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Students Take Charge of Dental Education

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Mission

The *Journal of the American College of Dentists* shall identify and place before the Fellows, the profession, and other parties of interest those issues that affect dentistry and oral health. All readers should be challenged by the *Journal* to remain informed, inquire actively, and participate in the formulation of public policy and personal leadership to advance the purposes and objectives of the College. The *Journal* is not a political vehicle and does not intentionally promote specific views at the expense of others. The views and opinions expressed herein do not necessarily represent those of the American College of Dentists or its Fellows.

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

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

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

D. To encourage, stimulate, and promote research;

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

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

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

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

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

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Students Take Charge of Dental Education

Issues in Dental Ethics

Departments

Cover photograph: Dental students have their eyes on the future of the profession and their hands on improving the richness of their educational experience.

From the Editor

Suboptimization

Suboptimization means that either the parts of a system can be organized to function optimally or the overall system can be organized to function optimally, but not both at the same time.

Is it realistic to hope that the legislature, regulators, professional organizations, and individual practitioners will develop anything approaching a comprehensive, rational, and fair healthcare system in the foreseeable future? The short answer is *No*. The long answer is also *No*, and I can prove it. This editorial is a brief tutorial about why the healthcare system won't work—quite literally why it cannot work and cannot be fixed.

First the formal proofs: In the 1930s a colleague of Albert Einstein's at Princeton named Kurt Gödel demonstrated that simple number systems cannot be both consistent and complete at the same time. There will always be cases that cannot fit in, and when the rules are adjusted to accommodate those cases, new incompatible cases arise. The analogue in health care is that every new law and regulation is unfair for someone.

A few decades later, in the 1950s, Kenneth Arrow proposed an indeterminacy theory. The so-called social welfare function has been an attempt to find rules for the fair distribution of preferences across multiple concerned parties and alternative uses of resources, subject to minimal requirements for consistency. Arrow proved that it cannot be done. He did more than find a few examples of inconsistency; he demonstrated that there will always be inconstancies. There is no ideal Medicaid program. Arrow received the Nobel Prize in Economics for that work.

Gödel's and Arrow's work both demonstrate a simple concept called suboptimization. An illustrative case is discussed in MBA programs. A company in New Jersey manufactured lawn mowers, leaf blowers, snow machines, chippers, and other equipment using two-stroke engines. They were proud of their integrated manufacturing platform and their computerized order system that managed the purchasing and scheduling of raw materials based on customer orders.

The company decided to eliminate its line of log splitters because of incompatible technology and sent an announcement to its retailers saying that it would no longer accept orders as of a date six months in the future. Retailers, who did a good business in the log splitters, stocked up on units and ordered extra spare parts. Because the company's computerized inventory order system detected a spike in purchases, it bulked up the supply of material to make many more log splitters. A smooth plan for dropping a product line caused the company to have a nearly worthless surplus of inventory to make what it did not want.

Suboptimization means that either the parts of a system can be organized to function optimally or the overall system can be organized to function optimally, but not both at the same time. (Of course, both the parts and the whole are often less than optimal simultaneously.)

The reason is that the parts and the whole operate by different logics. They have different environments, different reward structures, different scale and complexity. What is best for insurance companies is not best for patients. What is best for organized dentistry is not best for all practitioners. Laws designed to protect against Medicare fraud (the Ethics in Patient Referrals Act, known as the Stark Law) also prevent healthcare systems from providing coordinated care.

Taken together, Gödel's and Arrow's proofs and the suboptimization principle suggest three approaches to harmonizing oral health care for all those who are interested in it. I do not think there is much of interest to say about the first alternative, which is to spin elaborate theories for just and felicitous systems. They only work when telling somebody else what to do.

The second approach is to segment the system, emphasizing consistency at the expense of comprehensiveness. This has been the approach that dentistry has taken in the past 30 years. Under this plan, we manage the parts we can control and let the overall system function as it may. Dentists do this when they fight each other for the portion of patients who can pay fee-for-service. Insurance companies do this when they compete for insurable lives that have minimal health needs. In both cases, market penetration is strictly limited by the size of the most desirable segments and head-to-head competition. Commercialism is not a choice some semi-ethical practitioners make; it is a natural response to a system that privileges efficiency over serving the entire market.

This approach has the fatal flaw known as "adverse selection." Those who feel they can do better on their own than as part of a group opt out. That leaves those remaining in the group less able to secure needed resources. More scarce resources entice others to select out. And the process cycles until a larger third party such as the government multiplies laws and regulations in a futile attempt to solve the problem. Dentists who compete for the most attractive patients produce adverse selection just as surely as do insurance companies.

When I mentioned Arrow's indeterminacy principle, I intentionally failed to mention that there is one exception: we can have a complete and consistent system, but only if a single person or group is designated to make all the decisions. That is pretty much what has happened in dentistry. The economic conditions in dentistry, as in law or cosmetology but unlike medicine, have permitted dentists to create their own largely independent systems of practice where they determine the rules. The highest aim is keeping others out of the kitchen.

The comprehensive approach, the third alternative, sacrifices consistency in its search for balance between the parts and the whole. This is the political process, the puff and tug of compromise where everyone knows going in that they alone will not be able to control the outcome but will be better off for having participated than trying to go it alone.

Dentistry is only a few centuries old. Politics has always been with us and likely always will be. We do not need Gödel, Arrow, or an understanding of the suboptimization principle to know that that is true. The relationship between professions and the public is political, and in a tight economy we cannot afford to function otherwise.

Letters to the Editor

Dear Editor:

Drs. Peltier and his co-authors are to be commended for their recent article (*JACD* Volume 77, Number 1), "The Dental Patient Who Is 'High.'" *JACD* is also to be commended for providing a forum to consider related questions from informed consent, through treatment, to follow-up for this patient population.

As an OMS who routinely takes trauma call, I have occasion to see such compromised patients regularly. The article's nicely detailed analysis of some of the relevant biochemical, physiologic, and pharmacologic issues seen in such patients is interesting from a textbook point of view. Although, cannabis or ethanol really aren't any more complicated than the thousands of other legal or illegal drugs that might predictably compromise physiology or the ability to competently consent.

High patients will present for treatment that is somewhere from totally elective to truly emergent. The most difficult scenario, from a medical standpoint, is likely to be acute life-threatening trauma when there is no choice but to treat, and consent is often not obtained.

If a dentist is not comfortable treating a high patient either for one acute emergent episode or regularly for more elective conditions, another option to consider is the use of a dentist anesthesiologist. Dentist anesthesiologists would have no problem, from a medical point of view, in safely preparing these patients for surgery.

This article poses many thought-provoking questions, and makes numerous valid points. One is that some patients' routine is to be high, essentially during all waking hours. A well-recognized technique for dealing with alcoholics during treatment is to maintain their alcohol intake, which is done to prevent delirium tremens. Anesthesiologists occasionally induce general anesthesia via intravenous ethanol for such patients, knowing they can tolerate the drug and to minimize potential adverse reactions if other agents were used. Just as hallucinations (DTs) can predictably develop when one acutely withholds ethanol from an alcoholic, acutely withholding cannabis from a marijuana user could be much more disorienting than the patient's chronic self-medication, the acute disorientation being a condition in which consent can certainly be invalidated.

Continuing a very brief legal commentary, there are actually several situations when consent is not mandatory. These include emergency (which does not include chronic odontalgia), rescue, extension doctrine, waiver, and therapeutic privilege. (See Orr, D. "It's not Novocain, it's not an allergy, and it's not an emergency!" *Nevada Dental Association Journal 2009, 11* (4), 3-6.)

The paper reports that several of the dentists surveyed indicated that they would choose not to treat such patients. Generally, that is acceptable as long as a dentist-patient relationship hasn't been established. If that relationship is established, deferring treatment may be a bit more problematic than: "...we need a safe work environment," "You don't have to work on people that you don't want to," or "kick them out of the office."

Consider *Abbott vs. Bragdon* and *Waddell vs. Valley Forge*. In *Abbott vs. Bragdon*, Dr. Abbott refused to treat HIV-infected patient Bragdon in his office out of concerns for safety, i.e., a potential direct threat to others. Further, Dr. Abbott offered to treat the patient in a hospital. In June 1998 the United States Supreme Court ruled against Dr. Abbott and opined not only that an HIV infection was within the class covered by the Americans with Disabilities Act, but also that dental offices were places of public accommodation, kind of like a Burger King, where a patient/customer can "have it their way" to more of an extent than ever before.

Contrastingly, in *Waddell vs. Valley Forge*, RDH Spencer Waddell sued to maintain his employment as a dental hygienist after he was infected with HIV, agreeing with the United States Supreme Court that he should be accommodated and was not a direct threat to his patients or others. However, in 2001, the 11th Circuit Court ruled the Americans with Disabilities Act did not apply to Mr. Waddell and that he could be prohibited from treating patients as he was a direct threat to them.

Again, thank you to Dr. Peltier and his co-authors for an excellent submission.

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The Hidden Curriculum and My Three Wishes

Michael Meru, DDS

Abstract

Personal ideals often clash with the reward structure of dental education. The hidden curriculum sometimes teaches corner-cutting and worse while publically espousing high standards. Changing the professionals without changing the profession in which they work multiplies frustration and offers little hope of progress. Three wishes for changes to the system are identified: (a) fixed dates for National Board testing, (b) comprehensive admissions standards, and (c) no live-patient, one-shot initial licensure examinations.

"I have been asked what I mean by my word of honor. I will tell you. Place me behind prison walls—walls of stone ever so high, ever so thick, reaching ever so far into the ground—there is a possibility that in some way or another I may be able to escape, but stand me on that floor and draw a chalk line around me and have me give my word of honor never to cross it. Can I get out of that circle? No, never! I'd die first!" (Wilkinson, 1960). These words, spoken by Karl G. Maeser, and the honor code from West Point, which states, "A Cadet will not lie, cheat, or steal, or tolerate those who do," were statements ingrained into my way of life at a young age, and to me, they define honor and integrity.

Upon entering dental school I was encouraged to find that our school had a zero tolerance policy, and that the dental profession maintains rigorous codes that our colleagues voluntarily abide by. Our class orientation began with presentations on the importance of ethics and professionalism, and concluded with a White Coat Ceremony in which each of us pledged to uphold the highest standards of ethics.

The Hidden Curriculum

Despite starting on such a high note, the ensuing months revealed behavior, not only at my school, but at many others, that did not measure up to the pledges we took upon entering the dental profession. I vividly remember the day an upperclassman explained to me the nationwide effort to collect unauthorized "remembered questions" for the National Board Dental Exam (NBDE) and that I was going to have to decide whether I would be willing to participate or possibly give up my chances of going on to a dental specialty. I was crushed. I would never compromise my integrity, but I did indeed want to specialize. This put me into a situation I hoped to never be in. That event, coupled with many other experiences of viewing and hearing of cheating, including several that were known to faculty and never punished, deflated much of the esteem I held for my colleagues.

My first-hand experiences were augmented by a paper by Andrews and colleagues (2007) that reported the results of a survey of 1153 dental students, revealing that 74.7% admitted to some form of cheating. That is a shocking number! Three of four of my colleagues across the nation are participating in this problematic behavior. It was at this point that I knew I could not just sit back and allow this to continue, I had to speak up.

Fortunately, as I discussed this with others within the American Student Dental Association (ASDA), the American Dental Association (ADA), the American Dental Education Association (ADEA), and others, I found that there are many

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The major issue, in my mind, is that it desensitizes students to cheating, thus making it much easier to justify similar behavior in the future.

who share my frustration, as well as my desire to correct the problem. These colleagues inspired me with the efforts of each of these organizations, and I was invited to participate. I learned of the work of the Joint Subcommittee on Ethics in Education (JSEE), which brought the ADA, ADEA, ASDA, American College of Dentists (ACD), American Society for Dental Ethics (ASDE), and American Association of Dental Boards (AADB), among others, together to seek solutions to this dilemma. My hope was rekindled, and I was excited to see the process move forward.

Due to the fact that we, as students, are the ones participating in this behavior, we feel that we should also be the ones to put forward the greatest effort to solve the problem. So what have we done? Our efforts can be categorized into local and national efforts.

Locally, we have seen a trend towards groups of students meeting and organizing to discuss these issues at their schools. The Student Professionalism and Ethics Club (SPEC) was formed and now exists at more than 20 schools. SPEC's mission statement reads, "The purpose of this organization is to increase the overall level of ethics and professionalism of the 'school (insert appropriate school).' By uniting the community of students, faculty, and staff of the 'school,' SPEC will promote lifelong thought and action in the arena of dental ethics." We have also seen students at many schools taking a more active role, if not a leading role, in organizing the school White Coat Ceremony and writing class honor codes. Students are now teaching first-year students' ethics courses and participating in research in ethics.

In 2008, students at the Baylor College of Dentistry noted that their school code of ethics was in dire need of revision. Several students approached the dean, and he was very supportive in allowing them to take the lead on the revision project. By allowing the students to be a major part of this effort, they felt more personally tied to and invested in the code, and therefore were more apt to look back to its words and guiding principles when ethical situations arose.

Nationally, ASDA is continually lobbying deans, administrators, and licensing bodies to make their efforts fall more in line with codes of ethics of the profession. In 2009 ASDA published the "ASDA White Paper on Ethics and Professionalism in Dental Education," which defines the problem in our words and lays out a series of best practices for each party of interest in dental education. We understand that a good portion of the problem lies within us as students, but we must also realize that some of the blame lies within other groups in the profession.

Much has been written about the hidden curriculum within medical and dental education, but no one feels its effects more than students. The hidden curriculum was described by Sharp and Kundy (2008) who said, "It is well understood that students acquire professional behaviors and notions of acceptable practices through their interactions and observations with patients, faculty, staff, and fellow students during their training. In medicine, this broader learning has been described as the hidden curriculum."

The hidden curriculum, in my view, can have more impact on a person's education than any other method of teaching. While reminiscing with several of my classmates, each of us spoke of a faculty member whom we admired greatly and who we now find ourselves striving to emulate. From an outsider's perspective, this can be seen as a great means of progressing as a clinician, or it could be tragic if that faculty member

were careless with professionalism and ethics. If a mentor we admire and seek to model cuts corners once in a while, regardless of how much good that person brings to pass, it inevitably teaches us that unprofessional behavior is acceptable.

I have personally heard reports from numerous students that their faculty members encouraged the use of "remembered questions" on the national board exams despite the strict guidelines against this behavior. The faculty justified this by saying, "The rest of the nation is doing it, and I want each of you to remain on the same playing field. Therefore, it is okay in this situation." Putting aside the many ethical implications of this type of advice, the major issue, in my mind, is that it desensitizes students to cheating, thus making it much easier to justify similar behavior in the future. And to take this one step further, a study done by Sierles and others (1980) found a positive correlation between cheating in medical school and cheating in patient care once students had graduated to private practice.

The dental profession exists to serve its patients. They always come first, and they are never a means to an end, but the end in and of themselves. This is why we students are so dedicated to ensuring that unprofessional and unethical behavior ceases.

Despite our efforts, as well as the combined efforts of the aforementioned dental organizations and deans, we are continually meeting resistance. We are all aware that there is no simple solution to this problem and that a multifaceted approach is necessary if we want to make any headway. With that said, if I were able to select the first three steps to solving this problem, steps that would have the greatest effect on the greatest amount of people, I would choose the following three wishes.

Wish #1: Set Testing Dates for National Boards

First, I would change the way in which the Joint Commission on National Dental Examinations (JCNDE) administers and regulates the National Board Dental Examinations Parts I and II. Currently, the test is given at testing centers around the country on any day a student selects. The problem here is that there are only so many different versions of the test, each being used over and over during a given time period. With nearly 5,000 students taking the exam each year, it is very easy for students to write down questions that they remember after the exam and eventually compile a set of questions that potentially encompasses the entirety of each of the rotating exams. These compiled questions are commonly referred to as, "remembered questions." With the ease of electronic communication of our generation, students from around the country use the Internet to assemble and share these files in order to assist each other in bettering their scores. This behavior has increased because dental specialty acceptance committees give so much weight to these exams. Students who may never have participated in such behavior previously now feel they have to in order to be compared on a level playing field with other applicants around the country.

