-Being
Systems/ Processes/ Policies	Examine systems of evaluation to determine if they are grounded in evidence and equitable Evaluate awards given and determine if they align with stated values and desired behaviors Evaluate policies to assure they align with stated values Evaluate opportunities for growth for faculty and staff
Culture	Survey workplace climate, share results, and identify action items to work toward psychological safety Surveys should be sure to include sufficient demographic information to examine any possible trends and to ensure historically marginalized groups' voices are heard and listened to Provide coaching to leaders to create psychologically safe environments
Management/ Leadership	Evaluate job descriptions and interview processes to determine if desired personal characteristics are considered Consider conducting 360 assessments of the leadership team Provide root cause analysis training to leaders Say please, thank you, I don't know, and I made a mistake

Table adapted from Shanafelt and Noseworthy, 2017

people that they are the problem and they need the fixing. Even if people did try to address these personal attributes, we must acknowledge that well-being is inextricably tied to power, privilege, and inequity. An equity lens drives us to consider the ways in which suggestions designed to mitigate well-being may be inaccessible or unrealistic for some due to racism, classism, sizeism, mental health stigma, and other systems of oppression.

Evidence suggests that we need to shift our focus more on fixing our environments so they better allow and support the well-being of our people, including the creation of a space that is inclusive. Workplace environment changes are harder to implement because they involve input, buy-in, and changes in behavior and actions at all levels of an organization. The results may not be perceptible immediately, though they will be more sustained in the long run.

The main domains of a workplace environment that impact well-being are systems/processes/ policies, culture, leadership, and people *(Table 1*). In a workplace that supports well-being, systems and processes are efficient, clear, reproducible, logical, and evolving as needed.

In a workplace environment that does not promote well-being, there may be a misalignment of what an organization says it stands for and what its policies and systems actually promote. Take, for example, a dental school that has a stated core value of diversity and inclusion. Administrators work to ensure a diverse pool of candidates for

faculty searches, and they hire a new faculty who is visibly a minority. The other faculty and the student body are largely homogenous. This is where we start to see the system misalignment. Literature is replete with studies showing that students' evaluation of teaching is flawed and favors older, male faculty with a Westernized name. Yet, many dental institutions continue to utilize student feedback as a primary component of decisions related to faculty evaluation, promotion, tenure, and merit raises. "Evaluations have been shown to be heavily influenced by student demographics, the teaching academic's culture and identity, and other aspects not associated with course quality or teaching effectiveness."[10] Furthermore, "student evaluations are openly prejudiced against the sector's most underrepresented academics, and they contribute to further marginalizing the same groups universities declare to protect, value, and are aiming to increase in their workforces."[10] Academic institutions are centers of learning, and failure to adhere to their purported values detracts from the well-being of their community members.

Psychological safety is a concept that has gained much popularity in the last few years but began appearing in the business literature over 20 years ago when psychologists were trying to determine team effectiveness.[11] Simplified, a psychologically safe culture is one in which people are not afraid to bring up new ideas, ask questions, or admit mistakes. This requires trust, respect, and appreciation of different perspectives. Psychological safety is a prerequisite for academic freedom and diversity of thought and opinion. One of the notable benefits of diversity in the workplace is to have differing views and perspectives at the table, which leads to better solutions for complex problems; psychological safety must exist for different viewpoints to be brought up, heard, and considered.

A workplace culture that promotes well-being also includes healthy food options, an acceptance of walking meetings or other movement throughout the day, opportunities to get to know each other informally, pride and team spirit, and having fun and laughing together (not at each other's expense). When the workplace culture has these traits, people are healthier, happier, more physically and mentally present, and less likely to leave the organization.

When reviewing job descriptions for leadership positions at dental schools, we do not see "empathic, honest, supportive, growth mindset, and open to new ideas" as minimum qualifications, yet leadership courses in dentistry and dental education teach that these are the "desired" traits of a leader. Haden et al (2015) compared the skills dental school deans felt were important in fulfilling their job versus how well they were prepared in those same areas.[12] Most deans cited communication, conflict resolution, and financial management as important. However, the deans felt most prepared in the areas of clinical education, student relations, and accreditation – a severe misalignment. This landmark study was repeated in 2021 with very similar results.[13]

Leaders who promote the mission rather than themselves, share credit, and help people rise rather than those who take credit and hold people down are all traits of leaders who support well-being. Leaders who create an environment of well-being are clear, effective communicators; their actions and behaviors align with the mission, vision, and values of the organization; they take accountability and are transparent; they earn the trust of their teams; they apply policies equitably and do not play favorites; they listen humbly; they continuously learn; they are not afraid to make tough decisions that are right for the greater good of all.[14]

Finally, in environments where systems, policies, processes, culture, and leaders are built around promoting well-being, people will be more engaged, bring ideas forward without fear, are not afraid to disagree, and always seek to learn and improve. Turnover is low, and when vacancies do arise, they are competitive and highly desired.

People are happier, healthier, and more satisfied with their jobs, which improves well-being and the organization's bottom line.[14]

First, Do No Harm: Our Professional Duty

Scholars have proposed varying definitions and characteristics of professionalism throughout the years. While no single definition persists as fully comprehensive, numerous actions and traits, such as loyalty to patient trust, accountability, respect, compassion, integrity, sound ethics, altruism, and truthfulness, have been used by healthcare experts and educators to characterize professionalism.[15-17] The American College of Dentists defines professionalism as the embodiment of "positive habits of conduct, judgment, and perception on the part of both individual professionals and professional organizations."[18] Scholars note that a key feature of a profession is their nearly exclusive rights to its body of knowledge, and the right to self-regulation.[19] Thus, dentistry and dental education, out of professional duty, owe a responsibility to, first and foremost, its patients but also to itself.

Scholars across various health professions sectors have called for a reimagination of professionalism. "Key to that reframing is an expansion of previous definitions to allow for intervention mechanisms, systems, and practices – not simply refraining from doing harm but actively interfering or taking action if wrong is being witnessed."[20] Research in pharmacy education has indicated that students' well-being frequently decreases as they move through the curriculum, with more senior students reporting increased rates of stress, anxiety, and depression.[21] Studies have shown women physicians with intersecting identities and members of underrepresented racial or ethnic groups may experience additional, even exponential, discrimination, which can negatively affect their feeling of belonging, well-being, and stress levels at work.[22-23] Burnout among women physicians and other gender identities from underrepresented and systemically excluded backgrounds will remain high if health systems and organizations that provide education for health professions fail to recognize and appropriately address these variables.[22-23]

One of the few protective variables that has been shown to work in preventing burnout and promoting provider well-being is resilience.[24-25] Because it can help them handle emotional demands, develop healthy coping mechanisms, increase wellness, and foster professional progress, resilience may be an especially valuable trait for all members of the healthcare team. However, caution is needed, particularly amongst marginalized and underrepresented identities, to ensure that resilience isn't born from surviving toxic work and learning environments.[26] Well-being is not only paramount for both provider and patient success but is a clear component of one's ethical and professional duty.

Scholars across various health professions sectors have called for a reimagination of professionalism. "Key to that reframing is an expansion of previous definitions to allow for intervention mechanisms, systems, and practices – not simply refraining from doing harm but actively interfering or taking action if wrong is being witnessed."[20]

Practical Interventions for Front-Line Faculty

Just as oral health educators want an environment that supports them, they must also be dedicated to providing an environment that supports their students' well-being. Both educators and students benefit from teaching and assessment that is effective, efficient, clear, transparent, and objective. One mechanism for achieving these goals is

through a contemporary assessment method called Entrustable Professional Activities (EPAs).

Historically, dental students would have to complete a certain number of procedures to graduate – volume was believed to be aligned with competence. Later, competencies emerged, and students had to complete high-stakes clinical exams, with no faculty intervention, in order to demonstrate competence. This was meant to allow for progressive independence of students in areas where they were deemed competent and focused less on volume. However, many dental schools layered competency assessments on top of the volume requirements, which has not promoted the well-being of educators or students. The scoring of these exams also leaves room for subjectivity, and the high-stakes nature is associated with high stress and anxiety in the learner.

The current conversation around assessing dental students using EPAs is based on a medical education model of EPAs introduced in medical education roughly ten years ago. It is a different way of assessing a student's competence. One key difference between the current model of competency-based assessment (CBA) and EPAs is that CBA is often one high-stakes exam that assesses knowledge, skills, and attitudes and tends to be operationalized in a manner that centers on the technical aspect of a skill rather than the patient. On the other hand, EPAs consider the patient outcome as the long-term goal, and then work backward from there – defining units of authentic work called EPAs. Therefore, EPAs are a more holistic and authentic method of assessing students' progress toward achieving a good patient outcome and provide a clearer roadmap to the trainee on the subset of knowledge, skills, and attitudes that must converge to achieve an authentic work task. This clarity reduces the anxiety often associated with high-stakes traditional exams. Studies have shown that EPAs can foster a sense of accomplishment and confidence in students as they see their progress in real-world tasks.[27] Additionally, by engaging in authentic tasks, students develop a stronger professional identity and feel more connected to their future roles. This alignment with professional practice encourages intrinsic motivation and satisfaction, which are critical components of wellness.[28]

EPAs foster a culture of continuous improvement and mutual respect, which benefits the wellness of both students and supervising faculty. Collaboration and positive feedback loops are known to enhance job satisfaction and reduce stress.[31]

For the supervising faculty, there is an opportunity to engage with students more meaningfully through EPAs. Instead of focusing solely on exam scores, they can mentor and guide students in the context of actual professional activities - an apprenticeship, so to speak. This mentorship role can be more fulfilling and less stressful than the traditional evaluator role.[29] Traditional assessments often require extensive assessment and can contribute to clinician burnout. By focusing on observable, real-world tasks, EPAs can streamline the assessment process and make it more efficient. This efficiency can reduce the workload and associated stress for supervising faculty, thereby supporting their overall wellness.[30]

EPAs foster a culture of continuous improvement and mutual respect, which benefits the wellness of both students and supervising faculty. Collaboration and positive feedback loops are known to enhance job satisfaction and reduce stress.[31] EPAs align with competency-based education principles, which emphasize flexibility and customized learning. This alignment allows both students and supervising faculty to focus on mastery of competencies at their own pace, reducing the pressure to conform to rigid timelines and standardized testing schedules.[32] Since the process of evaluation by EPAs has

integrity and is not a one-off assessment, it is a method of assessment that supports wellness.

