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

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

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

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

D. To encourage, stimulate and promote research;

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

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

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

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

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

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Cover Photograph: Photographer Jon Draper illustrates the chemistry of blending education and finances. The correct balance is critical.

From the Editor

Retributive Justice and Dentistry

Individual moral heroes are always welcomed, but they cannot be counted on in anything approaching sufficient numbers to sustain the profession.

When firing squads were used as a form of execution, the sergeant who distributed the ammunition included one (randomly assigned and disguised) blank. Thus, each member of the squad could realistically cling to the notion that perhaps he had not murdered another human. The lesson is that punishment costs those who administer it, just as it costs those who receive it. (Perhaps there are a few readers old enough to remember what our fathers said about it hurting him as much as it did us as he prepared to make a point on our behinds.)

Distributive justice is the branch of ethics concerned with how the common resources in society should be distributed. There is little odor attached to those who administer the public largess. About the only real problem in distributive justice is finding ways to get the "haves" to contribute a bit more generously to the common fund.

Retributive justice is another matter. This is a generally neglected branch of ethics having to do with how society distributes punishment to protect the general welfare of the community. Capital punishment, plea bargaining, consent decrees, profiling, and the current debate over screening (aimed at high sensitivity) vs. civil liberties (high selectivity) are examples of topics in this field. In dentistry, retributive justice is at stake in areas such as disciplining licenses, peer review, malpractice and standards of care, fraud, and perhaps claims review.

As the historian Will Durant observed, "Freedom and equality are sworn and everlasting enemies." Why, the practitioner wonders, must I purchase equipment to protect against waterline or amalgam concerns that did not exist a few years ago and then do the paperwork to certify my compliance? Why must I pay high personal health insurance rates to subsidize emergency room care for individuals who are irresponsible in their own health? The answer is that "somebody" decided that the best balance between liberty and equality for each particular issue should be set at a certain trade-off level.

In special cases, dentists, as a group, are the ones who have the opportunity to strike the balance and determine how punishment is to be distributed. Examples include the work of state boards, peer review committees, hospital privileges, or as expert witnesses. Consider also the furor created in the ADA House of Delegates over the orthodontic graduate education program at Jacksonville. There were loud calls for "retribution" under a variety of arguments. In the end, it is my opinion, the ADA failed to take action because it had no evidence that such a program is a threat to patient health or safety and because the American system of justice views dentistry as a trade, and activities in restraint of trade are actionable.

Finding the balance between freedom and obligations to society is a difficult and important task for the profession.

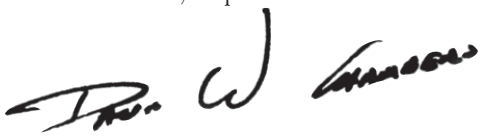
An additional challenge arises when the "found balance" must be put in play. There is a difference between knowing what is right and doing it, and this is especially the case in retributive justice.

The cost to society for our penitentiary system exceeds what we invest in children through education. And this cost is so heavy that it bends justice. Plea bargaining is attractive to society because it reduces the expense of prosecuting lawbreakers. Consent decrees work the same way. Often organizations with deep pockets bully others who are more in the right but can't afford to prove it. The chances of a patient suing a dentist are greater than the other way around, and so are the sizes of the settlements.

In a famous essay, Garret Hardin wrote that social systems which permit individuals to draw on the public reservoir of resources will always exhaust these resources. His essay is entitled "The Tragedy of the Commons," and Hardin used the word "tragedy" in the Greek sense of an inescapable outcome preordained by human nature. The problem is that the cost to any single individual of refraining from using the common resources or of attempting to enforce a fair use exceeds the benefits individuals can expect to gain by their selfish actions. Bringing instances of gross or continuous abuse of patients to the attention of appropriate groups is an obligation specifically enjoined in the ADA ethics code. Doing so benefits all dentists by protecting the profession's reputation—to say nothing of addressing direct patient needs. But the cost to the whistleblower is greater than the whistleblower's fraction of the profession's enhanced good will. Serving on a component peer review committee is no way to win friends and can be discouraging. Being named in a legal action against an individual or group that is endangering the public's health is noble and expensive.

A fundamental asymmetry exists between distributive and retributive justice. It is natural to seek benefits and avoid harm—but we are willing to put more effort into the latter. We go to greater lengths to protect what we have than to gamble on getting more. Applied to retributive justice, it is worth more to an offender against society to defend himself or herself than it is to stand up against such abuse—assuming an even split on the probable outcome of the decision.

The solution to Hardin's tragedy does not lie in exhortations that individuals should be more ethical. That is ideal, but not reasonable. Instead, communities must act in a coordinated fashion because only the community stands to gain more by correcting abuse than it costs to do so. Individual moral heroes are always welcomed, but they cannot be counted on in anything approaching sufficient numbers to sustain the profession. Become active in the College and the ADA, read, participate on peer review committees, and when you see your colleague doing something you don't understand, say so. "I was surprised by what I heard; help me understand."



David W. Chambers, EdM, MBA, PhD, FACD
Editor

Managing Financial Conflicts of Interest in Research

Lisa A. Bero, PhD

Abstract

Evidence points to commercial sponsorship and personal financial gains for researchers leading to reporting more favorable results, tainting the climate of academic integrity, and negative public perceptions. Research institutions attempt to protect their own reputations and those of their faculty through establishing thresholds for reporting financial involvement and through committee review that may suggest that the sponsoring organization impose management practices designed to reduce conflicts or declining the funding. In one prominent university research system, a quarter of research projects reviewed required management because of conflicts of interest, the most common of these stemming from high "consulting fees" paid to researchers. The degree of understanding of policies regarding conflicts among researchers is uneven, and some regard these as private matters. Differences of opinion exist in the research community over whether disclosure of financial interests, although necessary, is sufficient to ensure a reasonable level of freedom from bias and to maintain public trust.