In a conversation with a dental student leader, we discussed a student we both knew personally, who solely used these "remembered questions" to study for the exam. This student reported having seen every single question encountered on the exam, and had to strategically miss questions, by answering incorrectly with the next closest answer, in order not to be caught by the JCNDE. This student was highly successful on the exam.

Some argue that the use of "remembered questions" will go away once the exam goes to pass/fail in 2012, since there will not be as much pressure for those who want to specialize. I argue that since a culture has been developed where students know how easy it is to pass this exam with very little effort using these questions, going to pass/fail will not stop the cheating, but will just enable students to cheat "less hard."

So for my first wish to come true, I would ask the JCNDE to go back to giving their exams only twice a year and make all tests, once administered, free game for students to study from. I am aware that this might cost more to the students and to the administrators of the exam, but I believe that no cost is too high to do away with this unethical behavior. This will not only halt the behavior immediately, but it will give the students more information to study from, thus enhancing their learning, while at the same time ensuring that the test is continually updated and current.

We students have informed the JCNDE of these problems and petitioned them for a change for at least five years, but we have been denied each time. We have even shown them the vast numbers of remembered questions and explained to them how this is happening, but to no avail. The hidden curriculum in this is glaring. We need a change... We demand it.

Wish #2: Comprehensive Admission Standards

Prior to letting readers in on my second wish, I pose a question that, as far as I know, has never appeared on a National Board test:

What is the gatekeeper to receiving a dental degree?

a. The dental school curriculum and competency exams administered by the school
b. The NBDE given by the JCNDE
c. Regional licensing exam (i.e., WREB, NERB, etc...)
d. A combination of all of the above

I admit, this is a trick question. I would argue it is none of the above, and that the true gatekeeper to getting a dental license is the individual's acceptance into dental school. Thus, for my second wish, I would change the dental school admissions process.

Through remediation processes, after-school tutoring, and the number of attempts a student is given to pass all required competencies, it is very tough for a dental student not to eventually get through all the required experiences at a dental school, even if it takes a couple of extra years to do it. Then the NBDE can be taken as many times as necessary until one passes the exam. Even given the waiting periods and remediation required if a student fails too many times, eventually the student will pass. And the same can be said for the licensing exams.

In "The Case Against One-Shot Testing for Initial Dental Licensure," (2004), Chambers, Dugoni, and Paisly state that, "The current one-shot initial dental licensure system misclassifies at least 20 percent of candidates who must retake the tests, plus an unknown number of candidates who pass the tests by luck and should not have been granted a license."

For good students who work their hardest and who, despite initial struggles, eventually attain clinical competence, this is not necessarily a bad system. But what about the unethical student? For students brought up on ethics charges, the odds of them being expelled from the school are slim, especially with threats of litigation that so many seem to bring in cases such as these. Schools are now working with the students via remediation and counseling, rather than dismissing them directly. And what about the students who never get caught cheating? In these cases, the possible consequences are alarming. This means that eventually unethical students will gain a dental license, and if we remember back to the Sierles article (2008), the odds are that these students will continue their unethical ways once they are in private practice.

I argue that since a culture has been developed where students know how easy it is to pass this exam with very little effort using these questions, going to pass/fail will not stop the cheating, but will just enable students to cheat "less hard."

Thus, we must do a better job at accepting the right people from the beginning. Why aren't more schools doing background checks? Why aren't they evaluating a student's character rather than their score on the Dental Aptitude Test (which has a similar problem to that of the NBDE with remembered questions)? Why aren't the schools seeking records of previous ethical lapses from the candidates' undergraduate colleges? The University of Michigan is a great example of what an admissions process should look like, as they pay close attention to a candidate's moral and ethical development through their Multiple Mini Interview (MMI) and essay process.

Since the admissions offices of dental schools are the gatekeepers to a dental license, they should be held accountable to ensure their processes only allow the best of candidates to enter the profession, regardless of cost. Cost should never be a factor when making decisions on how to protect the public.

Wish #3: No Live-Patient Licensure Examinations

My third wish would be to change the regional licensing exams to a single nationalized exam that does not use live patients in a one-shot testing situation. ASDA Past President Brooke Loftis said it well when she stated in The American Student Dental Association White Paper on Ethics and Professionalism in Dental Education: "ASDA continues to fully support the elimination of live patients in its current format for the use of initial clinical licensure. How can we continue to allow an examination process that encourages marginally unethical behavior from students? We must protect our patients and provide them with the best care possible. After four years, the clinical licensure exam procedures I recently completed are the last clinical procedures I will perform within my dental school. I will never forget the students who were delaying treatment of patients, overradiating their patients, overtreating lesions, and paying outside services for the supply of patients to use during the exam."

ASDA policy L-1 states that, "Although ASDA does not support the use of live patients in traditional clinical licensing examinations, the association recognizes the potential for the creation of an ethical, patient-based examination."

I am in full support of ASDA policy and believe it is time for the regional boards to stop discussing the topic at each meeting without finding a solution, and finally take some action. Arthur Dugoni, in a 2003 editorial, stated, "The issue that I have put on the table my entire career is that the domain of the dental boards of licensure should concentrate on (a) continued competency of the practicing profession and (b) the enforcement needed to monitor the profession with respect to wellness, substance abuse, and inappropriate professional conduct and competency."

He continues, "The "one-shot" examination does not ensure protection of the public, and to my mind that is the only reason why dental boards exist—protection of the public."

Why haven't we been able to implement a portfolio based assessment, or another means that does not compromise the safety of our patients? Minnesota is the first state to move away from live-patient exams. Whether you agree with their new exam or not, at least they have made strides to do away with an exam that does not completely protect the public. Why can't other states, or the whole nation, follow their lead? It is hoped in the near future, with states like California in the process of developing such a process, we will see a change.

You may be asking yourself how changing this will affect the ethical climate for students as they graduate. If students' final contact with their dental education forces or encourages them to use patients as a means to an end, they will be more apt to see patients as a means to an end when they enter into private practice. For that reason, live-patient exams must stop. And just to clarify to the naysayers out there, we students are not looking for an easy way out or a simpler version of the NBDE or licensing exams. To the contrary, we are looking for an exam that adequately assesses our skills and knowledge, even if it may be more difficult, so that the public we serve is properly protected.

I firmly believe that the aforementioned three issues constitute a solutions to the hidden curriculum that is undermining much of the actual ethics curricula that is being taught. But I also believe that groups such as the JSEE, ACD, ASDE, and SPEC, among others, have made great strides in finding solutions to many of our current ethical challenges and have already solved many of our previous ones.

My sincere desire is that this article does not serve as a source of contention or heartache, rather as a nidus of discussion to begin solving these problems. We know the solutions exist, we just need to implement them. ■

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New Leaders in Dentistry: Dental Students

Dan Hammer

Abstract

Leadership opportunities for dental students have opened dramatically in recent decades because of the humanistic approach to education that shares responsibility for learning between students and faculty and that values mutual respect. Technology has also had an effect because it creates instant access and global communities. This new student leadership is most apparent in the American Student Dental Association (ASDA), which recently developed a White Paper on ethics, assisted in the establishment of Student Professionalism and Ethics Clubs at schools, and is developing a policy on unsupervised dental care. Students are also demonstrating leadership in research; in dual degrees that enhance teaching and policy; and in community service and outreach.

Over the past decades, the role of the dental student in the field of dentistry has changed dramatically due to a fundamental change in dental culture. The traditional, unidirectional model of dental education from teacher to student has been replaced by a vision of learning communities. Within these communities students are empowered to lead innovation and collaboration among their peers, faculty, and administration.

With change in any culture, there must be root causes. There are two main drivers that have transformed the role of dental student leader from a ceremonial title to an active, national advocate for student interests. The first is the modern humanistic relationship between students and leaders in dentistry, including educators, leaders in organized dentistry, and dental industry leaders. These relationships honor individual dignity, integrity, and responsibility. Therefore, these relationships breed mutual respect and collaboration. The second driver is the modern advances in communications technology. Now, these humanistic relationships can be sustained easily over thousands of miles through e-mail and the Internet.

These forces have led to the establishment of the American Student Dental Association (ASDA), Student National Dental Association (SNDA), and other groups. Dental students have driven significant improvement to dentistry through advocacy, community service, research, and ethical reform. Organizations such as ASDA allow students to enter into discussions they were not involved in previously, including such topics as oral healthcare reform, licensure, and dental education administration policy. The new dental student is embraced and encouraged by organized dentistry and school administrations to help lead the profession into the decades ahead. This cultivates a sense of community and belonging as early as the first day of dental school.

Through the adoption of humanism in organized dentistry and education, students better understand they are not preparing for a job, but rather entering a professional career where the patients needs always come before personal ones. At the University of the Pacific, Arthur A. Dugoni School of Dentistry, from the first day of school you are called "Doctor." This title reminds students to cultivate humanistic relationships with our patients, treating them with dignity, integrity, and responsibility as a contributing member of the dental profession. Similarly, our acceptance as the youngest members of the dental profession is shown by the ADA appointing one student to sit on each of their councils and task forces to ensure that our voices are heard. And having had the opportunity to serve on one of those councils, I can attest that our senior colleagues truly listen to the

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students and make changes based on our needs where this is appropriate. Students can now participate in local, state, and national leadership development programs and institutes. In addition, dental association mentorship programs are available with help from current dental professionals to better understand the challenges that face the profession.

The two above examples demonstrate how dental students are now being recognized as a part of the profession from their first day of dental school rather than the day they pass their licensure exams.

The American Student Dental Association

In 1970, a small group of students from the University of California, San Francisco School of Dentistry were discontented by their lack of representation on school and licensure issues. Through limited resources, they created the Student American Dental Association (SADA). Their first meeting was held in Chicago the following summer with 45 students representing 26 dental schools. They discussed issues such as minority recruitment and developed advocacy resources for dental students. They began to challenge faculty and administration by advocating for more exposure to schools' decision-making processes. In 1971, the organization's name was changed to the American Student Dental Association (ASDA). The infrastructure and technologies necessary to effectively manage the first national, student-run dental organization were created. Currently, there are over 17,000 ASDA members around the world, with over 80% of all American dental students as members.

With advances in communication technologies, it is now standard for dental students to access information in real time. The almost instant access to information has aided ASDA's growth from a small, student advocacy group to a global organization. Now, dental students are inundated with information regarding organized dentistry and the issues most pertinent to them. You can follow ASDA on Facebook and Twitter. Many students receive both print and electronic newsletters from the ADA, state dental associations, and local dental associations on a weekly basis. In addition, students can access blogs on the Internet that discuss oral healthcare policy. Once students learn of a topic of interest from one of the above resources, they are able to speak with friends across the country or across the globe minutes later to discuss possible solutions. The great advances in communications technology are the modern catapult that has launched the dental student into a leadership role in dentistry. By communicating with colleagues in real time to address current issues, students are more efficient and effective in their advocacy efforts through a collective voice.

As ASDA's advocacy agenda grew, the organization adopted practices of the ADA, including the formation of a House of Delegates, which convenes at the ASDA Annual Session. The purpose of the House of Delegates is to conduct a meeting where new policy can be created and resolutions passed to guide the actions of the association for the next year. Through the House of Delegates, students realize that many of their concerns are not isolated to their particular school or region. With the unified voice created by the House of Delegates, students are now able to advocate for all dental students on a national scale. Many resolutions passed in the ASDA House of Delegates have had direct affects on the rest of the dental world.

> The White Paper is a call to the dental community from dental students that ethics must be a central theme in all of the discussions and practices of our profession.

As dental students increase the number of experiences with organized dentistry, they become more familiar with its processes and pace; in turn they are more comfortable and likely to engage in the dental community. Within ASDA, we call this catching the "ASDA fever," which is the feeling of being able

to make a difference, knowing that our voice matters. Members usually come down with their first case at a district, regional, or national meeting. The passion ("ASDA fever") dental students develop for leadership and advocacy resonates from their experiences with veteran dental professionals and leaders at these meetings. Similar to the way dental students remember their first day in the simulation laboratory, current student leaders recall their first local community outreach event or leadership development program with the same enthusiasm.

Action: White Paper on Ethics

Recently there have been three great examples of dental students' influence on organized dentistry policy making and on dental school curricula. In 2009, the ASDA House of Delegates passed a resolution that charged the ASDA Council on Professional Issues to research the current ethical environment in dental education. After two years of diligent work, ASDA's White Paper on Ethics and Professionalism was published and distributed to all American dental students and leaders in dentistry. It was a bold move for us to be critical of educational and licensure practices that we believe encourage unethical behavior. The paper offers solutions to these dilemmas with an extensive list of best practices to encourage ethical patterns we believe, if implemented, will halt these unethical behaviors.

In the context of the dental student becoming a leader, the significance of the White Paper is not in its findings, but rather in the response and application of its best practices by the dental community. Upon distribution, ASDA leadership received countless letters from dental leaders praising the effort, many stating that a project like it should be done for the dental profession as a whole. The White Paper is a call to the dental community from dental students that ethics must be a central theme in all of the discussions and practices of our profession.

The demand for increased ethics by students was heard loudly by dental school administration, faculty, and students. Currently, many schools use the White Paper in their dental school curricula. Some use it during their first-year student orientation; leading small group discussions on the many ethical conflicts that new dental students experience as they adjust to the stressful pace of the dental school curriculum. Other schools use it as a primary text for their ethics courses during the students' junior and senior years.

Action: Student Professionalism and Ethics Clubs (SPEC)

The student-driven innovative application of the White Paper is best illustrated by the expansion of the Student Professionalism and Ethics Club (SPEC) at the University of Southern California School of Dentistry the same year. A small group of students, including national ASDA leaders, joined together to found a group dedicated to bring ethical conversation and practices to the dental student. As stated in our Pacific chapter's mission statement, "SPEC aims to further the ethics education of every student at University of the Pacific, Arthur A. Dugoni School of Dentistry, and help achieve the development of ethical and professional behavior in the educational setting that will accompany the students throughout their professional careers."

Since the formation of the USC chapter, 20 additional chapters have been chartered throughout the country, each aiming to advance the ethics mission. In addition, the group has garnered much support from dental community members, including the American College of Dentists (ACD), the International College of Dentistry (ICD), the American Dental Association (ADA), the American Dental Education Association (ADEA), and the American Society for Dental Ethics (ASDE). This far-reaching support is a testament to the impact of the White Paper and SPEC on the dental community.

Action: Policy on Unsupervised Treatment

Another recent example of student involvement in policy making occurred at the 2010 ASDA House of Delegates. At this meeting, a resolution was presented to the house regarding dental outreach programs in foreign countries. The background of the resolution clearly explains the issue:

There has been a recent rising trend of dental students, predental students, and other nondental individuals participating in dental outreach programs across the nation. Individuals who have not been adequately trained in the standard of care for the profession of dentistry are performing irreversible procedures internationally and within our country under a vague assumption that they have direct supervision by authorized individuals. Private organizations that are profit-based find that opening these programs up to any and all interested parties serves their purposes. For the integrity of the profession of dentistry, and the standards set forth for dental students under ASDA's White Paper on Ethics and Professionalism, it is necessary that a policy is set in motion to formalize opposition to this recent phenomenon.

The resolution was referred to the ASDA Council on Professional Issues for more research and discussion. However, an interim B-8 policy was adopted by the ASDA Board of Trustees in March of this year. This interim policy urges students to adhere to the ASDA Student

Code of Ethics while on outreach trips and to limit their scope of practice to procedures for which they have adequate training. In addition, the interim policy states that ASDA opposes any non-dental student performing irreversible procedures in any outreach. In the months following Annual Session, the B-8 policy was presented to the Texas, Florida, and Pennsylvania Dental Associations' Houses of Delegates for their approval. All three houses adopted the policy. With the support of the state dental associations, the same resolution will be presented by the Pennsylvania Dental Association and ASDA at the upcoming ADA Annual Session in Orlando. This example clearly displays the collaborative relationship between the dental student and the dental community that allows students to take a lead role in dental policymaking.

