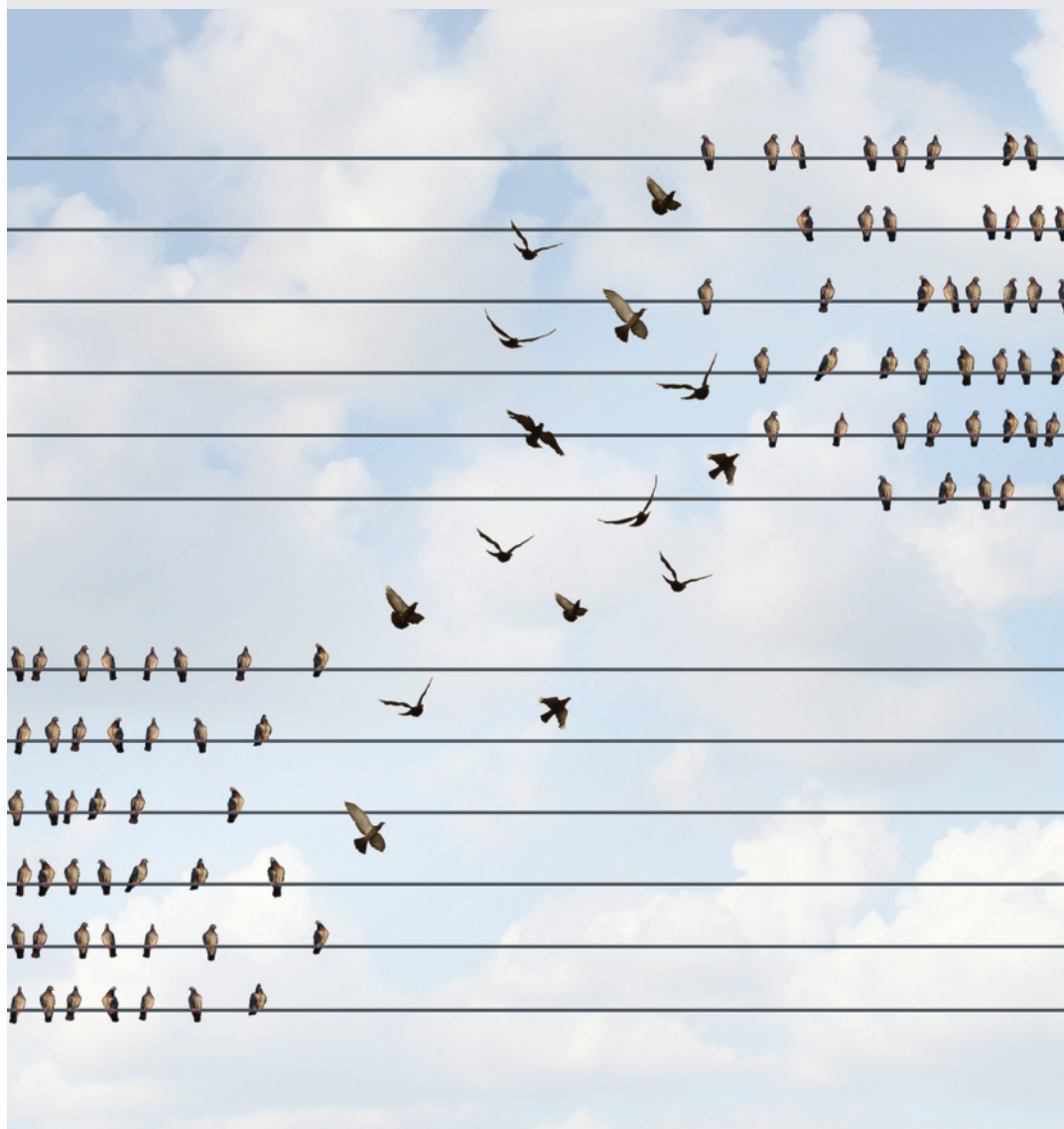# Journal *of the* American College *of* Dentists

New Dental School
Accreditation
Standards

Journal *of the* American College *of* Dentists

Member Publication

AADEJ
American Association of Dental Editors & Journalists

Communication Policy

I t 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

T HE 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.

New Dental School Accreditation Standards

Issues in Dental Ethics

Departments

Cover photograph:
Lining up the competencies of future dentists.

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From the Editor

Tell Me Again, What Is a College?

> A college is a self-governing group of individuals with a unique level of attainment who are dedicated to advancing the discipline they practice throughout their lives.

Why is it the American *College* of Dentists and not the American Association of Dentists, or the Society for Leading Dentists, or the Honor Society for Long-Serving Dental Professionals, or maybe William Gies University? Perhaps we have lost touch with the objectives of the dozen or so great professionals of the time who met in the Copley Plaza Hotel in Boston in 1920 and said, "What dentistry really needs is a *college*."

A *college* is a self-governing group of individuals with a unique level of attainment who are dedicated to advancing the discipline they practice throughout their lives. The American College of Dentists was created to raise dentistry to a much higher level, primarily through promoting advanced training for young members of the profession. Gradually, during the first 30 years of its existence, it worked to promote policy in continuing education, licensure, journalism, oral healthcare delivery policy, and research.

Membership organizations are open to those with certain characteristics who want to join. Fellowship organizations, by contrast, are based on a much higher standard of demonstrated initial accomplishment and commitment to helping others practice better. There is a many-hundred-years tradition of colleges, such as England's Royal College of Physicians, as systems for making practice better. The growing edge of each field has been the college, through applied inquiry and maintenance of professional standards in practice. The college is autonomous, selective, and continuously striving to elevate itself. It exists for the profession, not for any of its members.

A *society*, such as the county historical society or the American Society for Bioethics and Humanities, resembles a college, except that membership is usually determined by interest rather than qualification. Typically, societies focus on a single aspect of one's work (such as lasers or ethics).

The term *academy* referred originally to a sanctuary, the *akademia* in Athens, where Plato taught—for a fee of course. It is no accident that the Academy of General Dentistry is grounded in taking courses. They issue diplomas for various levels of accomplishment. The term "academic" sometimes has a slight tinge of being about what one knows rather than about how one lives. Dental schools are academies.

Institutes, sometimes also called *foundations*, such as NIDCR or the Henry Schein Dental Business Institute, are think tanks where knowledge is advanced and policy promoted. These can be enormously useful for modeling alternative futures for professions. The principal difference between a college and an institute is that the latter affects practice indirectly by advising what others should do. One "goes to" institutes

or reads their reports; colleges, by contrast, are a lived practice.

An *honorary* is a club that grants status to distinguished members. Tau Kappa Omega confers prestige based on academic accomplishment; the Dental Insulants invite fellow practitioners who enjoy each other's company. Honoraries meet the selectivity and self-governing criteria of a college, but not so much the part about continuously advancing the profession. One type of honorary tries to fudge this a little by picking those whose lifetime accomplishments bring prestige to the honorary.

Certification and *licensure* organizations are relative newcomers, and they signal a slight distrust of colleges and trade associations. Certification groups, such as the Commission on Dental Accreditation (CODA) or the National Dental Board Examinations, are independent (or sometimes short arm's length partners) of professions and subprofessions. They establish minimal standards for knowledge and skill that can be tested in the sense of a standardized demonstration, almost always in an artificial context but seldom or never by direct observation of practice outcomes. The function of certification is to grant publicly recognized privileges. Insurance reimburses providers differently based on their various certifications, and usually will not reimburse those who lack the requisite certifications. Dental students at schools that are not accredited by CODA do not qualify for federally

guaranteed loans and cannot be granted licenses even if they graduate with honors. Often parts of a profession will seek to distinguish themselves from other parts for the sake of protecting a market segment. Many of the internecine battles in the professions are fought in the court of certification. Allied practitioners, such as physicians' assistants or nurse anesthesiologists, tend to view certification as the path to autonomy when the dominant profession blocks their access to expanded roles.
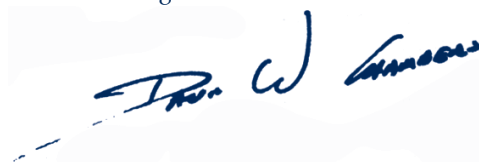
Licensure is just certification stripped to economic essentials. It is controlled by states through their consumer affairs office or equivalent. It is the minimal standard for commercial activity. That is why it is so difficult to remove a bad dentists' license—they may fail the standard of professionalism while still being commercially licensable. State dental boards are members of the licensure community, not the professional community. Most members of licensure boards are also members of a profession, and that has created some confusion over their function.

Associations are trade groups. They exist for the sake of their members. Membership is voluntary (for a fee). Membership numbers generally reflect the quality of member benefits relative to how easily practitioners can obtain those benefits by other means. Associations rarely make a point of

proclaiming their reason for existence. It is uncommon for them to embrace causes that carry costs for members. Public relations is an important part of the work of associations. Often, the public work of trade associations is carried on by professional staff members, hired firms, or institutes.

The profession needs all of these organizations. They can work in harmony because they hold up different edges of the cloth that is the profession. Membership in multiple groups can be useful.

What is most needed today, however, is a vital college. No other group can serve the function of elevating the practice of a profession from within and throughout a lifetime if one earns fellowship when leadership potential is first recognized.

Determining Dental Student Competence

Frank W. Licari, DDS, MPH, MBA, FACD

Abstract

Almost 20 years ago dental education, including ancillary and residency training, made a fundamental shift to a competency model. Competency is the level of knowledge, skills, and values needed to begin independent practice. This replaced the older emphasis on process. It had formerly been assumed that if a student was exposed to good teaching for a set period of time, he or she must be ready for practice. The responsibility has been shifted from schools needing to demonstrate that they have done the traditional things well to requiring that they demonstrate that every graduate is in fact capable of independent performance as a dentist. This paper describes the nature of competency in predoctoral dental education and introduces some of the most common assessment methods schools use to ensure that each graduate is competent.

It should go without saying that dental schools have always graduated competent dentists. However, it has only been since the Commission on Dental Accreditation (CODA) implemented its revised version of the Accreditation Standards for Predoctoral Programs in 1998 that dental schools really began to look at defining and assessing competency in earnest. CODA defines competent as the levels of knowledge, skills and values required by the new graduates to begin independent, unsupervised dental practice.

While this is intended to be a broad definition of the term, it also clearly defines the significant points that must be present in order to determine competence. In order to assess whether an individual is competent, educational programs must demonstrate that students have the "knowledge skills and values" required and be able to perform independently and unsupervised.

This is in contrast to the "tried and true" ways by which dental schools operated prior to 1998, when students completed a series of clinical requirements in various areas of clinical dentistry to be deemed ready for graduation. While that system worked for the majority of graduates, it was clear that an arbitrary required number of procedures was chosen without reference to educational research or to meet clinic income goals, and there were some students that graduated completing a minimal number of requirements that were by all observable means still not competent. However, the requirement system left little leeway to keep those students from graduating once the set numbers of completed procedures had been attained.

The "requirement system" also focused on knowledge and skill attainment, but with very little attention to values. There was also little emphasis placed on the dental student's ability to demonstrate independent performance. Knowledge is one's ability to know how to do a procedure. Skill is the ability to perform it. A value is performing the procedure for the right reason.

Defining the Competencies Dental Students Need

Before a dental school can begin assessing students as competent, they must first define the areas students will be competent in prior to graduation. In 2008, the American Dental Education Association (ADEA) published the *Competencies for the New General Dentist* to assist dental programs to define the range of competencies that are necessary to enter the profession. The accompanying Table 1 shows competencies for the new general dentists in six domains.

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Table 1. ADEA Competencies for the New General Dentist

1. Critical Thinking. Graduates must be competent to:
   1.1 Evaluate and integrate emerging trends in health care as appropriate.
   1.2 Utilize critical thinking and problem-solving skills.
   1.3 Evaluate and integrate best research outcomes with clinical expertise and patient values for evidence-based practice.

2. Professionalism. Graduates must be competent to:
   2.1 Apply ethical and legal standards in the provision of dental care.
   2.2 Practice within one's scope of competence and consult with or refer to professional colleagues when indicated.

3. Communication and Interpersonal Skills. Graduates must be competent to:
   3.1 Apply appropriate interpersonal and communication skills.
   3.2 Apply psychosocial and behavioral principles in patient-centered health care.
   3.3 Communicate effectively with individuals from diverse populations.

4. Health Promotion. Graduates must be competent to:
   4.1 Provide prevention, intervention, and educational strategies.
   4.2 Participate with dental team members and other health care professionals in the management and health promotion for all patients.
   4.3 Recognize and appreciate the need to contribute to the improvement of oral health beyond those served in traditional practice settings.

5. Practice Management and Informatics. Graduates must be competent to:
   5.1 Evaluate and apply contemporary and emerging information including clinical and practice management technology resources.
   5.2 Evaluate and manage current models of oral health care management and delivery.
   5.3 Apply principles of risk management, including informed consent and appropriate record keeping in patient care.
   5.4 Demonstrate effective business, financial management, and human resource skills.
   5.5 Apply quality assurance, assessment, and improvement concepts.
   5.6 Comply with local, state and federal regulations including OSHA and HIPAA.
   5.7 Develop a catastrophe preparedness plan for the dental practice.

6. Patient Care

A. Assessment, Diagnosis, and Treatment Planning. Graduates must be competent to:
   6.1 Manage the oral health care of the infant, child, adolescent, and adult, as well as the unique needs of women, geriatric and special needs patients.
   6.2 Prevent, identify, and manage trauma, oral diseases, and other disorders.
   6.3 Obtain and interpret patient/medical data, including a thorough intra/extra oral examination, and use these findings to accurately assess and manage all patients.
   6.4 Select, obtain, and interpret diagnostic images for the individual patient.
   6.5 Recognize the manifestations of systemic disease and how the disease and its management may affect the delivery of dental care.
   6.6 Formulate a comprehensive diagnosis, treatment, and/or referral plan for the management of patients.