Reaching the Intended Outcome

Imagine this: Even in the context of a rapidly changing environment with decreased funding, your faculty remain happy and engaged. Faculty feel heard and included, they find more efficient ways of doing old tasks and identify creative new revenue streams. They are culturally humble and aware of their own biases, and the institution offers robust support for lifelong learners and accountability for those who refuse to fulfill their ethical and professional duty in mitigating oppression such as sexism, racism, ageism, and homophobia. Their enthusiasm for their careers is contagious, and students seek academic careers. They teach in learning environments with learners that are truly inclusive, diverse, and representative of both national demographics and patient populations. These bright minds continue the flywheel of positivity and innovation, and finally, dental education becomes unstuck.This is the true essence of academic dentistry, and if we can focus on these basics, we will improve our workplace cultures, be well again, and then have a fighting chance to improve the oral health of the patients we serve.

REFERENCES

1. Forrester N. Fed up and burnt out: "quiet quitting" hits academia. *Nature*. March 2023;615(7953):751-753. doi:10.1038/d41586-023-00633-w.
2. Istrate EC, Lawton KB, Cooper BL, Booker CL, West KP. ADEA Dental School Faculty Open Positions Report, 2018-19 and 2022-23. American Dental Education Association; June 2024. Accessed August 12, 2024. https://www.adea.org/data/faculty/2023-Vacancies/.
3. Predoctoral Education Dashboard - US Dental Schools at a Glance. American Dental Association; June 2024. Accessed August 12, 2024. https://www.ada.org/en/resources/research/health-policy-institute/dental-education.
4. Carnegie M. Hustle culture: Is this the end of rise-and-grind? *BBC News*. April 19, 2023. Accessed August 12, 2024. https://www.bbc.com/worklife/article/20230417-hustle-culture-is-this-the-end-of-rise-and-grind.
5. Nunes A. Automation doesn't just create or destroy jobs—it transforms them. *Harvard Business Review*. November 2, 2021. Accessed August 12, 2024. https://hbr.org/2021/11/automation-doesnt-just-create-or-destroy-jobs-it-transforms-them.
6. Office of the Surgeon General. *Addressing Health Worker Burnout: The US Surgeon General's Advisory on Building a Thriving Health Workforce*. US Dept of Health and Human Services; 2022. Accessed August 12, 2024. https://www.ncbi.nlm.nih.gov/books/NBK595228/pdf/Bookshelf_NBK595228.pdf.
7. Kottler J, Gingell MJ, Khosla S, et al. Exploring physical and biological manifestations of burnout and post-traumatic stress disorder symptoms in healthcare workers: a scoping review protocol. *BMJ Open*. 2023;13(7) doi:10.1136/bmjopen-2023-074887.
8. Singh A, Sarmiento M, Truong C, et al. Are we well? A post-pandemic snapshot of dental educator wellness, well-being, and fulfillment. *J Dent Educ*. 2023;87(12):1533-1541. doi:10.1002/jdd.13346.
9. American Psychological Association. *Stress in America: Generation Z. Stress in America™ Survey; 2018*. Accessed August 12, 2024. https://www.apa.org/news/press/releases/stress/2018/stress-gen-z.pdf.
10. Heffernan T. Sexism, racism, prejudice, and bias: A literature review and synthesis of research surrounding student evaluations of courses and teaching. *Assess Eval High Educ*. 2022;47(1):144-154. doi:10.1080/02602938.2021.1888075.
11. Edmondson AC, Lei Z. Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annu Rev Organ Psychol Organ Behav*. 2014;1(1):23-43. doi:10.1146/annurev-orgpsych-031413-091305.

12. Haden NK, Ditmyer MM, Rodriguez T, Mobley C, Beck L, Valachovic RW. A profile of dental school deans, 2014. *J Dent Educ.* 2015;79(10):1243-1250. PMID: 26702465.
13. Weinstein GJ, Haden NK, Stewart DCL, Pyle MA, Albino AW, West KP. A profile of dental school deans, 2021. *J Dent Educ.* 2022;86(10):1304-1316. doi:10.1002/jdd.12933.
14. Shanafelt T, Trockel M, Rodriguez A, Logan D. Wellness-Centered Leadership: Equipping Health Care Leaders to Cultivate Physician Well-Being and Professional Fulfillment. *Acad Med.* 2021;96(5):641-651. doi:10.1097/ACM.0000000000003907
15. Pellegrino ED. Professionalism, profession and the virtues of the good physician. *Mt Sinai J Med.* 2022;69(6):378-384. PMID: 12429956.
16. John NJ, Shelton PG, Lang MC, Ingersoll J. Training psychiatry residents in professionalism in the digital world. *Psychiatr Q.* 2017;88(2):263-270. doi:10.1007/s11126-016-9473-8.
17. Hoonpongsimanont W, Sahota PK, Chen Y, et al. Physician professionalism: definition from a generation perspective. *Int J Med Educ.* 2018;9:246. doi:10.5116/ijme.5ba0.a584.
18. American College of Dentists. *Ethics Handbook for Dentistry*. American College of Dentists; 2024. Accessed August 12, 2024. https://www.dentalethics.org/resources/ethics-handbook-for-dentistry/.
19. Cruess SR, Johnston S, Cruess RL. "Profession": a working definition for medical educators. *Teach Learn Med.* 2004;16(1):74-76. doi:10.1207/s15328015tlm1601_15.
20. Smith CS, Stilianoudakis SC, Carrico CK. Professionalism and professional identity formation in dental students: Revisiting the professional role orientation inventory (PROI). *J Dent Educ.* 2023;87(5):646-653. doi:10.1002/jdd.13159.
21. Thurston MM, Hammer D. Well-being may be the missing component of professionalism in pharmacy education. *Am J Pharm Educ.* 2022;86(5). doi:10.5688/ajpe8808.
22. Shanafelt TD, Noseworthy JH. Executive leadership and physician well-being: Nine organizational strategies to promote engagement and reduce burnout. *Mayo Clin Proc.* 2017;92(1):129-146. doi:10.1016/j.mayocp.2016.10.004.
23. Chin EL, Britto VM, Parekh R. Diversity and medical professionalism. *Health Aff.* 2020;39(5):722. doi:10.1377/hlthaff.2020.00177.
24. Alsharif A. The protective role of resilience in emotional exhaustion among dental students at clinical levels. *Psychol Res Behav Manag.* 2022;13:989. doi:10.2147/prbm.s281580.
25. Smith CS, Carrico CK, Goolsby S, Hampton AC. An analysis of resilience in dental students using the resilience scale for adults. *J Dent Educ.* 2020;84(5):566-577. doi:10.1002/jdd.12041.
26. Mitchell K. Identifying white mediocrity and know-your-place aggression: A form of self-care. *Afr Am Rev.* 2018;51(4):253-262. doi:10.1353/afa.2018.0045.
27. Ten Cate O. Nuts and bolts of entrustable professional activities. *J Grad Med Educ.* 2013;5(1):157-158. doi:10.4300/JGME-D-12-00380.1.
28. Chen HC, van den Broek WES, Ten Cate O. The case for use of entrustable professional activities in undergraduate medical education. *Acad Med.* 2015;90(4):431-436. doi:10.1097/ACM.0000000000000586.
29. Hauer KE, Kohlwes J, Cornett P, Hollander H, Ten Cate O. Identifying entrustable professional activities in internal medicine training. *J Grad Med Educ.* 2013;5(1):54-59. doi:10.4300/JGME-D-12-00060.1.
30. O'Dowd E, Lydon S, O'Connor P, Boland J, Byrne D. Stress, coping, and psychological resilience among physicians. *BMC Health Serv Res.* 2020;20(1):123. doi:10.1186/s12913-018-3541-8.
31. Lucey CR, Thibault GE, Ten Cate O. Competency-based, time-variable education in the health professions. *Perspect Med Educ.* 2018;7(4):283-287. doi:10.1097/ACM.0000000000002080.
32. Carraccio C, Englander R, van Melle E, et al. Advancing competency-based medical education: A charter for clinician-educators. *Acad Med.* 2017;92(5):767-772. doi:10.1097/ACM.0000000000001048.