Leadership in Research and Service

Likewise, many students take lead roles in current dental research. Many dental students have experience with advanced research methods and technologies prior to their dental education. Many students enter dental school with a master's degree and/or doctorate degree. The advanced scientific training of these students expands the knowledge base of the school's learning community, leading to more advanced research endeavors. The value of these students has not gone unnoticed. Dental students, through collaboration with the American Association of Dental Research (AADR), now have an annual research meeting where hundreds of dental students and leaders in dental research meet to discuss recent successes as well as failures in hopes of troubleshooting these failures.

In addition, there has been a large increase in the number of dual-degree programs throughout dental schools such as DDS/MPH, DDS/PhD, and DDS/JD. These dual-degree programs focus on developing future leading dental researchers, public health officials, and policy makers. The development of these dual-degree programs demonstrates the desire of dental education to foster more integrated learning. Students are encouraged to explore specific areas within dentistry that interest them.

Community health and public service are avenues dental students explore often. Through the new global communications network, students have the tools simultaneously to plan mission trips globally and community outreach programs locally. The advent of the Internet changed dental students, with a click of the button, into leaders in the global oral healthcare initiative. Groups of American and international dental students commonly coordinate travel to remote areas to provide dental care. The same technologies have been used locally. At Pacific, the Student Community Outreach and Public Education Club (SCOPE) uses Internet sign ups and automatic e-mail reminders to students when a student volunteers for a San Francisco community outreach event. All members can search a digital calendar, select an event of interest, and then an e-mail will be sent to them with all needed details and contact information for their event. Nearly 100% of each graduating class has participated in at least one SCOPE event during their dental school career. This outstanding participation rate is directly correlated to the easy access to sign-ups and immediate follow up provided by the automated communication.

New Leadership Roles for Students

Our new role as leaders comes with great responsibility, the responsibility to move the dental profession forward. This new recognition is a result of a cultural change in the profession.

Through the new global communications network, students have the tools simultaneously to plan mission trips globally and community outreach programs locally.

Students now benefit from a humanistic relationship with dental professionals that honors individual dignity, integrity, and responsibility. In addition, students can use advance communication technologies such as e-mail and the Internet to easily remain informed and to participate in an expanded definition of dental education. It is with great excitement that we as dental students take the challenge and responsibility to contribute to the dental community.

Dental students are the future of the dental profession. In turn, dental students are perceived as future community leaders. Dr. Roger Levin states, "The truth about leadership is that dentists actually have no choice in the matter. Whether we choose to think of ourselves as leaders is not the determining factor." Organized dentistry and education recognize the importance of preparing the current dental student to become a leader as a member of the dental profession. ■

Dental Students—Dental Advocates

Brittany Bensch

Abstract

Student advocacy and involvement in the political process is built into the structure of the American Student Dental Association (ASDA), especially in its Legislative Grassroots Network and an internal communication network among students to ensure political awareness. Students are concerned with such issues as a universally accepted, non-patient-based licensure process, mid-level providers, loan availability and tax deductibility, financial support for schools, and service early in one's professional career (giving forward rather than giving back). Through collaboration with the American Dental Education Association and with many state associations, students participate in lobbying, awareness campaigns, and behind the scenes as legislative aids. Although students share the same love for the profession that animates established practitioners, they are perceived by legislators as being different. Students are involved in the legislative process because it represents their future.

There was no natural progression to my involvement in politics. Throughout high school and college, I dismissed the political arena as an imperfect system, hardly worth investing my time in. Ha! What a turn my activities have taken.

Since beginning dental school in 2008, I have completed a summer externship at the ADA office in Washington, DC, helped to arrange student involvement in Dental Action Day at Washington's State Capitol, and attended the American Dental Association's Washington Leadership Conference to join dentists from my state to meet with our legislators. This past spring, I stepped from my position as council liaison to chair the Legislative Grassroots Network (LGN) that serves as the council on advocacy for the American Student Dental Association (ASDA).

These activities are a strong contrast to my former disinterest and I can come up with only one explanation for the depth and breadth of my involvement: Like many other students, I found something important to me (dentistry), something that I wanted to preserve and protect (my profession), and figured out how to do it (through political advocacy).

What Are We Doing?

The American Student Dental Association (ASDA) is the largest dental student organization in the United States. As a student organization, ASDA desires to represent students' needs and interests. More and more, this takes the form of advocacy. Students across the country realize the importance of having their opinions represented before state and national governing bodies and are taking actions to get involved in the process. This was evident at the latest ASDA House of Delegates meeting, where all of the newly elected Executive Committee members (association president and vice presidents) presented advocacy as a pillar of their platforms. Advocacy efforts for ASDA are assigned to the LGN, a council comprised of several student volunteers and a full-time staff person. Consistent with their values, the new Executive Committee has expanded the LGN structure to include more volunteer members and also enhanced communication between the LGN and the ASDA Board of Trustees. The newfound focus on advocacy is directly in line with ASDA's values.

Students also participate in advocacy through the American Dental Education Association (ADEA). The Council on Students, Residents, and Fellows, a subdivision of ADEA, works closely with the Center for Public Policy and Advocacy (CPPA) at ADEA. A dental student leader represents the student perspective at CPPA meetings. His or her role is also to inform ADEA members of the current issues and political movement within

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ADEA. The issues that ADEA addresses are often especially student-relevant, as they relate to dental education. Recent issues include healthcare reform and its effects on dental education, strengthening the National Health Service Corps, and financing dental education.

The strongest demonstration of student interest in advocacy is students' direct participation in the political process. Nationally, dental students congregate each year in Washington, DC, for the National Dental Student Lobby Day, a program planned and sponsored by ASDA and ADEA. The event is spread over two days. The first sessions are devoted to education on the legislative process and instruction on how to lobby for the issues chosen for the year. Attempts are made to focus lobbying efforts on issues that are dear to the association. Some past examples include student loan interest deduction, the Children's Dental Health Improvement Act, and meth-mouth prevention. The next day, attendees put their practice into action with Capitol Hill visits. Extensive preparation goes into the event; individual chapters must coordinate their own appointments with legislative offices, miss a day or more of school, and even travel cross-country to be a part of the event. Still, the attendance for the Lobby Day has followed an upward trend. A record-breaking 361 students, representing 51 dental schools, registered to attend the event in February, 2010.

One reason for such high numbers at Lobby Day is that students see how their presence makes a difference. It is not uncommon for a legislator to mention how impressive it is that students have taken the time to represent our issues. It seems that Congress views dental students slightly differently than dentists. While dentists are sometimes stereotyped in Washington as money-driven, students are still seen as "innocent" and altruistic. Consequently, student requests have more clout. Students are also aware that a major purpose of lobbying is educating Congress on the roles of a dentist. When the discussion concerns non-dentist provider models, it is especially important for students to communicate the extensive education necessary to become a dentist and emphasize our broad-scope education in diagnosing disorders of the head and neck. The presence of students on the national political stage is vital to protecting the profession.

The political activities of ASDA and ADEA students do not end with Lobby Day. In response to student demand, ASDA now keeps its members updated throughout the year by distribution of *The Legislative Ledger*, an e-newsletter that summarizes state and national events affecting dentistry. All national meetings include updates on political advocacy progress, and every issue of *ASDA News* includes an article written by a member of the LGN.

Though student participation is impressive on the national level, it is

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equally strong locally. Each ASDA chapter appoints a Legislative Liaison to be in charge of planning and executing advocacy events and educating members on pertinent issues. The LGN provides resources and support for individual school chapters to hold their own advocacy events focused on regional and state issues. Last year, chapters at 18 dental schools attended lobbying events at their state capitols, and this number is projected to increase. Other local events include "Meet and Greet" evenings with state legislators, "controversial issue" debate sessions, letter-writing campaigns, and American Dental Political Action Committee member recruitment drives. Often, the information that the students learn inspires them to champion their own causes.

One example of tremendous student involvement took place in Minnesota in 2009. When students at the University of Minnesota School of Dentistry caught wind of proposed legislation for a non-dentist provider, they were eager to learn more. At the school, a series of "town hall" meetings to explain more about the proposed programs was well-attended by the students, who came prepared with insightful questions and comments. The Minnesota dental students grew concerned about the proposal for an Advanced Dental Hygiene Practitioner (ADHP) and many, many students attended legislative hearings debating the ADHP model. The ADHP model was successfully defeated, but the Minnesota Legislature passed a separate law mandating that a non-dentist provider program still be created. The Minnesota Dental Association took on this task and looked to the students for their input, which students gladly provided.

Ultimately, the dental therapist model, the model supported by the Minnesota Dental Association and the administration of the University of Minnesota School of Dentistry, was established. The best approach to these non-dentist provider models is still a subject of intense debate (and ASDA policy opposes the performance of irreversible procedures by any non-dentist), but students must be a part of the conversation. As this instance demonstrates, student participation can influence great change.

Why Is It Important?

To those not in the middle of it, it may not be evident why student involvement in advocacy is important. The simplest answer is because we care about our future in dentistry. Though we put in time, effort, and finances for an education to usher us into a profession that we love, legislation will dictate what that profession looks like when we graduate and throughout our careers. Those involved with politics know that change is slow. Practically, this means that issues currently being debated are more likely to affect students, the "dentists of the future," than the present generation of dentists. With that in mind, students step up to shape the legislation and, thereby, our prospective profession.

Our distinct participation is necessary for two important reasons: Students have certain needs that are different from those of practicing dentists' and students may have values that differ from those of practicing dentists. Most of the policies developed by ASDA's all-student House of Delegates pertain specifically to student education and licensure. Obviously, education issues are not as pertinent for dentists already employed as they are for the students facing them daily. One student-oriented issue is the examination process for licensure. The ASDA has passionately championed a change to a universally

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accepted exam that does not use live patients (the importance of the issue cannot be overstated and deserves an article in itself). However, such a change must ultimately come through legislation. It is encouraging that changes in this vein have been received at state and national dental association meetings with greater and greater support, but the progress there has been slow and relies heavily on student passion to be pushed along. Other student issues include keeping student loan rates and repayment options manageable and preserving funding for the public schools that many of us attend. The steps of the students championing our causes will catalyze change.

In some cases, it may not be the needs of dentists and dental students that differ, but rather their perspectives. For a generation learning dentistry in a fast-paced, Internet-linked, social-networking atmosphere, it is inevitable that some of our values will be different from our predecessors'. In recent years, dentistry has become increasingly known for its involvement in service and that trend has become a major motivation in the minds of prospective dentists. In an informal poll, nearly all of my classmates cited "an opportunity to be in a service-oriented profession" as a major factor in their decision to pursue dentistry. Even the dentists I know that devote sizable amounts of time and energy to volunteer efforts and who find the service aspects of their job especially gratifying admit that they were not initially drawn to the profession for the opportunity to serve. By contrast, for many current dental students, service has been a major priority from the beginning. Consequently, the way new graduates approach their careers and choose to shape their profession may differ from the dentists before them. These differences must be reflected in the voices that represent dentistry.

Where Are We Going?

There are advantages and disadvantages to being involved in politics as a student. Positively, students are being recognized by the rest of organized dentistry as a driving force and a resource for energy and innovative ideas. A brilliant testament to this is the fact that a large portion of this journal issue is devoted to students. Numerous state associations are also investing in their local students. For example, the Washington State Dental Association provides housing and a stipend each year for a University of Washington dental student to travel to Washington, DC. This student works as an aide in the office of a state senator and has a hand in their business concerning health policy. In California, this past year was the first time that dental students from across the state congregated at the state capitol to meet with and ask questions of their representatives. It was the California Dental Association that saw the value of this program for the students and took the initiative to plan the event. Additionally, students now sit on and hold votes at many state associations' councils for legislative affairs. The great success of these programs encourages other associations and societies to begin similar activities of their own.

Through involvement during their school days, students are prepared to become effective leaders earlier in their careers. This benefits the profession as a whole. As an alternate delegate at the ADA House of Delegates last year, it was hard for me not to notice the age gap between our student representation and the average delegate. Surely, wisdom comes with experience. As students gain more experience in understanding legislation and the process to change it, we will be able to jump into the system of organized dentistry as more knowledgeable participants, enabling us to become leaders in the immediate future.

The greatest common struggle for students involved in advocacy is balancing the time commitments with educational obligations. For many students, filling a leadership role is not an option or an interest. However, being that the issues still affect every student, the LGN recognizes its role in educating all dental students, not just those directly involved in political leadership. Education allows students to realize that they are a part of the profession before they graduate and earn their licenses. They better understand the challenges and issues that face dentistry and begin practice more prepared to face those challenges.

Personally, I know that I want advocacy and participation in organized dentistry to be as much a part of my future as I do the concepts and techniques that I learn in my classes and in clinic. I know that my schooling will equip me with excellent skills of diagnosis and treatment, but legislation, as it defines the roles of oral healthcare providers and their relationships with insurance companies and government healthcare funding, will determine my freedom to use those skills to their optimum capacity. I am involved as a student because I believe in the importance of the unique student voice. Through advocacy, I can make that voice heard. ■

Free Lunches and Student Involvement

Sunjay Lad, DDS

Abstract

Dental students have precious little free time, so the challenge of promoting involvement in discussion about issues that affect their future becomes one of many priorities. The staple in schools has been the free lunch with an invited speaker, and that has not worked well. At the University of Southern California (USC) dental school we experimented with making time and opportunity for students to engage multiple outside parties on a single topic, initial licensure. This case describes a much more engaged study response.

Ask most dentists how they spent their time in dental school and you will likely hear a description of the evenings spent in preclinical labs; the many sessions spent treating patients in the clinic; and the hours upon hours spent trimming dies, pouring up casts, and setting denture teeth. In four years, we are challenged to develop refined hand skills, understand human anatomy and physiology, and diagnose and treat disease in a safe manner. In the midst of these numerous demands on a student's time, how can we realistically expect dental students to care about issues like licensure reform, access to care, and ethics in dentistry?

As a dental student, I was fortunate to have the opportunity to serve as a student representative to the California Dental Association (CDA). I was passionate about the issues facing dentistry and interested in sparking that same interest among my classmates. But the challenge, of course, was to find a way to work this into a schedule that left students with little free time. The old tried-and-true method of hosting lunchtime meetings with free food was always successful in drawing a crowd, but half the attendees were out the door as soon as they picked up their slice of pizza. Inviting leaders within organized dentistry to speak to students also generated a certain level of interest, but rarely did I see that interest last more than a few days after the speaker's presentation. So along with other student leaders at my school, I sought to develop a means of sustaining interest in the important issues facing dentistry. What we found was that by engaging students and allowing them to interact directly with the leaders in dentistry—by allowing them to be a part of the process of change within dentistry instead of merely bystanders—we generated much more interest, and ultimately I believe we effected positive change within the profession.

There is a common misconception that dental students do not care about the "real" issues facing dentistry. I would argue that the root problem is not a lack of interest but rather the lack of time most students find in their schedules and the manner in which the issues are presented to them. As practicing dentists, most of us have busy schedules and abide by the old adage, "Time is money." Thus, are we likely, in a given day, to spend time at a committee meeting where we will have no input? Dental students, like practicing dentists, are unlikely to spend time or have interest in something that does not allow them to have a voice. Therefore, we should not be surprised when the "lunch 'n learn" where the big-name speaker presents on access to care issues stimulates more

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interest in the food than access to care. It is not that dental students are disinterested in access to care. It is that there is little perceived value in sitting in another "lecture" where they will be forced to be passive rather than active participants. Make the experience a more interactive process, and you will find the passion and interest that was there all along.