B. Establishment and Maintenance of Oral Health. Graduates must be competent to:
   6.7 Utilize universal infection control guidelines for all clinical procedures.
   6.8 Prevent, diagnose, and manage pain and anxiety in the dental patient.
   6.9 Prevent, diagnose, and manage temporomandibular disorders.
  6.10 Prevent, diagnose, and manage periodontal diseases.
  6.11 Develop and implement strategies for the clinical assessment and management of caries
  6.12 Manage restorative procedures that preserve tooth structure, replace missing or defective tooth structure, maintain function, are esthetic, and promote soft and hard tissue health.
  6.13 Diagnose and manage developmental or acquired occlusal abnormalities.
  6.14 Manage the replacement of teeth for the partially or completely edentulous patient.
  6.15 Diagnose, identify, and manage pulpal and periradicular diseases.
  6.16 Diagnose and manage oral surgical treatment needs.
  6.17 Prevent, recognize, and manage medical and dental emergencies.
  6.18 Recognize and manage patient abuse and/or neglect.
  6.19 Recognize and manage substance abuse.
  6.20 Evaluate outcomes of comprehensive dental care.
  6.21 Diagnose, identify, and manage oral mucosal and osseous diseases.

> CODA defines competent as the levels of know-ledge, skills and values required by the new graduates to begin inde-pendent, unsupervised dental practice.

The *Competencies for the New General Dentist* further defined 39 specific competencies associated with the six domain areas. Most dental programs have adopted these compe-tencies either in their entirety or with some modification as the specific competencies for their program. Many programs go beyond these basics, adding competencies unique to their own programs. Table 1 lists these 39 ADEA competencies.

In addition to each dental school determining their own specific competencies required of graduates, CODA has defined competencies in 28 areas that programs must demonstrate and that dental students must attain prior to graduation. Table 2 lists the CODA competencies.

Assessing Students as Competent

Once a dental school determines its competencies, it must then develop assessments that address both the school-defined competencies and CODA Standards. Competency usually cannot be measured directly with a single exam. To deem a student competent, multiple observations of a student's performance is indicative to faculty to make a predictive assessment of competence. That predictive assessment can be thought of as "The next time this student performs this procedure independently I predict he or she will perform as safely and effectively as a typical dental practitioner would— although probably not as fast."

Since competence cannot be measured directly by a single exam, accurately assessing competency requires that faculty use authentic evaluation methods. Authentic evaluation

uses faculty judgment to assess a student's independent performance in a realistic environment. Four of the most common authentic evaluation assessments are: (a) test cases, (b) instructor ratings, objective structured clinical examinations, and (d) portfolios.

Test Cases

Test cases (often called "competency exams") are the most widely used comprehensive assessment methods in dentals schools in the United States. Test cases require students to perform a procedure independently without the aid of a faculty member. Test case assessment should include a dialogue with the student to also evaluate the "knowledge and value" portion of competency assessment and not just the skills of performance. Successful completion of a test case is an indica-tion of independent performance and gives faculty a unique component of competency assessment that is often difficult to quantify during daily patient care experiences. However, test case evaluations are often overused as the only determinate of competency assessment.

Instructor Ratings

Instructor ratings are often utilized in clinical evaluation to assess student progress towards competency. On a daily basis faculty perform formative evaluations that look at what a student did properly or what they need to improve on and provide that feedback to the student. Students also should perform self-evaluations to see if they are able to identify the errors they are making. Self-assessment is important because students that are able to accurately self-assess an error are less likely to repeat that error again. Since most of these assessments are formative

Table 2: Selected Commission on Dental Accreditation Standards with Competencies

2- 9   Graduates must be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology.

2-10   Graduates must demonstrate the ability to self-assess, including the development of professional competencies and the demonstration of professional values and capacities associated with self-directed, lifelong learning.

2-14   Graduates must be competent in the application of biomedical science knowledge in the delivery of patient care.

2-15   Graduates must be competent in the application of the fundamental principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.

2-16   Graduates must be competent in managing a diverse patient population and have the interpersonal and communications skills to function successfully in a multicultural work environment.

2-17   Graduates must be competent in applying legal and regulatory concepts related to the provision and/or support of oral health care services.

2-18   Graduates must be competent in applying the basic principles and philosophies of practice management, models of oral health care delivery, and how to function successfully as the leader of the oral health care team.

2-19   Graduates must be competent in communicating and collaborating with other members of the health care team to facilitate the provision of health care.

2-20   Graduates must be competent in the application of the principles of ethical decision making and professional responsibility.

2-21   Graduates must be competent to access, critically appraise, apply, and communicate scientific and lay literature as it relates to providing evidence-based patient care.

2-22   Graduates must be competent in providing oral health care within the scope of general dentistry to patients in all stages of life.

2-23   At a minimum, graduates must be competent in providing oral health care within the scope of general dentistry, as defined by the school, including:
   a.   patient assessment, diagnosis, comprehensive treatment planning prognosis, and informed consent;
   b.   screening and risk assessment for head and neck cancer;
   c.   recognizing the complexity of patient treatment and identifying when referral is indicated;
   d.   health promotion and disease prevention;
   e.   local anesthesia, and pain and anxiety control;
   f.   restoration of teeth;
   g.   communicating and managing dental laboratory procedures in support of patient care;
   h.   replacement of teeth including fixed, removable and dental implant prosthodontics therapies;
   i.   periodontal therapy;
   j.   pulpal therapy;
   k.   oral mucosal and osseous disorders;
   l.   hard and soft tissue surgery;
   m.   dental emergencies;
   n.   malocclusion and space management; and
   o.   evaluation of the outcomes of treatment, recall strategies, and prognosis.

2-24   Graduates must be competent in assessing the treatment needs of patients with special needs.

5-6   All students, faculty and support staff involved in the direct provision of patient care must be continuously certified in basic life support (B.L.S.), including cardiopulmonary resuscitation, and be able to manage common medical emergencies

In order to accurately assess competence, schools must use a variety of authentic evaluation methods that rely on faculty judgment in a realistic environment to assess independent performance.

and designed to give accurate feedback without direct grading, faculty should be very precise in providing accurate assessment to the student with the focus on improvement. At some point faculty analyze all of the formative assessments and make a judgment as to the progress of the student in the form of a summative assessment looking at a student's progress or prediction towards competence. Instructor judgment after observing a student's progress over time seems to give the most accurate prediction of competence.

OSCE

The objective structured clinical examination (OSCE) provides an opportunity to assess in dental school competency in areas where there are a limited number of patient care experiences available for students during the program. Areas in which OCSEs fulfill this need include medical emergencies, dental trauma, oral pathologies such as oral cancer, specific behavioral situations such as a fearful patient, and other rare clinical cases. The OSCE usually consists of 20-30 stations that are either patient-based problems or performance-based tasks. An OSCE may also include a standardized patient that plays a role of an actual patient and allows students to perform a task on them. An example may be taking a medical and dental history or performing a head and neck examination. While a student's performance on an OSCE often provides a very accurate assessment of competence, they have not been very widely used for a variety of reasons including that they are very time consuming to set up and administer, difficult to makeup if a student is absent, and can be expensive with standardized patients.

Portfolios

A portfolio is a purposeful collection of student work that demonstrates a student's effort, progress and achievement. Portfolios are usually a collection of patient cases in which students show evidence of treatment and outcomes. They typically are records of patient treatment that include digital photo images, radiographic images, pretreatment medical and dental histories, pretreatment clinical records, treatment plans, chronology of treatment, and outcomes of care. An integral part of a portfolio is the self-reflection that a student performs to critically analyze the treatment provided and offer any options or alternative care that may have improved the outcome. Portfolios enhance the assessment process by allowing students to demonstrate their range of skills and growth over a period of time. Faculty usually determine the case selection criteria and portfolio format. Students are responsible for selecting the cases to include and documentation of the work provided in the portfolio.

Conclusion

Dental schools today focus on students attaining competence prior to graduation. All schools have clearly defined competencies in areas that relate to general dentistry practice. Competency assessment is much more than completing a number of required procedures. In order to accurately assess competence, schools must use a variety of authentic evaluation methods that rely on faculty judgment in a realistic environment to assess independent performance. ∎

Educating the Developing Dental Student in Ethics and Professionalism

Phyllis L. Beemsterboer, MS, EdD, FACD

Abstract

Ethics education has been a required part of accreditation standards for dental and dental hygiene programs since the 1990s. The dominant approach uses a combination of lectures and small, case-based seminars to teach ethical principles and provide practice in decision-making procedures to reason through dilemmas where there are several "right" ways to act. Detail is provided about three such programs.

The student of dentistry learns about the ethical and professional responsibilities of a dentist in numerous formal and informal ways. Intellectual and clinical skills are essential to the competent provision of oral health care, which is why ethics and professionalism content is required by the Commission on Dental Accreditation in the predoctoral dental educational curriculum.

The first documentation of formal ethics instruction in dental and dental hygiene education were reported in 1982 (Jong & Heine; Odom) and focused on learning about ethical principles and a report on the needs for and extent of ethics teaching. This was about the same time that medical education was also paying more attention to ethical training and several centers for ethical study and enhancement of professionalism in health care were established. The American Society for Dental Ethics (ASDE, then known as PEDNET) emerged at this time with the goal of supporting ethics as an integral value for the dental health care provider and promoting professional conduct. ASDE is now a section of the American College of Dentists. By the mid-1990s, there were three textbooks available with dental ethics in the title; two of these are still available in subsequent editions. Additional titles on ethical decision-making in dentistry and professional responsibility in dentistry have been published in the last five years.

The Place of Ethics in Accreditation

The teaching of ethics in dental and dental hygiene educational programs has been acknowledged as an essential part of the education of the dental health care professional since 1989, when the American Dental Education Association (ADEA) along with the American College of Dentists (ACD) and the American Dental Association (ADA) established guidelines for all dental-related educational programs. Those guidelines stated that curricula should provide opportunities for refining skills of ethical analysis so students are able to apply ethical principles to new and emerging problems in the profession. The goal for these curricula was to develop a commitment by the students to the moral principles that are the basis of the profession's contract with society. Moreover, the guidelines stated that students should be encouraged to develop an attitude that ethical decision-making is a process involving lifelong learning and commitment. The ADEA policy has been revised since that time to include expanded statements on professional behavior, societal obligations, access to care, and community service.

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The Commission on Dental Accreditation (CODA) is the specialized accrediting agency recognized by the United States Department of Education to accredit programs that provide basic preparation for licensure in dentistry, dental hygiene, and all related dental disciplines. Accreditation in the United States is a system that has been developed to protect the public welfare and provide standards for the evaluation of educational programs and schools. Regional accrediting agencies examine colleges and universities, whereas specialized accrediting agencies focus on a particular profession or occupation. A specialized accrediting agency recognizes a course of instruction composed of a unique set of skills and knowledge, develops the accreditations standards by which such educational programs are evaluated, conducts evaluation of programs, and publishes a list of accredited programs that meet the national accreditation standards. Accreditation standards are developed in consultation with those affected by the standards, and who represent the communities of interest. The commission uses a peer-review process to ensure that the dental standards are met in each program, and a formal, on-site review is conducted every seven years. The peer groups that conduct these site visits and review the standards are elected or appointed by groups such as the American Dental Association, the American Dental Education Association and the American Association on Dental Boards.

In 2000, CODA listed two Standards that called for dental graduates to be competent in applying ethical concepts and the principles of ethical reasoning. Currently the single CODA accreditation Standard 2-20 related to ethics states that "graduates must be competent in the application of the principles of ethical decision making and professional responsibility." The two overarching goals of dental education programs in regards to ethics are that students gain the awareness to discern right from wrong and the commitment to act on a decision. Courses cannot make someone ethical; these curricula are designed to increase awareness and give the dental student tools to apply in future problems or ethical challenges.

Decision-making Process and Dilemmas

As seasoned clinicians know, ethical problems will arise when a dentist is caught between competing problems and obligations. Throughout their lifetimes, professionals face situations that require carefully weighing options. Often no right or wrong answer exists. Instead a variety of answers may be possible, each of which has an element of rightness about it. Most decisions must be made in the context of professional, social, and economic pressures, which may be in conflict with values and principles. Determining what to do when faced with an ethical dilemma can be a challenge and making such decisions can be greatly facilitated by the use of an ethical decision-making model.

Ethical decision-making models provide a suggested mechanism for critical thinking and resolution of ethical dilemmas. Students need opportunities to develop the analytical skills required to assess ethical dilemmas and that posing ethical dilemma cases when experts are available to help students analyze and arrive at possible solutions to the hypothetical dilemmas is a means of affording those opportunities. This is now common practice in dental schools.

Effectively fostering and evaluating the ability of students in ethical reasoning and critical thinking is important and requires faculty trained in ethical reasoning skills and the authentic evaluation of students. Almost all schools use some approach where students in small groups discuss cases with dentists or ethicists and attorneys facilitating the sessions. These dentists may be ACD members, organized dentistry leaders, or dental faculty members. In addition, teaching approaches such as reflection assignments, ethics journals, or grand rounds are implemented across various dental curricula to enhance the learning of ethics and professionalism content.

The time devoted to this important area is limited especially when compared with other disciplines such as restorative dentistry. A study published by Lantz and colleagues in 2011 reported that the average number of clock hours in stand-alone ethics courses is 26.2 hours. Most of us who teach this content would welcome more time to spend discussing cases and building on the experiences students are exposed to in the various clinical settings. Basic bioethics content, sometimes along with legal precepts, are taught in dental schools in various years and through introductory courses, introspection assignments, community-based experiences, and other active learning approaches. A number of dental education programs use the ACD learning modules available at www.ethics.org. Each dental school implements ethics content and associated decision-making skills in various ways. Three examples are provided to demonstrate the methods utilized in dental education programs to instill ethical content and thinking.

Portland, Oregon

At Oregon Health & Science University School of Dentistry, ethical decision-making is taught in the fourth year in a course titled Ethics in Dentistry. It builds on ethics information introduced in the first and second years of dental school. The students learn an ethical decision-making model and spend sessions in small groups analyzing hypothetical dental cases that present ethical problems and dilemmas. Each session of ten to twelve students is facilitated by OHSU ethicists and dental faculty members. Assessment of performance by the two faculty members is based on the following criteria.

As a result of small group sessions the student will be able to: articulate an understanding of ethical principles used in health care (use the appropriate terms, related to dental health care, and make current analogies); articulate a good understanding of the ADA Code of Professional Conduct (grasp the five principles, note relationships to larger ethical issues, and refer to the code); participate appropriately in the ethical analysis discussions (offer opinion with reason, discuss effectively); and demonstrate sensitivity to the feeling and values of peers (respect colleagues, use judgment, and relate clinical experiences).