Financial conflicts of interest are a growing concern because corporate sponsorship of research is increasing and abundant evidence shows that such sponsorship is associated with a breakdown in research integrity. More than one billion industry dollars flow into academic institutions each year; it has been estimated that almost one-third of life sciences faculty receive funding from industry sponsors (Blumenthal, Campbell, & Louis, 1996; Blumenthal, Causino, & Louis, 1996). A significant number of faculty investigators also have personal financial ties to their industry sponsors. For instance, one 1996 study found that 15% of sampled lead journal article authors had a personal financial interest in the company sponsoring their research (Krimsky, Rothenberg, Stott, & Kyle, 1996). At one institution, nearly 8% of faculty researchers with external funding reported personal financial relationships with their industry sponsors and that number was steadily rising (Boyd & Bero, 2000). These additional ties result in an increased potential for conflicts of interest because investigators stand to benefit personally from the outcomes of the studies.

There is a growing concern that industry sponsorship of research may influence research outcomes and undermine traditionally held academic values of intellectual freedom, open exchange of ideas, and research in the interest of the public good (Frankel, 1996; Krimsky, 2003; Thompson, 1993). My colleagues and I conducted some of the early empirical work demonstrating that single-source sponsorship is associated with outcomes that favor the sponsor (Barnes & Bero, 1997; Barnes & Bero, 1998; Bero & Rennie, 1996; Cho & Bero, 1996). Our recent systematic review offers further evidence of an association of research funding and financial ties of investigators with outcomes (Lexchin, Bero, Djulbegovic, & Clark, 2003). The review investigated whether funding of drug studies by pharmaceutical companies is associated with outcomes favorable to the funder and whether the methods of trials funded by pharmaceutical companies differ from the methods in trials with other sources of support. Among the thirty studies included, studies sponsored by pharmaceutical companies were about four times more likely to have outcomes favoring the sponsor than were studies with other sponsors (Lexchin, Bero, Djulbegovic, & Clark, 2003). None of the thirteen studies that analyzed methods reported that studies funded by the pharmaceutical industry were of poorer quality. Another recent review also found that industry funding for research is associated with favorable outcomes for the sponsor (Bekelman, Li, & Gross, 2003). This scholarly evidence has been

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accentuated by lay media stories documenting how financial conflicts of interest have led to biased and even dangerous research (see for example Wilson, 2001a; 2001b).

Biased research can be intentional or unintentional (Dana, 2003) and can result from damaged objectivity at multiple stages in the research process, including conceptualization of the question, design of the research, conduct of the research, and publication (or not) of the research (Bero, in press; Bero & Rennie, 1996). For example, individual investigators have reported being pressured by pharmaceutical industry sponsors to suppress data that do not favor the sponsor's product (Kahn, et al, 2000). Regardless of its source, the bias associated with financial conflicts of interest can damage both the public's and other researchers' trust in science (Friedman, 2002). Many scholars agree that the type of conflict of interest most likely to affect the public's trust is a financial conflict where the scientist has a potential to make money as a result of a particular research outcome (Baltimore, 1989; Drazen & Koski, 2000; Friedman, 2002; Haerlin, 1999).

Conflict of Interest Policies

As financial ties between researchers and their corporate sponsors have increased in prevalence and magnitude, federal, state, and professional society guidelines recommend that institutions "manage" the financial conflicts of interest of their researchers. Institutions manage conflicts of interest in research in order to overcome the presumption that judgment is affected (Friedman, 2002). In other words, institutions attempt to maintain trust in their researchers.

A range of policies exists to monitor and regulate investigators' financial relationships and most academic institutions have such policies (Cho, Shohara, Schissel, & Rennie, 2000). However, there is variability among institutions and across states. For example, even within a single university system—the University of California (UC)—several conflict of interest policies are relevant for all faculty members engaging in sponsored research. As employees of a public university system, faculty are obligated to disclose to the university their financial ties to private entities in accordance with the California Political Reform Act of 1974. This legislation requires faculty investigators to disclose annual income over $250 (this was raised to $500 in 2003), $1000 (raised to $2000 in 2003) in equity holdings, or a management or decision-making position within a company or organization sponsoring a research project. So, for instance, if an investigator received funding from a private software company to evaluate its software and the investigator had received $15,000 in income for consulting work (or owned $3000 in equity in the company), the investigator would be required by state law to disclose this income (or equity) at the time the grant application was submitted to the Contracts and Grants Office at the investigator's university.

Additionally, under federal legislation, recipients of National Institutes of Health (NIH) or National Science Foundation (NSF) funding are required to disclose to their institutions annual income in excess of $10,000 or equity ownership exceeding 5% in a company whose "financial interests would reasonably appear to be affected by the research" (NIH, 1995). For example, using the previously-mentioned investigator, if the software research project were funded by an NSF grant (instead of the company), the investigator would need to disclose the annual consulting income because the research and the company interests

Many scholars agree that the type of conflict of interest most likely to affect the public's trust is a financial conflict where the scientist has a potential to make money as a result of a particular research outcome.

reasonably appear to be related and the outcome of the research could affect the financial interests of the company. Unlike some institutions, where only the federal disclosure guidelines apply, University of California faculty are required to disclose virtually all of their financial relationships with private companies or entities to their institutions, regardless of the source of funding (federal or private).

Finally, some individual UC campuses have their own conflict of interest policies in place, either formally or informally. Most of these local policies apply to clinical research and are designed to impose more stringent standards on research involving human research subjects.

Although existing policies provide reasonably clear guidance for disclosing financial ties to the institution, they provide little guidance about what institutions should do with this disclosed information. Many universities have the financial disclosures reviewed by committees. For example, since 1995, each UC campus has been required by the Office of the President to appoint a committee to review new financial disclosures and to advise the Vice Chancellor of Research of potential conflicts of interest. The committees review each disclosure and the accompanying documentation and make a recommendation regarding the research funding: accept, decline, or accept provisionally ("manage" the conflict of interest). Although the committee's role at each campus is explicitly advisory, in almost all instances, the Vice Chancellor implements the recommendations of the committee (Boyd, Lipton, & Bero, 2004).