So how did we manage to unearth this latent interest in issues like access to care and licensure reform? Working with my fellow students at USC, we started with three premises:

- Students have an inherent interest in the key issues facing organized dentistry.
- Students must be able to interact directly with those who are making the decisions that affect their chosen profession.
- Students must drive the discussion.

We felt that the best means of achieving these goals was in the format of a panel discussion. The first issue we chose to address was dental licensure reform. Our panel consisted of leaders from organized dentistry, academia, members of the state dental board, and members of the various dental testing agencies (WREB, ADEX, etc.). We minimized the "didactic" component by providing enough background to get the audience up to speed on the issues pertinent to licensure reform, while keeping it short enough so as not to feel like a "lecture." The focus was on the panel discussion and allowing students in the audience to ask questions directly of the panel members. We felt that by allowing direct interaction between students and the individuals responsible for their licensure, we would generate a frank and candid discussion. In the span of two hours, the audience questioned the panel on such issues as the feasibility of a single national licensure exam and the ethical concerns surrounding live-patient testing. The interactive nature of a panel discussion and the varying opinions represented by the panel members showed the audience how the leaders of the bodies that dictate licensure reform are not always in agreement with one another. Students felt involved in the process of change and saw first-hand how their input sparked debate among the licensing bodies.

The primary objective of a panel discussion is to provide a venue for students to voice their concerns to leaders in dentistry and understand that they do not need to be mere bystanders in the process of change. We had hoped to stimulate long-term interest in the issue among students; however, what we did not anticipate was the level of interest our panel members would have in continuing to receive input from students. Following the discussion, the Dental Board of California requested that we as students propose a revised licensing exam to address the ethical concerns raised at the panel discussion. Over the span of several months, a group of students inspired by the panel discussion communicated regularly with the board and proposed a portfolio-model exam. The board used this input to revise its licensing exam, and the revised portfolio licensing exam is currently pending approval as a bill in the California State Assembly.

By allowing students to direct the discussion on licensure reform, I believe we were able to generate sustained interest, and we allowed students to have an impact on positive change for the profession. The initial panel discussion had longer-lasting effects than any of us involved ever anticipated. While the student-driven discussion was certainly not the only factor motivating the board to revise its exam, I do believe the passion the board saw in the students was a major contributor to the revised licensing exam.

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Based on the success of the initial panel discussion, I worked with my fellow student leaders to hold follow-up panel discussions on licensure supported by the CDA. In subsequent years, students organized similar panel discussions on access to care and dental ethics. The success of the panel discussions has shown me that students do have an interest in addressing the same pressing issues that the leaders of organized dentistry are concerned with. Students are, after all, the future of the profession, so it is in our best interest to bring this passion forth as early as possible.

So next time you hear someone say that students are not concerned with the "real" issues facing dentistry, keep in mind that while a free lunch may get them in the door, allowing them to express their views in a meaningful context will get them to stay. ■

Experiencing the "Michigan Difference" in Predental Advising

Evelyn Lucus-Perry

Abstract

African-American dental students at the University of Michigan are engaged in identifying, guiding, and preparing promising predental students for a career in dentistry. Collaborating with the Student National Dental Association (SNDA), the Predental Association at the school, and with the help of faculty members and the administration, students have developed an Impressions Day and participate in a Research Day, a golf outing, an Elementary School Outreach program, a Dental Initiatives activity, the Scholars Program for Dental Leadership, and participation in the school's Mentor Program. All of these activities engage current students in helping those at various stages in the predental education pipeline learn about, evaluate their potential for, and prepare for careers in dentistry.

Facing graduation in May 2011 and applying to postgraduate programs, I am able to empathize with the challenges facing predental students. We share common hurdles, such as the all-too-familiar personal statement on the admissions form, standardized exams, and the general application process. In addition, looming deadlines and increased applications have made gaining admission to dental school ever more difficult. Consequently, many predental students need opportunities to further their dental knowledge and provide insight into the dental application process. At the University of Michigan School of Dentistry, we enrich the predental pool by offering such opportunities to give predental students a distinct advantage.

Michigan offers countless opportunities for predental students to become familiar with fundamental dental principles, diverse career prospects within dentistry, and the dental school application process. As an undergraduate predental student at Michigan, I drew on these resources as I was fortunate to partake in several programs. I have spent the past four years at the opposite end of the spectrum by serving as a mentor, organizer, and willing participant in Michigan's predental programs, which continue to serve as a platform for many into dental school. Through the institutionalized school programs and the activities hosted by dental student organizations, Michigan provides a supportive and nurturing environment for predental students. At the heart of many of these programs and activities are the individual efforts of Michigan's dental students. These dental students are committed to guiding and encouraging predental students, which strengthens our profession at the critical grass-roots level.

Programs for Predental Students

We have found at Michigan that the most convenient way to target predental students is through an organized feeder system. Our school's Student National Dental Association (SNDA) and American Student Dental Association (ASDA) use this principle since they both have established undergraduate student organizations. The Undergraduate Student National Dental Association (USNDA) is under the umbrella of SNDA.

USNDA looks to SNDA when planning the content of its monthly seminars. SNDA dental students serve as guest panelists for topics ranging from "how I knew I wanted to be a dentist" to "what is the daily schedule of a dental student." Also, during these monthly seminars, SNDA dental students challenge the USNDA predental students' dexterity with waxing and drawing activities.

Outside of working directly with USNDA predental students, SNDA hosts an annual Impressions Day, a national effort implemented throughout the

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country by SNDA chapters. The length and specific topics of Impressions Day are left to the discretion of the local SNDA chapters, but the shared focus is cultivating interest in dentistry for underrepresented minority predental students. Michigan SNDA hosts its Impressions Day with the assistance of the school's Multicultural Affairs Department, which plays a vital role with funding for the buses and food provided for the attendees. Middle school, high school, and undergraduate students are invited from neighboring communities to participate in our all-day event. Many of the invited students are premed or interested in pursuing a career in the health professions. In order to expose as many excellent students to careers in dentistry as possible, SNDA has strategically introduced premed and prehealth students to dentistry during Impressions Day. From structured activities, panels, and lectures, Impressions Day draws parallels between dentistry and medicine while highlighting specific advantages within the dental profession.

ASDA has several joint ventures with the Michigan Predental Association, including Research Day, the ASDA/SNDA golf outing, and Elementary School Outreach Day. During Research Day, predental students are given responsibilities and tasks to help solicit vendors to sponsor the event. The predental students are able to attend Research Day and learn about ongoing student dental research. Predental candidates are given a similar role with the ASDA/SNDA Golf Outing. These two activities allow the predental student to be interactive and work alongside dental students when planning these fundraising and social events. Lastly, ASDA involves the Predental Association with it Elementary School Outreach Day. Before this event, the predental students are given a brief orientation on dental hygiene, how to interact with preschool aged children, and an orientation regarding the entertaining activities planned for the day. Dental and predental students then work together educating elementary children in the area and dispensing toothbrushes, toothpaste, and information materials to be taken home. Elementary School Outreach Day continues to be a popular activity for the Predental Association. As one predental student described it, "this was the first time I felt as if I were a dentist."

Michigan dental students are also establishing programs to address specific concerns within the dental community. The Scholars Program for Dental Leadership (SPDL) is a selective program that promotes leadership development for dental and hygiene students. SPDL places a strong emphasis on providing its members opportunities to lead various projects based on their interests and capabilities. In fall 2009, two SPDL dental students established the Dental Initiative to expose Michigan predental undergraduates to community dentistry. For the past two years, this six-week program has involved roughly 25-30 predental undergraduates in a semester-long course consisting of biweekly

In addition to fostering awareness, the Michigan programs build confidence that becoming a dentist is an achievable career option for young students, including those in disadvantaged communities.

seminars. During the seminars, predental students are introduced to an array of topics such as basic dental anatomy, infection control protocol, and dental public health. At the end of each seminar, the predental students are given quizzes to test their knowledge of topics discussed. Upon successful completion of the course, predental students are placed in community dental clinics for one or two weeks. This component of Dental Initiative allows predental students to observe and apply the principles they have learned. Feedback from this program has been overwhelmingly positive, as many predental students feel they become better acquainted to the dental setting. Moreover, there is an opportunity for returning predental students to take on leadership roles by assisting the dental students with developing the biweekly seminars. In the future, leaders of Dental Initiative want to determine whether the program is encouraging its participating predental students to pursue a career in community dentistry.

Maintaining the Pipeline

SNDA's Impressions Day, ASDA's Elementary School Outreach Day, and SPDL's Dental Initiative illustrate the efforts of Michigan dental students. These projects expose predental students to dentistry, involve them in preventative outreach activities, and shape their understanding of dental career opportunities. I believe that most of Michigan dental student involvement is motivated by altruism. For me and for many other Michigan dental students, we love participating in predental recruitment and educational initiatives because this reflects how we were treated as predental students. As a predental student, I can remember looking up to the D2 or D4 students and thinking how I wanted to be as successful as they were. It did not matter about their GPA or DAT scores, but it mattered that they were there and taking interest in helping us.

Yet not all of Michigan's predental initiatives can be attributed solely to the dental students. The faculty and institutionalized programs also play a key role. For the 2009-2010 academic school year, Michigan launched the American Dental Education Association W.K. Kellogg Mentorship Program under the direction of Dr. Marita Inglehart. This mentorship program targets underprivileged high school students at Ypsilanti High School. The participating high school students were matched with dental student volunteers who held weekly Saturday seminars. These seminars encompassed hands-on activities such as waxing, shadowing, and planning a community health fair. To serve as mentors, dental students have to commit to attending the seminars and monitoring the progress of their "mentees" throughout the year. Nearly 20 dental students participated and served as mentors for the high school students in the first year.

While the success of the program was heavily dependent on the dedication of dental students, the logistics and planning was supported by Michigan faculty. Dean Peter Polverini, Academic Dean Marilyn Woolfolk, and Diversity Director Kenneth May were involved with the Saturday seminars. Moreover, faculty from specialty departments and hygiene instructor Anne Gwozdek, volunteered their time to discuss their respective professions and the responsibilities involved. This program concluded with a graduation ceremony for the high school mentees and their families. The ceremony highlighted the accomplishments of the mentees and reaffirmed positive contributions of the dental student mentors. My mentees began with not just a minimal understanding of dentistry but, more disheartening, a limited understanding of their personal capabilities and aspirations. The program helped cultivate one of my high school mentees to go on to college and become a predental student and another one to focus on her goal in music.

The Michigan predental programs provide insight into the various fields within dentistry, preparation for the application process, and mentorship from dental students. The effectiveness of these initiatives can be explained by the growing interest in the programs, the positive feedback from the participants, and the number of students who successfully matriculate into dental school. Participating predental students become more confident of their abilities and reassured of their decision to pursue a career in dentistry. Those closer to the beginning of the pipeline, such as elementary and high school students, are also reached. In addition to fostering awareness, the Michigan programs build confidence that becoming a dentist is an achievable career option for young students, including those in disadvantaged communities. Behind the success of these programs are committed dental students and faculty who have the continued support of the administration. Currently, more programs are being developed to identify, educate, and encourage predental students. This will continue to be an ongoing initiative as the University of Michigan School of Dentistry maintains its vision of upholding the "Michigan difference." ■

The Need for Research In the Predoctoral Dental Education

Blake Warner, MPH, Ryan Londry, Kaitrin Baloue, and Jennifer Lee

Abstract

Research exposure and experience in dental school is valuable to promote critical thinking, to make practitioners effective consumers of the literature, and to begin the preparation of future oral researchers. Some of the federally funded research training opportunities for students are mentioned. The Commission on Dental Accreditation standards relative to research are also described.

The profession of dentistry maintains public oral health by efficiently and cost-effectively delivering the best available preventive and treatment options to the widest population of people. Among dentists there is consensus that excellent oral health is integral to optimal general health, and that poor oral health is one of the major health disparities in the United States (American Dental Association, 2004). The publication of *Oral health in America: A report of the Surgeon General* (U.S. Department of Health and Human Services, 2000) called for new translational research about common oral diseases that are still highly prevalent in society in order to improve public health. Major challenges face the profession of dentistry as it addresses health disparities, including a shortage of well-qualified dental faculty and a diminished focus on high-quality research in schools of dentistry (Bertolami, 2010; Chmar et al, 2008).

To eliminate this deficiency and improve the professional practice of dentistry, solutions must be proposed by the dental community. But where will these solutions come from? Dentistry is a profession based on a strong foundation in science. For dentistry to remain viable and contemporary, the creation of new knowledge, not simply the consumption of existing knowledge, must be an integral component of dental education and continued clinical practice.

The primary tool used to create new knowledge is research. Dentistry relies heavily on basic, clinical, and translational research to provide practitioners with new methods for early diagnosis, better preventive treatments, and valid intervention strategies. In clinical practice, a basic understanding of scientific methodology and competent critical thinking skills are required when assessing new therapeutic agents, choosing operative techniques, or planning advanced treatment. Therefore, training in scientific methodology and access to elective training in basic, clinical, or translation research must be provided to all predoctoral dental students to ensure the future of dentistry as a profession. This position is echoed by Dr. Robert Anderton, American Dental Association Past-President, at the dental education summit in 2001, where he argued that without predoctoral dental educational system rooted in research universities, the profession will cease to retain the high level of social status and economic remuneration it now enjoys. To fully appreciate the need for dental research as a core component of dental education, an understanding of what dental research is, the role it plays in modern

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dentistry, and the current accreditation standards that are related to research must be considered.

Research is hypothesis-driven original investigation undertaken to enhance and expand the knowledge and understanding of a subject (Edmunds, 2005). Research requires a sound understanding of the literature review process and proficiency in scientific methodology. Literature review is the critical evaluation and synthesis of peer-reviewed published research, while scientific methodology is the framework by which research is conducted and critically evaluated. Application of these tools in the context of original investigation is needed for efficient and robust scientific discovery. Currently, a large majority of United States dental schools instruct dental students in literature review and scientific methodology, but support for hands-on, mentored dental student research programs is fading.

Stakeholders in the education of dental students include dental faculty, administration, organized dentistry, and, most importantly, students. Reasons why schools of dentistry support dental student research include: fulfilling requirements for accreditation, advancing the mission and vision of the school or university, pursuing new knowledge, or acquiring status among schools of dentistry (Edmunds, 2006).

There are two main types of organized research programs available for predoctoral students to participate in: dual-degree programs and summer research programs. The dual-degree dental scientist training programs is funded through NIH/NIDCR T32 institutional training grant and individual NIH/NIDCR F-30 awards. These funding mechanisms are the most robust examples of comprehensive training in predoctoral research and are aggressively aimed at students interested in academic and research careers. For traditional predoctoral students interested in engaging in research, there are summer research programs. Funding for these programs comes from a variety of sources, including grants from NIH/NIDCR (T-35), fellowships from the American Association for Dental Research (AADR), corporate sponsorship, and university monies (Iacopino et al, 2007). These mentored student research opportunities represent the majority of predoctoral dental student researchers in the United States.

Unfortunately, the number of mentored predoctoral summer research programs is dwindling due to decreases in available federal funds and a de-emphasis on research in schools of dentistry (Bertolami, 2010). In 2009, the AADR National Student Research Group (NSRG) was interested in better understanding students' attitudes toward conducting predoctoral dental research. At the 2009 IADR/AADR General Session in Miami, Florida, data were gleaned from surveys distributed at an NSRG-sponsored workshop for dental student researchers. Surveys revealed student-perceived benefits of predoctoral dental student research included: improvement in competitiveness toward specialty programs, genuine scientific interest, remuneration, and potential research career development opportunities. Although the results of this qualitative survey were inherently biased and derived from a limited population, the data fell in line with previously reported attitudes toward research (Edmunds, 2005). Among dental faculty and students involved in predoctoral dental research programs, a beneficial positive relationship is perceived.