Since the ethicists also teach in the OHSU Schools of Medicine and Nursing and these teams have been working together for several years, calibration is quite strong. In the final written examination, the student is required to successfully apply the ethical decision-making model to a dental ethical dilemma case. Thus the students are assessed both orally and in written form on this skill. The students progress nicely and gain comfort with the application of the ethical decision-making model by the end of the course where upon they are deemed practice-ready competent. This process

coordinates well with the ongoing clinical assessments by faculty group practice leaders who monitor the student's ability to demonstrate behaviors that reflect a commitment to ethical practice and responsible attitude toward patient and society.

Detroit, Michigan

The University of Detroit Mercy supports a three-year curriculum series under the title of Professional Development. The first-year course introduces the student to ethical principles and values guiding the profession. Topics include professionalism and professional behavior, ethical principles, the dental team's roles and responsibilities, and scope of practice. Values for healthcare professionals include diversity, gender, social justice, and contributing to the common good. Students develop a class code of ethics. The second-year course introduces the Ozar-Sokol ethical decision-making model, as well as the ACD ethical decision-making framework. A brief overview of legal concepts is included to provide an overview of the parallels and intersection of ethics and law. Issues related to personal well-being and the impaired professional are also highlighted. Recent graduates participate in a panel, sharing the dilemmas they faced as students and new practitioners. The fourth-year course then allows the students to apply the ethical decision making model to a student experienced ethical dilemma. Students facilitate a small group discussion using their individual case as the focus and the faculty as participants.

The American Society for Dental Ethics (ASDE, then known as PEDNET) emerged at this time with the goal of supporting ethics as an integral value for the dental health care provider and promoting professional conduct. ASDE is now a section of the American College of Dentists.

> Ethical decision-making models provide a suggested mechanism for critical thinking and resolution of ethical dilemmas.

Indianapolis, Indiana

At Indiana University School of Dentistry, ethics, ethical decision-making, professionalism, and professional responsibilities in the context of a healthcare environment are addressed in multiple ways during components in each year of the four-year DDS curriculum. Students begin to explore the rudimentary concepts of ethical and professional responsibility on day one, and emphasis on professional ethics continues with comparing and contrasting the ethical responsibilities of members of a healthcare profession to that of lay people in society into the second year. The identification and management of clinical ethics issues during actual patient care are explored and developed in the D3 and D4 years. Clinic based ethics conversations sessions occur approximately twice per semester for each comprehensive clinic group practice as a part of weekly D3 and D4 clinic rounds meetings.

Students identify issues of clinical ethical concern and discussion ensues as to the nature of these issues and the possible approaches to address such situations. The clinic's director and fellowship-trained clinical ethicists participate in the discussion and analysis of these cases. Near the beginning of the D4 year, fellows from the Indiana Section of the ACD facilitate small group discussions of three to five ethical dilemma cases reinforcing that practicing dentists also consider and value the ethical dimension of patient care. Competency assessment in ethics is measured on the progressive development of ethical reasoning and the manifestations of professional responsibility with examinations, essays and objective structured clinical examinations (OSCE).

Conclusion

As a clinician providing care and services, he or she will be faced with many choices and dilemmas. Exploring problems or dilemmas in the educational setting gives the developing dentist fundamental experience is identifying issues and applying the ethical decision making model. This tool is then available to clinicians as they moves into various practice settings hopefully ready to discern an ethical issue and the discipline to act upon that issue. All dentists must be aware of the ethical issues that can arise in dentistry and have the courage to take appropriate action when necessary. It is the basis of being a trusted health care professional. ■

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New Accreditation Standard for Dental Education Programs on Humanistic Environment

Karin K. Quick, DDS, PhD, FACD

Abstract

Dental techniques and materials have changed dramatically in the past few decades, as have the expectations of patients, and the relationships among oral healthcare professionals and those they serve. The most current accreditation standards for dental education require that programs demonstrate success in preparing graduates for these relationships. The core approach emerging is that this part of dentistry should be built around humanism or respect for the dignity of all. This paper describes the new accreditation requirement, some of the historic need for change, the evolving environment of oral health care, and some programs that schools are developing to address these needs.

Humanism, by definition, is about valuing the person as the individual he or she is. For health professionals this has been identified as the core of patient-centered care, dating back to the fourth century before the Common Era. Hippocrates put it this way: *"It is more important to know what sort of person has a disease than to know what sort of disease a person has."*

To know a person requires an appreciation of culture, family, and community beyond individual characteristics. The contexts where life and learning occur affect our attitudes and behaviors; similarly, academic environments provide the opportunity to build attitudes and behaviors consistent with humanism. Humanistic values include respect and treating others with dignity, integrity, and accepting responsibility. Also associated with these values are skills in sound reasoning and practicing with intention to find meaning.

Humanistic values have long been a stated part of dental education. The efforts of dental schools to teach evidence-based practice, to develop critical thinking skills, and to work with students to create their own strategic life and practice goals are part of supporting these values. Schools are now expected to demonstrate healthy and improving learning environments through continuous evaluation and productive initiatives. It is not sufficient to merely talk about humanism in education.

For dental education programs, this is now formalized by the Commission on Dental Accreditation (CODA), under Standard 1—Institutional Effectiveness:

1-3 The dental education program *must* have a stated commitment to a humanistic culture and learning environment that is regularly evaluated.

Intent: The dental education program should ensure collaboration, mutual respect, cooperation, and harmonious relationships between and among administrators, faculty, students, staff, and alumni. The program should also support and cultivate the development of professionalism and ethical behavior by fostering diversity of faculty, students, and staff, open communication, leadership, and scholarship.

The goal behind this standard is to ensure an educational environment that "inculcates respect, tolerance, understanding, and concern for others…" At the core, this goal is about relationships. In dentistry, these are the relationships between provider and patient, colleagues, peers, and across disciplines and professions.

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Lingering "Old-School" Narratives

Probably every dental practitioner can remember examples of bad interactions during dental school, such as smashed wax-ups, being dressed down, and personal boundary crossing. These are common narratives of the dental school experience that reflect a less-than-ideal academic culture.

When I was a third-year dental student, the percentage of women in dentistry was increasing, yet the message from one of my instructors was, "I'm all for having you women in dentistry; you'll never really be competition for men, plus you look good in skirts." Years later, after more than a decade of private practice, during which I was a part-time clinical adjunct instructor (and earned a PhD in health services research and a graduate minor in bioethics), I became a new full-time clinical faculty member. By then, nearly half the dental students were women, yet the number of women faculty was small. Despite my prior experience and qualifications, I heard about concerns that I might just stand around and talk with other women on the floor. Although I had several years of clinical experience, most of my colleagues had more, so I often asked for their perspectives when working with students. To my surprise, this increased doubts about my competence. What I meant as a show of respect and a desire to learn was perceived as uncertainty and a lack of confidence.

Beyond anecdotes, closer examination of the student experience (Quick, 2014) has demonstrated the need for improvement. Nearly all students experience constructive communication, but destructive interactions frequently occur. Such communications may happen with other students, faculty, staff, or patients. Instances of being belittled or humiliated in front of others seems to increase as the student progresses through the curriculum with more time in the clinic, and are particularly troubling when done by faculty in front of patients. In dental schools, biases of patients, peers, colleagues, dental school staff or administrators persist. Discrimination and harassment continue to occur and are reported to a greater extent by women. All of this demonstrates that a student's dental education does not exist in isolation, and these experiences, good or bad, shape a student's sense of themselves as a professional. The humanistic environment standard can lead to positive change in these narratives by improving academic environments/cultures through processes of evaluation and ongoing improvement initiatives.

Evolving Broader Context

The role of dental education is to prepare students for professional practice, and today's students are entering practice environments and communities that are often different from those of previous generations. Two significant societal changes have occurred relevant to the humanistic environment standard—changing demographics and changing healthcare delivery models and systems. The increasing diversity within communities and disparities in both health and education necessitate critical assessment of professional education.

As diversity and its definition expand (beyond race and ethnicity to include gender identity, sexual orientation, religion or spirituality, socioeconomic status, and age), schools have worked to recruit and retain students and faculty that are representative of that diversity. For underrepresented students, this has been and (although improved) remains a challenge in dental education. The importance of this translates to patient care where issues of trust can play a factor. Having a provider "like yourself" can create a safer environment and sense of trust. Learning in a supportive and inclusive environment helps all students to better serve their patients and their communities.

Current dental students will work in settings beyond the traditional dental care team. Healthcare delivery models and systems are changing. The variety of practice models has grown beyond private solo, partnered, or group practice and the health maintenance organizations created in the 1970s. Graduating students have more choices. Corporate entities are offering management services to practices across the country and recruiting new graduates to these practices. Accountable care organizations are bringing health professionals together to coordinate care and work as interprofessional teams. It is increasingly important for schools to help students function and succeed in these changing social and practice environments. Decision-making in environments of integrity, responsibility, and dignity, can increase job satisfaction and improve outcomes for patients.

Curriculum Initiatives (Formal and Informal)

Traditionally, dental students spend a lot of time honing and perfecting clinical skills and knowledge. As environments change, schools must also stress team communication, leadership, and collaborative skills throughout the curriculum, all while being nimble to create flexible environments for learning. This is not an easy undertaking, as academic institutions are large and tend to be slow to change. Nevertheless, dental schools

are pursuing these changes. Students and educators need to think differently than they have in the past, and accept the dynamic nature of practice.

In developing initiatives for change and improvement, dental educators need to attend to learning in multiple settings —the classroom, the lab, and the clinic. Learning may occur formally (as part of official, regular coursework) or informally. What students learn by observing the behavior of others and through outside activities (e.g., volunteering, lunch-and-learns, and participation in student groups) are what educators call the informal or hidden curriculum.

To build and sustain environments of mutual respect and trust, schools need to address both student and faculty issues and concerns. Most dental students report a preference for active (interactive and participatory) over passive (lectures) learning. They want a say in how they learn and, sometimes, what they learn. Especially in active learning environments, students must be accountable for their learning and faculty must hold them to this responsibility. For faculty, knowing that students are keen observers of behaviors and interactions (of faculty and peers with patients and each other) means everyone needs to be aware of their communications and context. Role modeling and mentoring are two of the most important responsibilities of all faculty, who need to be aware of the learning environments they create in the classroom and clinic. Creating a safe and open space for learning and providing feedback that is respectful and honest are faculty responsibilities and shape the student-faculty relationship. Modeling humanism becomes easier in an environment that reflects the same. Likewise, students who observe and experience these environments may be more likely to value and re-create such environments in future practice.

Additionally, schools need to invest time and resources in faculty development. Many dental school faculty, educated generations earlier, could also benefit from training in conflict resolution, stress management, dealing with bias, and newer active- learning techniques. Creating successful faculty development opportunities, however, can be challenging beyond design and content. Finding time available for faculty to participate may be one of the greatest difficulties. Especially for faculty on the clinic floor, time for development is limited to the hours before, between, and after clinic sessions and weekends. In addition to time, there is the challenge of convincing faculty who may need the development the most to participate.

Strategies to address these obstacles can include making development sessions mandatory for employment and awarding continuing dental education credits. Another idea to address these challenges and improve the academic environment is to create multiple opportunities for students and faculty to learn alongside each other, and to find ways to take positive advantage of the informal curriculum. For example, at the University of Minnesota, students, faculty, staff and local practitioners participate in a series of conversation salons on a variety of topics related to ethics and professional practice (Quick, 2016). Other initiatives at the University of Minnesota include teaching conflict resolution and stress management skills, as well as dealing with ambiguity and uncertainty early in the curriculum and revisiting throughout.

Humanistic values include respect and treating others with dignity, integrity, and accepting responsibility. Also associated with these values are skills in sound reasoning and practicing with intention to find meaning.

Especially in active learning environments, students must be accountable for their learning and faculty must hold them to this responsibility.

Conclusion

CODA Standard 1-3 on humanistic environment requires ongoing commitment and evaluation; therefore, at the school level, studies of whether curricular initiatives and faculty development programs effect positive changes to the learning environment are necessary. Beyond what individual schools can do, dental education should undertake the study of academic environments across all schools. A global view of the kinds of environments dental schools create, whether intentionally or not, may aid school-level efforts to foster cultures of mutual trust and respect.

Hearing so many students' stories of serious difficulties in school led me to investigate the academic environment, which I was fortunate to start through a fellowship at the American Dental Education Association (ADEA) and support from my university. In developing a survey instrument that was the basis for the above-referenced article, I did a thorough literature review, adapted survey questions from medicine, and conducted student focus groups. I felt confident in its comprehensiveness. It asked questions on several types of discrimination (racial, ethnic, and gender) and sexual harassment. Nevertheless, when I read student responses to some of the open-ended questions—comments like "I have never felt more alone" and "there is a whole lot of anti-gay sentiment out there"—it was clear I had been blind to issues of gender identity and sexual orientation. The next survey, targeted for distribution at several dental schools, will include questions on these issues.

Best practices identified to effect change in the environment need to be shared. To make humanism a habit at all levels (patient, practice, profession, and system) requires an acceptance of the dynamic nature of academic environments and the implementation of a continuous process of improvement. Faculty and students must call out inappropriate behavior and attitudes where they exist. When serious violations of humanism occur, schools must have policies in place that students understand, and an environment where they feel safe to report these issues. As dental schools continue to address and meet this new standard, the opportunity to create new narratives exists, and academic environments can get closer to the ideal of mutual trust and respect. ∎

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Interprofessional Education and Collaborative Practice

A Pathway to Better Patient Care, Improved Health, and Lower Costs

Steven Friedrichsen, DDS, FACD

Abstract

Dentistry usually concerns itself with managing the scope of practice relationships with areas historically performed by dentists as solo practitioners. Many trends in health care—such as electronic records, Big Data, consolidated reimbursement systems, effective but expensive technology, the economies of group practice—are now overwhelming the boundaries of tasks performed in isolation. The Commission on Dental Accreditation has added a standard that dental education programs must prepare professionals to function in these new environments.

The concept of collaborating among the health professions to provide patients with better health care is certainly not new. Because of the potential value it can provide there have been several attempts to initiate what we currently term Interprofessional Education (IPE). In the previous attempts the IPE curricular initiatives arose from the healthcare education arena. In each of those instances the collaborative educational endeavors gradually faded, even among the most ardent enthusiasts.

The historical factors which led to the lack of success in interprofessional education include the boundaries between the professions, few practice models that employed a collaborative approach to care, the differing reimbursement mechanisms, and the communication gaps that exist during the care process.