American College of Dentists Ethics Handbook for Dentistry: New Resource and Updated Core Values




(pictured from left)
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The American College of Dentists (ACD) *Ethics Handbook for Dentists* was archived in 2024, and a new version, *Ethics Handbook for Dentistry*, was printed. This marks a crucial update since its previous iteration in 2016.This article provides an overview of the review process, the content, and the updated ACD Core Values.

This marks a crucial update since its previous iteration in 2016. This article provides an overview of the review process, the content, and the updated ACD core values.

Review Process

The review of the Handbook was a collaborative effort involving the American Society for Dental Ethics (ASDE), a section of the American College of Dentists, and the ACD Foundation. The project, approved in the fall of 2022, was chaired by Toni Roucka, ACD At-Large Regent. The workgroup, which included Joshua Bussard, ACD Regent Intern; Catherine Frankl Sarkis, ASDE Member; Nanette Elster, then Editor of the Journal of the American College of Dentists; Matthew Sheriff, ACD Communications Director; and Pamela Zarkowski, ASDE Member and Liaison to the ACD Board of Regents, met regularly to review and update each section of the Handbook.

The Handbook was revised to highlight the ACD's Four Pillars: Ethics, Professionalism, Leadership, and Excellence. The new Handbook also enhances and updates the list of Core Values. It includes a section on Professional Obligations outlining the dental professional's responsibilities to Patients and Society and to Professionals and Co-professionals. A section on Ethical Decision-Making remains integral to the Handbook, with the addition of a QR code directing readers to additional resources that focus on providing approaches to resolving ethical dilemmas.

The ACD Test for Ethical Decision-Making is included on a detachable card in the Handbook. It is a well-recognized tool that ACD members value. The ACD Test offers prompts to questions that should be considered when faced with an ethical dilemma.

The ACD Test for Ethical Decisions

prompts questions that should be considered when faced with an ethical dilemma.

Assess

Is it true? Is it accurate?
Is it fair? Is it quality?
Is it legal?

Communicate

Have you listened?
Have you informed the patient?
Have you explained outcomes?
Have you presented alternatives or discussed with team members?

Decide

Is now the best time?
Is it within your ability?
Is it in the best interests of the patient?

ACD's Core Values

Core Values are principles that guide ACD fellows and the dental team. The ACD Core Values expand upon the American Dental Association Principles of Ethics and Code of Conduct and are not intended to replace them. Accountability, Competence, Dignity, Collaboration, Advocacy, Reflection, Empathy, and Stewardship form the foundation upon which ethical dental practice is built. These values are practical principles that inform professional conduct. The core values ensure that oral health care is effective, evidence-based, compassionate, and respectful of the diverse needs of all patients. By embracing these core values, dental professionals commit to lifelong learning, ethical care, and dedicated service to their patients and the broader community. This commitment fosters trust, enhances the quality of care, and upholds the tradition of dentistry as a healing and respected profession. The Core Values were selected to reflect ideals that would endure over time. As new technologies emerge, cultures shift, and changes occur within dental and health care, having values that withstand the test of time is critical.

By embracing these core values, dental professionals commit to lifelong learning, ethical care, and dedicated service to their patients and the broader community. This commitment fosters trust, enhances the quality of care, and upholds the tradition of dentistry as a healing and respected profession.

The Handbook identifies eight values, creating the mnemonic ACD CARES:

Accountability
Competence
Dignity
Collaboration
Advocacy
Reflection
Empathy
Stewardship

Accountability pertains to patient care and the dentist's actions. Accountability focuses on high-quality services that meet professional standards and prioritize patient well-being. It suggests that the dental professional is responsible for their decisions and behaviors.

Competence addresses the dental professional's responsibility to demonstrate knowledge, skills, and values that serve the interests of the patients and communities.

Dignity respects a patient's values and provides treatment marked with compassion and recognition of individual autonomy. It involves the patient in decision-making and prioritizes privacy and self-esteem.

Collaboration requires that the dental professional work with others, sharing information and expertise in the best interest of each patient. It encourages a team-based approach to patient care, including dental and other health care professionals.

Advocacy includes individual and collective activities that support justice, access, and equity through policy. The dental professional can advocate or collaborate with others to advocate for the patient, such as their caregiver.

Reflection allows providers to recognize their strengths and weaknesses to guide lifelong learning and inform decision-making. Through reflection, a dental professional will enhance the quality of patient care. Reflection assists in thinking about actions before and after, encouraging quality assurance within the practice environment.

Empathy is the ability to understand and share others' feelings and experiences. As a value, empathy results in compassionate care for the patient.

Stewardship is the careful and well-managed care of a patient. It requires cultivating relationships with patients to assist in safeguarding their well-being. It also suggests thoughtful resource management.

ACD

American College of Dentists

Using the Handbook

The Handbook is more than a theoretical guide but a practical resource that can empower all dental team members to embrace their ethics and professionalism. It provides a framework for a dental provider's actions, interactions, and decision-making. The Handbook can be used to develop a practice philosophy and be integrated into staff development. Educators can use it to foster ethics and professionalism development for predoctoral, allied, and graduate students. Dental societies can also use it for continuing education, demonstrating how the principles outlined in the Handbook are applied in real-world dentistry.

Conclusion

The Handbook is adaptable to the rapid changes in society, education, and practice. Core Values guide practitioners, educators, and students who need to make critical decisions, take action, or respond to a situation. Using the ACD Pillars as a foundation, the guidance in the Handbook allows the dental professional to reflect and act thoughtfully and ethically.

For a copy of the American College of Dentists' Ethics Handbook for Dentistry, visit https://www.acd.org/communications/ethics-handbook/ or scan the QR Code below.

visit dentalethics.org

REVIEW

Resurrected Dental Editors University Offers Guidance for All Dental Editors and Communicators

Carol Anne Murdoch-Kinch, DDS, PhD
Dean, Professor
Indiana University, School of Dentistry

"Hallucinations," "Prompt Engineering," "ChatGPT and Gemini," "Ledes," "COPE," and "Super listeners." These were not just buzzwords, but key topics that defined the unique and insightful Dental Editors University (DEU) 2024 program. Hosted by the American Association of Dental Editors and Journalists (AADEJ) on May 1–2, 2024, at the Daniel M. Laskin Institute in the American Association of Oral and Maxillofacial Surgeons (AAOMS) headquarters in Rosemont, IL, this event offered a wealth of knowledge and innovation. The AAOMS provided an ideal setting equipped with state-of-the-art audio-visual technology and highly functional spaces. The first DEU in five years, it had been held once every two years before the COVID-19 pandemic pause. The next one is planned for 2026.

The comprehensive program, presented by several excellent speakers, ranged from "lessons learned" by two experienced journal editors to how to leverage social media and podcasting to an interactive workshop on writing compelling editorials. A key takeaway message throughout the two-day program is that AI has been a part of the publishing process for many years and can be a great tool when used appropriately; however, ethical and legal issues have not been systematically addressed until now. Speakers skillfully integrated demonstrations into their talks, which showed us that AI will forever change how we write, evaluate scientific evidence, and communicate.

As a first-time attendee and invited speaker, I was impressed by the breadth and quality of the programming. I also recognized that this type of program would have helped me greatly when I was a new associate editor at *The Journal of the American Dental Association (JADA)* a few years ago.

In this review, I will summarize some highlights of the program and then make a case for broader membership and engagement with the AADEJ as a professional learning community for all involved in the dental academic and professional publishing arena, including those leading top scientific journals in dentistry as well as those writing and editing, or podcasting, to a local audience. We can be stronger, meeting the challenges and opportunities associated with AI, digital media, and other innovations on the horizon while preserving the ideals promoted by William J. Gies in 1916[1] and by the AADEJ since 1931.[2]

The common themes throughout the program, as illustrated by the various speakers, included the importance of:

1. Knowing your audience and other stakeholders and striving to meet their needs and expectations.
2. Organized, easy-to-read publications with high-quality writing, accuracy, proper grammar, and high-quality, clear, and impactful images.
3. Clear, efficient, and timely processes.
4. Relevant, practical, and accurate information.
5. Trust and trustworthiness.
6. Anticipating and adapting to change in publishing, including stakeholders and their needs, publishing platforms, digital media, and artificial intelligence.

Dr. James Hupp shared "lessons learned" in his journey serving as Editor- in -Chief of three publications: Oral Surgery Oral Pathology Oral Medicine Oral Radiology and Endodontics from 2003 to 2011; the Journal of Oral and Maxillofacial Surgery from 2011 to 2022, and the Newsletter AAOMS Today, from 2002 – the present. Understanding and meeting the needs and expectations of the various stakeholders was essential: readers, authors, the editorial team, including peer reviewers, society staff and leadership, and advertisers. We learned about the strategy of sharing the workload with a managing editor, guest editors, and associate editors. Both journals evolved and flourished under his leadership with these approaches. Readers want relevant, up-to-date information that they can use, including opinions from experts. He highlighted the key elements valued by each group and the importance of treating each with respect – which includes a transparent and efficient review process and easy-to-use publication software.