Interest in and access to research in predoctoral dental education programs are controlled by a multitude of factors. Inclusion of research requirements in dental school accreditation guidelines is one way in which student research is promoted. The ADA accredits dental schools through the Commission on Dental Accreditation (CODA). The purpose of CODA is to serve the public by establishing, maintaining, and applying standards that ensure the quality and continuous improvement of dental and dental-related education and reflect the evolving practice of dentistry. The requirement of research as a core component of a predoctoral dental education is broadly covered within CODA Standards 2 and 6. Specifically, CODA Standard 2.23, pertaining to dental school curricula, states: "Graduates must be competent in the use of critical thinking and problem solving skills in the areas such as scientific inquiry and research methodology related to the comprehensive care of patients." CODA Standards 6.1 and 6.2, address the requirements for research in schools of dentistry, and 6.1 states: "Research, the process of scientific inquiry involved in the development and dissemination of new knowledge, must be an integral component of the purpose/mission, goals, and objectives of the dental school." Furthermore, CODA Standard 6.2 indicates: "The dental school faculty, as appropriate to meet the school's purpose/mission, goals, and objectives, must

engage in research or other forms of scholarly activity and provide opportunities for students to participate."

Dental schools teach research methodology and critical thinking for two main reasons: it is compulsory within the predoctoral dental curricula as presented by CODA, and it helps make competent clinical decision-makers. It is also clear that CODA standards require the pursuit of research by the faculty as long as it is consistent with the mission of the parent university. Schools of dentistry housed within parent universities or organizations which are not research intensive and do not have ongoing research commitments may find it easier to sidestep the CODA Standard 6.2. The wording of the CODA Standard 6 sends a message that, in predoctoral education, the proper understanding of research findings is important to dentistry and clinical practice but training predoctoral researchers to create new knowledge is not critical. To uniformly apply Standard 6 to all dental schools, tighter wording and intent statements must be added describing proper and thorough application to predoctoral dental curricula.

Society understands the value of conducting research into treatments for common oral diseases and elucidation of connections between oral and systemic diseases. Paradoxically, the profession of dentistry continues to de-emphasize the importance of research and education in basic biological science at the risk of vocationalization. Quality summer research conducted by predoctoral dental students continues to be conducted in many dental schools across the country, but enthusiasm for such programs is waning. Expectations for quality research and continuation into academic and research careers are high for dual-degree dental scientist trainees, and funding for such programs is relatively stable.

Precedence should be given to these institutions as they demonstrate success in research education of predoctoral students. Inclusion of basic, clinical, and translational research in the dental school curricula should not detract from the dental education, but serve to enhance it. In order to continually improve standards of care, research must be a cornerstone of the educational experience at all dental schools. ■

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Maximizing Beneficence and Autonomy

Ethical Support for the Use of Nonpharmacological Methods for Managing Dental Anxiety

Evelyn Donate-Bartfield, PhD, Ryan Spellecy, PhD, and Nicholas J. Shane, DDS

Abstract

This article examines advantages associated with nonpharmacological behavioral management techniques and suggests that there are benefits to their use (such as achieving a more lasting solution to the problem of dental anxiety) that are not realized with medication-based interventions. Analyses that use Kantian and existential viewpoints for exploring the use of medication versus behavioral interventions for managing life problems yield parallel conclusions: there are advantages gained by using behavioral interventions that are not always associated with medication-based interventions. These analyses, taken together with an understanding of the psychology of dental anxiety management, suggest that using nonpharmacological techniques for the management of dental anxiety can maximize adherence to the ethical principles of beneficence and patient autonomy. The authors discuss the barriers that make nonpharmacological interventions for anxiety management difficult for dentists to routinely use, and suggest that additional training in these methods and increased collaboration with mental health professionals are needed for dentists.

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Ms. Jones had a painful dental experience when she was a child and now avoids the dentist. She is so fearful that she avoids routine dental procedures and has not had her teeth cleaned for several years. Although Ms. Jones is not in pain, and would have her dental condition assessed, the fear she experiences makes it difficult for her to schedule an appointment. Ms. Jones sees an advertisement that promises that if you are afraid of dentistry, there is a way to have dental work done without experiencing fear (Jansen, 2003). The advertisement claims that you can relax while years of embarrassing oral health problems are wiped away without discomfort. Objectively, there is evidence that the promise in this commercial can be granted: with medication, a dentist can help patients in wide-ranging ways by helping them have dental work done that they would not agree to otherwise. However, despite the positive changes improved oral health can bring, is there a problem with offering medication as the only

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solution to fearful patients such as Ms. Jones? Is beneficence maximized by offering only pharmacological interventions to manage dental fear when behavioral techniques might also help?

Helping anxious dental patients by providing medication fulfills two important ethical obligations: promoting beneficence and supporting a patient's autonomy. The *ADA Principles of Ethics and Code of Professional Conduct* (American Dental Association, 2005) defines beneficence as the "duty to promote the patient's welfare." It further requires that "...the dentist's primary obligation is service to the patient ... The most important aspect of this obligation is the competent and timely delivery of dental care within the bounds of clinical circumstances presented by the patient, with due consideration being given to the needs, desires and values of the patient." Thus, helping a fearful patient obtain needed oral care serves the principle of beneficence. Similarly, since fearful dental patients actually desire dental treatment but cannot accept it because of their fear, providing patients a means to obtain desired treatment promotes patient autonomy. These are important principles to honor—but is there more to consider?

If completing dental procedures is the only goal, patients are helped by getting medication for anxiety: drugs decrease anxiety and facilitate treatment. However, when managing anxiety, we are dealing not only with oral health but with a patient's feelings and beliefs. In the words of the ADA ethics code, we must consider the "clinical circumstances" surrounding the anxiety. If one examines the management of dental fear with behavioral dentistry in mind, a more complex decision regarding the management of anxiety emerges.

The Clinical Circumstances Surrounding Dental Anxiety

Large numbers of patients report a fear of dentistry and for some patients, this fear may be great enough to prevent them from seeking dental care (de Jongh et al, 2005; Willumsen, 2004). Such patients avoid feared situations; so dental fear is associated with cancelled appointments, infrequent care, delaying care, and noncompliance until a dental condition causes pain (de Jongh et al., 2005; Humphris & Ling, 2000). The dentally fearful patient's avoidant behavior often exacerbates the situation because noncompliance with treatment is associated with poorer oral health (Kvale et al, 2004). Since everyone needs lifelong dental care, and since avoiding routine dental care places patients at increased risk for dental problems, staying away from the dentist can bring about the very conditions fearful patients wish to avoid (Willumsen, 2004). Moreover, once the patient has dental problems, it is likely that the fearful individual will require treatment interventions that are more invasive and unpleasant than prophylactic dental care experiences. Thus, a painful sequence of fear, avoidance, and negative consequences is set in motion (Willumsen, 2004).

Another contributing factor is that dental fear may actually make the dental experience more difficult for the anxious patient than it is for patients who are not anxious. It is generally believed that there is a reciprocal relationship between pain and anxiety, with fearful patients reporting that they experience more pain than do patients who are less fearful (Gatchel & Turk, 1996; Litt, 1996). Since the source of fear for many dentally fearful patients is the potential that they might experience pain (Malamed, 2003), this means that paradoxically, their fear may help bring about the very condition they seek to avoid. Because of the reciprocal relationship between fear and pain, and the subjective nature of both of these experiences, it is difficult to distinguish the management of dental fear and pain. However, it is clear that some patients who do not report experiencing dental pain do report experiencing marked dental anxiety. These patients may require anxiety management for dental procedures that most dental patients would rate as innocuous (Oosterink et al, 2008). These patients are the focus of this article.

Both behavioral and pharmacological approaches can be effective in helping patients tolerate dental procedures with more comfort.

Nonpharmacological Methods for Managing Dental Anxiety

When managing dental anxiety, dentists have a hierarchy of nonpharmacological interventions at their disposal. Dentists generally use these nonpharmacological techniques during the dental session; they rely heavily on a dentist's relationship-building and communication skills. Perhaps the most important nonpharmacological technique is iatrosedation, a relationship-building and communication approach that focuses on establishing trust (Malamed, 2003). There are a number of other communication interventions that a dentist can use that appear to facilitate a patient's comfort by allowing patients to have increased control over their experiences in the dental setting. These interventions include activities such as teaching patients to raise their hand to stop treatment (Botto, 2006; Humphris & Ling, 2000), slowly introducing new dental procedures with careful explanations of what patients will experience (Berggren, 2001; Milgrom et al, 1995), and teaching coping skills such as distraction (Botto, 2006; de Jongh et al, 2004; Weinstein et al, 1991). Advanced dental management techniques, which require additional training, include relaxation approaches such as modified imagery, modified progressive relaxation, and controlled breathing (Botto, 2006; Milgrom, 2002). Cognitive restructuring is another advanced technique that can be used (Berggren, 2001; Weinstein et al, 1991). If these techniques are not adequate, other behavioral interventions are available that require referral to a mental health specialist. These techniques include biofeedback-assisted relaxation, hypnosis, cognitive behavioral approaches, and formal systematic desensitization procedures (Berggren, 2001; de Jongh et al., 2005; Milgrom, 2002). Likewise, dentists have a host of pharmacological interventions at their disposal that they may use (Dionne et al, 2002). Both behavioral and pharmacological approaches can be effective in helping patients tolerate dental procedures with more comfort (Dionne et al, 2002; Kvale et al, 2004).

While there are several proposed etiologies of patients' fear of dental procedures, learning theory underlies many of the interventions that are used to manage dental anxiety (Humphris & Ling, 2000; Milgrom el al, 1995; Mineka & Zinbarg, 2006). Behaviorists posit that we may be predisposed to learn to fear dentistry (i.e., the notion of preparedness), and that classical conditioning, instrumental learning and social learning may be the mechanisms by which these fears are learned and maintained (Barlow, 2002; Humphris & Ling, 2000; McNeil, et al, 2006; McAllister & McAllister, 1995; Milgrom el al, 1995). Painful and socially embarrassing dental situations are likely to teach patients to fear dentistry—hence the need to manage both pain and anxiety. In addition, the reinforcing aspects of avoidance also play a role in the maintenance of dental anxiety (McNeil et al. 2006; Milgrom, 2002). In general, behavioral and cognitive behavioral theorists would assert that behavioral management interventions used by dentists involve relearning, redefining the situation, or teaching a new set of responses to the patient. The exact behavioral or cognitive mechanisms of the different interventions vary, but a positive relationship with a caregiver, good communication, developing trust, and giving the patient some control of the situation are seen as important for this "new learning" to take place (Botto, 2006; Berggren, 2001; Malamed, 2003).

According to cognitive behavioral learning theorists, this new learning might involve having patients develop

the belief that they can cope with the stressful situation. Patients may have enhanced coping skills (such as learning to use self-distraction or relaxation techniques), and this allows them to feel comfortable in what was once an overwhelming situation. Once these new skills and cognitions are learned, they are long lasting, and can result in decreased anxiety at future dental appointments (Kvale et al, 2004). In addition, since being dentally fearful can have far-reaching deleterious psychosocial effects (Locker, 2003), mastering dental fear may have positive effects for the patient that extend beyond improved oral health. Similarly, it is possible that coping with a feared situation increases the patient's overall self-efficacy. That is, patients gain confidence in their ability to cope with other feared situations (Cervone & Scott, 1995; Do, 2004).

If these are the clinical circumstances surrounding the fearful dental patient's behavior, what role should nonpharmacological interventions play in the management of anxious patients? To answer this question, one could adopt an evidence-based approach and examine the efficacy of medications vs. nonpharmacological interventions in quelling patient anxiety. While this is an important question, we will not take this approach. Another approach would be to consider practical considerations: Which patients would be unable to tolerate an appointment without medication, avoid dentistry, and suffer negative consequences because of dental avoidance? While these are both necessary and important inquiries, there is another important perspective: An intervention may be efficient and efficacious, but does it further the patient's autonomy and promote beneficence? This last question is not a clinical or empirical question, but a moral query. To answer this ethical question, there is guidance available from ethical analyses of similar issues in nondental situations.

Support for the Use of Nonpharmacological Methods to Manage Anxiety

Manninen (2006) examines the overuse of medication for managing problems of everyday life using Kantian theory. She asserts that when patients face challenges in life and elect to use medication as a fast solution, rather than dealing the problems they need to work on, they are cheating themselves out of an opportunity to learn and grow. Based on her analysis of Kantian principles, Manninen asserts that we have a duty to confront our difficulties because doing so allows us to gain self-knowledge and develop our human potential. Manninen does not argue that medications are never appropriate, merely that they provide a hollow solution when used as a shortcut to avoid the work that a more meaningful solution would require. She asserts that convenience and speed cannot take the place of long-term, quality solutions that come about when we work on the difficulties we face.

If we apply Manninen's work to the use of pharmacological interventions to manage milder forms of dental anxiety, the use of medication for patients who could learn to manage the dental appointment without such interventions might be seen as a loss of an opportunity for these patients. There is some evidence for this assertion. The successful behavioral management of anxiety can result in patients dealing with dental appointments more effectively (Kvale et al, 2004) and being less fearful at future appointments (Berggren et al, 2000). In addition, Willumsen (2004) asserts that patients treated for dental fear reported that behavioral treatment was beneficial to them in situations outside the dental office. This may mean that patients develop greater self-efficacy (Botto, 2006), develop a better understanding of their reactions in the dental setting (Willumsen, 2004), and learn improved skills for managing their fear in an anxiety producing situation (Berggren, 2001), when they learn to manage their own dental anxiety. If this is true, relying on pharmacological techniques without also attempting nonpharmacological solutions would not allow patients to derive these additional benefits.

A similar argument regarding the use of medication for depression and anxiety has been made using an existential philosophical position. Malloy and Hadjistavropoulos (2002) noted that with medication, patients' problems become the object of "treatment" rather than being something the patient has responsibility for and must manage. In addition, when using medication, all anxious patients are treated the same, and medication is "applied" to the problem. Thus, medication is responsible for the successful outcome, suggesting that the solution to the problem is outside of the individual's control. Conversely, cognitive-behavioral approaches view patients as individuals; each situation is different, and each solution unique. Again, the parallels to dentistry are clear: Behavioral management strategies honor patient autonomy by focusing on self-efficacy and individual differences.

The endorsement of the psychological benefits of working through issues of dental anxiety does not only come from psychological and philosophical viewpoints; there are voices within the dental community that endorse a similar position. Berggren (2001, p. 1359) writes,

> "... Medication sometimes is necessary to make it possible for a patient to gain new and positive experiences. If medication leads to a lasting coping ability and anxiety reduction, it is a beneficial approach. If the patient continues to need medication, we have not been successful."

Berggren's approach is consistent with the strategy of teaching coping and improving self-efficacy, and suggests that psychological benefits are the focus of any intervention employed, even when medication is used. Again, this does not mean that pharmacological approaches are not useful or are inherently harmful. (It is of note that Berggren outlines several situations where he believes pharmacological approaches are necessary and beneficial.) Instead, this approach points out that there may be additional benefits conferred by employing nonpharmacological techniques in the management of dental anxiety, and that these benefits should be considered when selecting a behavioral management strategy.

Levering and Welie (2010) have also commented on the advantages of using behavioral methods for managing fearful children. They suggest that parents may encourage dentists to use nitrous oxide as a primary management strategy at times because they want their children's dental work completed quickly. Likewise, using nitrous oxide as a management strategy also benefits dentists because it allows them to work with calm, cooperative children. However, while meeting the needs of the parents and provider, the repeated use of nitrous oxide might not always be the best choice for children. Besides the physical risks associated with the use of nitrous oxide, these authors note that, "Chairside patience on the part of the provider, step-by-step learning and development of coping skills by the child, and improved communication with the parents regarding their child's evolving maturity, are unquestionably in the best interests of the child..." (p. 44). Since these behavioral goals are better supported by nonpharmacological methods, Levering and Welie are acknowledging the potential advantages of behavioral and communication methods for managing dental anxiety.