The obvious question is what makes the IPE initiative more likely to succeed this time? The answer lies in the changing landscape of the healthcare delivery systems. Many of those changes are driving all of health care toward dramatically different practice models. For those of us who graduated from dental school three or four decades ago, it is probably a foreign concept and likely unappealing to consider the breadth and depth of changes that our current graduates will experience.

Getting Ready to Collaborate on Care

The Commission on Dental Accreditation (CODA) accredits all dental and dental hygiene programs in the United States. Every program must meet all the standards in six different areas. One of the most recent additions is Standard 2-19: "Graduates must be competent in communicating and collaborating with other members of the health care team to facilitate the provision of care." This was a purposeful addition, which is seen not only in dentistry's accreditation standards, but also in eight out of ten healthcare education program accreditation requirements. Meeting the CODA standard will help dental schools prepare the next generation of dentists for a radically different world.

The inclusion of an accreditation requirement for IPE across the broad panoply of healthcare professions offers recognition of the changes that are happening and will continue to take place in the healthcare landscape. We can no longer afford to look upon health care as a disconnected series of "siloed" professions that can sustain themselves providing uncoordinated and disaggregated care. The costs are too high and the quality too low for us as a nation to bear.

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It is Happening Outside of Dentistry

The value of IPE is not found in the educational component that takes place in dental, medical, or pharmacy education. The value lies in genuine collaborative approaches to care and models of healthcare delivery that result in desired improvements to care. Although there are a variety of terminologies in use, for purposes of this paper, we will use Interprofessional Education and Collaborative Practice (IPCP); setting the semantics discussion aside for another time.

Some of the changes in the healthcare landscape include, the rise and adoption of what is called the Triple Aim of health care—*better care* for the individual, *improved health* of the population and *lower cost* per person. In many ways dentistry has led this initiative for many years. Our profession has embraced preventative approaches, early detection and treatment of disease, comprehensive care, as well as a focus on patient education designed to engage the patient in their own health outcomes. Many other healthcare disciplines are moving their care models to something more akin to dentistry.

Achieving better care, improved health, and lower costs can be considered in the domains of politics and technology. The more visible and contentious area surrounds the political changes in force to support and drive change. The Affordable Care Act (ACA) including the development of Accountable Care Organizations (ACO) will dramatically change most of health care. There are two important concepts to consider.

First, in spite of the political firestorm, it is almost certain that the ACA is here to stay. The likelihood that any political party, elected individual, or governing body will take away the significant gains in percentage of our population with coverage and the portability that the law offers is very low. Is there room for change and modification? Of course, and the sooner the needed changes are addressed the sooner we will reap additional benefits from the intended outcomes of the ACA.

Second, the first phase of the ACA involves expanding coverage, development of organizations which are accountable for health outcomes across an entire covered group of patients (ACO's) and some reorientation of how the care is financed. As we can see by looking at the daily headlines, this has resulted in a free-for-all of consolidations, takeovers and every mechanism possible to gain market share. Previously there was a drive for market share, but now it is even more critical for success. Dentistry has mostly been left out of this phase. A limited number of ACO commercial insurance products have included dentistry and about 25% of the Medicaid products have an oral health component. The second phase of the ACA will involve transformational changes that will likely bring dentistry or at least oral health more fully into the picture.

The technological contributors to changes in health care include the fact that we live in the digital age and the post-genomic era. The transition to electronic medical and dental records allows for communication and portability of information on a scale that has never been possible. The enhanced connectivity means that care delivered in a physically adjacent location or virtually linked model can provide the patient with a collaborative care experience. Although we have not yet achieved the holy grail of universal communication among electronic health records (EHR), it is a relative certainty that will soon be available.

With EHR connectivity dental providers can reliably and instantly find out what medications patients are taking and their latest lab values and can send an electronic message to the patient's medical provider. Similarly, vital signs from dental visits, assessment of compliance with prescription usage, and dental diagnoses can become part of the patient's overall health record.

The transition to the digital world has also amplified the ability to collect, evaluate, and harness the power of mammoth volumes of information. These huge aggregate information banks, often referred to as Big Data, will contribute greatly to changes in the healthcare system. The use of Big Data is quickly reshaping what we will consider to be evidence-based practice in the future. The power of analyzing the outcomes from the treatment of millions of instances of the same diagnosis is readily apparent to the scientist in each of us. As an example, if the treating dentist and patient had information available that is based upon 12 million patients with a similar diagnosis, placing a direct, intracoronal restoration would predictably provide an eight-year service life and an indirect restoration would provide a twenty-one-year service life would greatly inform the treatment decision process, for example. The application of Big Data to management of populations will also become increasingly significant in improving health.

We also live in the post-genomic era. As the cost to have genetic sequencing continues to rapidly decline the use of that valuable information to tailor individual therapeutic approaches and custom design preventive measures will increase. Our "recare" schedules and preventive measures can be based upon the patient's genetic composition as well as the genetics of dominant oral flora.

We would no longer have to use past history of disease as the most useful measure; we could truly become preemptive in our prevention and treatment.

One School's Approach

At Western University of Health Sciences, we are favorably positioned to fully embrace the potential that IPE offers and develop IPCP models to assist other programs that want to follow the same path. The WesternU senior administration and academic leadership have been wholly supportive of the broad based inclusion of IPE in the curricula of all programs. All students in all programs participate in the IPE curriculum during the first two years. The basic IPE curriculum is centered on the IPEC competencies and includes information on scope of practice, and on communication and teamwork skills. These foster understanding of the various health-care professions and assist the students in learning how to work collaboratively on behalf of the patient's needs.

The College of Dental Medicine has pushed the envelope by bringing basic oral health curricula to several other professions as well as providing opportunities for IPCP models in community-based settings, primarily school-based oral healthcare clinics. Samples of offerings have included a dentistry and oral health rotation for medical students, partnering of dental and nursing students in peer-to-peer learning sessions, providing family medicine and emergency department medical residents with an oral health and dentistry curriculum. We have also worked with the physician assistant and nurse practitioner students on the skills required for an oral assessment, fluoride varnish application and preventive counseling visits in the medical setting.

An unanticipated ancillary benefit has been the development of multiple research projects and scholarly activity that crosses the traditional professional boundaries. We have exciting projects related to bone growth and metabolic changes related to specific pharmacological agents, the use of ocular changes to characterize changes in bone vascularization and light and laser activation of compounds for treatment of oral lesions. Most of these projects and studies would never come to light in a traditional environment that has strong professional silos.

What We Can Expect to Have More Of

It is impossible to accurately predict the future for dentistry in the changing world of healthcare. At the same time, there are trends and trajectories that we can ascertain as well as early adopters who have integrated dental care within collaborative healthcare models. They can be instructive for both the profession as well as the educational programs. The following are selected examples of movement and change that support the prediction that IPCP will continue to grow and evolve.

Oral health continues to garner additional attention and increasing action outside the profession of dentistry. The American Academy of Pediatrics and the Society of Teachers in Family Medicine formed a section on Oral Health in 2002. That section combines dentists and physicians and has developed a comprehensive curriculum for pediatric providers. A similar curriculum has been created for family medicine. Many nursing and physician assistant programs have incorporated the Smiles for Life curriculum into their educational programs. An increasing number of

> The technological contributors to changes in health care include the fact that we live in the digital age and the post-genomic era.

primary care medical programs are working in conjunction with dental and dental hygiene programs to add clinical skills in oral screening, preventive counseling and fluoride varnish application.

In most states (if not all), Medicaid also provides reimbursement to non-dental providers for fluoride varnish. The combination of providers with the knowledge and skills to provide basic oral health services in combination with a reimbursement mechanism will extend preventive measures into early childhood and dependent elderly populations. Those two groups often are not in the mainstream of dental care as it is currently practiced and who frequently do not have dental benefits which remain predominantly employment based.

The use of aggregate data from large national third-party payers provides support that periodontal therapy can contribute to improved patient outcomes. Providing groups of insured patients who have selected medical diagnoses such as diabetes with advanced periodontal benefits has resulted in improved health outcome parameters, reduced their medication costs significantly as well as decreased the needed office visits. The reduction in cost and improvement in health outcomes will certainly cause ACOs to begin looking at mechanisms to leverage these findings among their covered lives.

The case studies from the early adopters of integrated and collaborative care models are showing promising signs. The dental literature increasingly highlights early outcomes from organizations such as Permanente Dental Associates, Marshfield Clinic Health System, Health Partners, and Health Partners of Western Ohio as well as numerous FQHCs that have more fully embraced collaborative care. Each in their own way are demonstrating the value of embracing the link between overall health and oral health.

Where there is not yet the possibility of collaborative care integrated into one facility or system, there are other options that are being explored. The use of facilitated bidirectional referrals and embedding limited oral health services in primary care provider offices.

A limited number of dental schools are engaging nurse practitioners and pharmacists in their clinical operations. They can provide services and advice that assist the patients with management of chronic and acute conditions that would otherwise require additional visits. A very few (one or two) dental schools are involving dental students and residents in assessment, preventive counseling, and early interventions within the primary care arena.

Just as there are the two patient cohorts infrequently seen in the dental office, many of the patients in dental practices rarely see primary care providers. A high percentage of whom may show early signs of chronic maladies such as diabetes, hypertension, alcohol use disorder, etc. With appropriate education, skills, and the ever-present necessity for reimbursement, the dental workforce could help contribute to the early detection and intervention for millions of patients who might otherwise not be identified.

Conclusion

The definition of quality health care in dentistry will evolve as prevention and early intervention gain ground beyond the walls of the dental practice. Our concept of quality must extend beyond the technical aspects of cavity preparations, margins, and occlusions to include greater emphasis on improved oral health for the entire cohort of our practice. Dentists will need to think in terms of overall health quantifiable by reduced risk combined with increased and measureable value.

Interprofessional education and collaborative practice can be viewed as a nuisance, a threat to our professional autonomy, or as an opportunity. Dental education and the other health sciences that have viewed IPE as meriting inclusion in the accreditation requirements are obviously looking at the opportunity it presents to improve the care and health of the patients we all share—and occasionally are.

It is time for other healthcare providers to look in the oral cavity rather than beyond it to the oropharynx. Similarly, the dental profession can be better equipped to pick our heads up and look outside the mouth, viewing the health of the whole person as part of our responsibility as well. ∎

Evidence-based Dentistry and CODA Requirements

Richard Niederman, DMD, MA
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Abstract

Most of us assume that what we do, and teach, is evidence-based. The challenge is to insure that this is indeed the case. More to the point, how can we readily find the credible evidence we need to guide practice and teaching? And, can we differentiate high-quality evidence from less trustworthy reports? This paper presents a basic, three-step process for querying the literature, identifying levels of evidence, evaluating the evidence, and summarizes the early experiences of three dental schools in developing a curriculum that incorporates EBD and critical thinking.

The Commission on Dental Accreditation's (CODA) current standards mandate that oral health clinical programs prepare graduates who are competent in implementing the current best evidence as the foundation for clinical practice. The relevant accreditation standards are the following:

> 2-9 Graduates *must* be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology.

> 2-21 Graduates *must* be competent to access, critically appraise, apply, and communicate scientific and lay literature as it relates to providing evidence-based patient care.

In short, all oral health clinical programs must now teach and evaluate students on their ability to use evidence wisely as a foundation for the way they care for patients.

Why Does the Current Best Evidence Matter?

There is a reason why the accreditation standards call for evidence-based dentistry and critical thinking. Not all evidence is able to guide effective clinical practice. For example, data from a 2016 case report will not predict clinical effectiveness as well as a 2015 Cochrane systematic review. And a 2005 Cochrane systematic review will not predict clinical effectiveness as well as a 2015 review. The level of evidence and date are critically important.

In addition to clinical care, "best evidence" also matters now in a way that was not vital before. In 1993 the U.S. Supreme Court overturned the local standard of care (also called the Frye rule) in the case of *Daubert v. Merrill Dow*. In 2011, the U.S. Supreme Court published a 1,000-page document clarifying what the *Daubert* standard means. Essentially, the legal standard for assessing causal inference adheres to the evidence pyramid (Figure 1). In other words, in a legal sense, higher levels of evidence trump lower levels of evidence. However, the Supreme Court, being a federal court, cannot mandate state court cases. Therefore, the *Daubert* and local standards are extant in different states (See Table 1 for a list of states that subscribe to various rules in interpreting standard of care).

Concretely, providing care that does not adhere the *Daubert* rule could place the student, faculty, and school at legal
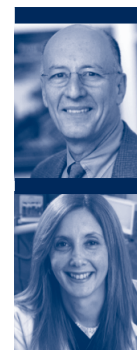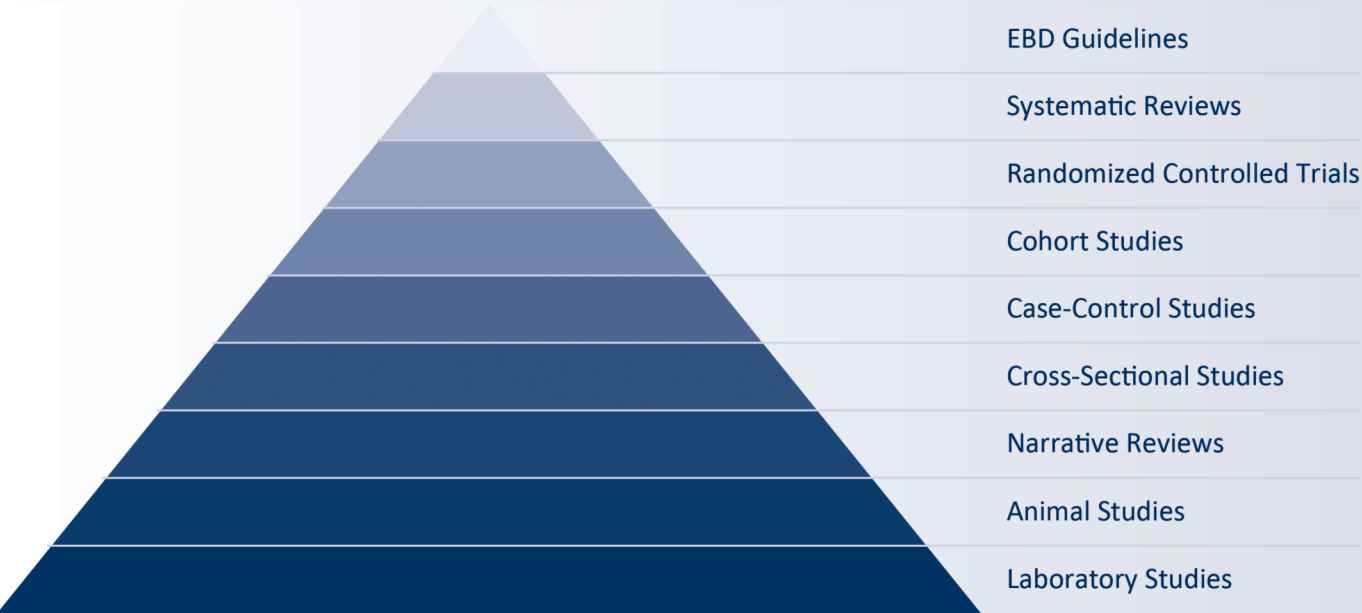
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Figure 1. Evidence Pyramid

As one progresses up the pyramid, bias decreases, and the potential to predict what will occur in clinical practice increases.