Each conflict of interest committee is composed of faculty members (from a range of disciplines) and campus administrators and it may include a member of the Contracts and Grants Office, Legal Affairs, Technology Transfer, or the Institutional Review Board (IRB) for Human Subjects and/or Animal Subjects research. One campus includes two public members, chosen from outside the campus community.

Implementing Conflict of Interest Policies

Elizabeth Boyd and I have examined how these university committees make decisions regarding management of financial conflicts of interest among researchers (Boyd & Bero, 2000; Boyd, Lipton, & Bero, 2004). First, we conducted a case study of a major medical research institution, the University of California, San Francisco (Boyd & Bero, 2000). Our findings show that, over twenty years, faculty researchers have become increasingly involved in a web of financial relationships with their research sponsors. Although there has been stability in the disclosure policies in recent years, definitions of a conflict and the management strategies that the committee has used changed over time. Requiring the faculty to disclose financial ties in all publications and presentations became the most frequently used management strategy. We also found that differences in the federal and state disclosure policies resulted in ad hoc, case-by-case decision making. For example, the committee identified as "significant" and requiring management some, but not all, financial interests below the federal $10,000 disclosure limit.

In a second study, we analyzed the implementation of conflict of interest policies within the multi-campus University of California system (Boyd, Lipton, & Bero, 2004). Although all the campuses have the same conflict of interest guidelines, implementation of the guidelines is at the local campus level. Between January 1996 and June 2001, there were 1,991 positive financial disclosures made to the seven campuses in our study, with 300 to 400 disclosures each year. Financial ties were most often with pharmaceutical companies or biotechnology companies. Across the seven campuses, payment for consulting activities accounted for 54% of the financial disclosures; equity holdings for 38% of the disclosures; payment for talks accounted for 14%; scientific advisory board membership accounted for 13%; membership on a company's board of directors for 12%; and company founder for 7%.

Overall, the committees determined that 26% of the reviewed cases were conflicts of interest in need of management (Boyd, Lipton, & Bero, 2004). The management strategies selected by the committees ranged from disclosure of the financial relationship in publications and public presentations, a reduction in equity holdings, eliminating consulting activities, resigning as principal investigator, or agreeing to third-party oversight and annual review. The three most commonly applied management strategies were requiring disclosure in publications and presentations (40% of managed cases recommended this strategy), appointing an oversight committee to protect the interests of graduate students and post docs involved in the project (21% of managed cases), and eliminating the existing relationship during the project (22% of managed cases).

There was variation among campuses in defining conflicts of interest and in determining appropriate strategies to mitigate conflicts of interest (Boyd, Lipton, & Bero, 2004). Regardless of the type of disclosed relationships or their complexity, the management recommendations made by each campus suggest the importance of local culture

and context for institutional decision-making. Although campuses varied in their application of management strategies (i.e., no campus uses a single strategy for all conflicts and no campus uses the same strategy for particular relationships), there was consistency in the rationales used to explain the committees' choices. All of the campuses were concerned about restrictions on publication of results and with protecting the financial interests of the university related to patents, licensing, and technology.

Effects of Conflict of Interest Policies and Management Strategies

To explore the possible implications of conflict of interest policies for clinical researchers, we conducted targeted, qualitative, in-depth interviews of active clinical investigators at two institutions that have divergent conflict of interest policies (Boyd, Cho, & Bero, 2003). The most striking feature of our interviews was the range of understandings and attitudes expressed by clinical investigators and their implications for administrators, professional societies, and policymakers concerned with conflicts of interest. Fewer than half of the interviewed investigators could accurately describe their campuses' conflict of interest policy. Many investigators felt that professional societies, the public, and individual investigators were appropriate monitors of conflicts of interest. Many recognized the general risks associated with conflicts of interest, but felt that they personally were not at risk, a viewpoint that is consistent with their support for self-regulation. We concluded that a fundamental challenge facing administrators and policymakers is to demonstrate to all investigators, both clinical and nonclinical, that the potential for bias, pressure, and conflict is relevant to all investigators with industry relationships.

We further explored faculty awareness of and attitudes toward conflict of interest issues through a web-based survey of researchers at the multi-campus University of California system (Lipton, Boyd, Bero, 2004). We investigated UC faculty's understanding of the federal, state, and campus conflict of interest guidelines, their attitudes toward financial conflicts and current regulation, and their assessments regarding how financial ties with industry affect their research endeavors. Of the 1,971 surveys sent via email, 779 responses were received.

Our survey results reveal faculty with complex, sometimes contradictory, feelings about academic-industry relationships and highlights perceived gaps in policy and process. Overall, most of the surveyed faculty were concerned about unlimited financial relationships in general and favored increased oversight efforts. However, a sizable number of faculty members also viewed campus policies as irrelevant to them. Some expressed considerable anger over how the policies are implemented, and some rejected the policies on the basis of professional and individual self-determination and moral integrity.

Among faculty, there was a common belief that individuals can recognize and manage conflicts of interest on their own (Boyd, Cho, & Bero, 2003; Lipton, Boyd, Bero, 2004). Faculty members believe that they are able to monitor their own behavior and use common sense in avoiding certain relationships or engaging in ethical behavior. These responses reflect a view of conflict of interest as residing within the control of the individual, not as a set of situational circumstances to be avoided. Our studies suggest the need for efforts to encourage awareness of the relevance of conflict of interest policies for all faculty members

Individual investigators reported being pressured by pharmaceutical industry sponsors to suppress data that do not favor the sponsor's product.

and a reexamination of the processes of conflict of interest policy implementation at the local level. Furthermore, new efforts to increase understanding of the situational nature of conflicts of interest are needed.