Resurrected Dental Editors University Offers Guidance for All Dental Editors and Communicators

Carol Anne Murdoch-Kinch

Dr. Thomas Dodson, Editor-in-Chief of the Journal of Oral Surgery, spoke about his 30 years as an author, reviewer, and associate editor for that journal. He highlighted recent changes, including a new publisher, new liaisons, and collaborations with other Oral and Maxillofacial Surgery Organizations. I followed Dr. Dodson with my presentation on leadership in academic and professional publishing from the perspective of a dental school dean, author, peer reviewer, and associate editor. I encouraged editors, especially those of local journals, to consider engaging with dental school faculty as authors and reviewers and provided insight into the importance of scholarly publications and professional service in the faculty promotion and tenure process. I echoed the messages of the previous speakers about knowing your audience and striving to meet their needs. I completed my presentation with a call to editors to use their voices to write editorials that educate and call the reader to action.

Julie Frantsve-Hawley, healthcare consultant and Interim Executive Director of the American Association of Public Health Dentistry, followed with a compelling lesson on the responsible and ethical use of AI in electronic publishing. In her presentation on integrating evidence and ethics to elevate our publishing standards, including the use of reporting guidelines for publication in dental journals, AI made its first appearance in the program, as she demonstrated the potential for bias in generative AI. It is clearly time for guidelines on the appropriate use of artificial intelligence, especially generative AI, in the writing and publication process. She reviewed the ethical principles of the dental profession and ethical considerations for journal editors, editorial boards, and managing editors. We were also reminded of the many potential sources of bias throughout the research, scientific review, and publishing process and how to mitigate them.

Dr. Frantsve-Hawley was followed by the engaging and memorable Earl Sewell, a professional writer, published book author, podcaster, narrator, and professor, who talked about leveraging social media and podcasting to enhance dental journal awareness. Podcasting may provide an opportunity to reach a younger audience, as approximately 50% of US podcast listeners are aged 12-34! Most podcast listeners tune in to learn new things, and dental education increasingly uses podcasting. I recalled my first experience with podcasting as a faculty member. University of Michigan School of Dentistry was the first dental school to offer dental podcasting, in a unique partnership with Apple, more than 15 years ago.[3] Professor Sewell shared with us a checklist on what makes a podcast stand out and shared strategies on how to reach "super listeners," defined as those who listen more than 20 hours per week, and how to build an audience and a brand. In a nod to artificial intelligence, he demonstrated how one can use generative AI to do "prompt engineering" to generate hashtags and postings on social media to create excitement about your content.

Allisun De Kock next shared information about the American Dental Association ADA Commons Digital Journal Publishing platform, a resource for journals to archive their publications to expand circulation and promote their content and authors. The Michigan Dental Association Journal was highlighted as an example of the use of this platform for state and local dental journals. As a digital journal publishing platform, ADA Commons supports author submission through peer review and publication and serves as a searchable repository. It can archive a wide variety of data and offers valuable metrics and analytics tools.

One of the program's personal highlights for me was the hands-on writing workshop led by Daniel Verdon. He provided us with an opportunity for collaborative learning, working in small groups to apply the concepts presented. Editors have an expanding role in a digital world, and we only have seconds to make an impact. He shared tips on

how to write effective editorials for impact: a clear purpose, headlines that engage, strong ledes, and effective flow. AI is already an important tool in the writing process. It can be used to generate ideas, organize the writing, and create social media posts to generate interest and amplify your message. We also learned that AI hallucinates and creates content that sounds plausible but is false! Yet, generative AI tools are proliferating: ChatGPT, Gemini, and Grammarly are just a few examples.

The AI theme continued on day 2 when Mr. Michael A. Parks discussed the legal and ethical issues at the intersection of AI and Intellectual Property. Ms. Denise Maihofer, Executive Director of AADEJ, and Heidi Bonfield, Director of Communications and Publications for AAOMS, closed the program with a practical presentation on design elements and the mechanics of publication based on their many years in the industry as publishing professionals.

The Dental Editors University 2024 was a comprehensive program providing timely, relevant, and practical information from trusted experts in dental academia, scientific and professional publishing, and digital media. The program was designed to meet the needs of dental editors of state and local publications, dental students, authors, and journalists. However, I was surprised that there was not more representation from experienced editors and authors from the leading scientific journals in dentistry. The content and quality of the presentations were sufficient to provide value to many academics who write, review, edit, podcast, post, and broadcast scientific and professional information in dentistry. The challenges we face as a profession, to be trusted by the public as the definitive source for scientific information about oral and craniofacial health and to support the translation of evidence into professional practice, are shared by all members of the dental publishing world. The need for standardized guidelines for the responsible use of AI, for example, requires collaboration and sharing of expertise. The AADEJ can be the organization that represents and serves all dental and professional publishing if members are engaged from across the gamut.

As a Dental School Dean and faculty member who has been an author, peer reviewer, associate editor of JADA, and editorial board member, I had never attended an AADEJ meeting or a DEU before. After attending DEU 2024, I will recommend that my faculty, who serve as editors of leading dental journals, participate in future meetings. The AADEJ is uniquely driven to convene dental editors and journalists to create the future of dental publishing by assisting them to adapt to a rapidly changing environment, including the challenges of AI, digital media, and technological innovations, and to uphold the values of the profession and the public trust in dental journalism.

REFERENCES

1. Gies WJ. Independent journalism versus trade journalism in dentistry: An irrepressible conflict. *J Allied Dent Soc.* 1916;11(4):577-622. Re-published in Chambers D. William J. Gies. *J Am Coll Dent.* 2012;79(2):15-27.
2. About the AADEJ. American Association of Dental Editors & Journalists. https://www.aadej.org/overview. Accessed August 7, 2024.
3. Grayden SK, ed. Victors for Dentistry (1962-2017). Decades of Innovation and Discovery. *Michigan Publishing*; 2018. Chapter 7, The Polverini Years; 2018:109.

PERSPECTIVE

Nudging with Nomenclature Revision May Reduce Restorative Treatment of Proximal Enamel Caries Lesions

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ABSTRACT

Restorative treatment of asymptomatic proximal enamel caries lesions identified during radiographic screening imposes an unwarranted burden upon the patient and healthcare system. Despite guidance from a multinational expert consensus panel recommending non-invasive management for proximal enamel caries lesions, contemporary dentists worldwide continue to provide restorative intervention. A new strategy is needed to encourage evidence-based conservative management for proximal enamel caries lesions. It is suggested that emulating oncology's linguistic-based strategy of nomenclature revision to encourage conservative management of lesions may be an effective, passive, nudging strategy to modify dental management of proximal enamel caries lesions.

A multinational expert consensus panel defined an initial caries lesion as an early-stage non-cavitated lesion.[1] Longitudinal data from the Iowa Fluoride Study reported high rates of regression of non-cavitated caries lesions in permanent teeth between 9 and 23 years of age. They concluded that "surgical intervention should not be the treatment of choice for incipient lesions."[2] It has been stated, "enamel lesions in proximal surfaces occur relatively rapidly, but the progression into dentine is relatively slow."[3] Few caries lesions (10-15%) confined to the inner half of the enamel show cavitation, and even fewer caries lesions (2-3%) confined to the outer half of enamel show cavitation.[4,5]

Treatment decisions for proximal enamel caries lesions

A systematic review (1983-2014) found that 21% of dentists would provide restorative intervention for proximal caries lesions confined to enamel (not reaching the enamel-dentin junction).[6] A multinational expert consensus panel recommended refraining from restorations for proximal caries lesions confined to enamel, thereby avoiding the 'restorative death spiral' of a tooth.[7] Reducing the placement of restorations in the first instance is salutary given the magnitude of future need for replacement restorations that account for most (58%) of all restorations provided by dentists.[8]

A new strategy is needed to reduce restorative treatment for potentially reversible proximal caries lesions confined to enamel that are asymptomatic and are identified during radiographic screening. Recent evidence (2019-2022) from multiple countries indicates notable numbers of dentists continue to select proximal caries lesions confined to enamel as the threshold for restorative intervention: Australia (primary teeth = 41%, permanent teeth = 28%), Canada (primary teeth = 71%, permanent teeth = 63%), France (primary teeth = 75%, permanent teeth = 68%), Jordan (55%), The Netherlands (20%), and United Kingdom (27%).[9,10,11,12,13,14] A different approach to reducing restorative intervention for proximal enamel caries lesions is needed, given the limited success of current strategies to promote evidence-based caries management. Attending a caries management course within the past five years had no influence upon dentist selection of restorative intervention threshold for caries lesions.[14] A 2022 consensus statement emphasized the importance of integrating behavioral and social sciences in dentistry for the promotion of oral health.[15] Examining dentists' clinical decision-making for proximal enamel caries lesions using a social sciences approach merits exploration.