EBD Guidelines

Systematic Reviews

Randomized Controlled Trials

Cohort Studies

Case-Control Studies

Cross-Sectional Studies

Narrative Reviews

Animal Studies

Laboratory Studies

risk, depending on the state in which a dental school is located or where a dentist practices. (See Niederman, et al, 2011 and 2012 for further discussion).

The age of the evidence also matters. On average, there are more than 100 systematic reviews published each year in oral health alone, the majority in oral medicine, followed by oral surgery. This is almost two systematic reviews per week. This is an enormous body of literature. As an analogy, think about smart phone applications. How do faculty and students feel about identifying, learning about, and implementing two smart phone applications every week? Our guess is that students might relish the chance, but faculty would be less enthused. Staying current with clinical effectiveness presents the same challenge.

Dental schools are now working to ensure that graduates are competent in locating the current best evidence,

critically appraising that evidence for validity and clinical applicability, and then applying this information in practice. However, we have found that, when queried, dental faculty and practitioners cannot always find or determine what the "best evidence" is. To address this conundrum, clinical epidemiologists developed methods for the three steps articulated in this paper (Figure 1).

How Might Evidence-based Dentistry Be Taught?

Naturally, there are differences among dental schools in how teaching critical thinking and evidence-based dentistry occur. Some schools use a purely didactic approach; others use case scenarios and blended learning. There are even greater differences in implementing and evaluating evidence in practice.

The remainder of this article the first three steps: (1) framing a good

clinical question, (2) searching for the current best evidence, and (3) evaluating this evidence. We then go on to high-light three dental school's approaches to implementation.

Scenario

A dental student, when confronted with a child with caries, asks the clinical instructor whether dental sealants or fluoride varnish are indicated to prevent new caries?

There are three standard steps in working through this problem: (a) framing the question, (b) conducting a computer-assisted search, and (c) critically analyzing the evidence.

Framing a Good Clinical Question

A good clinical question is framed in a PICO format. The letters in the PICO acronym stand for:

> P: Patient, population, participant, or problem
>
> I: Intervention, indicator, or exposure
>
> C: Comparator or control
>
> O: Outcome

One can apply this framework to questions of therapy, diagnosis, etiology, prognosis, economics, etc. Each element of the PICO question captures a unique concept; but together they define a practical clinical problem or potential course of treatment. Typically, each element of the PICO is a noun, not an adjective or an adverb.

In this scenario the PICO question could be the following. Note that each element of the PICO identifies a unique concept. A clear PICO facilitates an explicit discussion about the clinical question. It also facilitates the next step, searching MEDLINE for the current best evidence.

> P: Children
>
> I: Dental sealants
>
> C: Fluoride varnish
>
> O: Caries

In words this could be articulated as: For children, will dental sealants, when compared to fluoride varnish, reduce the risk of caries. Again in our experi-ence, when clinicians and faculty are confronted with the one-sentence scenario above and asked to identify a PICO question, we typically find that six or more questions are identified, most with multiple sentences, and most out of the PICO format. So using a PICO format is a pathway to explicit communication.

Searching MEDLINE

The most accessible pathway to searching and access to literature is a MEDLINE search using PubMed Clinical Queries (Figure 2). PubMed.Gov is a free, publicly available online service. The PICO elements are entered in the Clinical Queries search box, the "Search" button is hit, and PubMed provides the most current clinical studies in the left column and the most current systematic reviews in the next column, if these studies exist. Above the results of clinical studies is a drop-down box that allows the user to further define clinical studies beyond therapy to diagnosis, prognosis, etc.

Critical Appraisal

The third step in EBD is to appraise the identified evidence. The first step in the critical appraisal process is to determine the level of evidence (Figure 1). Again, in our experience, faculty and clinicians are not adept at this, so practice is required.

Once the level of evidence is identified, there are multiple organizations that provide critical-appraisal worksheets. Our current favorite for teaching D1 students is the Critical Appraisal Skills Program (CASP) (www.casp-uk.net/#!checklists/cb36). The CASP program has eight checklists, one each for: systematic reviews, randomized controlled trials, diagnostic studies,

Table 1. Basis of Standard of Care by State

State	Daubert	Standards State	Local
Alabama	+		
Alaska	+		
Arizona		+	
Arkansas			+
California	+		
Colorado			+
Connecticut	+		
Delaware	+		
Florida	+		
Georgia	+		
Hawaii	+		
Idaho			+
Illinois			+
Indiana	+		
Iowa	+		
Kansas			+
Kentucky	+		
Louisiana			+
Maine	+		
Maryland			+
Massachusetts	+		
Michigan			+
Minnesota			+
Mississippi	+		
Missouri	+		
Montana			+
Nebraska			+
Nevada	+		
New Hampshire	+		
New Jersey	+		
New Mexico	+		
New York			+
North Carolina			+
North Dakota			+
Ohio	+		
Oklahoma	+		
Oregon			+
Pennsylvania			+
Rhode Island	+		
South Carolina	+		
South Dakota			+
Tennessee			+
Texas	+		
Utah	+		
Vermont	+		
Virginia		+	
Washington	+		
West Virginia	+		
Wisconsin	+		
Wyoming	+		

cohort studies, case-control studies, qualitative studies, economic analysis, and clinical prediction rules. For all the critical appraisal worksheets, assessment falls into three conceptual categories: validity, results, and clinical applicability. As shown in Table 2, these evaluation criteria may each have several subsections.

Importantly, any clinician can perform the three steps of framing questions, literature searching, and critical appraisal. Further, PubMed is a free, publicly available online service.

Implementing the EBD in a Dental School Curriculum

Current standards now require oral health clinical programs to show evidence that all graduates are competent in applying the EBD process in a clinical setting. How one might design and implement a dental school EBD program to meet the CODA requirements? Clearly, there can be as many models as there are dental schools. The characteristics of the individual school—size, location, faculty age, resources, training, etc.—can all impact the implementation process. Here we share three approaches.

Interestingly, unlike current best evidence based on randomized controlled trials, implementation is an exercise in knowledge creation in practice. This requires an interrupted case series approach with before and after measures to determine effectiveness (Niederman & Leitch, 2006).

New York University College of Dentistry (NYU) (Approximate class size: 388). Starting some ten years ago, NYU sent faculty for Evidence-Based Medicine and Evidence-Based Dentistry training to McMasters University and University of Oxford. These faculty

Figure 2. MEDLINE Search Using PubMed.gov Clinical Queries

1. First insert PICO question, and hit "Search" button.

2. Next enter PICO search criteria.

3. Finally, view results.

Table 2. Critical Appraisal Worksheet Questions for Systematic Review

		Questions	Yes	Can't tell	No
Validity	1.	Was there a PICO question?	☐	☐	☐
	2.	Did the authors look for the right type of study?	☐	☐	☐
	3.	Were all the important relevant studies included?	☐	☐	☐
	4.	Did the authors assess the quality of the included studies?	☐	☐	☐
	5.	If multiple results were combined, was it reasonable to do so?	☐	☐	☐
Results	6.	What are the overall results?	☐	☐	☐
	7.	How precise are the results?	☐	☐	☐
Applicability	8.	Can the results be applied to my patients?	☐	☐	☐
	9.	Were all the relevant outcomes considered?	☐	☐	☐
	10.	Are the benefits worth the potential harms and actual costs?	☐	☐	☐

members started to incorporate and test EBD concepts with small clinical and course changes. With time and additional faculty engagement, EBD was incorporated by more departments in more courses. Simultaneously, the NYU library began supporting EBD practice by providing online search and training. An EBD course is now delivered in the first three dental school years, with a final clinical case presentation that asks for a PICO question, literature search, and the application of these finding in the clinical treatment of the case. NYU also offers an annual opportunity for EBD training with continuing education credit for new and returning faculty.

School of Dentistry, University of Texas Health Science Center at San Antonio (UTHSCSA) (Approximate class size: 100). The UTHSCSA, with an NIH R25 educational grant, developed and implemented a formal process with new courses and assessment instruments. They developed and validated the Evidence-Based Practice Knowledge, Attitudes, Access, and Confidence (KACE) skill assessment instrument and are testing Assessment of Capacity in Evidence Search (ACES) to assess

literature searching. In parallel, they implemented faculty development programs and new student courses. Simultaneously UTHSCSA implemented a Faculty, Alumni, Student Team (FAST) to develop critically appraised clinical topics (CATs), or FAST CATs. Their goal is to not only teach EBD, but develop collaborative faculty-student academic detailing to move evidence into practice.

University of California, San Francisco School of Dentistry (UCSF) (Approximate class size: 88). UCSF is using a dissemination and implementation model. UCSF sent five faculty members to attend the ADA/NYU five-day intensive EBD workshop with the goal of establishing a critical mass of EBD-competent faculty. This core group realized that they needed to move the faculty to an EBD "tipping point." With the dean's support, each department asked for volunteers or sent 40% of their faculty to a one-day EBD workshop to learn the precepts articulated in this paper. To accommodate all faculty, the one-day workshop was provided on five sequential days. Using the KACE

Importantly, any clinician can perform the three steps of framing questions, literature searching, and critical appraisal. Further, PubMed is a free, publicly available online service.

Table 3. Attitude Assessment of EBD

Element	Low 1	2	Belief 3	4	High 5	What would cause you to change your opinion?
Evidence for EBD	☐	☐	☐	☐	☐	_____
Advantage of EBD	☐	☐	☐	☐	☐	_____
Simplicity of EBD	☐	☐	☐	☐	☐	_____
Values compatible with EBD	☐	☐	☐	☐	☐	_____
Trust EBD Method	☐	☐	☐	☐	☐	_____
Choice to use EBD	☐	☐	☐	☐	☐	_____

instrument, pre- and post-tests were given to determine baseline and follow-up EBD knowledge, attitudes, and practice. To increase participation, continuing education credits were given. The explicit goal was to identify the 10% to 20% of the clinical faculty—the innovators and early adaptors—who would pioneer EBD in their clinical areas.

Discussion

Paraphrasing a long-acknowledged and often-noted fact in management and organization systems, Paul Batalden of Dartmouth Medical Center said, "Systems are perfectly designed to do exactly what they do." In other words, institutions follow Newton's first law of motion.

Recently one of us (RN) gave an EBD seminar to senior dental school faculty at another institution. Dental sealants were used as an example to highlight the need for EBD in dental education and clinical care. Dental sealants were used as an example because their use starkly highlights the dichotomy between evidence and clinical practice.

As indicated in the identified systematic review in Figure 2, dental sealants reduce caries by about 80%. This is twice the effectiveness of fluoride varnish, four times the effectiveness of water fluoridation, and surpassing every other preventive intervention in dentistry about which we are aware.

Yet, in contrast to this data, recent studies indicate that only about 40% of dentists provide sealants (Tellez et al, 2011). In response to these data, one of the faculty, the chair of pediatric dentistry, responded that dentists have to do fillings to pay back their student loans. This discrepancy between best evidence and actual practice is potentially a very fertile but so far neglected area of research.

Overcoming this resistance to change was first thoroughly studied by Everett Rogers examining the diffusion of innovation (Rogers, 1995). Rogers's work indicates that implementation goes through three stages: awareness, acceptance, and application. The critical hurdle is acceptance. For participants to achieve acceptance, six different values need to be demonstrated: evidence, advantage, simplicity, compatible values, trust, and choice. Qualitative and quantitative assessment of students, faculty members, and especially practitioners might assist leaders in

determining where hurdles lie, and what might need to be done to make progress. The checklist in Table 3 incorporates Rogers's six standards for acceptance of innovations.

NYU, UTHSCSA, and UCSF are all traversing different paths toward the same goals of improving care and outcomes based on evidence. We shall see if, over time, they or others can identify outcome measures to determine if care and health are improved. ∎

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Assessment of Dental Student Competency in the New Millennium

What Has Changed?

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Abstract

The major shift in dental education in the past couple of decades has been away from process—clock-hours and number of clinical procedures—to outcomes. In order to be accredited today, schools must document that their graduates have the skills, knowledge, and values required to begin independent dental practice. There has been a corresponding change in assessment methods. Graduates must demonstrate independent competency in all aspects of dental practice, and schools must provide evidence that their programs function as claimed.

Among the recent changes to accreditation standards for predoctoral dental education is an elevation of the role of assessment. Schools must now provide evidence that their programs function as intended and that graduates are ready for today's practice environment. Some background will be helpful to first illustrate the link between dental student competency, assessment, and education's accreditation process.

Since 1975 dental education programs have been accredited through the Commission on Dental Accreditation (CODA). CODA receives its accreditation authority through recognition by the United States Department of Education (USDE). CODA states its mission is "to serve the oral healthcare needs of the public through the development and administration of standards that foster continuous quality improvement of dental and dental related educational programs." In response to a USDE mandate in the mid-1990s, CODA adopted standards for competency-based education for predoctoral dental education that went into effect in 1998. Each dental school was subsequently required to develop descriptions of the behavior expected of its graduates. CODA defines competencies as *written statements describing the levels of knowledge, skills and values expected of graduates.*

Accreditation looms large in dental education. An institution's eligibility for federal funding is linked to recognition by the USDE. For dental education,

that means being accredited by CODA. Second, an educational requirement for licensure across the United States is that an applicant's dental degree be from a university-based program that is accredited by CODA. As noted above, being accredited by CODA from 1998 to the present requires that dental education programs be competency-based. It is for these reasons that accreditation is critical to the mission of our dental schools.