Of course, the positive benefit conferred by the use of nonpharmacological strategies needs examination on a case-by-case basis to see if beneficence and autonomy are enhanced in a particular situation. For example, an anxiety management strategy for a patient undergoing a highly threatening, one-time dental procedure such as oral surgery, would likely be different from those strategies considered for a mildly anxious patient undergoing routine, benign, and repetitive procedures such as periodic x-rays (Oosterink et al, 2008). The relative value of nonpharmacological interventions would likely be magnified in the latter case, since the procedures involve lifelong, periodic procedures that most patients can easily tolerate and that the patient must learn to cope with to obtain routine care. Thus, learning to cope with these procedures would positively affect the patient's oral health and increase the possibility of compliance with future dental treatment. In sum, we are aware that many factors need to be weighed when selecting a dental behavioral management strategy. We are suggesting that the long-term advantages associated with the use of nonpharmacological methods be considered when deciding on an anxiety management strategy.

The successful behavioral management of anxiety can result in patients dealing with dental appointments more effectively and being less fearful at future appointments.

Practical Barriers to Using Nonpharmacological Management Methods

Despite some of the advantages of nonpharmacological methods, there are barriers dentists encounter when attempting to use these strategies with fearful patients. There are data to suggest that dentists find working with anxious patients stressful (Hill et al, 2008), which is not surprising, because they also report that they do not feel adequately trained to work with fearful patients (Hill et al, 2008; Weiner & Weinstein, 1995). Behavioral management strategies require considerable effort on a dentist's part; when using them, it takes longer to treat a patient, a dentist has to have better developed communication skills, and a dentist must put effort into the difficult interpersonal work of paying attention to patient's emotional messages (Chambers & Abrams, 1992; Friedman, 1997). In addition, nonpharmacological strategies usually require that providers give their patients more control over the delivery of treatment, so dentists may have to alter their usual ways of providing care. Since treating fearful patients requires more time and resources (i.e., the assistant's time, use of the chair), practice management concerns (such as the ability to bill for these time-consuming services) may further limit the attractiveness of this option (Hill et al, 2008). Moreover, for highly anxious patients, dentists may need to share responsibility for the behavioral management of fearful patients with mental health care providers. These difficult cases may require additional skills: a dentist must be comfortable with obtaining consultations and making referrals to mental health professionals. (de Jongh, 2005).

Reasons Dentists May Avoid the Use of Nonpharmacological Management Techniques

Dentists may also tend to embrace pharmacological methods because they believe such methods better support patient beneficence than do behavioral and communication based approaches. Since dentists may believe they do not have the requisite management skills to treat fearful patients with nonpharmacological strategies, they may view managing fearful patients as a specialized service they do not provide (Hill et al, 2008; Weiner & Weinstein, 1995). Thus, they may avoid nonpharmacological management techniques because they believe they cannot use them effectively. In addition, dentists have an obligation to manage patient pain, anxiety, and discomfort. Since nonpharmacological techniques do not promise certain success, and, in fact, may make the patient's anxiety worse if used ineffectively (Litt, 1996), dentists may feel that they are providing their patient less than optimal care if they use nonpharmacological techniques to manage anxiety.

Similarly, dentists may feel they can do better clinical work if they use medication-based management approaches, because nonpharmacological methods are seen as difficult to use. Using communication and behavioral methods require dentists to divide their attention between two difficult, competing tasks. Practitioners may feel that they can perform higher quality clinical procedures if they are not distracted and if they are working with a still, calm patient. Accordingly, dentists may believe that by using medication to manage their patient's anxiety, they are able to do better clinical dentistry, and thus, are acting in the most beneficent way towards their patients. It is of note that this logic assumes that dentists are not skilled or effective in their use of nonpharmacological techniques, and, thus, will likely not be successful or efficient when using these interventions. Training in the effective use of nonpharmacological techniques would likely alter this perception.

There is evidence that barriers to using nonpharmacological dental management affect dentist's practice patterns. McGoldrick et al (2001) examined dentist's referral pattern of fearful patients and found that few patients were being referred to specialists for behavioral management of dental anxiety in the sample studied. They suggested that the dentists may not have been aware of the role that could be played by psychologists in the treatment of dental phobia. Tay and others (1993) found that dentists who have had more instruction in the use of anxiety management during their training were more likely to report seeing a greater number of fearful patients in their practices than did dentists who received less behavioral sciences training. Taken together, these findings suggest that the barriers to using nonpharmacological techniques need to be addressed before dentists will feel comfortable using these techniques in their practice or referring fearful patients that they cannot adequately manage to mental health professionals.

In sum, while dentists may recognize the advantages of nonpharmacological approaches, it is clear that using these techniques places a significant burden on a dentist. The barriers just described present painful choices for dentists: A recent submission to the American Dental Association's "Ethical Moment" column (Gamba, 2008) describes a dilemma where a dentist had successfully treated a fearful patient although it had been difficult for the dentist to do so.

Behavioral management strategies honor patient autonomy by focusing on self-efficacy and individual differences.

The patient wanted to continue to receive treatment from the provider, but the dentist expressed concern "...that it may not be in the best interest of my practice to spend the kind of time it would take to work with this patient" (p. 1685). The dentist was seeking advice about the best course of action. Clearly, these cases create difficult choices for dentists who may feel they do not have the skills to work with these hard-to-treat patients.

Patient Objections to Nonpharmacological Methods

Dentists' lack of confidence in their chairside anxiety management skills may influence how they introduce and discuss nonpharmacological management options with their anxious patients. This, in turn, could influence patients' acceptance of these options, resulting in fearful patients rejecting nonpharmacological methods of management and, instead, requesting medication. This could make negotiating an anxiety management strategy difficult, because when faced with requests for medication from a fearful patient, dentists may not wish to challenge what they perceive as their patient's autonomous choice for treatment. However, while honoring patient autonomy is important, it is worth noting that fear may inhibit patients' ability to make autonomous decisions. Behavioral management strategies could be useful in uncovering such barriers to autonomy and may ultimately maximize patient autonomy by identifying barriers that keep patients from seeking dental care. Merely acceding to patient requests for medication, out of a misguided respect for autonomy, ultimately fails to do so. Instead, having an open discussion about all options may provide more choices for the patient; this approach will truly improve patient autonomy.

Do Dentists Have a Duty to Consider the Benefits of Nonpharmacological Management Approaches?

One could assert that dentists do not need to promote nonpharmacological methods because the advantages of these techniques are primarily psychological, thus conferring benefits that are beyond what a dentist needs to consider when treating a patient. We believe that this position is difficult to maintain in light of the ADA code that asserts that beneficence requires that "The dentist has a duty to promote the patient's welfare." Given what is known about the genesis and maintenance of dental anxiety, and the obligation that dentists have to manage both dental fear and anxiety in their patients, it is clear that dentists play an important role in how these conditions are managed. Beneficence requires that dentists consider the results of their interventions and act in a way that will have positive, long term health outcomes for their patients overall, not just their oral health. Similarly, informed consent requires the presentation of acceptable treatment options along with the expected benefits and risks of these alternatives. Excluding a discussion of alternatives to nonpharmacological interventions (when they are appropriate), would not fully honor this process.

Another possible objection is that our conception of beneficence is too broad and this expanded notion of beneficence would require numerous interventions of the dentist that are beyond the scope of dental practice. In short, this argument would assert that dentists are not obligated to consider beneficence beyond the clinical encounter, because to interpret the "duty to promote the patient's welfare" in the ADA code this broadly would open a floodgate of duties that would overwhelm dentists. However, this intervention arises within the context of the clinical encounter and involves a choice

about different interventions for anxiety management. As such, we frame this not only as a duty that arises in the clinical encounter, but as one that can benefit the patient beyond the clinical encounter. In this way, we view managing dental anxiety as similar to other medical conditions encountered in the dental setting; they may require dental management, consultation, or referral.

Others join us in this view. Ozar and Sokol (2002) asserted a similar position in a case analysis where a dentist successfully treated a fearful child with nonpharmacological methods. In their discussion, they assert that, "... a dentist is obliged to obtain and maintain the skills the dentist needs to educate patients and prompt them to levels of cooperation needed to maintain their oral and general health (with referral to those who are more skilled in these matters as another option if the dentist's own skills are too limited)" (p.138). Ozar and Sokol emphasize that a dentist's obligation extends to maintenance of their patients' "general health," pointing to a broader obligation dentists have to patient outcomes outside of just oral health needs. They acknowledge that it may be hard for dentists to work with difficult patients (such as those who are noncompliant and fearful), but also point out that there is an ethical necessity to do so.

How Best to Serve Beneficence and Patient Autonomy?

So, how best to manage dental anxiety? Nonpharmacological management techniques offer an opportunity for patients to learn skills that may serve them in future, are respectful of patient autonomy, and produce beneficial effects for the patient (Manninen, 2006; Malloy & Hadjistavropoulos, 2002). For the sake of comparison, we have presented pharmacological and nonpharmacological options as if they were mutually exclusive alternatives; in fact, they are generally used simultaneously. Many practitioners start with communication, psychological, and behavioral approaches, and employ pharmacological interventions as these interventions are needed (Malamed, 2003). This strategy is consistent with the present analysis, that argues that a dentist should, when appropriate, explore all the nonpharmacological interventions a practitioner can competently deliver, not only because these techniques can enhance pharmacological interventions, but because they will likely result in improved patient autonomy as well as maximizing patient beneficence.

Since the benefits of nonpharmacological approaches are considerable, we would also suggest that work is needed on the barriers that prevent dentists from employing these methods in their practices. Solutions such as providing continuing education for dentists in nonpharmacological approaches to anxiety management, improving dentists' skills in making referrals and obtaining consultation from mental health professionals, and recognizing the need for additional time in the treatment of fearful patients, would be important first steps to consider. Even if nonpharmacological approaches are not the appropriate choice for many procedures, it is of note that there are other advantages to having dentists learn how to use better nonpharmacological management skills: Nonpharmacological approaches can help enhance other anxiety management techniques (Malamed, 2003) and, most importantly, can help prevent patients from learning to fear dental situations in the first place.

What about the advertisement that promises patients they can take medication and avoid facing their fears? This strategy for handling fear might indeed be necessary for some patients. For example, Kvale and colleagues (2004) point out that patients with few psychological resources who need a great deal of difficult dental work would benefit from pharmacological interventions. But before suggesting an approach, the decision as to what is most appropriate for the patient requires a chairside conversation that assesses the patient's needs and considers all of the management options for anxiety available—including relationship building and good communication with the dentist. Understanding the benefits of nonpharmacological interventions and explaining them along with other options, not only ensures good informed consent, but also promotes autonomy, and can maximize beneficence. Beneficence is served when patients and dentists explore pharmacological and nonpharmacological interventions together, considering the benefits of learning coping skills and increased self-efficacy that may extend beyond the dental setting. This option offers more than just the promise of an easy solution. ■

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Risk Management

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Abstract

Every plan contains risk. To proceed without planning some means of managing that risk is to court failure. The basic logic of risk is explained. It consists in identifying a threshold where some corrective action is necessary, the probability of exceeding that threshold, and the attendant cost should the undesired outcome occur. This is the probable cost of failure. Various risk categories in dentistry are identified, including lack of liquidity; poor quality; equipment or procedure failures; employee slips; competitive environments; new regulations; unreliable suppliers, partners, and patients; and threats to one's reputation. It is prudent to make investments in risk management to the extent that the cost of managing the risk is less than the probable loss due to risk failure and when risk management strategies can be matched to type of risk. Four risk management strategies are discussed: insurance, reducing the probability of failure, reducing the costs of failure, and learning. A risk management accounting of the financial meltdown of October 2008 is provided.

The French have a saying: A man could drown crossing a creek that is only two feet deep on average. Keep that in mind when considering investment vehicles that advertise a historical mean return or a curing light that has published research data showing average curing depths in the acceptable range. There are many situations in life where the average is less than meaningful because the results may be so damaging during one of the first attempts that you never get a chance to find out what the average would be.

Protecting oneself and one's business or an organization for which one holds a trustee obligation against swings of fortune is a fiduciary responsibility. Accepting someone else's estimate of what the results should be is normally insufficient exercise of that responsibility. The field that studies this situation is called risk management and is now in common use.

The Basics

Risk management differs from strategic planning is two important ways. In strategic planning, one makes a single decision: commit to this and expect that. A strategic plan envisions only one outcome, the most likely result of the best guess. When a new digital imaging system is purchased, the payback time is calculated based on the purchase cost, the marginal income based on assumptions about volume, the costs to place the equipment in service (including training), maintenance, and salvage considerations. Known or estimated values are plugged into the equation and the answer—a single value expressed in years—comes tumbling out the other end. But the elements in the equation can be misleading. First, the estimate can be just plain wrong: the required remodeling of the office may be more extensive than anticipated. More troubling, however, is the fact that estimates of value are actually ranges rather than precise points. Some offices may get more volume than others, the activity can vary from year to year (especially during a learning curve), etc.

The first element of risk is called variability. Results in the future are often capable of taking on various values across a range. The most likely result is close to the middle of that range, but there is some chance that other outcomes will occur. Sometimes it is even possible that the results will be nowhere near the average, as in investing in foreign business ventures where there is a chance of the government nationalizing an industry and wiping out all returns. Estimated results in the future that have wider ranges of possible outcomes are always riskier than activities where the variation is small. The first step in risk management is to have a justifiable appreciation for the likely variation in expected outcomes.

The second element of risk is called vulnerability. Some variation matters more than other variation does. Consider choosing a restaurant to take some guests to in a convention city. You have seen the menus in several possible choices, and some have a large spread and some have a lower high-end. But you still cannot predict with certainty what the final bill will be because you can only guess what your guests' spending patterns will be. The second element in risk—vulnerability—would be influenced in this case by the amount of cash in your wallet (assuming that you intend to pay in cash). If you have $150 in your wallet, you are more vulnerable than you would be with $750. You might be slightly annoyed to find that your friends have lavish tastes with a big billfold, but you would be embarrassed big time with the smaller cash on hand. It is a matter of how much you can afford to be wrong.

Vulnerability is sometimes a difficult concept to grasp. It has only a little do to with how you "feel" or with incremental dissatisfaction. Vulnerability kicks in when you have to change your behavior. A tight payroll in the month of March is one thing; having to lay off staff, activate a line of credit, or declare bankruptcy is another. Spending a few more minutes to seat a crown or paying a few more dollars for a better composite is one thing; a failed restoration is another. Vulnerability is the first line that is crossed that forces us to respond differently, to take corrective action, or in a few cases to crash and burn. It bears emphasis, so it will be repeated: vulnerability is a matter of having to take action; it is not a matter of how one feels. Sometimes a scary near miss is a blessing because it gives us something to brag about and learn from. No one brags about true failures, the ones that caused us to change course in ways we would like to have avoided. The second step in risk management is to understand the costs involved if one were required to take damaging corrective action.

Effective risk management involves combining the understanding about variation with the information about the costs of failure. We must weigh both variability and vulnerability. There is little risk if variation is small or if one is well above the vulnerability point (regardless of the cost of corrective action). For example, it is not worth purchasing tsunami insurance in Manhattan, Kansas, regardless of the cost of having to replace an office wiped out in a tidal wave. Similarly, there is little risk when the cost of corrective action is small, even when the chances of having to do so are appreciable. Patients who are late for appointments are a frequent enough occurrence, but they fall in the low-cost category.

There are actually easy ways of calculating risk, and they can be very precise. For example, the packaging insert for dental materials almost always contains information on expected outcomes expressed in terms of standard deviations (a common measure of variance). The *ADA Professional Product Review* also has useful information of this type. If a dentist knows or can accept a working definition of a vulnerability threshold, it is easy to use the standard deviation and the difference between the average score and the threshold to estimate the probability of a failure. As explained in an editorial in this journal (Summer 2002; see Recommended Readings), the Excel spreadsheet function on your laptop will produce this calculation in about three keystrokes. The likelihood of a bonding agent failing on any individual restoration or a nickel-titanium file breaking in a canal can be determined. This probability is what most dentists really want to know, instead of average shear strengths or stress resistance. What counts is the predictability of techniques or their robustness. And just to keep the record straight.