Cognitive biases in clinical decision-making

When making decisions, individuals tend toward heuristic strategies (decisional shortcuts) that are prone to cognitive biases (systematic and predictable errors in judgment).[16] Dentistry lacks studies on the influence of cognitive biases and heuristics in clinical decision-making, although medical literature provides some guidance.[16] A systematic review of cognitive biases in surgery found overconfidence, anchoring, and confirmation bias to be the most common.[17] Anchoring bias was "associated with inaccurate risk-benefit estimations and not considering alternative options" in surgery.[17] Anchoring bias (focus on an initial piece of information) also influenced physician decision-making with the initial mention of congestive heart failure delaying workup and diagnosis of pulmonary embolism.[18]

It has been noted that clinicians diagnose and determine treatment using automatic pattern recognition and non-analytical reasoning, which likely happens in caries diagnosis and intervention decisions.[19] It was suggested dentists' diagnostic and treatment decision behaviors may be altered by changing the framework used to diagnose

> A multinational expert consensus panel recommended refraining from restorations for proximal caries lesions confined to enamel, thereby avoiding the 'restorative death spiral' of a tooth.[7] Reducing the placement of restorations in the first instance is salutary given the magnitude of future need for replacement restorations that account for most (58%) of all restorations provided by dentists.

caries and formulate treatment plans.[19] It is speculated that with proximal enamel caries lesions diagnostically anchored within the spectrum of chronic progressive disease, risk-averse dentists may be making biased judgments that these lesions will progress and thus consider it their professional responsibility to provide restorations to deter further lesion progression. This may be particularly true if dentists work with high caries-risk populations (representativeness heuristic). Literature review did not identify studies on risk preferences of dentists. Risk aversion is a widely observed human behavior with its role in medical decision-making recognized with some physicians very concerned about the possibility of making wrong decisions.[20,21] US surgeons varied widely in their self-reported risk aversion, influencing their clinical decision-making.[22]

Nomenclature revision in oncology for conservative management of lesions

Recognition of risk aversion in clinical decision-making highlights the need for a mitigation strategy. The terminology used to describe a clinical condition acts as an anchor influencing clinical decision-making. For instance, medical students classified synonyms as 'disease' if the label was more medical for some conditions (myalgic encephalomyelitis vs. chronic fatigue syndrome, hypertension vs. high blood pressure, and erectile dysfunction vs. impotence) than if it was less medical.[23] Oncology has been a pioneer in recognizing the utility of nomenclature revision as a strategy to encourage evidence-based conservative management of lesions.

- Experts from the US National Cancer Institute advocated changing disease terminology for indolent lesions with the recognition that "the word 'cancer' often invokes the specter of an inexorably lethal process" and noted, "use of the term 'cancer' should be reserved for describing lesions with a reasonable likelihood of lethal progression if left untreated."[24]
- The connection of language to thought and action has been discussed regarding treatment de-escalation for indolent cancers, including renaming them as indolent lesion of epithelial origin (IDLE).[25,26]
- Nomenclature revision was undertaken for "encapsulated follicular variant of papillary thyroid carcinoma" to "noninvasive follicular thyroid neoplasm with papillary-like nuclear features" because of its indolent behavior to reduce overtreatment.[27]

- Use of radioactive iodine for management of papillary thyroid carcinoma declined due to American Thyroid Association treatment guidelines, including the use of the term "very low-risk" for localized indolent lesions.[28]
- Active surveillance of low-risk prostate lesions is the preferred management option but has variable uptake.[29] Alternate diagnostic labels for low-risk prostate cancer lesions have been proposed with recalibration of diagnostic threshold to narrow the criteria for terming lesions as "cancer" to those at higher risk of progression.[29]
- Population mammographic screening for breast cancer has increased detection of low-risk ductal carcinoma in situ for which active surveillance should be the management strategy.[30] Clinicians and patients are reluctant to choose active surveillance with epidemiological evidence supporting relabeling low-risk ductal carcinoma in situ with the removal of 'cancer' from the diagnostic label.[30]
- Changing terminology (abnormal cells versus pre-invasive breast cancer cells) for ductal carcinoma in situ impacted women's concerns and treatment preferences.[31]
- Nomenclature for low-grade prostate cancer affected men's initial perception of the disease and was associated with a preference for active surveillance.[32]

A systematic review examined changing terminology for low-risk, screen-detected medical conditions as a strategy to mitigate overtreatment and found different terminology for the same condition influenced management preferences.[33] Nomenclature revision thus influences the decision-making of both practitioners and patients.

Influence of nomenclature revision on clinical decision-making

Framing has been shown to influence physicians' judgment and decision-making.[34] Australian dentists were more likely to select operative management when the descriptor term "chronic" rather than "asymptomatic" was used for endodontic conditions.[35] It may, therefore, be beneficial to reconsider the diagnostic term, initial caries lesion, for proximal enamel caries lesions and develop modified terminology (e.g., "enamel wound" to connote a reversible condition capable of healing) by an expert consensus panel with deletion of the "caries" label similar to low-risk prostate lesions and ductal carcinoma in situ losing the "cancer" label.[1,29,30] Deliberate linguistic dissociation of the early-stage non-cavitated proximal enamel caries lesion from the continuous spectrum of dental caries with its cavitation and pulpal pathological endpoint may lead to its consideration as a discrete entity. It has been observed that "the dental clinician's caries-related decision making is a script-matching enterprise in which clinical decisions are made on the basis of 'this-lesion-needs-this-kind-of-treatment' reasoning."[36] It is postulated that nomenclature revision for proximal enamel caries lesions may act as a passive nudge to reduce their restorative intervention.

A 'nudge" is a concept from behavioral economics wherein decision-making is guided without limiting personal freedom.[37] Passive nudging strategies do not require any action by the clinician.[38] A scoping review of nudges used in clinical decision-making observed, "passive nudges may be successful in changing the target outcome but may go unnoticed by the user."[38]

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It may be salutary for dentists and patients to consider proximal initial caries lesions confined to enamel as a discrete entity – a reversible condition requiring non-invasive management.

Conclusions

It is timely to address the management of proximal enamel caries lesions. Bitewing radiographs are used to screen for proximal caries lesions that are not clinically visualized and help detect initial caries lesions, though bitewing radiographs have limited sensitivity.[39] The ability to detect proximal enamel caries lesions is, however, improving with new technologies, such as with the use of artificial intelligence software and reflected near-infrared light.[40,41]

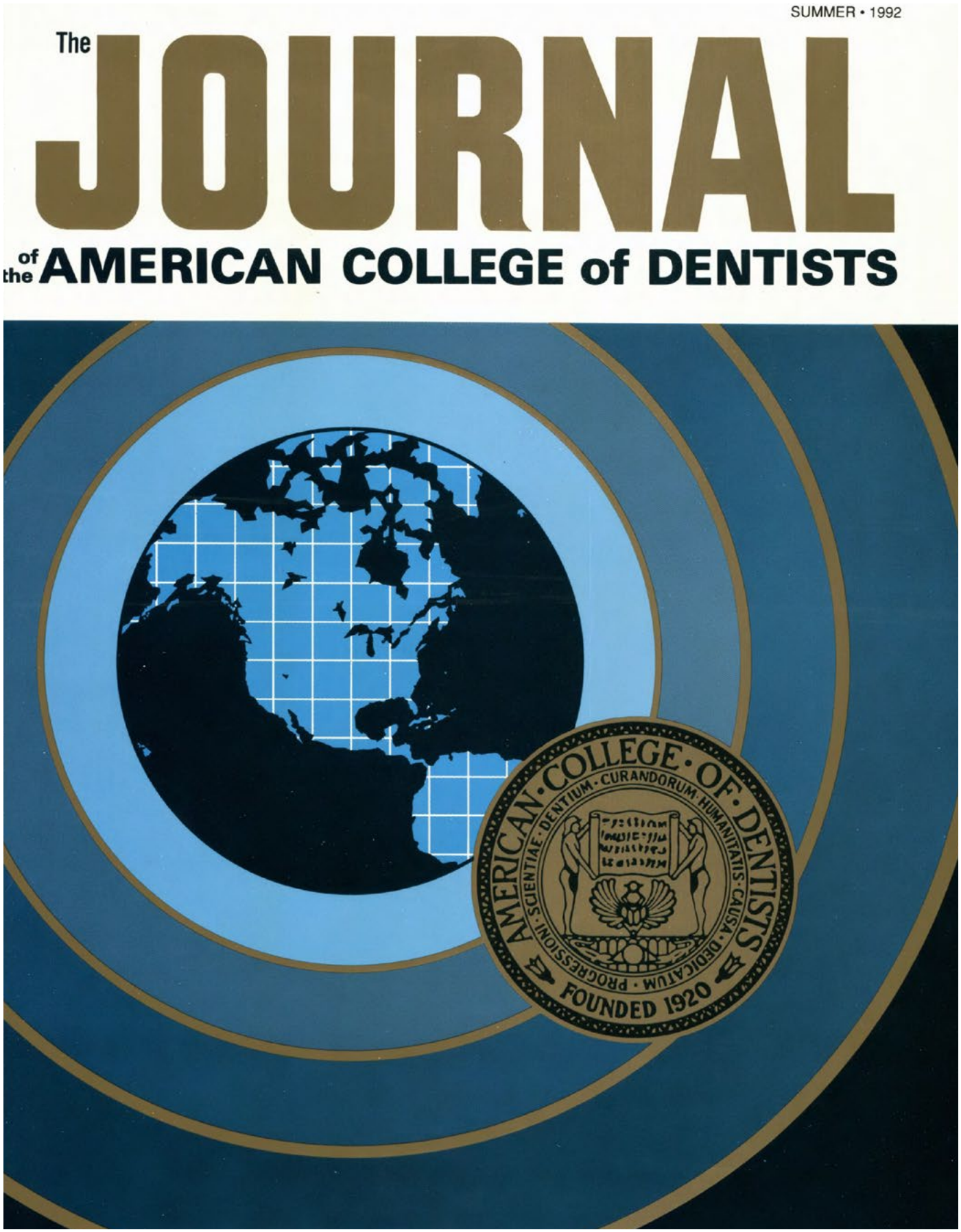
In conclusion, adopting the strategy of nomenclature revision from medicine with consensus development of new terminology for proximal enamel caries lesions may reduce their restorative treatment and encourage evidence-based conservative management. It may be salutary for dentists and patients to consider proximal initial caries lesions confined to enamel as a discrete entity – a reversible condition requiring non-invasive management.