How Is the Assessment of Student Competency New?

The old model was really a measurement of teaching: what percentage of the instructor's wisdom could be reproduced on demand–graded on the curve? Competency assessment requires that performance be measured in realistic settings and that all dimensions deemed essential to dental practice be assessed. In the transition that began in 1998, dental programs are required to develop competencies (learning outcomes) for all aspects of their curricula. Additionally, programs are tasked with identifying assessment strategies to measure student progress on achieving the program competencies

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or learning outcomes. This has stretched dental education to think in new ways when it comes to assessment.

In former times, seven out of ten correct answers on a multiple-choice test was good enough, although multiple-choice tests are impossible to find in practicing dentists' offices. The old requirement system counted procedures without regard to the extent of faculty assistance, and graduates were often uncertain whether they could perform in semi-realistic situations until the first state board test. There is now strong weight given to test cases or "competency tests" where students perform clinical procedures on patients while supervised but not assisted by faculty members. These practical exams are numerous and cover the range of procedures usually encoun-tered as one begins dental practice. They resemble licensure exam-inations given by state boards, except that there are many more of them.

There are also a variety of evaluation simulations such as OSCEs (Objective Structured Clinical Exams) and triple jumps, to name a few (Albino et al, 2008; Chambers and Glassman, 1997). These assessment strategies are designed to engage students in performance and integration of their learning experiences in realistic circumstances.

Many schools and even the licensing board in California now require that students present evaluation portfolios which document that they have passed clinical and other competencies across a prescribed range of skills, knowledge, and values. The new assessment models focus more on increasing opportunities to promote learning rather than simply measuring what instructors have presented.

In addition to evaluation in context, competency-based assessment requires that all competencies must be demonstrated. If a program claims that its graduates will be ethical or will respect the dignity of patients or be sensitive to the oral health needs of communities, it must provide evidence that students have been assessed on these competencies. In the newly revised accreditation standards that will go into effect July 1, 2016, Standard 2-10 (Self-Assessment) is explicit that graduates must demonstrate the ability to self-assess and plan for lifelong learning. Many schools are using these new assessment measures that require students to become more active in the teaching and learning environment, where they are challenged to self-assess, and then consider strategies for how they can further strengthen their knowledge, skills and values. These assessment strategies are challenging both students and faculty to think differently about how we measure learning outcomes and competency in our dental education programs.

To further illustrate how the accreditation standards have evolved, let us examine "humanistic environment" as one of the core principles of dental education programs called for by CODA. Humanistic environment, more specifically humanistic pedagogy in dental school settings, is described by CODA as a learning environment that "inculcates respect, tolerance, under-standing, and concern for others and is fostered by mentoring, advising, and small group interaction." CODA believes that a dental school environment that advocates and models professional relationships between and among faculty and students will result in the development of interpersonal skills needed for learning, for providing patient-centered care, and ultimately lead to meaningful contributions to the profession.

Another example of the evolving nature of the accreditation standards can be found in the emphasis placed on evidence based dentistry (EBD). Terminology was first introduced in medicine by Gordon Guyatt (1991) as evidence-based medicine and proceeded to make its way into dentistry. Prior to the introduction of EBD, practitioners typically relied on sources of authority (CE presenters, experienced clinicians, etc.) to guide patient management decisions. The EBD approach to practice is patient-centered and includes consideration of the scientific evidence, the patient's needs and preferences, and the practitioner's expertise. Today we find the American Dental Education Association supporting a Center for Evidence-Based Dentistry.

A competency learning environment as described above where students are challenged to engage in self-directed learning and self-assessment, will serve them well as they enter their profes-sional lives where things are constantly changing around them. As John F. Kennedy said, "Change is the law of life. And those who look only to the past or present are certain to miss the future."

An example of this can be found in the literature when examining the topic of continued professional competence. In the licensed professions, a practitioner is determined to be competent when initially licensed, but it is what happens beyond the initial licensing that is drawing a great deal of interest from a variety of stakeholders. In today's environment where the science of health care, dentistry, and technology are continually changing, and where new healthcare systems are evolving, consumers and other stakeholders are pressing for better strategies for ensuring continued competence. Simply attending continuing education programs is no longer being deemed adequate for ensuring continued competency. One

Table 1. CODA Educational Environment Principles

Excerpt from Commission on Dental Accreditation, 2015

Principle	*Expectations of Dental Education Programs*
Comprehensive, Patient-Centered Care	The Standards reconfirm and emphasize the importance of educational processes and goals for comprehensive patient care and encourage patient-centered approaches in teaching and oral health care delivery. Administration, faculty, staff and students are expected to develop and implement definitions, practices, operations and evaluation methods so that patient-centered comprehensive care is the norm.
Critical Thinking	The dental educational program must develop students who are able to:Identify problems and formulate questions clearly and precisely; gather and assess relevant information, weighing it against extant knowledge and ideas, to interpret information accurately and arrive at well-reasoned conclusions; test emerging hypotheses against evidence, criteria, and standards; show intellectual breadth by thinking with an open mind, recognizing and evaluating assumptions, implications, and consequences; communicate effectively with others while reasoning through problems.
Self-Directed Learning	The explosion of scientific knowledge makes it impossible for students to comprehend and retain all the information necessary for a lifetime of practice. Faculty must serve as role models demonstrating that they understand and value scientific discovery and life-long learning in their daily interactions with students, patients, and colleagues. Educational programs must depart from teacher-centered and discipline-focused pedagogy to enable and support the students' evolution as independent learners actively engaged in their curricula using strategies that foster integrated approaches to learning. Curricula must be contemporary and appropriately complex and must encourage students to take responsibility for their learning by helping them learn how to learn.
Humanistic Environment	Dental schools are societies of learners, where graduates are prepared to join a learned and a scholarly society of oral health professionals. A humanistic pedagogy inculcates respect, tolerance, understanding, and concern for others and is fostered by mentoring, advising and small group interaction. A dental school environment characterized by respectful professional relationships between and among faculty and students established a context for the development of interpersonal skills necessary for learning, for patient care, and for making meaningful contributions to the profession.
Scientific Discovery and the Integration of Knowledge	The interrelationship between the basic, behavioral, and clinical sciences is a conceptual cornerstone to clinical competence. Learning must occur in the context of real health care problems rather than within singular content-specific disciplines. Learning objectives that cut across traditional disciplines and correlate with the expected competencies of graduates enhance curriculum design. …The capacity to think scientifically and to apply the scientific method is critical if students are to analyze and solve oral health problems, understand research, and practice evidence-based dentistry.
Evidence-based Care	Evidence-based dentistry (EBD) is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences. …Curricular content and learning experiences must incorporate the principles of evidence-based inquiry and involve faculty who practice EBD and model critical appraisal for students during the process of patient care. As scholars, faculty contribute to the body of evidence supporting oral health care strategies by conducting research and guiding students in learning and practicing critical appraisal of research evidence.

[Continued]

Table 1. CODA Educational Environment Principles [Continued]

Excerpt from Commission on Dental Accreditation, 2015

Principle	*Expectations of Dental Education Programs*
Assessment	Dental education programs must conduct regular assessments of students' learning throughout their educational experiences. Such assessment not only focuses on whether the students has achieved the competencies necessary to advance professionally (summative assessment), but also assists learners in developing the knowledge, skills, attitudes, and values considered important at their stage of learning (formative assessment). In an environment that emphasizes critical thinking and humanistic values, it is essential for students to develop the capacity to self-assess. Self-assessment is indicative of the extent to which students take responsibility for their own learning. To improve curricula, assessment involves a dialogue between and among faculty, students, and administrators that is grounded in the scholarship of teaching and learning. Data from program outcomes, assessment of students learning, and feedback from students and faculty can be used in a process that actively engaged both students and faculty.
Application of Technology	Technology enables dental education programs to improve patient care, and to revolutionize all aspects of the curriculum, from didactic courses to clinical instruction. Contemporary dental education programs regularly assess their use of technology and explore new applications of technological advances to enhance student learning and to assist faculty as facilitators of learning and designers of learning environments. Use of technology must include systems and processes to safeguard the quality of patient care and ensure the integrity of student performance. …Use of technology in dental education programs can support learning in different ways, including self-directed, distance and asynchronous learning.
Faculty Development	Faculty development is a necessary condition for change and innovation in dental education. The environment of higher education is changing dramatically, and with it health professions education. Dental education programs can reexamine the relationship between what faculty do and how students learn to change from the sage authority who imparts information to a facilitator of learning and designer of learning experiences that place students in positions to learn by doing. Ongoing faculty development is a requirement to improve teaching and learning, to foster curricular change, to enhance retention and job satisfaction of faculty, and to maintain the vitality of academic dentistry as the wellspring of a learned profession.
Collaboration with Other Healthcare Professionals	Access to health care and changing demographics are driving a new vision of the health care workforce. Dental curricula can change to develop a new type of dentist, providing opportunities early in their educational experiences to engage allied colleagues and other health care professionals. …Dental education programs are to seek and take advantage of opportunities to education dental school graduates who will assume new roles in safeguarding, promoting, and caring for the health care needs of the public.
Diversity	Diversity in education is essential to academic excellence…interactions allow students to directly and indirectly learn from their differences…cultural competency cannot be effectively acquired in a relatively homogenous environment. Programs must create an environment that ensures an in-depth exchange of ideas and beliefs across gender, racial, ethnic, cultural, and socioeconomic lines.

strategy that has been adopted in some of the professions has involved portfolios that promote critical thinking, self-assessment, and individual accountability. The portfolios are used by practitioners to document and defend their continued competency. While for many reading this article the idea of developing and maintaining a portfolio to document continued competency will be a foreign concept, reflect on JFK's quote to illustrate that it is this kind of forward thinking that has brought us to today's competency-based educational programs and the assessment strategies that go along with this educational model. Accreditation standards that require students to demonstrate the ability to self-assess their own competency and plan for lifelong learning will prepare them for whatever lies ahead.

How Is Assessment of Educational Programs New?

Since the adoption of competency-based education in 1998, accreditation standards have continued to evolve. Accreditation standards reflect the changing landscape that we find ourselves living and working in today. This changing landscape is best illustrated and articulated in the section of the predoctoral program standards titled Educational Environment Principles (Table 1). CODA has incorporated eleven principles into the Standards with the intent that adoption of these principles into dental education will create the environmental framework necessary to foster educational quality and innovation.

To this point in this article the discussion of assessment has been about student assessment, but CODA also focuses largely on programmatic assessment. This focus on programmatic assessment

can be found in their mission statement, "to serve the oral healthcare needs of the public through the development and administration of *standards that foster continuous quality improvement of dental and dental related educational program*s," and also in Standard 1–Institutional Effectiveness, of the Accreditation Standards for Dental Education Programs, which states: "1-2 Ongoing planning for, assessment of, and improvement of educational quality and program effectiveness at the dental school must be broad-based, systematic, continuous, and designed to promote achievement of institutional goals related to institutional effectiveness, student achievement, patient care, research, and service."

The above CODA standard is clear that dental education programs must engage in an ongoing quality assurance program that is continuously assessing and identifying areas for improvement and then devising and implementing strategies to strengthen the program. Data that includes such things as program outcomes, assessment of student learning, and feedback from students and faculty, are used to inform the assessment process.

To continue to be recognized as accredited programs, dental schools are required to go through an extensive review every seven years, where all aspects of the program are examined through a peer review process. This seven-year process is preceded typically by one to two years of preparation, called a self-study, where the program analyzes their program data and determines if they meet the standards. In instances where there are deficiencies, dental programs must demonstrate to CODA how they are working to overcome those deficiencies. It is this ongoing and continuous assessment that is called for Standard 1-2 above. To take this a step further, one can begin to see similarities

between the assessment process described for dental education programs and the assessment process being called for when it comes to ensuring continued competency of practitioners.

Conclusion

We all live and work in an environment that is dynamic and ever-changing. It is perhaps the speed of change today that makes it more pertinent than ever that we provide students with the knowledge, skills, and values that will help them successfully navigate this rapidly changing environment. Assessment that requires self-directed learning and self-assessment will send students out into the world with tools to flourish in a dynamic and ever-evolving work environment. ■

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Ethics on Our Sleeve

Joe Vaughn, DMD

Right and wrong. Black and white. Easy and difficult. This is the world most of us grew up in. The world of definite sides and clear distinctions. A world of moral clarity. And then things changed. Someone slips a white coat over our shoulders, and, not long after, we realize there's much more going on. It's not as simple as filling a cavity or giving teeth to someone who has none. Dentistry is an iceberg. And we can't see below the surface until we're given a snorkel and set of goggles. And we aren't given the right set until we have said the right things and made the right test scores and signed on the right dotted lines.

We all enter this profession because we want to make an impact on the people around us. We work hard. We make sacrifices that can only be explained by altruism. For many of us, we truly are in it for the right reasons.

But what I'm learning is that there's more to that story. I once thought dentistry was only about fixing teeth. About helping people. And it is, of course. But what I am beginning to realize is that wrapped up within the "DMD" title is a wealth of mental warfare. And on the front lines of that war is the struggle for keeping ethical priority in our practice. A battle we face every single day.

We are under attack each time we throw on the loupes and white coat.

And unlike most wars, ours is fought with our minds and thoughts and will-power. Every day, we are at risk of giving in to *ethical apathy*. The risk of forgetting where we are and how we got here.

The truth is that we've come a long way. We dragged ourselves through college and dental school and boards and licensing exams. And all the while we are missing meals and losing nights of sleep and thinking to ourselves "if only I could just get through this, it would all be worth it."

And then we get there. We cross that finish line. And then some of us forget.

We forget those hours in the library. We forget the summer jobs. We forget the long weekends of studying gross anatomy and marginal ridge differences of premolars. We forget all the money and effort and stress we spent on trying to become a dentist. And so then we let our guard down, and we make mistakes.

What I'm learning is that if we don't wear our ethics out on our sleeve, we run the risk of it falling through a hole in our coat pocket. So let's talk about ethics.

We all exist in this delicate balance of patient trust. Conversations, technology, treatment plans, risks and benefits, consent forms. These are all factors in the balance. And so every conversation

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and every decision we make with a patient has a shifting effect in one direction or the other.

Maintaining balance in a profession as diverse as dentistry is challenging. Even as a student, I can clearly see the many edges of the dental polygon. We all have our opinions on restorative materials and bonding techniques and whether or not we should use rubber dams or a facebow for every case.