Rethinking Management Strategies for Financial Conflicts of Interest

Our findings suggest that faculty see transparency as a way to eliminate concerns among other researchers and the public about financial conflicts of interest. Although disclosure of financial ties is becoming more accepted within the research community, there are widely varying opinions about the adequacy of disclosure as a management strategy for financial conflicts of interest. Some critics of disclosure feel that it is unnecessary and can taint the reputation of "good" researchers (Jansen & Sulmasy, 2003; Rothman, 1993). On the other hand, some scholars believe that "the key to avoiding conflict of interest is public disclosure" (Duderstadt, 2000). Others see disclosure as a necessary, but insufficient, way to manage financial conflicts of interest (Bero, 1999). Studies that disclose industry sponsorship have a systematic bias towards outcomes that favor the sponsor (Lexchin, Bero, Djulbegovic, & Clark, 2003; Bekelman, Li, & Gross, 2003); therefore, disclosure does not eliminate bias. Thus, although disclosure does not eliminate the association of research funding with outcomes favorable to the sponsor, many argue that it can minimize perceived conflicts of interest.

If researchers and institutions view financial conflicts of interest as a matter of public perception, eliminating financial ties (not disclosing them) may be the best way to deal with the issue. Unfavorable public attitudes about the financial ties of researchers could prompt institutions to seriously consider management strategies other than disclosure. For example, when the *Los Angeles Times* reported that some NIH scientists had lucrative financial arrangements with drug and biotech companies, the public was outraged and a Congressional investigation was initiated. Although NIH initially believed that the conflicts of interest could be managed through disclosure and oversight strategies, NIH officials ultimately instituted a ban on paid collaborations of its scientists with drug or biotech companies (Weiss, 2004).

A number of scholars have argued that there should be total ban on clinical investigators' financial ties to companies that fund their research (Dana, 2003; Krimsky, 2003). These proposed bans eliminate the need for oversight committees to "manage" the conflict of interest and protect against even the appearance of conflict. Schafer supports the "sequestration thesis" which would eliminate direct corporate sponsorship of research and financial ties of investigators (Schafer, 2003). Sequestration could be achieved by forming an independent research institute, funded by companies, to support clinical trials and other types of research.

In summary, academic research institutions are operating under a variety of conflict of interest policies and guidelines. The variable implementation of these policies is dependent on local culture and context. Self-regulation, which guides the implementation of most policies, may be an insufficient mechanism for controlling the influence of financial conflicts of interest on research outcomes. ■

Although existing policies provide reasonably clear guidance for disclosing financial ties to the institution, they provide little guidance about what institutions should do with this disclosed information.

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Entrepreneurship in Continuing Dental Education: A Dental School Perspective

Vincent N. Liberto, DDS, MS

Abstract

The definition of continuing dental education is presented, along with its benefits to the profession. The preeminence of dental schools in providing lifelong learning opportunities and freedom from commercial involvement that existed even twenty years ago has changed. Less than a quarter of CE takes place in school, and the focus there is increasingly on material with deep scientific background and hands-on learning. The newest innovations and those with the greatest commercial potential are taught elsewhere. Proposed changes in the ADA CERP standards would take on a "purist" approach that could place dental schools at a severe disadvantage while allowing "for profit" institutes to flourish and thus further undermine the role dental schools can play in providing quality professional development experiences.

Continuing dental education, as defined in the Lexicon of Terms taken from the *ADA CERP Recognition Standards and Procedures,* is "educational activities designed to review existing concepts and techniques, to convey information beyond basic dental education, and to update knowledge on advances in dental and medical sciences." The objective is to improve the knowledge, skills, and ability of the individual to deliver the highest quality of service to the public and profession. Continuing education programs are usually of short duration and are not structured or sequenced to provide academic credit toward a certificate or degree. CE courses are conducted in a wide variety of forms, using many methods and techniques, and are sponsored by a diverse group of institutions, schools, and organizations. Continuing education should favorably enrich past educational experience. These programs should make it possible for dentists and allied team members to attune dental practice to modern knowledge as it continuously becomes available. All continuing education should strengthen the habits of critical inquiry and balanced judgment that denote the truly professional and scientific person.

Taken from this same Lexicon of Terms, "commercial support" is defined as "financial support, products, and other resources contributed to support or offset expenses or needs associated with a provider's continuing dental education activity."

Historically, most CE programs were sponsored by dental schools to service the ongoing education of their graduates. Other parties of interest became involved in this activity for a variety of reasons. Regional and national dental meetings sprang up all over the world as they satisfied the needs of their members, constituents, and allied staff teams, while recognizing that enormous non-dues revenues could be generated. Dental companies contributed to this revenue stream by lending their commercial support, and they also recognized that by exhibiting their products, all parties benefited from these events.

Competition for the CE dollar developed as ADA CERP (Continuing Education Registration Program) presently recognizes some 337 providers. Of this number, only 20% are U.S. and Canadian universities, colleges, and medical schools. More than 60% of these providers are hospitals, specialty dental organizations, federal agencies, study clubs, education companies, dental laboratories, and dental supply or pharmaceutical companies. In addition, there are many private, entrepreneurial institutes that operate on a "for profit" basis. The demand for CE increased further as state boards of dentistry began to mandate a minimum number of CE hours for re-licensure.

Generally, what sets dental schools apart from other providers of CE is the

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fact that schools operate as nonprofit entities and serve as public trusts, primarily for education and the development of new knowledge. For example, at Louisiana State University (LSU) School of Dentistry, the expressed mission of the CE activity is "to provide quality continuing dental education for the dentists of Louisiana, and their allied team members, as well as other dentists nationally and internationally; to promote the science and art of dentistry for the betterment of dental health; to enhance the knowledge and skills of the dental practitioner by providing the intellectual stimulation that comes from a well developed graduate education program; and to encourage dental research." Further, CE programs offer financial support to the School of Dentistry if they are self-supporting, typically providing discretionary funds for improvement of facilities within the school, to assist in upgrading the audiovisual equipment in lecture halls, and a variety of other activities.

Many schools have developed unique niches. At LSU, the CE director is extremely gratified to be a leader in esthetic dentistry, as well as presenting courses that assist candidates in preparing for National Board Exams in the fields of oral and maxillofacial surgery and periodontics.