REFERENCES

1. Machiulskiene V, Campus G, Carvalho JC et al. Terminology of dental caries and dental caries management: Consensus report of a workshop organized by ORCA and Cariology Research Group of IADR. *Caries Res* 2020;54(1):7-14. https://doi.org/10.1159/000503309
2. Zafar M, Levy SM, Warren JJ et al. Prevalence of non-cavitated lesions and progression, regression, and no change from age 9 to 23 years. *J Public Health Dent* 2022; 82(3):313-320. https://doi.org/10.1111/jphd.12538
3. Splieth CH, Kanzow P, Wiegand A, Schmoeckel J, Jablonksi-Momeni A. How to intervene in the caries process: proximal caries in adolescents and adults—a systematic review and meta-analysis.*Clin Oral Investig* 2020; 24(5):1623-1636. https://doi.org/10.1007/s00784-020-03201-y
4. Urzúa I, Cabello R, Marín P et al. Detection of approximal caries lesions in adults: a cross-sectional study. *Oper Dent* 2019;44(6):589-594. https://doi.org/10.2341/17-314-C
5. Muñoz-Sandoval C, Gambetta-Tessini K, Botelho JN, Giacaman RA. Detection of cavitated proximal carious lesions in permanent teeth: A visual and radiographic assessment. *Caries Res* 2022;56(3):171-178. https://doi.org/10.1159/000525193
6. Innes NPT and Schwendicke F. Restorative thresholds for carious lesions: Systematic review and meta-analysis. *J Dent Res* 2017;96(5):501-508. https://doi.org/10.1177/0022034517693605

7. Banerjee A, Splieth C, Breschi L, et al. When to intervene in the caries process? A Delphi consensus statement. *Br Dent J* 2020;229(7):474-482. https://doi.org/10.1038/s41415-020-2220-4
8. Eltahlah D, Lynch CD, Chadwick BL, et al. An update on the reasons for placement and replacement of direct restorations. *J Dent* 2018;72:1-7. https://doi.org/10.1016/j.jdent.2018.03.001
9. Keys T, Burrow MF, Rajan S, et al. Carious lesion management in children and adolescents by Australian dentists. *Aust Dent J* 2019;64(3):282-292. https://doi.org/10.1111/adj.12710
10. Moreau A-M, Pelletier S-ÈD, Ngoc CN, Rompré PH, Vu D-D. Clinical management of interproximal and occlusal caries in children and adolescents by Canadian dentists: a survey. *J Can Dent Assoc* 2022; 88:m3. https://jcda.ca/m3
11. Muller-Bolla M, Aïem E, Coulot C, Velly AM, Doméjean S. Restorative thresholds for primary and permanent molars in children: French dentist decisions. *Int J Paediatr Dent* 2021;31(3):299-310. https://doi.org/10.1111/ipd.12752
12. Al-Asmar AA, Al-Hiyasat AS, Pitts NB. Reframing perceptions in operative dentistry relating evidence-based dentistry and clinical decision making: a cross-sectional study among Jordanian dentists. *BMC Oral Health* 2022; 22(1):637. https://doi.org/10.1186/s12903-022-02641-0
13. Laske M, Opdam NJM, Bronkhorst EM, et al. Minimally invasive intervention for primary caries lesions: Are dentists implementing this concept? *Caries Res* 2019; 53(2):204-216. https://doi.org/10.1159/000490626
14. Chana P, Orlans MC, O'Toole S, et al. Restorative intervention thresholds and treatment decisions of general dental practitioners in London. *Br Dent J* 2019;227(8):727-732. https://doi.org/10.1038/s41415-019-0849-7
15. McNeil DW, Randall CL, Baker S, et al. Consensus statement on future directions for the behavioral and social sciences in oral health. *J Dent Res* 2022;101(6):619-622. https://doi.org/10.1177/00220345211068033
16. Blumenthal-Barby JS, Krieger H. Cognitive biases and heuristics in medical decision making: a critical review using a systematic search strategy. *Med Decis Making* 2015; 35(4):539-557. https://doi.org/10.1177/0272989X14547740
17. Armstrong BA, Dutescu IA, Tung A, et al. Cognitive biases in surgery: systematic review. *Br J Surg* 2023; 110(6):645-654. https://doi.org/10.1093/bjs/znad004
18. Ly DP, Shekelle PG, Song Z. Evidence for anchoring bias during physician decision-making. *JAMA Intern Med* 2023;183(8):818-823. https://doi.org/10.1001/jamainternmed.2023.2366
19. Feller L, Lemmer J, Nemutandani MS, Ballyram R, Khammissa RAG. Judgment and decision-making in clinical dentistry. *J Int Med Res* 2020;48(11):1-10. https://doi.org/10.1177/0300060520972877
20. Zhang R, Brennan TJ, Lo AW. The origin of risk aversion. *Proc Natl Acad Sci USA* 2014;111(50):17777-17782. https://doi.org/10.1073/pnas.1406755111
21. Smulowitz PB, Burke RC, Ostrovsky D, et al. Attitudes toward risk among emergency physicians and advanced practice clinicians in Massachusetts. *J Am Coll Emerg Physicians Open* 2021; 2(5):e12573. https://doi.org/10.1002/emp2.12573
22. Sacks GD, Dawes AJ, Tsugawa Y, et al. The association between risk aversion of surgeons and their clinical decision-making. *J Surg Res* 2021;268:232-243. https://doi.org/10.1016/j.jss.2021.06.056
23. Erueti C, Glasziou P, Del Mar C, van Driel ML. Do you think it's a disease? a survey of medical students. *BMC Medical Education* 2012;12:19. https://doi.org/10.1186/1472-6920-12-19
24. Esserman LJ, Thompson IM Jr, Reid B. Overdiagnosis and Overtreatment in Cancer: an opportunity for improvement. *JAMA* 2013;310(8):797-798. https://doi.org/10.1001/jama.2013.10841
25. Esserman LJ, Thompson IM, Reid B, et al. Addressing overdiagnosis and overtreatment in cancer: a prescription for change. *Lancet Oncol* 2014;15(6):e234-e242. https://doi.org/10.1016/S1470-2045(13)70598-9

26. Shuman AG. The evolving nomenclature of thyroid cancer – what's in a name? *JAMA Otolarygnol Head Neck Surg* 2018;144(10):874-875. https://doi.org/10.1001/jamaoto.2018.1271
27. Nikiforov YE, Seethala RR, Tallini G, et al. Nomenclature revision for encapsulated follicular variant of papillary thyroid carcinoma – a paradigm shift to reduce overtreatment of indolent tumors. *JAMA Oncol* 2016;2(8):1023-1029. https://doi.org/10.1001/jamaoncol.2016.0386
28. Pasqual E, Sosa JA, Chen Y, et al. Trends in the management of localized papillary thyroid carcinoma in the United States (2000-2018). *Thyroid* 2022;32(4):397-410. https://doi.org/10.1089/thy.2021.0557
29. Semsarian CR, Ma T, Nickel B, et al. Low-risk prostate lesions: an evidence review to inform discussion on losing the "cancer" label. *The Prostate* 2023; 83(6):498-515. https://doi.org/10.1002/pros.24493
30. Ma T, Semsarian CR, Barratt A, et al. Should low-risk DCIS lose the cancer label? An evidence review. *Breast Cancer Res Treat* 2023;199(3):415-433. https://doi.org/10.1007/s10549-023-06934-y
31. McCaffery K, Nickel B, Moynihan R et al. How different terminology for ductal carcinoma in situ impacts women's concern and treatment preferences: a randomised comparison within a national community survey. *BMJ Open* 2015; 5(11):e008094. https://doi.org/10.1136/bmjopen-2015-008094
32. Hudnall MT, Desai AS, Tsai KP et al. It's all in the name: Does nomenclature for indolent prostate cancer impact management and anxiety? *Cancer* 2021;127(18):3354-3360. https://doi.org/10.1002/cncr.33621
33. Nickel B, Barratt A, Copp T, Moynihan R, McCaffery K. Words do matter: a systematic review on how different terminology for the same condition influences management preferences. *BMJ Open* 2017; 7:e014129. https://doi.org/10.1136/bmjopen-2016-014129
34. Bui TC, Krieger HA, Blumenthal-Barby JS. Framing effects on physicians' judgment and decision making. *Psychol Rep* 2015;117(2):508-522. https://doi.org/10.2466/13.PR0.117c20z0
35. Bestall S, Flynn R, Charleson G, Abbott PV. Assessment of Australian dentists' treatment planning decisions based on diagnosis. *J Endod* 2020;46(4):483-489. https://doi.org/10.1016/j.joen.2020.01.004
36. Baelum V. What is an appropriate caries diagnosis? *Acta Odontol Scand* 2010;68(2):65-79. https://doi.org/10.3109/00016350903530786
37. Damberg CL, Tom A, Reid RO. Physician organizations use behavioral nudges to influence physician behavior. *Am J Manag Care* 2022; 28(9):473-476. https://doi.org/10.37765/ajmc.2022.89223
38. Wolf A, Sant'Anna A, Vilhelmsson A. Using nudges to promote clinical decision making of healthcare professionals: a scoping review. *Prev Med* 2022;164:107320. https://doi.org/10.1016/j.ypmed.2022.107320
39. Schwendicke F, Tzschoppe M, Paris S. Radiographic caries detection: a systematic review and meta-analysis. *J Dent* 2015;43(8):924-933. https://doi.org/10.1016/j.jdent.2015.02.009
40. Devlin H, Williams T, Graham J, Ashley M. The ADEPT study: a comparative study of dentists' ability to detect enamel-only proximal caries in bitewing radiographs with and without the use of AssistDent artificial intelligence software. *Br Dent J* 2021;231(8):481-485. https://doi.org/10.1038/s41415-021-3526-6
41. Metzger Z, Colson DG, Bown P, Weihard T, Baresel I, Nolting T. Reflected near-infrared light versus bite-wing radiography for the detection of proximal caries: a multicenter prospective clinical study conducted in private practices. *J Dent* 2022; 116:103861. https://doi.org/10.1016/j.jdent.2021.103861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The Continuing Education of Professional Ethics in Dentistry