We are as diverse as they come. And that's okay. We can present our research. We can state our opinions. But one thing that we must not do, one thing we cannot do, is compromise our patient's trust in the profession of dentistry.

Because that balance of patient trust is not between the individual patient and the individual dentist. The balance is between America the Patient and Dentistry the Profession. What we need to understand is that "dentist" is not a singularity. Regardless of whether you practice in a town of 1,000 or 100,000, the dental community is a network. We are a team. And when one of our team gives in to ethical apathy, we all feel the ripple effect.

Ethics goes much deeper than right and wrong. It goes much deeper than not harming your patient. At the heart of ethics is the idea of taking a step back to realize the unique opportunity that sits across from you in the dental chair. A once-in-a-lifetime opportunity to finally make a difference.

So what does this all look like? How do we win the war of ethical priority? First, it requires a gut check. Some soul-searching. Whether it was the years of hard work in the classroom or the way you felt after delivering your first denture, we all have our stories of why we do what we do. Remember those stories. Hold onto them in the back of your mind as living reminders, to reach out to in your times of ethical struggle.

And then remember the nationwide network of dentists that are all going through the same thing, experiencing the same hardships and working through the same dilemmas. Tap into that resource. Because the close-knit network doesn't have to end with dental school or ASDA. It continues on into practice. From rural communities to big cities, from Washington to Alabama, we are one team. And we are on each other's side, willing to help with ethical struggles should one of our teammates ever need it.

At the end of the day, this is not about success. It's not about lifestyle or essays or winning awards. It's about upholding the integrity of who we are.

We are dentistry.

And we all need those occasional reminders of why we are who we are and why we do what we do. As one nationwide team, we can actually change the world. Sure, dentistry is about fillings and dentures and wax-ups and emergence profile. But at the heart of it all is one undeniable truth...

None of it matters without ethics. ■

> Every day, we are at risk of giving in to ethical apathy. The risk of forgetting where we are and how we got here.

What Did We Just Agree To?

Analysis and Rewriting of The Dentist's Pledge

Zachary R. Smith

The first time I understood the gravity of my ethical obligations as a dental professional was when I read out aloud the words of The Dentist's Pledge. Fortunately, this was one of the first activities I took part in with my fellow students. It was during my White Coat Ceremony earlier this year. I certainly did not understand exactly what I was saying, but I knew I was making an ethical obligation of some sort that I would be accountable for someday. This ambiguity is the biggest shortcoming of the current ADA accepted Dentist's Pledge (see American Dental Association Current Policies), and that constitutes an ethical issue for dental professionals.

The medical community's Modern Hippocratic Oath has been used in some schools as early as 1964 and is used in nearly all medical schools now. This oath, much like The Dentist's Pledge,

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does not use specific language to mention ethical principles, but instead focuses more on "bring[ing]...sweeping obligations to a personal level" (Curtis, 1998). Since our medical counterparts have popularly regarded dentists as being less ethical, dentists may benefit from having a more specifically ethical oath in place. Similarly, Dr. Schwartz in his paper "Under Oath: Content Analysis of Oaths Administered in ADA-Accredited Dental School" (Schwartz et al, 2009) says being explicit in oaths by adding focused values could greatly increase the effectiveness of an oath.

Oaths are in place to declare intentions, and in dentistry, these intentions go back to professionalism and ethics. I believe an oath can have a more specific ethical impact if values are clearly stated. This is why I took on the challenge to rewrite The Dentist's Pledge with specific values, mainly based on the five principles of ethics in dentistry.

Many of my decisions made on this new oath go back to Dr. Schwartz's study on dentist's pledges used throughout the country. Five percent of the schools in the study had no formal pledge. On top of that, only 30% of schools used the ADA's official Dentist's Pledge. The remaining schools used their own original pledge or some other form. Out of all the oaths, unique or not, 59% use three or fewer of the ADA's five principles of ethics. This disparity in dental oaths is ethically disturbing. My goal is to implement uniformly a new

oath with all five ethical principles and additions of contemporary issues as well.

In the following essay, my new pledge is stacked up next to the current ADA Dentist's Pledge. Following that is my commentary on the words I chose.

The Dentist's Pledge (ADA Current Policies, 2014)

I, (dentist's name), as a member of the dental profession, shall keep this pledge and these stipulations.

I understand and accept that my primary responsibility is to my patients, and I shall dedicate myself to render, to the best of my ability, the highest standard of oral health care and to maintain a relationship of respect and confidence. Therefore, let all come to me safe in the knowledge that their total health and well-being are my first considerations.

I shall accept the responsibility that, as a professional, my competence rests on continuing the attainment of knowledge and skill in the arts and sciences of dentistry.

I acknowledge my obligation to support and sustain the honor and integrity of the profession and to conduct myself in all endeavors such that I shall merit the respect of patients, colleagues and my community. I further commit myself to the betterment of my community for the benefit of all of society.

I shall faithfully observe the Principles of Ethics and Code of Professional Conduct set forth by the profession.

All this I pledge with pride in my commitment to the profession and the public it serves.

The New Dentist's Pledge (Zach Smith)

I, (name), as a dental student or professional, shall follow these principles and values,

1. It is my duty to dedicate myself to the knowledge and skill required to treat oral health as a part of whole-body physical and mental health. As a part of this knowledge acquisition, I must have the utmost of academic integrity and maintain acquiring current knowledge throughout my career.
2. It is my calling to act for the benefit of the community, dental professionals, and society at large.
3. It is my responsibility to strive for complete respect and trust for my treatment of oral health. This also includes following a rigorous code of conduct in and out of practice.
4. It is my obligation to align with the patient in their oral health treatment and provide sufficient oral education to the patient.
5. It is my duty to deliver dental care to patients without prejudice and be mindful of discrepancies of access to care.

I will hold these principles and values for my dental peers, my patients, the public as a whole, and myself.

Commentary

Introduction: The intro to my rewritten Dentist's Pledge begins similarly to the original by introducing the reader. The new pledge begins its deviation by being explicit in applying to the dental student and the professional. One of the main differences in this pledge is that it speaks to the dental student as being equivalent to dental professionals when it comes to the procedures outlined in the pledge. The wording of "dental professional" is ambiguous which is intentional. The dental professional could theoretically include dentists, researchers, and instructors that may or may not be practicing dentists. The body of the pledge follows the five dental ethics principles closely in the following order: nonmaleficence, beneficence, veracity, autonomy, and justice.

Nonmaleficence: In the original pledge, the bit about having a primary responsibility for the patient to "render the highest standard of oral care" is excellent and is an example of nonmaleficence but leaves much to be desired.

> Many, including an ethics lecturer of mine, use the phrase "Once a cheater, always a cheater". Put into action, this phrase says cheating students will be cheating dentists. That is a scary statement regarding the percentage of dental student cheaters found.

I added the words "knowledge" and "skill" in the new version to distinguish the two. In addition, I added a statement about continuing education. Many dentists by my personal account are very skillful in what they do but lack the knowledge and specifically the maintenance of current knowledge in the field. Dentistry is sometimes explosive in the new knowledge that is discovered over time. Dentists need to keep up.

The next part of great importance in the new version of the pledge is the addition of academic integrity. A dismal 7% of dental school pledges refer to academic conduct (Schwartz et al, 2009). Of course, this is yet another example of the point of emphasis in dental students in my pledge. Generally, cheating in dental school is a problem. About three-fourths of dental students admitted to cheating (Andrews et al, 2007). Many, including an ethics lecturer of mine, use the phrase "Once a cheater, always a cheater." Put into action, this phrase says cheating students will be cheating dentists. That is a scary statement regarding the percentage of dental student cheaters found.

Beneficence: Beneficence is also a point of emphasis in the new pledge. It is imperative that that we make an effort to do what we do not just for ourselves. The current pledge does a great job of including beneficence to the community and society, but it leaves out a large group, our fellow dental professionals. Respecting other dental professionals (including dentists, researchers, instructors, and other

> Respecting other dental professionals (including dentists, researchers, instructors, and other colleagues) is more properly a "code of conduct," but it should find a comfortable place in ethics as well.

colleagues) is more properly a "code of conduct," but it should find a comfortable place in ethics as well. Dentists must work together, because with the power of numbers, the importance of beneficence for the community and society is increased exponentially.

Veracity: Veracity is the first principle not mentioned in the original pledge. This is unsettling considering how important it is. In my version, not only does the dental professional strive for respect, but also trust. Trust and respect are not just two different ways to spell the same word. For example, a patient may respect dentists due to the awe they hold in the work it took to get that expertise. That does not necessarily mean they trust you. Trust is much deeper in that the patient holds the greatest confidence in the dentist's actions. Another way to look at it is that dentists gain respect but earn trust.

In addition, I mention a code of conduct concerning "in and out" of office. Yes, the code of conduct by the ADA covers in and out of the office, but when considering the still very new concept of social media in dentistry, "out of office" must be explicitly added. In fact, social media outlets have presented some staggering statistics, including those found in Marcio von Muhlen's study (2012), "Reviewing social media use by clinicians." Among students, 60% were found to exhibit unprofessional conduct online, and 13% of students were violating patient confidentiality. Social media has created a current conduct issue, and again, that is why it is in the new pledge.

Autonomy: Also missing in the current pledge is any discussion of autonomy. The pledge could even be misconstrued as to saying what the dentist says must be right. In fact, it may be, but according to the ethical principle of autonomy, the patient must make

the educated final choice of treatment plans. This can only occur ethically if the patient has had sufficient education to make a decision. This is the dentist's job, and many dentists fail on this aspect. The word "sufficient" is a vague word, but I placed it with intention. It should be up to the ethical dentist's discretion on what sufficient education is for a patient.

Justice: The Dentist's Pledge also omitted this final ethical principle. It is crucial to dental professionals that they not have prejudice and that they understand the access to care in current issues. To be clear, prejudice covers many bases like financial, racial, and even location prejudices. Therefore, it is a powerful statement. Access to care is a missing topic in 72% of dental school oaths, and it is becoming an increasing problem these days (Schwartz et al, 2009).

Conclusion: In my closing of the rewritten pledge, benevolence is brought back to the forefront. Here, we are reminded why we are pursuing a dental career. This time, not only is there dental peers, patients, and the public, but also the dentist themselves. When all these affected groups are listed together, it can be rather shocking how many people dentistry can touch.

Discussion

My resolution to this ethically lacking pledge was to add five clearly organized ethical principles in the new dentist's pledge. Not only that, but new points of emphasis on current issues are present now. Overtly adding dental students to the introduction of the pledge allows a responsibility to dental students earlier than what may be clear in the old pledge. Previously, it may have seemed

to dental students that "this pledge is for *dentists*. I'm not a dentist yet, so this pledge will be more significant later when I have that diploma."

The addition of students to the pledge also allows discussion on the topics of academic integrity and continuing education. If there is truth to "once a cheater, always a cheater," forcing all students to pledge against cheating may have an impact in their academics. I hope that it translates to dentists not cheating themselves out of continuing education as well. CE is essential for the safe treatment of patients with new knowledge being discovered every day.

A few other timely issues appear in the new pledge, and they all are an effect of growth. Cooperation among dentists comes from the increase in "competing" dentists. We dentists need to realize we are all on the same team. Also, conduct outside of the office (namely online) results from an increased influx of social technologies. Awareness of the internet being an extension of our professional environment is critical. The last emphasizing point in my pledge is also on the rise of access to care problems. The more the population increases, it seems the more stratified the population becomes in regards to healthcare inequalities.

I hope that with this new pledge, dental professionals and students alike can build upon the five principles of dental ethics and these contemporary discussions throughout their professional careers. ∎

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Moral Priming and the ACD Basic Rule

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Abstract

James Rest proposed a model of moral behavior with four components: sensitivity, reasoning, character, and courage (or action). Research has shown that moral character is a complex construct. Multiple moral self-concepts exist within each individual, and different context predispose various of these to become dominant in different settings. Moral priming is the practice of manipulating the environment to favor the use of appropriate moral self-concepts. A study is reported, demonstrating that dentists can be primed to express more moral views based entirely on context. The observed effect of priming was large. The ACD Rule for Moral Identity states that when there is conflict between professionalism and economic or other self-interests, professionalism takes precedence.

Morality is the pattern of actions we use to make the world better: ethics is what we say about that. Unless one is in an academic environment or making a political statement, morality is the more precious of the two. More formally, morality could be defined as the way we treat others who may or may not share our values so that we would feel comfortable exchanging places should circumstances call for that. The definition has these features: (a) there is no presumption that we have a special position based on our superior view of things; (b) we cannot be moral alone; and (c) moral opportunities are pervasive.

It is sometimes helpful to engage in ethical reflection or even justification as part of being moral. But the branch of theory known as virtue ethics (Annas, 2011; Curzer; 2014) has long made a case for the highest form of morality being semiconscious good habits. Further, it is not enough to have performed a sound ethical analysis, for example, based on principles or norms. Aiming accurately is necessary, but the act is incomplete unless we pull the trigger. Morality is about the way we act.

James Rest's Four Component Model (Rest et al, 1999) helps us find our bearings. On Rest's view, there are four characteristics of one who would be moral: (a) moral sensitivity, (b) moral reflection, (c) moral integrity, and (d) moral courage. Notice Rest's preference for the term "moral."

Moral sensitivity is realizing that one is in a situation with prominent ethical dimensions (Rest, 1986). Unless one realizes that lack of funds or insurance coverage for the most appropriate treatment leads to compromised care, for example, this may remain an economic concern and never reach the moral level. The way a situation is framed, or overlooked, determines the nature of the reflection, engagement, and action that follow. A faux form of moral sensitivity is called "moral awareness" (Reynolds, 2008). There are folks who make a career out of righteous rages against the unfairness almost everyone they meet and society in general, and they are happy to point out that someone else has made a mess of things. Politicians seem to have advanced training in this practice. The difference between moral sensitivity and awareness is that the good one places the observer in the context as an agent. It is only moral sensitivity when the phrase, "this is not right and someone should do something about it," is understood to mean that the speaker is among the "someones."

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Moral reflection is the second of Rest's components. That is what we teach in dental schools and short courses. The customary format involves comparing alternatives against principles or norms and deciding what should be done (Beauchamp & Childress, 2009). But reflection may not always be necessary. The domain of ethical dilemmas is not the same as the domain of being a professional. Putting one's hands where they do not belong, overtreatment, insurance fraud, failing to report child abuse, and substandard care are wrong. There is no second position (or lemma) to be weighed as a plausible alternative in ethical reflection.