As our profession evolves, it is incumbent upon our schools to be at the cutting edge of change. This occurs through careful research that has clinical significance and by offering hands-on courses to enhance teaching techniques. The cost of producing this type of CE program has escalated, and sometimes it is beneficial to receive financial support from industry in the form of unrestricted educational grants to make these courses affordable. One might argue that this activity enters into a potential conflict of interest and into the area of commercialization.

The current ADA CERP Recognition Standards and Procedures have served the profession well. However, the ADA CERP Committee and the ADA Council on Dental Education and Licensure are considering changes to the standards in the Recognition Standards and Procedures related to commercialism and promotional conflict of interest. For example, CE credit should not be offered or awarded for promotional activities or product training and education. Providers must monitor participation and issue accurate records of individual participation to attendees.

At this point, it becomes necessary to take a position. Some of these changes take on a "purist" approach that, if implemented, would place dental schools at a severe disadvantage and allow the for-profit institutes to flourish. It is true that we walk a fine line in this area, however, dental schools operate at the highest level of ethics and they work diligently to meet the current standards. More stringent regulations might mean the demise of some dental school sponsored programs. It is sufficient to require full disclosure to the dental community and participants during these courses without engaging in overregulation. In this age of financial cut backs to our dental schools and universities, the CE programs must continue to be successful in order to maintain their level of support for the parent school.

A recent survey conducted by Dr. Suzanne M. Corbett, special projects coordinator for continuing dental education at the University of Washington, revealed that of twenty-seven dental schools responding reported that they are partnering with commercial companies on their CE courses. This usually takes the form of receiving supplies, equipment, or cash grants for participation programs. The range of annual support varied dramatically from $600 to $84,000 per year.

Truly, we are all aware of the explosion in new products and techniques in the field of dentistry. What better place to receive this new information than in a dental school environment? Dental educational institutions have an obligation to disseminate new knowledge related to dental practice. In so doing, some presentations may include controversial materials or commercial references. Sponsorship of a continuing education course by a dental school does not necessarily imply endorsement of a particular philosophy, procedure, or product.

Sometimes it is beneficial to receive financial support from industry in the form of unrestricted educational grants to make these courses affordable.

The entrepreneurial sector of the CE arena will largely assume a "business as usual" approach, while those university-based ADA-CERP providers will be bound by a change that almost requires a prescreening of presentation content if there is any commercial connection with a program. In the real world, each individual State Board of Dentistry determines acceptable CE in its state and ADA-CERP standards do not influence their decisions.

It should be sufficient that when support is being clearly identified by dental educational institutions, potential participants can continue to evaluate the nature of programs in light of that support. Dental educational institutions will be able to continue to offer unique, hands-on, cutting-edge clinical courses. To further restrict support, such as by the proposed ADA CERP guideline changes, will challenge the balance between industry and education and will, in turn, adversely affect the quality of education available to dental participants. ■

Industry Support for Dental Education

Michael R. Sudzina

Abstract

The relationships between industry and dental education are multiple and mutually beneficial. Perhaps most prominent are collaboration on research and development of products and technologies and the knowledge and public credibility that accompany them. Industry is also looked to for product and equipment support in schools and increasingly for help with outreach and access programs schools provide for underserved populations. Not as widely recognized, but still quite important, are the programs for support of student research and sharing of management expertise through exchange of board members. A quarter century ago, the relationship between schools and industry was at arm's length. There was a mistrust in schools that feared exposing their students to commercial contact. Today the relationship has evolved into a mutual search for joint benefits with an eye on the future of the profession and its relationship with patients. This is illustrated in the American Dental Education Association Corporate Council.

Industry has had a strong and synergistic relationship with dental educational institutions over the last quarter century. This relationship has typically focused in the areas of science and research. New dental materials and compounds are often developed on the campuses of our nation's dental schools. This is particularly true in the area of over-the-counter products as they began delivering therapeutic benefits.

This year, Procter & Gamble will celebrate the fiftieth anniversary of Crest dentifrice, which was launched into the consumer marketplace in February 1955. Its success as the first fluoride toothpaste to be clinically proven to prevent caries had its roots in the work done by Dr. Joseph Muhler and his colleagues at Indiana University, where they were working with the stannous fluoride molecule. Procter & Gamble was also looking at stannous fluoride as an active ingredient for one of its dentifrice products, and through this collaboration one of the most successful brand franchises was launched. By sharing core competencies, a breakthrough innovation emerged that made a major contribution to the public health, enriched P&G shareholders, and provided significant revenue to Indiana University. Today, research collaborations remain a fundamental linkage between industry and dental education.

Multiple Relationships

In addition to research, there has also been an evolving array of touch points that are serving both industry and education well. Industry frequently looks to dental experts or opinion leaders to help credential the science and clinical capability of their products. Often these individuals reside in schools as researchers or faculty members in specialty programs. They are asked to educate the practicing community on new advances and to help create marketing materials such as product monographs, continuing education courses, and speakers' programs. These collaborations serve not only to help promote the product through education and awareness, but also to connect industry to the opinion leader's academic institution.

Evolving from these relationships has been industry support for students ranging from grants for research projects to internship programs. These programs enable students to spend time at a company's research facility to learn the research and development process first-hand. While there, they are exposed to state-of-the-art research techniques and are able to explore career opportunities in industry ranging from R&D to marketing to general management.

As these connections between industry and education grow and the

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relationship becomes stronger, so too does the level of trust. Today it is common to find members of industry being asked to sit on boards of directors and boards of visitors of dental schools and dental hygiene programs. All this helps connect the school to the company through the executive's sharing corporate talent to solve problem issues impacting schools. Corporate people often bring a different set of skills and approaches to the decision-making process. Conversely, corporations frequently use dental faculty on advisory boards of their own and in some cases invite them to sit on their boards of directors. By looking beyond simple financial support, the value equation for corporate involvement with dental education has expanded to provide executive and management expertise and exposure to functional expertise in areas such as marketing, market research, recruiting, personnel management, and logistics, to name but a few. This type of support has proven to be even more valuable as funding for dental education has decreased over the years.