Donald E. Patthoff *
John G. Odom **

Mr. Wine said figuring was important. He said education was a two-part proposition. One part was technical, which was how you moved ahead in your trade. He said he was for getting more modern in that end of education. But, he said the other part you had better stick to and not change it. He called it valuing.

Mr. Wine said if you learnt to place a value on being honest and thrifty, on doing your best, and on caring for folks; this was more important than anything. He said if you was not taught these values, then no matter how modern you got about the technical part, you was not going to get anywheres "atall."

from "The Education of Little Tree" by Forest Carter

Little Tree is a five-year-old Cherokee Indian and his business reference is his grandfather's moonshine trade.

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Introduction

As a general dentist (first author) the reality of professional ethics in dentistry was evident through personal encounters before I understood or read about them. As I became more aware of ethics, I began to realize how easy it is to confuse ethics with law, communications, sociology, psychology, malpractice, etc. These discoveries were subtle experiences for me, similar to stumbling across the reality of gravity by falling off a cliff. I now believe that the appropriate continual study of applied perfessional ethics is not only vital to the success of every dental practice and the continuation of dentistry as a profession, but it is also an extremely valuable pursuit with its own intrinsic rewards. Because the personal rewards are so satisfying, practical rewards such as happier staff and patients, increased income, better dentistry and more enjoyment at the office become secondary.

My pursuit of professional and ethical behavior led to the discovery that no systematic continuing education courses were available for local dental societies. Inquiries were made with the American Dental Association (A.D.A.), the American College of Dentists, the American Association of Dental Schools, the Academy of General Dentistry, the National Institute of Dental Health, Public Health Dentistry, the Society for Health and Human Values the National Endowment for the Humanities, as well as colleges of Dentistry responsible for teaching dental ethics. A few examples were uncovered, e.g., the Annual Ethics Institute that has been offered at Ohio State University since 1984.[1] Most efforts were sporadic and only introductory in nature.

In 1988, the West Virginia Humanities Foundation, funded the West Virginia Dental Association Ethics Project. By cooperating with the West Virginia University School of Dentistry, the Professional Ethics in Dentistry Network, and the A.D.A.'s Council on Ethics, Bylaws and Judicial Affairs, an ethics education forum for a local dental society was developed. This article describes the West Virginia project. Possible future programs are also identified.

What is ethics?

The practice of dentistry requires daily ethical decision making. Hirsch and Gert explain that moral and ethical problems arise frequently in the practice of dentistry because a variety of treatment choices are available.[2] Our daily routines often compel us to think of dentistry as an objective science with technical skills that are separate from ethics. However, our decisions affect others, their health, and other relationships and our relationships with them. Our practice affects our relationships with colleagues as well as our profession's relationship with society. Decisions and relationships are the subject of ethics. Ethics should be a subject for continuing education in dentistry. We do have a responsibility to decide how we should explore this issue.

A frequent comment is "ethics can't be taught." This view may have merit, recognizing that a difference exists between an individual's moral code, which is often called his ethic, and the study of ethics. We all have different experiences and beliefs about the world and make judgments about what is important. We rely on these beliefs and judgments in our decision making. The sum of the factors on which we base the logical part of our decisions can be considered an ethic. Decisions do create results which, like it or not, are often judged to be morally right or wrong as well as clinically right or wrong.[1]

Ethics, however, is complex because it is often confused with feelings, law, religion and other social values. Ethics isn't law! That which is ethical is not always legal, and that which may be legal is not always ethical. Ideally law should be shaped by ethics and not ethics by law.[3] Social values are closely tied to ethics. Yet social values, often expressed in polls and democratic votes, vary from society to society. Religion is often equated with ethics. It is interesting to note that the study of ethics is not only a branch of philosophy, but also a branch of religious studies associated with moral theology.

In one sense, religion without ethics is not real religion because it surrenders to immorality. In another sense, however, individuals and organizations can claim no religion and still act ethically in their relationships with others. Neither of these points should be trivialized nor should their relative importance be distorted in applied professional dental ethics conversations.

Furthermore, ethics is more than feelings. Saying things like, "it doesn't feel right" or "it doesn't feel ethical," is not an adequate guide. If ethics were only feelings, then one might consider whether it is ethical to act on the feeling of wanting to take another's life.

Thus, we have a notion of what ethics isn't and what it is. People can frequently agree on what it is they are discussing, e.g., "doing the right thing," but as soon as specific words are used, someone starts to qualify ethics and say what it isn't. This occurs because ethics is not a stationary thing or a product; it is a process of understanding what goes into making decisions and what makes these decisions useful, appropriate, and correct.

To make this process or dialogue of understanding possible, however, it is essential to differentiate relativism from pluralism. Relativism is a framework which says that since there are no commonly agreed upon principles, everyone can do what he wants. Conversely, pluralism emphasizes that there are common agreed upon principles on which to base dialogue, and this enables people to generate consensus and organization.

Many factors must be considered when trying to define ethics. Nash's definition contributes to an understanding of ethics.[4] Providing continuing education in ethics requires an awareness and sensitivity to the many aspects that contribute to the complexity of ethics. Developing an appropriate framework to help structure thinking when practitioners encounter ethical problems is an important step. Ethics expertise comes from the participants, not the facilitator. Consequently, continuing education in professional ethics in dentistry can be practical and effective.

The West Virginia Experience

A. *Initiation*

In January 1988, the American Dental Association sponsored its first national workshop on professional dental ethics. The workshop focused on ethical dilemmas in dental advertising and treatment of patients with AIDS. Participants were introduced to the Society for Health and Human Values as a growing network of diverse professionals interested in furthering the dialogue process in ethics, humanities and public policy.

In November 1988, a proposal was presented to the dental subsection of the Society for Health and Human Values to explore possible formats for an ethics/humanities workshop for a West Virginia local dental society. The American College of Dentists, ADA, and the American Association of Dental Schools were jointly developing curriculum guidelines for teaching ethics and professionalism in dental schools.[5] The guidelines focused on dental students, rather than practicing dentists.

In early December 1989, the West Virginia Dental Association voted to support an ethics forum for a local dental society and the Dean of West Virginia University Dental School

gave his formal support for the project authorizing Continuing Education credit following review of the curriculum outline. The Eastern Panhandle Dental Society initiated the program, scheduling it for April, 1989. The Humanities Foundation of West Virginia agreed to fund the project.

B. *Implementation*

The Friday afternoon and Saturday morning workshop was held in April, 1989. Participants included four humanities scholars (one a philosopher of dental ethics), a small group of dentists representing the local dental society and the West Virginia Dental Association, and two dental spouses.

1. **Program** The program was structured to facilitate open, free discussion in a supportive setting. The opening session introduced the general political and moral dilemmas of decision through two pieces of literature. Ibsen's *Enemy of the People*[6] and Orwell's *Shooting an Elephant*[7] shed light on both political and professional questions. The resulting discussion provided a common foundation for the participants to discuss and clarify ethics as the relationship between the profession and society and demonstrated the influence that this relationship has on professional decision making.

David Ozar, Ph.D. utilized this common experience and excitement generated by the opening session to propose several theoretical frameworks which allowed the participants to further explore the logic of ethics.

Group discussions focused on a dental case study. The day concluded with the entire group discussing personal perspectives, experiences, and concerns.

Highly emotional feelings can be generated when different viewpoints are discussed. By prompting participants to clarify the logic of different philosophical/moral frameworks, individual differences could be understood. This process of explanation and clarification allowed relationships between dentists and non-dentists to freely develop and provided opportunities for professional growth. A discussion of Tolstoy's *Death of Ivan Ilyich*[8] completed the evening's schedule.