The actual calculation of risk involves combining the probability of failure and the cost of taking corrective action: variability multiplied by vulnerability. Fortunately, in this case, the formula involved in performing this calculation is trivially simple. Multiply the cost of a failure by its probability. This gives the probable cost of failure. If, for the sake of example, a dentist sets the cost of repairing a failed restoration at $300 in actual materials and lost productivity and the chances of such a failure as 1 in 100, the risk or probable cost of failure for such restorations is $3 (300 x .01). That means that every such restoration placed has a $3 risk. Not every restoration will reduce office productivity by this amount, but on average that will be the cost.

To this point we have focused on explaining the components of risk (probability of having to take action to correct when the threshold of vulnerability have been exceeded and the cost of taking such corrective action) and how to calculate risk. Having at least a workably intuitive estimation of this value is essential to managing risk. The rule is simple: continue to spend on risk management as long as each dollar spent on managing risk reduces the costs associated with risk by more than a dollar. In the example of the hypothetical restoration material, that restoration carries a $3 risk, it would make good sense to switch to a product that costs a dollar more if the risk were reduced by more than a dollar. Any alternative product that costs more than $3 above

the current product is automatically a bad deal in terms of risk reduction. It could only be justified based on having some new desirable feature worth the added cost.

The reader has now been exposed to all of the basic logic of risk management. Except for some acquaintance with economics or mechanical engineering, the risk management tools presented to this point are sufficient for the reader to manage a hedge fund or design appropriate system redundancy for spaceships. Knowing what practitioners do about dentistry and dental offices, the basic risk management tools are about all that is needed to risk-proof a dental practice.

Vulnerability

In this section, we look at some of the areas in which dental practices can incur risk. The classification system is modeled after industry analysis and is somewhat arbitrary. But the point will quickly become apparent that dental practices are vulnerable across a wide front.

Lack of Liquidity

Notice that the heading is "liquidity," not "cash" and not "solvency." Liquidity has a special meaning in economics: it is the inability to meet short-term financial obligations such as payroll, accounts receivable, or loan payments. A practice that is worth three-quarters of a million dollars if sold as a going concern may not be able to pay its immediate obligations at the end of a month, despite the abundance of long-term assets. To meet is current needs, the practice would have to be sold, and would no longer be a viable operation. This is a position of having solvency but lacking liquidity. Pretty much the same thing could be said if the dentist were forced to sell his or her house to make payments at the office. Similarly, a practice may lack cash and still be solvent. A line of credit or short-term loan, refinancing capital equipment or other means of generating quick small amounts of cash may be available and appropriate provided that the practice has both long-term assets and near-term business prospects.

In the state of California, hospitals, FQHCs, and some dentists are forced to protect against liquidity risks each fall because the legislature has failed to pass a budget in more than 30 of the past 50 years. In consequence, the state often declines to honor its Medicaid payments on time. A viable operation that is actually booking regular operating surpluses and has substantial material assets may still be forced into bankruptcy if it cannot secure a loan or has not built up unusual cash reserves under such circumstances. Estimating risk in this situation is fairly easy: the cost of a cash failure is catastrophic and the probability of needing the cash is large. No right-thinking office would risk proceeding without a line of credit or a substantial cash cushion. (In the next sections, we will discuss alternative means of managing risk.)

Running a business that loses money on average is not a matter of risk management. It is bad business management and that is the subject of another article.

Poor Quality

Even in the best of practices, quality is variable. It is only prudent to practice at a high enough level above the standard of care so that reasonable variation does not tip the outcome over into the vulnerable range where there is a cost to be borne. In fact, one might argue that it is unethical (negligent) to practice at a level close to even above the minimum required by the standard of care because

Vulnerability is the first line that is crossed that forces us to respond differently, to take corrective action, or in a few cases to crash and burn.

Any dentist who bases the future of his or her practice on the best guess optimistic projections of CE gurus does not understand risk management.

it is reasonable to expect that there will be variation in outcomes even under the best of conditions. The larger the potential cost (death or disability) the larger the safety zone required for protection. That is why oral and maxillofacial surgeons pay more for malpractice insurance. It is also why insurance carriers offer premium reductions to dentists who follow risk reduction protocols.

It is easy enough to underestimate the cost of low quality. Certainly, malpractice is an obvious flag. But redoing work, arguing about redoing work, and even justifying low-quality work all take a toll on time and dignity in the office. Also, some costs may never be known because they are paid initially by patients and may only affect the practice indirectly in lower rates of referrals.

Equipment and Procedure Failures

Equipment, materials, techniques, and office protocol are often the source of practice risk. The robustness of materials was used as an example above in the explanation of the concept of risk. "Technique sensitivity" is an automatic tip-off that a material or procedure is enough risk to be concerned about. Office routine can be overlooked in this category. Missed appointments, lack of follow-through on home care, bad-debt, and being behind in the daily schedule are all symptoms of this kind of risk. Root-cause analysis is a technique that can be used, without having to hire a consultant, to pinpoint high risk operations. (See the Winter 2002 issue and this issue's Recommended Readings). Also included in this category are office routines, delivery systems, billing procedures, and any other policy or routine that affects office productivity. Again, the concern is not average level of output, but output variation, how close that average is to is the threshold, and the effects of crossing the line into ineffective operation. A scheduling routine might on average provide a full schedule, but if that is achieved by combining crowded, overscheduled days with days that have large gaps, it is a procedure that puts the office at risk.

Those practitioners who doubt that materials and procedures are a source of risk have the additional burden of justifying expenses undertaken to make improvements in office performance along these lines. Such expenses represent a major source of the dentist's discretionary spending to improve practice, at least as judged by advertising in dental journals.

Employees Slips

Just as there is exposure in the practice resulting from technology and protocol, the natural variation in employee ability is a source of risk. That claim applies to the dentist as well as every other team member. Team members and patients must be able to count on the entire office for delivering a quality performance on all occasions. Educational research demonstrates that the difference between dental students and recent graduates (and some practitioners who are slow in their professional development or have low personal standards) is not in their performance under optimal circumstances or on the easiest cases. The mark of a competent practitioner is the ability to recognize that the challenge presented by a patient is atypical and having the capacity to respond appropriately. A veteran staff also recognizes when adjustment is indicated, and it avoids the problems that can arise in the challenging cases.

The Competitive Environment

Will Rogers said "Even if you are on the right track you can get run over if you are not moving fast enough." Too often dental practices and other organizations are obsessed with meeting

last year's goals without recognizing that the target has been moved this year. Practices are vulnerable to the risk posed by not responding in a timely fashion to emerging technologies, shifting economic forces or patient preferences, or competition.

All risk is not in the office, nor can it be controlled by perfecting office routine. It is always a matter of fit between an evolving practice and an evolving context. Risk comes from gaps, especially sudden gaps, in that fit.

New Regulations

Sometimes people change the rules of the game. Standards for infection control, HIPAA, and rules for delegatable procedures are such examples. What makes shifts in regulations such a pernicious source of risk is that they come from the outside and involves large, sudden changes. Risk management in this area may involve extensive preparations for changes that never happen or the need for sudden large adjustments to events for which no preparation has been made.

Sometimes the risk of failure to meet an existing regulatory bar, such as HIPAA confidentiality rules, is due to poor training, an office climate that permits too much personal freedom, or poor hiring practices that bring individuals with poor impulse control on staff. These are actually risks associated with procedures and employees. Regulation risk, by contrast refers to changes in the rules that are not under the control of the office in any direct sense. Normally, dentist organizations such as the ADA and state associations are engaged in seeking to implement or block or delay implementation of regulations that adjust risk for themselves and others. An example of regulatory risk would be a dentist who uses very few and minimally trained auxiliaries finding that the state licensure rules have been amended to allow his or her neighbor dentists to perform an expanded range of functions that he cannot offer to patients, other than by doing them personally.

Unreliable Suppliers, Partners, and Patients

It is surprising how many bankruptcies are caused in otherwise sound companies when their partners experience financial difficulties. Others' accounts payable may be your risk. Even such simple problems as a disruption in the international latex market can cause a crisis in the availability of gloves. The retirement of one or two general practitioners who are major referring dentists to the pool of specialists in a community can make a difference. We have all seen the impact of the economic downturn that started in October 2008 on how patients decide to spend their dollars. [See sidebar.] Dentists are doing quite well in some parts of the country, places where patients are not suffering deep economic impact.

Threats to One's Reputation

The dentist's good name is huge for the viability of a practice. A practitioner may be in an enviable position with respect to all other risks such as great liquidity; tight controls over procedures, office protocol, and staff; and free from the threat of outside interference, and yet suffer from deserved or undeserved rumors or adverse public opinion. Like all other aspects of risk, there is inherent variability in reputation. Bad days, mistaken judgments, and accidents happen. Even a given, single objective experience is subject to variation in interpretation by different patients. It is sometimes joked that the exchange rate for good and bad outcomes is unfair: it takes 19 "at-a-boy's" to equal one "aw crap."

Smart dentists build an ample cushion for their reputations. They are active in the community generally, they show a high level of respect and dignity for all patients, and they are especially careful in all other aspects of risk management. Fewer of them have learned the techniques of risk management for protecting against potentially damaging variability by other techniques

Managing Risk

We have just finished a quick inventory of the range of risks that affect organizations, including dental offices. There is variability in virtually every aspect of practice, and much of it has the potential to cause significant damage if swings in outcomes are sufficiently large or if the impact of a deviation carries large cost. Any dentist who bases the future of his or her practice on the best guess optimistic projections of CE gurus does not understand risk management.

At the beginning of this essay, the logic of probable risk was presented. Some risks might be safely ignored by all but the most fastidious of dentists. These are the events that are unlikely to occur and would have minimal impact if they did. Failure to make provision for individual preference and control by patients in the operatory for their personal preferences in music (say allowing jazz, rock, C&W, and classical) is unlikely to offend many and among those who even notice the effect of their oral healthcare seeking behavior would be trivial. There are other risks that demand attention because they are both relatively common and they matter a lot. Patients whose treatment choices are affected by their financial situation, patient scheduling and appointment keeping, and many treatment decisions are such examples. There are also cases where the probabilities of passing the threshold into the zone of action are small but the consequences are large.

The Economic Meltdown of October 2008

Two years ago the world economic system staggered and almost collapsed. Countries with the most laissez-faire economies, such as the United States, have been the slowest to recover. This can be understood in terms of risk management. Let's look at how the collapse came about and some of factors that contributed to the problem.

The essence of the crisis is that we created book value in excess of actual value, and when this was recognized, the economy seized up. The recovery has now become a face-off to see who will make good the difference between what we say we are worth and what we are actually worth.

Lehman Brothers is a prototype. As a company, there were X billion dollars on the books, with a small fraction of that held in liquid assets. When creditors asked to see some of the assets, Lehman had to confess that their assets were actually "probable assets" held at risk based on the assumption that the economy would continue to grow at the same rate it had for the previous decade. For years, it had been policy that such demands for a fraction of the book assets would be covered by short-term loans. But we realized that nearly everybody had played the same game and there was no liquidity in the system. Lehman collapsed. Other financial institutions did not because the Bush Administration stepped in to supply the liquidity from taxpayer dollars in the form of bailouts.

Bailout of financial institutions was premised on the trickledown economic theory of Reaganomics that financial institutions are critical to sustaining high levels of risk by moving liquidity to pressure points throughout the economy. That is the point at which the system failed: the financial institutions kept the money to fix their houses but did not allow credit to trickle down. That precipitated a mortgage crisis and a crippling blow to small business. The game now is that the excess of book value over actual value in our economy will be worked off through a natural growth of a few percentage points per year for as many years as is necessary to make up the difference. The financial institutions have recovered, but per definition, their recovery entails reducing their risk exposure by tightening credit that is necessary for small business to recover.

How did this situation come about? In 1998, the Glass-Steagall bill was essentially repealed through lack of enforcement, allowing banks to become investment houses. Risk management in financial institutions changed from prudent insurance against risk to placing assets at risk for the sake of making a profit. Goldman-Sachs, for example, shifted from charging a fee to organizations for managing their risk to leveraging the assets of organizations so that Goldman-Sachs could earn a profit by taking on a high amount of risk. Almost all of Goldman-Sachs' wealth now comes from speculating on the market instead of providing risk cushions for others to operate their businesses.

Two factors were necessary to make this kiting scheme work. First was an assumption that the economy would continue to expand indefinitely. For just over a decade prior to the collapse, that had in fact been the case. This is a version of the "last fool in" game, also called a chain letter. For as long as people are willing to put their money into a scheme that promises to pay back profits from the hopes of others putting money in while no value is actually being created, everyone stands to gain except for the last fools in. The game comes to an end when more people ask to exercise their immediate options rather than searching for more fools. That is what happened in October 2008. These assumptions were built into elaborate economic (computer) models that far exceeded the ability of fund managers, investors, and regulators to understand. Actually, both the financial institutions and the rating agencies used the same models rather than one providing an independent check on the other and the rest of us judged only the results without understanding the assumptions on which they were based. There were almost no elements in the models for what happens to the entire system when demand for profit-taking occurs across institutions because that had no occurred in years.

The second element required to set up the collapse of 2008 was some way of increasing leverage. Financial institutions are regulated with regard to required reserves, and those requirements were not relaxed in the years before 2008. Some means had to be discovered for getting risk off the balance sheet because high debt-to-equity ratios limit speculation. The answer was the derivative, in particular collateralized debt obligations and credit default swaps. These are hedging instruments. They allow financial institutions, in the first case to package hybrid, undifferentiated bundles of assets (only part of which are actually owned) to be sold in the market in order to get them off the books, and in the second to pay grantors to insure potential loss, thus freeing assets for leverage. All of this is sanctioned by the Financial Accounting Standards Board standard FAS 133, which requires that the effect of derivatives need only be reflected on the balance sheet when exercised (increased risk is not reflected in financials). There is some wisdom in a firm's using this strategy to convert risk management into market speculation by passing risk to others.

The obvious flaw in the system is that everyone cannot pass risk to everyone else. The late eighteenth century philosopher Immanuel Kant offered this as the very definition of unethical behavior. He said, in effect, only act so that one could wish everyone else did the same thing. The rules written to regulate organizations, one firm at a time, are inadequate to regulate all firms as a system as long as firms are free to pass risk to others, including the public, without disclosing the risk in their financial reporting.

Patient cardiac arrest in the office would be such an example. On the other side, there are fairly likely events that have, on average, small impact.

Risk management is taking corrective action in advance to minimize the impact of likely consequential risk. The basic approach is intuitively easy to understand. We get to the airport in advance of the scheduled departure time because a few minutes of extra personal time is not worth the chance of missing a flight. We may even purchase trip insurance. We pack clothes or take along reading material we do no use, "just in case." Just as the range of risk attributable to variation characteristic of dental practice can be underestimated, it is natural to overlook some of the many risk management options available and to mismatch management approaches to the type of risk they best suit.

Insurance

The simplest approach to risk management is to ignore the risk and be prepared to accept the cost should it occur. This is essentially self-insurance. In a certain sense, the likely cost of this approach is known in advance: it is the expected probability of a failure multiplied by the cost of such a failure. Technically, the cost is the value of the money or other resources that have to be laid aside and held in reserve to cover potential losses. Self-insurance for malpractice could require having a bank account or other semi-liquid assets such as one's house that run into millions of dollars. Other more likely and less costly risks require fewer self-insurance resources. Every dentist and staff member needs to set aside time to respond to a procedure that does not go as planned or a patient who is high maintenance. Planning for everything to go off just as expected is foolish.