Also emerging from these relationships has been industry's willingness to provide their products, particularly operatory equipment, and their services at significantly reduced costs. By doing this they expose students to their products with the hope that the students will purchase similar items when they transition into their own practices. However, it should be noted that corporations have many different ways that they can choose to expend resources in marketing products to the practicing community. By choosing this investment in dental education, they find that it is good for the school, good for the student, and good for the manufacturer, thus creating a win-win-win situation.

Another area of collaboration that has increased over the past several years has been access programs. As part of their service mission, dental schools have historically provided care to those in their surrounding communities who do not have access to proper dental care. Community dental vans and community clinics operated by the university and staffed by faculty and students often serve as the dental home for many of these people. Companies such as Procter & Gamble are active in supporting these efforts not only through product donations but also through significant grants from programs like the Crest Healthy Smiles 2010 Program. This support enables schools to fulfill their service mission, while at the same time demonstrating to the community that these companies and brands give back and are worthy of support.

The Old Arm's-Length Model

These examples highlight the many ways dental manufacturers interact and support dental education in today's environment. These relationships, however, have not always been as open and expansive. In the early 1970s, when I joined Procter & Gamble as a representative in our Professional Services Division, calling on dentists and physicians, the contact we had in dental schools was typically limited to visits to the purchasing office. Additionally, we visited the Departments of Community Dentistry in schools to arrange to have one of our product development managers deliver a student presentation in the area of "The Role of Fluorides in Prevention."

In attempting to schedule these talks, it was clear there was concern over the content. The presentation was closely scrutinized and required to be absent of any mention of brand names. Products were described using only active ingredients. There was very little the company gained other than educating students in an area of science important to the business, and it was felt that if students were informed on the science and relevance to patient care, these future dentists would be more likely to recommend fluoride dentifrice to their patients. However, in keeping the material "objective" versus "commercial" to the extreme, it required a leap of faith by the company to see the value of this activity while students had a difficult time translating the message into patient dialogues. Recognition for the program and other educational support in schools at that time was typically a small line of recognition in "mouse print" at the bottom of a program brochure or school bulletin.

> Industry frequently looks to dental experts or opinion leaders to help credential the science and clinical capability of their products.

The prevailing notion seemed to have been that industry would exploit the schools if they were able to get too close. These feelings might best be described by the Chinese Proverb that says: "If you try to ride on the back of the tiger, you might end up inside." While there was a level of respect for industry, there seemed to be relatively low levels of trust, and an arm's-length relationship was the norm.

Some of this behavior may have been self-induced by industry as it tended to deliver programs and materials that too often focused exclusively on its agenda while ignoring the needs of the institution. This resulted in the barriers described above. Over time, however,

industry has come to recognize the value of listening to customers' needs and wants and has begun to focus more on helping them find ways to meet them. The company's products and services become part of the solution and not the primary focal point of their support and involvement.

The New Interlocking Interests Model

As this transformation in approach occurred, more barriers began to fall. The support that industry provided began to look like real help and not simply promotion. An example of this occurred in the late 1990s when Procter & Gamble began providing educational programs in the form of CD-ROMs that were case-based and problem-based in content and began to help students transition into new approaches to learning, while at the same time exposing them to the science behind our products. These programs were developed by dental educators to ensure that the content addressed the real needs in the universities. This approach by Procter & Gamble, as well as many other companies, has resulted in a more collegial relationship with dental education versus the more arm's-length vendor relationships of the past.

Leading this effort to bring industry closer to dental education, both in the dental and dental hygiene programs, is the America Dental Education Association (formally known as America Association of Dental Schools). Under the leadership of its former executive director, Dr. Pal Littleton, AADS (now ADEA) created the Corporate Advisory Council, encouraging members of industry to become more involved in working with dental educators, to understand the issues impacting dental education, and to help address these issues at a national level.

From its modest beginnings, the Corporate Advisory Council has evolved into the Corporate Council with a governance structure similar to other councils in ADEA. With the continued support and leadership of Dr. Richard Valachovic, ADEA executive director, the council has grown in numbers and has a vice president who sits on the Board of Directors of ADEA, having an equal voice with the other VPs.

Today there are over thirty-eight corporate members that have collectively provided resources, both financial and intellectual, to enable ADEA to launch many of its major initiatives, including: the ADEA Leadership Institute; the Dental Allied Leadership Development Conference; a series of minority recruiting and retention conferences; minority pipeline programs; and the Women's Leadership Symposia presented in conjunction with recent International Association for Dental Research meetings. Corporate support has also allowed ADEA to play a leadership role in global dental education by providing significant support to fund the series of DentEd Conferences developed by Dr. Derry Shanley of Trinity University in Ireland.

The members of the Corporate Council have joined to support ADEA because of what we might call "enlightened self-interest." Having a strong educational base to produce dental practitioners ensures a strong future marketplace in which dental manufactures can sell their products. However, ADEA has also recognized that dental education has a responsibility to the industry that supports it. They recognize that a strong dental industry is equally important for its continued support.

Too often funding from dental manufacturers in the past was expected and taken for granted with little thought as to what value the company must receive in return. In today's environment, companies, just like dental schools, are under increasing cost pressures in order to bring greater value to their shareholders. Greater scrutiny is placed on the return on investments in all areas, including support for the professions and dental education. Thus, one message of the Corporate Council has been to let deans and dental hygiene program directors, faculty members, and administrators know that it is important to help industry find the value, or said another way the "win," to their business for participation in and support of educational activities.

This new model of collaboration has a very different look from the old one. Previously, simply being given the opportunity to participate with its inherent visibility was considered adequate incentive for corporations to invest. Today, I see the model as a five-step process:

Step 1: Define the opportunity and the outcome benefits to all parties participating.

Step 2: Define how success will be measured.

Step 3: Define roles and responsibilities as well as hold people accountable.

Step 4: Execute the program with excellence.

Step 5: Publicize the outcome and recognize the contributors.

By following this model, I believe dental education will ensure that industry continues to view supporting schools as a positive investment.