Moral integrity, Rest's third component, also known as moral character, is not about events in the world or about ethical theory. It is about the extent to which we are prepared to act as moral agents (Aquino & Reed, 2002). At the low end of the scale we find "moral spectators." These are often very sophisticated individuals or organizations, well-tuned to the issues of the day and capable of sustaining an extended ethical discussion at a high level. But they are more like the avid sports fan rather than an actual athlete. At the high end are moral leaders, those who make those around them better, and make a habit of it (Chambers, 2015).

Finally, moral courage refers to what it takes to act on one's moral sensitivity, reflection, and integrity. It requires both skill and commitment to *do* the right thing. Perhaps the greatest opportunity to improve the moral capacity of dentists

is here. "Moral assertiveness training" might be helpful (Chambers, 2009). We need to develop and practice scripts for confronting those who are not upholding professional ideals and support systems for the many of us who would prefer not to do this alone.

An individual may possess very high levels of moral sensitivity or reflection, and so forth, yet go unnoticed as a positive force for professionalism in dentistry. Our attention would best be focused on the one or two components of morality that are our weakest, as these will usually determine the maximal moral impact we can have. A short test of Rest's Four Component Model, with automatic scoring and guidance for improvement, is part of the American College of Dentists online course for dental offices (www.dentalethics.org/pead/index-pead.htm).

This paper is about moral integrity. It would be good to have a rule to use when conflicts arise between moral behavior and other values, such as economics and personal satisfaction.

Moral Character Is Situational

An adult's height is quite stable, but weight, not so much so. Although it is meaningful to speak of a person as being generally agreeable or cynical or good company or not, these dispositions

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fluctuate depending on circumstances. And the same is true for moral character. The classic study was published by Hugh Hartshorne and Mark May in 1928. Rather than using surveys—and assuming that any one administration of any survey captures one's "true moral nature" —these investigators followed boys for weeks in a variety of settings and observed how they behaved. One would sometimes cheat on a school project, but not when interacting with classmates. Another would cheat in a physically competitive game, but not abstract games of skill. Stealing might be acceptable in the case of a friend's lunch, but not for school supplies. These patterns varied from boy to boy and were not stable within each child across time.

More contemporary research (Aquino & Reed, 2002; Welsh & Ordóñez 2014) uses questionnaires but comes to the same conclusion: moral identity is a fuzzy concept and likely to be influenced by circumstances. Some researchers, such as Hinkley and Andersen (1996) and Aquino and his colleagues (2009), argue for multiple dimensions in an individual's moral outlook. What is "fair" depends on whether, for example, we are talking about one's self or kin and close friends or about strangers, different "others," or irresponsible trash. Whether the dress fits is a function of who is wearing it. Others would have multiple moral standards depending on the circumstances. Throughout history, individuals such as Grotius, Jefferson, and Victor Hugo, among others, have argued that stealing is not blameworthy if compelled by necessity, such as being starving. Murder is justified on grounds of self-defense. The classic Harvard study of moral character formation during professional education and the early years in practice (Fischman et al, 2004) revealed that professionals of previous generations were quite aware that

circumstances compelled them to "bend the rules" early in their careers— as long as they promised themselves that it was only until they could establish themselves financially.

Each of us has multiple moral personalities. We change them based on circumstances. It is not unusual for parents and neighbors interviewed following a mass shooting to say, "He was always such a nice boy. I can't believe he would do such a thing." Victims are usually described as having great potential. Certainly there are dominant moral characters for each of us, and that is what our reputations are built on. There are many moral or immoral personalities that would make us feel guilty or ashamed, and some of them we simply cannot imagine wearing. How we act in moral situations depends a lot on which of our moral characters shows up for the event. It would be good if we have a rule or some guidance regarding which of our moral selves would be most appropriate in various circumstances.

Can Moral Character Be Influenced?

At first, it may seem a cause for concern to accept that moral character is multiple and that any of us could reasonably be expected to behave differently in different circumstances. On further reflection, this may be a blessing. We have traditionally framed character education as a matter of fundamentally remodeling others. That kind of comprehensive change has proven more than difficult, except in situations such as at a seminary or in the military where almost total control is possible for extended periods of time. Quasi-permanent moral makeovers are

possible in gang and prison culture. Certainly, it will be difficult to use moral identity traits that are not widely and conspicuously endorsed among our colleagues even if we have taken the right courses.

A more modest goal than complete moral education, but one that should not be ignored, would be to influence circumstances where agents have an opportunity to be moral. We should invite others to bring forward their better selves. Even when we pass on hoping for radical and permanent changes in character, there is something to be said for improving the moral nature of those around us here and now.

There is some research evidence that this can be accomplished predictably. If that is robustly the case, we might be able to frame a rule to serve as a general guide in dental professional situations.

In the earliest research on this topic, Mazar and colleagues (2008) paid college students serving as research subjects a small amount for each numerical puzzle they solved when given a reasonably large sample of such test sets. Subjects worked alone and turned in their answer sheets to a monitor who did not score the papers, only asking subjects how they scored themselves. Of course, there was potential for over-reporting. The extent of "boosting one's score" was determined by retrieving the worksheets from a conveniently located trash receptacle subjects were instructed to use, since the worksheets had an identifying code on them. Self-promotion was not huge, but it was very widespread.

Mazar thought it would be possible to subtly influence whether an "honest" self or a "slightly self-promoting" self showed up at the desk were the payoff was given. Before beginning to solve the puzzles, some subjects were asked to engage in a neutral task such as listing

books read in high school. Others were asked to write down as many of the Ten Commandments as they could recall. We learn two things from such studies: First people cannot recall many of the Ten Commandments. Second, just trying to do so reduces cheating. The effect is called "moral priming."

Closer to the healthcare setting, priming has been demonstrated for Army medics (Leavitt et al, 2012). These individuals have two identities: military and health care. In this case, rather than measure cheating as the difference between actual and self-reported scores, questions were asked that reflected a disposition to treat others fairly. Ethically ambiguous decisions involved such issues as fixing the dollar amount of compensation to families of soldiers killed in combat versus saving the government money. In one condition, medics completed the ethics question-naire wearing their uniforms, in a room decorated with military insignia. In the other, they were guided by reporting in scrubs in a room filled with medical equipment. Those primed to activate their medical moral template did in fact demonstrate more moral opinions than the same individuals who could be expected to be thinking of themselves as soldiers.

Demonstrating Moral Priming

Modifying the circumstances to improve the chances that the right sort of moral character will be activated is called moral priming. Perhaps we need not do an identity makeover on others. Perhaps it would be a worthy beginning to call out the best character that already exists in them. This would be a more plausible strategy if we could demonstrate that moral priming works in dentistry.

A moral values survey instrument is under development for use in the ACD Gies Ethics Project. This is a 48-item survey, patterned after the widely publicized Moral Factors Questionnaire developed by Johnathan Haidt and his colleagues (2012). Embedded within the questionnaire used for this study were three additional items designed to measure pro-moral attitudes or openness to moral behavior: (a) "copayments should not be waived;" (b) "colleagues working below the standard of care should be reported when justified;" and (c) "commercialism undermines dental professionalism." Experience has shown that there is some range of opinion in the profession on these matters. The items were presented on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Participants in the study were regents and officers of the ACD. They completed an identical version of the MFQ survey with three embedded test items on two occasions. The first administration was during the "blue sky" session at the end of the board meeting at the annual convocation in 2015. The second administration was approximately six weeks later, and surveys were returned by mail. A code number, selected by each regent or officer, was used to match the two anonymous versions of the same form. The priming manipulation consisted of using the context of a board meeting where the future of the college and the role of the college as "the conscience of dentistry" forms a general context. The follow-up survey contained language

priming respondents to assume the role of a dentist in practice. *Assume that you are completing this form as a dentist. If you are not currently in practice, try to imagine yourself about five years prior to retirement. In fact, it might be useful to recall a "typical" day in practice. How many patients did you see? Were there any that were especially challenging, technically or otherwise? Were there any staff or business issues? Did you have any contact with colleagues, either associates or others in your community? Did you do any business for "organized dentistry"?*

The outcome variable was the difference in how the three questions about moral behavior were answered in the setting primed for general moral tone among one's colleagues and the setting primed for typical individual practice. Each participant served as his or her own control. Only cases where regents and officers completed both surveys and where the identification numbers could be matched were used. There were 15 such pairs of responses. The consistency among the three items (the reliability of the test questions) had an acceptable Cronbach alpha of 0.782. This project was approved in the exempt category by the Institutional Review Board at the University of the Pacific, 16-74.

When the three moral items were rated in the context of the ACD board meeting, the average value was 3.633, where 5 = strongly agree (SD = 1.359). The same items rated in the context of private practice averaged closer to the neutral point, at 2.864 (SD = 1.495). The paired-comparison t-test value was 2.419

which is significant at $p < .05$. This is a statistically significant difference despite the small sample size. The effect size of the difference in contexts was an omega squared of 0.272. One quarter of the variation in how regents and officers responded to these moral challenges was explained by the context in which they answered the question.

This is first evidence that dentists respond to moral situations differently, based on the moral identity they bring to the situation, and that the moral identity activated can be primed by varying the context. Expecting more moral behavior may bring about more of it.

Conclusion

Years ago, ecological psychologist Roger Barker (1968) famously said, "I can better predict what a person is doing if I know where he [or she] is than if I know who he [or she] is." Try it. If you knew that an individual is in a dental office, there are only a few options. If I said the same person was an extrovert, a Democrat, or a morally upright individual, it would be more than a long shot to guess what they are doing right now.

It might be disappointing to some that each of us has a small repertoire of moral lenses to use in various settings. This sounds too much like situational ethics – the idea that the most right thing for an individual to do could change depending on the circumstances. Although having a few bullet-proof rules is comforting, making them fit reality is seldom straightforward. The late eighteenth century philosopher Immanuel Kant (1788/2015) tried to argue that some rules never vary across circumstances, but few academic defend this position today. White lies or hiding Anne Frank from the Nazis would be out of bounds for a purist interpretation of veracity. Justice is argued many ways

depending on whose standard is used (MacIntyre, 1988). Respect for persons quickly comes down to who that person is. The ADA Code, for example, only mentions "respect for patients." Most of us most of the time are strongly morally principled and, at the same time, quite adept at interpreting when circumstances call for another moral self-concept and another approach to others (Fletcher, 1966).

On the positive side, moral priming suggests a convenient and effective strategy for improving moral tone. If we adjust our moral character to match the expectations dominant in the setting, it should be simple enough to get better behavior by simply making it known that such behavior is expected. In our relations with others we can expect to get the kind of behavior we signal we are looking for. We tell each other constantly and are constantly being told what kind of moral character is appropriate for the situation.

Ethics education is assumed to involve a relatively permanent and comprehensive transformation of a person; moral priming is relatively transient and specific. We need to be cautious that the ethical language around the table in classrooms and council meetings (especially where one is away from the home environment) are likely not to travel well. There is an old question about if church were such a meaningful experience, why would people have to go every week? The answer, of course, is that the moral leaders in dentistry are not the only one's engaged in priming.

Dentistry is a complex profession. For certain situations, there are minimal standards for economic success and personal satisfaction. Professionalism

and patient service are also important. There is a requirement for legal conformity and civic responsibility, and even much to be said for status among one's colleagues. Which of these dimensions of practice speaks loudest? What moral character is expected to come forward? Dentists have a choice about who they want to be in each situation.

Here is the ACD Rule for Moral Identity: When there is conflict between professionalism and economic or other self-interests, professionalism takes precedence. ◼

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Perhaps we need not do an identity makeover on others. Perhaps it would be a worthy beginning to call out the best character that already exists in them.

Submitting Manuscripts for Potential Publication in JACD

Manuscripts for potential publication in the *Journal of the American College of Dentists* should be sent as attachments via e-mail to the editor, Dr. David W. Chambers, at dchambers@pacific.edu. The transmittal message should affirm that the manuscript or substantial portions of it or prior analyses of the data upon which it is based have not been previously published and that the manuscript is not currently under review by any other journal.

Authors are strongly urged to review several recent volumes of *JACD*. These can be found on the ACD web page under "publications." In conducting this review, authors should pay particular attention to the type of paper we focus on. For example, we normally do not publish clinical case reports or articles that describe dental techniques. The communication policy of the College is 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."

There is no style sheet for the *Journal of the American College of Dentists.* Authors are expected to be familiar with previously published material and to model the style of former publications as nearly as possible.

A "desk review" is normally provided within one week of receiving a manuscript to determine whether it suits the general content and quality criteria for publication. Papers that hold potential are often sent directly for peer review. Usually there are six anonymous reviewers, representing subject matter experts, boards of the College, and typical readers. In certain cases, a manuscript will be returned to the authors with suggestions for improvements and directions about conformity with the style of work published in this journal. The peer-review process typically takes four to five weeks.
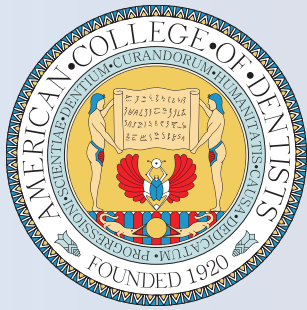
Authors whose submissions are peer-reviewed receive feedback from this process. A copy of the guidelines used by reviewers is found on the ACD website under "How to Review a Manuscript for the *Journal of the American College of Dentists*." An annual report of the peer review process for *JACD* is printed in the fourth issue of each volume. Typically, this journal accepts about a quarter of the manuscripts reviewed and the consistency of the reviewers is in the phi = .60 to .80 range.

Letters from readers concerning any material appearing in this journal are welcome at dchambers@pacific.edu. They should be no longer than 500 words and will not be considered after other letters have already been published on the same topic. [The editor reserves the right to refer submitted letters to the editorial board for review.]

This journal has a regular section devoted to papers in ethical and professional aspects of dentistry. Manuscripts with this focus may be sent directly to Dr. Bruce Peltier, the editor of the Issues in Dental Ethics section of *JACD*, at bpeltier@pacific.edu. If it is not clear whether a manuscript best fits the criteria of Issues in Dental Ethics, it should be sent to Dr. Chambers at the e-mail address given above and a determination will be made.