The prototypical risk management strategy is insurance: a regularly paid premium that transfers risk almost 100% to someone else. This involves balancing, on the one hand, the expected value of a predictable loss against, on the other, a known benefit should the event occur and a known cost to enjoy such a potential benefit. How much should one pay for an insurance policy on a new practice partner? The expected value (most likely a loss) can be estimated by determining the chances that something will happen to the partner that makes him or her unavailable to the practice. This is multiplied by the financial, operational, and reputational impact of such a loss. A healthy, motivated, hometown practitioner who is not especially productive may have the same probable cost of failure (low probability of leaving, low impact on the office) as a highly productive and versatile practitioner with a known heart condition and a history of moving throughout the career (high probability of leaving, high impact on the office). It makes sense to purchase an insurance policy for any premium amount less than the calculated expected value of loss. Some policies may have low premiums and low payouts; others would pay more in the event of need, but the premiums are higher. So the various insurance options also have expected values. Everyone can do these calculations, usually using intuitive approximations that are completely satisfactory, and everyone is smart enough to figure out that it is foolish to purchase insurance where the expected cost is greater than the expected benefit, should

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Mitigation of the impact of failure is often a good strategy when the probability of failure is modest and consequences are small.

the insurance be required. It is common knowledge as well that the more the expected benefit of insurance exceeds the expected loss of not having the insurance, the better the policy option.

This is the entirety of risk management logic. It is intuitive, most folks are comfortable with an estimation (while recognizing that an exact calculation can be made, in some cases, where the numbers are available and the stakes are high). There is significant payoff in taking this approach. In the remainder of this section, I will present many more tools that can be used to manage risk and suggest cases where specific tools match certain kinds of risk. The basic model of using only those risk management techniques that have a higher expected protection from the expected value of risk than the expected cost of implementation will be a constant theme.

Insurance is the simplest case of risk management, because the probability of paying a premium and the cost of the premium are known in advance. (The possibility of an insurer reneging or defaulting is ignored for the present.) So this is a case of comparing a loss of known or easily estimable value and variable probability against a protection of known probability and cost. There is only one unknown in the equation. "Insurance-like" products can be purchased for many risks. Malpractice insurance is a means of managing variability in technique, protocol, operator skill, and even to some extent the dentist's reputation. Workers compensation insurance is used to manage staff and dentist risk. To a certain extent, all taxes are insurance because they allow for a pool of community resources that fund fire, public safety, and other risk mitigations without regard for risk level.

Insurance, as a form of risk management, is most appropriately used when probability of failure is small and predictable and the impact of loss is more than a party can normally bear out of operations. This is the low probability/high impact category of probable cost of risk. For this reason, major medical is a candidate for insurance risk management, as are life insurance, malpractice insurance, fire and theft insurance, etc. It is generally felt among experts that "dental insurance" for patients is a loose use of the term since oral disease and trauma are commonly occurring events and many patients can cover their costs from a typical family budget. It is unlikely that an insurance company would write a policy for patients missing appointments, dental materials that fail, or tactless remarks made to patients. These are events that have high frequency and low impact.

In addition to insurance in the classical sense of premiums regularly paid against the prospect of large future losses, there are other risk management strategies that fall into the same general category. Strict conformity and documentation regarding regulations constitute a routine cost incurred in practice, with the effect of excusing the practice, under normal circumstances, should something go wrong. It is a kind of insurance. A patient, for example, would not be successful in a lawsuit for excessive radiation exposure if it could be demonstrated that all standard precautions had been taken and documented in accordance with existing regulations. Partnerships, purchased care services, and other arrangements that are in place should a problem arise and the dentist not be available to respond also fall into this category.

The board policy of the College is to maintain an invested cash reserve equal to at least 50% of its operating budget. This is a very conservative position,

meaning that the College would remain operational if 99% of fellows did not pay their dues, or if the stock market lost 68% of its value, or if any similar combination of negative events occurred.

Managing Probability of Risk

The term "risk management" is actually in common use in dentistry. Typically, it is used in the limited sense in which malpractice insurance carriers suggest and urge dentists to adopt practices that reduce the chances of an untoward event occurring. This is a sound strategy for risk of the high probability type. It makes good sense to invest in reducing the likelihood of a bad outcome if this kind of probability can be controlled or anticipated, or if the bad outcome happens often enough to make the preventive actions worth the investment. Managing the probability of risk is applicable in areas such as choice of treatments offered, procedures used, and safety precautions. There are many standard approaches.

The best practice for reducing probability of an unfavorable outcome on frequently occurring and somewhat predicable activities is to build in a safety cushion. Dentists who practice well above the standard of care are unlikely to be surprised by random variation. This strategy is applicable to all aspects of practice, from patient scheduling to compliance with regulations. The challenge, of course, is to make a wise trade-off between the additional cost of practicing with a safety margin that avoids probable costs from failure against the known and constantly recurring costs of earning this cushion. Strict adherence to state regulations regarding allowable delegation of duties to auxiliaries may not be necessary if the chances of detection, which usually happens as a result of treatment failure or staff management failure, are small. Such calculations are built into the fabric of running any business. As humans, we get pretty good at figuring out how much risk we are willing to purchase at the expense of forgoing guaranteed gratification. Some people, as a stable personality trait, are more willing to accept greater risk in exchange for gratification than are others.

All approaches to accomplishing an activity do not share the same risk. A staple of risk management consulting is to suggest that one approach with a known risk be replaced by another approach to the same task with a known lower risk. Sometimes this makes absolute sense because a new approach may accomplish the same goal with less cost and risk. But not always. Risky procedures may be more expensive to implement, or discontinuing them may involve forgoing higher compensation. Malpractice carriers strongly favor a policy of risk management that reduces the chances for paying out claims. But adopting these lower risk approaches may cost practitioners increased cost or decreased income. The sharing of risk cost is something that has to be worked out. However, when shifting to less risky procedures that produce the same or better outcomes is possible, only a stick-in-the-mud, the unenlightened, or a fool would fail to follow one's own best interests.

Have you ever wondered why some appliances with electric cords can only be plugged into wall sockets one way? This is a principle in engineering known as polka yoka. That is a transliteration of the Japanese term; we call it "idiot proofing." When systems can be designed so that they cannot go wrong, or so that extraordinary effort is required to get around the system, the likelihood of failure is decreased. The costs of these system safety efforts can be determined. Where the cost of system protections, such as having faculty members check off work done by dental students, is less than the expected value of a failure, this is an excellent approach to risk management because it removes personal judgment of the operator and reliance on self-monitoring from the equation. As the best dental students approach graduation and the likelihood of errors declines, faculty monitoring is shifted to other students who are higher risk.

Monitoring is a related and potentially effective means of risk management when recurring procedures of low potential impact are involved. Having a second look, especially with a checklist (as airlines pilots do), and especially having a second pair of eyes, reduces the chance that failures will get out into the public where they can magnify over time and cause greater damage. Naturally, there is a cost to this approach to risk management. There is a further shortcoming in monitoring that is often underappreciated. Assume that the dentist regularly spot-checks the prophy skills of the hygienist and makes certain that all oversights are corrected. Perhaps lapses happen rarely, maybe once a week. No patient leaves the office with unremoved calculus under this system, but will the hygienist ever get better? Unless something more than monitoring is done, the frequency of lapses will remain constant, adding a permanent expense to maintain quality. Experts in operations research and quality systems warn vigorously against the dangers of inspection as a strategy for improvement.

Education is a form of risk management. Improving the skill of individuals in performing their tasks usually improves their overall level of performance. The large advantage of education and practice is found in reducing variation, and less so in raising average level

The way an organization responds to customers when a problem arises turns out to be more important than the problem itself.

of performance. Recall that a key component in risk is variation. CE programs that involve switching out an established product or procedure in the dental office carry the chance of dramatically increasing risk because of wider variation with unfamiliar practices. It is common practice in medicine to consider all changes in protocol as experiments to be evaluated and adjusted (and to be described to patients as experimental procedures in informed consent) until they have been proven effective. This proof is demonstrated by a consistent (low variation) pattern of outcomes that contains a safety buffer above the standard of care.

The final form of risk management for probable but low-impact failures in this brief overview is redundancy. Managing patient attendance is a good example. Of course, patients should need no reminders of their appointments, but there is good evidence that a redundant system of telling patients about their appointments is worth the additional cost. The reminder cards or calls are redundant systems. Other examples of redundancy include duplicate medicaments in managing periodontal conditions and backup power generators in surgical operating suites.

Managing Impact of Risk

Sometimes the best way to manage risk is to let untoward events occur as they will but make plans for mitigating their impact. Surely every dentist who has been in practice for any length of time has developed and polished a few little scripts for use with patients when treatments do not work out as expected, just as we have a small repertoire of excuses for when we are late to meetings. Mitigation of the impact of failure is often a good strategy when probability of failure is modest and consequences are small.

Many adverse outcomes can be mitigated if they are anticipated or recognized in a timely fashion and if routines are available to repair or limit damage. The cost in these cases is education to become aware of recovery routines, vigilance and monitoring to detect needed intervention, and preparation and sometimes equipment on hand. If these costs are never needed, they represent sunk costs that most offices will gladly pay. The greatest cost in using mitigation strategies for risk management, however, is psychological. The ego price of responding to error, especially when no preventive actions have been taken to reduce its likelihood, can sometimes be enormous.

It is always good to have a "Plan B." The important point is to prethink alternatives to likely missteps. The trigger for switching to the backup plan should be identified in advance and the plan should be worked out, even rehearsed. The value of these precautions is to avoid compounding the misfortune by letting it grow, unresponded to, and to preclude drifting into some untried hybrid of the original action and a half-thought-out, spontaneously improvised attempt at damage control. There should be costs associated with developing backup plans. Additional equipment may be needed; training can be a wise investment; contracts with other providers who are expert in managing crises might be arranged. Although some preventive strategies are possible to reduce the probability of events such as patients suffering heart attacks in the office, the occurrence of natural disasters such as tornadoes, or the illness of staff members, they are usually best managed by having a recovery protocol available.

Crisis management is a skill. I know consultants who make good livings advising organizations about how to

inform the public about what is being done to manage missteps. Think of BP's recent weak performance regarding the Deepwater Horizon disaster or the bungled attempt of Johnson & Johnson to pull off a "phantom recall" of Motrin last year by sending teams of "shoppers" into drug stores to buy out contaminated product. Contrast that with their 1982 public handling of contaminated Tylenol that made them heroes. When a problem arises, the first concern of the public is to get an accurate grasp of the magnitude of the issue and to understand what their exposure is. Having a plan, or at least a policy, for disclosing information about bad outcomes is sound risk management. It preserves some degree of confidence, avoids having to change one's story, and, by responding in a timely fashion, it can prevent fantasy fears from metastasizing. There is a growing body of evidence that the advice malpractice insurance carriers urge of never apologizing to patients is bad advice. An increasing number of states have passed laws that protect apologizing practitioners precisely because appropriately owning that a problem has occurred is good risk management.

There is also a vast literature on a topic known as service recovery. The way an organization responds to customers when a problem arises turns out to be more important than the problem itself. The entire office should be trained in what to say by way of acknowledging, reporting, and making others whole when something goes other than expected. We know that on average one customer in ten who is disappointed with service shares that with the organization, while they tell 20 of their friends about the problem. We also know that when a complaint is managed well, customer loyalty is actually increased. Service recovery is something like remineralization of enamel: the recovered case is stronger than the original. Any organization that does not have a well-designed and rehearsed service recovery plan is probably in worse shape than one without a crash cart.

Learning to Manage Risk

Learning risk management is not a primary means of risk management; it is secondary, but highly efficacious. Becoming an intelligent risk manager is about multiplying the rewards that can be extracted from managing risk. Think for a moment about the difference between an experienced dentist and one just beginning practice. The master does not actually move the handpiece any faster than his or her associate. The master just knows more about when and how to do it. In a similar fashion, the master of risk management knows which risks to protect against, which management techniques work best, and how to match management techniques to risk exposure. Knowing dental practice allows one to assume more (prudent) risk, just as an expert driver can safely drive faster.

Learning about risk involves getting better estimates of probabilities of failure and better estimates of the consequences of failure. If it can be guessed that the probability of the supplier of a new computer system for the office going out of business is between 3% and 30%, it might cost a large amount to ensure against that risk since the high end of the range should probably be covered. If, by contrast, additional information could be gathered so that the risk range narrows to between 10% and 15%, the cost of managing the risk has been decreased. Similarly, if it is estimated that the cost of recovery from the bankruptcy of such a vendor is between $20,000 and $80,000, a lot of capital will be tied up in protecting such a conversion. A more precise estimate either shifts the decision against the investment in the first place or frees capital for other purposes. Risk intelligence is money in the bank.

Another way in which learning can improve risk management is to find out about alternative approaches to risk management. This is the straightforward approach of shopping for better insurance products, using effective methods for reducing probability of failures, and becoming aware of good mitigation and recovery strategies. There are best practices for risk management, and it makes sense to study them and put the best ones into play.

There is even a form of risk management intelligence known as "near miss analysis." Of course, outcomes that trend toward an unacceptable outcome even when they do not actually cross the line so as to require some form of corrective action should be minimized. The more near misses, the more actual failures. What is stupid, however, is to ignore the near misses that do occur. There is useful information in them. Near misses signal vulnerabilities and augment the accuracy with which the probabilities of failures can be forecast. Any practice that does not have an active complaint system, for patients and for staff, is like a dentist practicing in an operatory where some of the lights have been turned off. A complaint is not a disaster: a patient or staff member leaving the practice in disgust because no one will listen to them is. Near misses can also function as test-beds for experimenting with risk management approaches intended to reduce probability or promote mitigation and recovery without having to wait for the full-blown tragedy to happen. ■

Recommended Reading

The literature on risk management is new and technical. Two articles especially relevant to dentistry have appeared in this journal. The other two are available from the ACD Executive Offices in Gaithersburg. A donation to the ACD Foundation of $15 is suggested for the set of summaries on risk management marked by an asterisk. A donation of $50 will bring you summaries for all the 2010 leadership topics. The Barton, Shenkir, and Walker book is approachable; the summary for the Fraser and Simkins anthology is ten single-spaced pages and the text is almost 600 pages in length.

Barton, Thomas L., Shenkir, William G., & Walker, Paul L. (2002).
Making Enterprise Risk Management Pay Off.*
Upper Saddle River, NJ: Prentice Hall PTR. ISBN 0-13-008754-8; 257 pages; about $34.

Every company faces risk, and thus must learn to manage it. This is both a strategic issue and a matter of organizational culture. "The term risk includes any event or action that will adversely affect an organization's ability to achieve its business objectives and execute its strategies successfully.... Hence, the goal of an enterprise-wide risk management initiative is to create, protect, and enhance shareholder value by managing the uncertainties that could either negatively or positively influence achievement of the organization's objectives" (p. 5). This book presents case studies and lessons learned from the risk management strategies of five diverse firms.

Chambers, D. W. (2002).
Snowballs in Hell [editorial].
Journal of the American College of Dentists, 69 (3), 3-5.

This little editorial takes dentists step-by-step through the process of finding the two pieces of key information from the literature or product inserts that allow dentists to evaluate the probability that a product or material will fail in use and shows how that estimate can be performed easily on an Excel spreadsheet.

Chambers, D. W. (2002).
Why [Leadership column].
Journal of the American College of Dentists, 69 (1), 41-48.

There are two kinds of cause and effect. The scientific motion that is taught as part of the formal model is rigorous, but often limited in its generalizability across situations. The study of cause and effect in natural settings is also a rigorous field, with several useful and easily applied techniques. Root cause analysis is a set of approaches to identifying the factors in natural settings that initiate a chain of events with outcomes of interest. It is easier to improve processes when their true root causes have been identified. Risk management is a special case of root cause analysis.

Fraser, John & Simkins, Betty J. (Editors) (2010).
Enterprise Risk Management: Today's Leading Research and Best Practices for Tomorrow's Executives.*
New York, NY: Wiley. ISBN 978-0-470-49908-5; 577 pages; about $95.

This is a very large collection of current papers of ERM, providing both depth and scope for the topic. Major themes addressed include (a) definitions or ERM, (b) ways ERM is organized and implemented in organizations, (c) measuring and managing risk, (d) ERM in financial markets, (e) state-of-the-art in ERM.

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