Industry support for dental education comes in many forms and flavors. By working together and making the effort to understand each others' needs, we can see this strong and expanding relationship between dental education and industry continue to flourish. Importantly, our students and patients/consumers will be the ultimate beneficiaries. ■

The Buy or Lease Decision in Dental Curricula

William K. Lobb, DDS, FACD

Abstract

Dental schools are aware of the need to adequately prepare graduates for the business aspects of dentistry in addition to the clinical, biomedical science, and interpersonal skills now necessary to succeed in practice. The challenge includes the alternatives of building such a program with existing faculty members (buy) or bringing in the kind of management program that practicing dentists would select (lease). Marquette University School of Dentistry has had three successful years of using the Pride Institute on a contract basis to provide a comprehensive practice management program.

The process of educating a dentist and developing a competent dental practitioner within a dental school curriculum has traditionally included elements of knowledge in basic and clinical sciences, the development of fine motor skills, and the refinement and augmentation of these skills through simulation and clinical patient care, which also allow the development of interpersonal skills and attitudes. Efforts have focused primarily on the development of the student into a technically skilled, safe beginner. An indicator of success with this approach is that the dental graduate is able to pass a dental board examination and obtain a license to practice dentistry.

One of the things that is consistently pointed out in exit surveys and post-graduation surveys of dental students is the lack of preparation and training they have had in the "business" of dentistry. What they lack coming out of most dental schools are the skills and attitudes necessary to operate a successful business. We have relied on the "school of hard knocks" to provide the business skills necessary for the dentist to succeed in practice.

Practice is primarily characterized as an independent dentist or group of dentists using a fee-for-service model to generate a profit. This commercial aspect of dentistry is a reality that dental schools do not focus on. Dental schools must rise to the challenge and include the needed elements of business and commerce within the curriculum so that the measure of success of their graduates is more than obtaining a license. They must also be equipped to succeed as business men and women.

Commercialism is defined in *Webster's* dictionary as "the practices, systems, aims, and spirit of commerce or business" and "an attitude emphasizing tangible profit or success." Commercialism must be a prominent component of the dental curriculum. I believe that most dental schools today in the United States and Canada fall short of preparing their graduates for the entrepreneurial component of the practice of dentistry. Indeed, most dental schools today are expected to become profit centers on their campuses and to develop effective and realistic business plans to map their financial futures. We must embrace this concept of commercialism for many reasons.

The Challenge

Questions that become apparent in the minds of many as this subject is discussed are whether or not there is a place in the dental school curriculum to teach "commercialism" and whether or not teaching such material somehow

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Most dental schools today are expected to become profit centers on their campuses and to develop effective and realistic business plans to map their financial futures. We must embrace this concept of commercialism for many reasons.

detracts from the proper place of the technical side of dental practice. Also, should the model of providing minimal or "token" attention to the development of the dental student be sustained with the attitude that the "business" aspect of being a dentist will be obtained once they are "out in the real world"?

In my opinion, dental education must include instruction in the application of business knowledge and principles and experience using such knowledge and principles to form a foundation of practice management while the student is in school. It is through this effort that the graduating dentist is able to not only succeed in getting a license to practice dentistry but also to establish a successful and financially rewarding career in dentistry. Such a view is not held by all in dental education.

Marquette University School of Dentistry is like many other dental schools with respect to our past efforts in the teaching of practice management. At this time, however, I would say that Marquette University is unlike many other dental schools in how we approach the preparation of our graduates for entry into the practice of dentistry. To achieve this, we have begun work with a corporate partner to deliver the curriculum necessary to effectively and efficiently manage a dental practice. The establishment of this relationship with this corporate partner was driven by the necessity to have the "real world" showcased as the backdrop for learning the business of dentistry. Such a framework has not been possible to establish with the structure and approach dental schools have historically taken in this subject area.

Our Approach

Through a corporate agreement we have "contracted" with the Pride Institute to deliver elements of a practice management curriculum, we bring a "commercial" continuing education and consulting firm into the dental school to work with our faculty and students directly before our students graduate. The Pride Institute can provide the "real world" framework that has been missing from our earlier attempts to teach practice management. This relationship began three years ago, and we have almost fully implemented this curriculum across all four years of our dental school program.

As one might imagine this was not necessarily an easy task. We continue to work on our relationship with our corporate partner. It is interesting to see academic-based faculty members placed in a working relationship with corporate trainers and consultants to improve an area of our education that has been neglected and not given serious consideration for years. I believe that such relationships are going to be critical to the success of dental schools in the future. Given the limited resources with respect to faculty, time, and expertise within dental schools today, it will be necessary for us to begin to find corporate partners for curricular, infrastructure, and other concerns to continue to raise the level of the profession of dentistry into the future.

In the past at Marquette University, we taught the Practice Management course as an "intersession course" over a six-to-eight-week period. This bolus of material was taught between the third year and fourth year of the program and culminated in a pass/fail grade based upon attendance and completion of assignments. Our students typically did not enjoy this program, nor did they feel that it served any useful purpose, as it did not relate to their stage of development

as a dentist and was not well-timed with respect to their decision making and practice planning. In short, our preparation of our graduates for the business of dentistry was woefully inadequate and improperly timed.

In 1999, as we began an extensive review of our dental curriculum in preparation for the design and development of a new dental school facility, it became apparent that this was the opportune time to review and redefine our practice management curriculum. We wanted to build on our strengths and began to look for ways to augment and use an excellent foundation in the area of behavioral sciences and communications to provide the necessary skills, and experiences to prepare successful dentists with the business sense necessary to succeed. As we worked toward a better integrated program, with a primary focus on comprehensive patient care within our clinics, we determined that we could best serve our needs in this area if we partnered with people who were responsible for the success of countless dentists in practices.

The Pride Institute, under the leadership of the late Dr. James Pride, has become one of the preeminent enterprises devoted to the development of the commercial aspect of dental practice. The ability to use the expertise and resources of a group such as the Pride Institute is a significant factor as we look to the future of the teaching and integration of the commercial aspects of dental practice within a dental school environment.