On Saturday, the participants were involved in three additional small group activities. A session on contemporary *Models of Professionalism*[9] was followed by considerations of a *Hierarchy of Values*.[10] These and other moral theories led to an exploration of *Decision Making Processes*.[11]

2. **Instructional Objectives** - In preparation for the program specific instructional objectives were identified. Upon completion of the program, participants were expected to be able to:

a. Recognize the role of the humanities as a valuable component of the profession.
b. Recognize the value and strength of a philosophy based on Camus' "neither victim nor executioner."
c. Recognize several groups currently promoting and actively exploring professional dental ethics.
d. Differentiate among the following: ethics, morality, professionalism, right, wrong, legal, illegal and truth.
e. Identify several general themes and trends of current interest to ethicists.
f. Advance the general understanding of duty, love, economics, contracts, covenants, relationships and professionalism.
g. Discover and explore a personal past experience associated with feelings about professional relationships with colleagues and patients.
h. Confront the paradox between autonomy and commitment.
i. Recognize the conflict between the placebo effect and informed consent.
j. Identify post traumatic stress disorder theory.
k. Recognize some evolving changes in the roles and relationships between the dental and legal professions and the insurance and political industries.

3. **Focal Issues** - Specific issues of current concern included, but were not limited to:

a. Discussing the importance of AIDS on the profession and the impact on employer policies.
b. Exploring O.S.H.A. sterilization requirements and guidelines.
c. Exploring relationships between third party carriers and society.
d. Discussing the effect of state legislation on the need to maintain financial stability of independent practices and the need to be responsible for creating adequate access to dental health care.
e. Recognizing the dilemmas of managing different treatment strategies for T.M.J. disorders while scientific consensus reports are incomplete.

The following example demonstrates the kinds of situations and issues encountered by a dentist.

CASE: After receiving a predawn emergency call you agree to see a patient. A couple arrive at your office, both are disheveled. The 27 year old woman appears emaciated and has a severely swollen upper lip and a black eye. The medical history reveals "frequent epilepsy attacks," and "allergy to all pain medications except percodan." After a clinical

examination and discussion of treatment options you open the upper left central incisor. A large amount of fluid is drained and the patient expresses immediate relief. You write a prescription for an antibiotic and percodan and reschedule the patient for the next day.

The patient does not keep the appointment. She calls an hour later saying "our car broke down and I lost the prescription. Please give me another prescription and another appointment." When you call the pharmacy you are told that your patient, her husband, and her mother-in-law have received numerous prescriptions for percodan from more than 20 doctors during the past two years.

The patient arrives for the appointment with her husband who is apparently angry, lying, manipulating, and/or frustrated. On examination you note "swelling decreased but still present." You then confront them with information from the pharmacist. They respond by telling you of her first husband kidnapping her child and hitting her in the face with a pipe.

A few days later the patient calls requesting a new prescription. She apologizes for missing the previous appointment and you agree to complete the root canal procedure. During the procedure the patient has a petit-mal-seizure. After recovering she reports her failure to take prescribed Dilantin. She also describes an attempt earlier that morning to kill herself and her three year old daughter.

Several days later the patient comes to your office crying that "the emergency room won't see me, nobody will help me." Her entire face is black and blue and swollen. She is thin, unkempt and asks for percodan. Earlier, however, her mother called saying she got your name from a prescription her daughter (the patient) left at her house. Her concerned voice described taking care of a three year old granddaughter and the trouble between her daughter and her husband. She said she wanted to help and asked how her daughter was doing. You inform the patient her mother called, cares about her and wants you to explain what is happening to her daughter. The patient says she will sue if you ever speak to or about her mother again.

The patient seeks appropriate support and returns to your office a few months later. She tells you about her large sum of unpaid medical bills in the community and uninsurable medical status and then expresses her desire to schedule periodic maintenance visits with your office. She then asks if you go to church and would you suggest a good minister.

This factual case account raises a number of issues that can be encountered by a practicing dentist. What ought to be done? What are the various alternatives available? What moral/ethical values or principles are at stake? What professional obligations are involved? Which of these considerations is (are) and one(s) that ought to guide actions? Is it ethical for the dentist to respond to the spirituality question?

> *Oncet, Grampa stopped and watched me pick blackberries. It was one of the times he was put out about words and how folks was fooled by them. Granpa said, "Little Tree, did ye know that when blackberries is green, they is red?"*
>
> *This total confused me, and Grandpa laughed. "The name is give to blackberries . . . to describe 'em by color . . . which when they ain't ripe, they are red." Which is true.*
>
> *Grandpa said, "That's how the damn fool word-using gits folks all twisted up. When ye hear somebody using words agin' somebody, don't go by his words, fer they won't make no damn sense, go by his tone, and ye'll know if he's mean and lying." Grandpa was pretty much down on having too many words. Which was reasonable.*
> (from Little Tree")[12]

C. Evaluation

Evaluation was conducted in several ways. A discussion allowed participants to evaluate the process at its conclusion. Comments were very candid and positive. All expressed surprise with the experience and admitted they had had no strong desire to attend. However, they now wanted to continue the process and would encourage others to participate. After having one month to reflect on the program, participants were asked to provide written evaluations. An overwhelming positive response followed which included extensive comments of appreciation.

The President of The American College of Dentists provided a written positive evaluation of the event. Perhaps the most valid and reliable positive comments were from the Humanities Foundation staff.

In summary, everyone reported that the project was an appropriate and valuable continuing education experience and that more programs should be encouraged. The Humanities evaluator commented, "Dental ethics is really quite new, both academically and in professional circles. I believe the Humanities Foundation could perform a genuine service to the profession and to society by continuing attempts to facilitate the development of dental ethics through conferences such as this." These comments, however valuable, are not useful for determining how this study might improve dentistry.

Unlike the more familiar technological C.E. courses, effective con-

tinuing education in ethics requires the cooperation of organizations and individuals (dental and non-dental). As other educational formats develop, serious systematic evaluation of these approaches must be considered. Before this undertaking begins, however, the various organized legislative bodies of dentistry may need to provide a more formal recognition of the *continuing educational* component of ethics. By-law directives should specifically define an organizations' responsibility for initating and coordinating relevant educational opportunities in ethics in addition to developing and adjudicating codes of ethics through their respective ethics committees, thus providing a framework for evaluation.

D. Future

Edmund Pelligrino, in the *Journal of Clinical Ethics*[13] commented on teaching medical ethics and that " . . . the most significant area to be addressed is the attitudes of "scientific" clinicians who rely on the positivist stance: if one cannot weigh, smell, feel, measure and subject knowledge to observation and experimentation, it is not knowledge but only opinions and therefore, not worth learning." This approach presents serious epistemological confusion, and dental ethics students (i.e. practicing dentists) should be properly prepared to address this question. But this is an ongoing philosophical discussion which should not stop learning about ethics nor stop healthy skepticism about its goals and methods. Individual participants can gain respect for the process, even if it is not accepted. Future efforts in ethics will evolve for the practitioner.

The A.C.D.'s initiative to trigger a national program of ethics discussions at a local level is one example. Another group which could have a major impact is the Dental Management Specialists.[14] By imitating the A.C.D.'s effort and developing a co-operative workshop with other organizations interested in dental ethics, results can be systematically incorporated into their work thus reaching a group of dentists not normally reached through current channels.

E. Conclusions

Professional ethics is the substance that holds dentistry together. Concepts such as law, economics, and social trends, are also important considerations and tools, but ethics is the one common foundation that makes variation and discussion of these other ideas possible. It assumes without philosophical proof that ethics are cross cultural and the basis of community and other enclaves. For dialogue purposes, community is described by the commonalities of all, whereas enclaves are defined by the distinguishing characteristics or responsibilities within and between special groups.

Perhaps the ultimate purpose of the continuing education of professional ethics in dentistry is limited to simply giving the participants a chance to express their expertise and allow them to gain a better understanding of what is good, what is truth, what is autonomy and what is justice in the daily practice of dentistry. It will not guarantee that any of us will "do the right thing."

Continuing education courses in ethics for the practitioner are essential to the maintenance of dentistry as a respected health care profession. △

References

1. Odom, John G. Making a Commitment to Teaching Ethics. Journal of the American College of Dentists, 53:3, Fall 1986.
2. Gert, B., Allan C. Hirsch. Ethics in Dental Practice, JADA, 113:599-603, October 1986.
3. Odom, John G. Formal Ethics Instruction in Dentistry. Journal of Dental Education, 46:555, September 1982.
4. Nash, David A. Ethics . . . and the Quest for Excellence in the Profession. Journal of Dental Education, 49:198, April 1985.
5. Curriculum Guidelines on Ethics and Professionalism in Dentistry. Journal of Dental Education, 53:144-148, February 1989.
6. Ibsen, Henrik. Arthur Miller's adaptation of Enemy of the People. New York, N.Y.: Penquin Books, 1977.
7. Orwell, George. Shooting an Elephant. Literary handout of the Humanities Foundation of West Virginia.
8. Tolstoy, Leo. The Death of Ivan Ilyich, NAL Penquin, Inc., 1960.
9. Ozar, David T. The Models of Professionalism and Professional Obligation in Dentistry. Journal of the American Dental Association. 110:173-177, February 1985.
10. Ozar, David T., et al. Value Categories in Clinical Dental Ethics. Journal of the American Dental Association. March 1988.
11. Ozar, David T. Unpublished paper. Dept. of Philosophy, Loyala Univ., 6525 N. Sheridan Rd., Chicago, Il. 60626.
12. Carter, Forest. The Education of Little Tree, University of New Mexico Press, 1990.
13. Pellegrino, Edmund. Clinical Ethics. Journal of Clinical Ethics. 1:175-180, Fall 1990.
14. Uebel, Katherine, Executive Director. Dental Management Specialists, 1063 Whipporwill, Palatine, Illinois 60067. (708) 934-4410).

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