Within this curriculum, entitled "Practice Dynamics," dental students are introduced to the fundamental concepts related to establishing a dental practice, developing systems of operation, managing human resources, financial planning, developing sound business plans, marketing themselves and their offices, and other topics. The program is included in the second, third, and fourth year of the dental curriculum and is integrated and reinforced whenever possible within other courses and programming. The clinical structure allows for a simulation of a large group practice environment with groups of twelve dental chairs arranged in "practice pods," each with a group leader who serves as the principle dentist responsible for the operation and management of the patients within the group. It is in this environment that the dental students can begin to apply the basic knowledge and skills developed in the didactic and small group learning sessions to the clinical environment.

Impact

We are into our third year of implementing and developing the curriculum in "Practice Dynamics." We continually measure the outcomes of this program within the dental school, but the real test will come as the first graduates who have completed this program move into private practice and establish themselves as dentists.

The relationship we have in the venture with our corporate partner has been an evolution, and I believe it points to several important considerations as dental schools explore ways to work with commercial enterprises at any level. It is important that both the dental school and the corporate entity recognize that they are each looking for different things from the relationship. The dental school wants the best possible education for its students; the corporate partner is looking for future opportunities for continuing relationships with graduates in order to build their business base, and therefore their profit margins. The dental school in our example will not accept a "turnkey" type of programming, where we simply consume whatever the corporate entity provides on whatever sequence and schedule they decide. We want to ensure that the programming is customized to our particular needs and that it is well integrated and sequenced within our existing educational program.

The relationship we have established is a dynamic one, with a continual exchange and dialogue. It has not necessarily been easy for either organization to adapt to the challenges that have emerged. It is clear that attitudes and expertise in both worlds of corporate continuing education and dental education have enough differences and nuances to require continuous adjustments. However, three years of work and effort have proven that these differences can be resolved, that compromises and be achieved, and that dental students do benefit from this effort.

This model–where we have combined the expertise and resources of a corporate partner with a dental school–I believe is one needed for the future if dental education is to continue to thrive and succeed. It has proven to us that such relationships are rewarding and mutually beneficial. I believe that we must look well into to the future as we plan and develop our dental educational programs. Consider the time it takes for implemented curricular changes to actually manifest themselves in the world of the practicing dentist. Dental schools must be on the leading edge if we are to adequately prepare the practitioners of the future. That means we need to be ready to embrace new technology, new methods and materials, and innovative teaching models such as this one to ensure that our graduates are ready for the future and the challenges they will face as dental practitioners. ■

Entrepreneurialism in Dentistry: Commercialism versus Opportunity

Robert A. Uchin, DDS, FACD

Abstract

The school of dentistry at Nova Southeastern University was founded eight years ago at a time when other dental schools were closing. Efficiencies of structure with the Health Professions Division of the university have been important in making this possible. The applicant pool is large and diverse and the educational program is modern. Collaborative relationships are being developed with industry.

In the spring of 1996, the Board of Trustees of Nova Southeastern University (NSU) unanimously approved the establishment of a College of Dental Medicine at its campus in Fort Lauderdale, Florida. The news of this event shocked the entire dental profession. Who was this relatively unknown university? Why did it have the audacity to open a dental college when, in the previous decade, nine dental colleges had been closed by their sponsoring institutions of higher learning?

NSU was formed in 1994 from the merger of Southeastern University of Health Sciences, with its five health professional colleges, and Nova University, which had no programs devoted to the health field. The units of the former Southeastern University of the Health Sciences became the Health Professions Division of the merged institution, renamed Nova Southeastern University.

Nova, founded just forty years ago, developed as one of the early innovative distance learning universities in this country. At the time, it was ridiculed for its nontraditional approach to learning which is now emulated by most institutions of higher learning in some form or manner. This year finds NSU's 2004-05 enrollment to be 29,380, making it the eighth-largest enrolled, not-for-profit, private university in the country.

The six colleges at the Health Professions Division now offer thirty-six programs. The College of Medical Sciences provides basic science, didactic information to all health center colleges, many in an integrated didactic and laboratory setting. This unit—coupled with a centralized service unit of business, admissions, and student affairs, library, financial aid, publications, and public relations—offers a great savings in time, effort, and money by eliminating duplication and enhancing cooperation.

The due diligence effort of the fact-finding committee revealed a large dentally underserved population among its 4.5 million diverse population base in one of the primary population growth areas of the country. The rapid continuous growth is fueled by immigration of numbers of retirees and others seeking a comfortable, environmentally friendly living style on a year-round basis. This, paired with an immigration entry point of opportunity from primarily Central and South America and the Caribbean populations, has created a very diverse population with multiple sources of cultural contributions of language, music, art, and food. These new populations have young people who seek the capitalistic opportunity and freedom of our country. A sizeable number of our faculty have foreign origins and is bilingual. This is also very true of our student body.

Enrollment

In our few years of existence, we have been blessed to see our applicant pool for the 105 predoctoral slots swell to over 2,300 last year (2003-04). This year's

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numbers are exceeding last year's by 28%. What a great time to be a dental college.

What draws our applicant pool? We accept approximately one-half of our class from Florida applicants with the other 50% filled by applicants from every other state in the Union. Our largest pool is Floridians. This is followed by a large group from California and then almost as large a group from Utah. Applicants are all drawn by opportunity. Our tuition has remained steady at the same level of $28,900 since opening, placing us at the low end of the middle portion in tuition fee level for private universities.

The tremendous increase in the applicant pool allows a new, nontraditional environment to attract and select a few students within each new class who have high potential for achievement in an individual prescribed curriculum. These are mature individuals with extensive alternative career experience who are often recent immigrants with only four or five years of immersion in the United States environment but with high academic achievement. They are career-track scientists in biologic and biogenetic industrial research who seek dental degrees. Clearly, this requires an individual prescriptive curriculum to foster future benefits to the profession by developing opportunity for creativity. It also brings with it networking capability to industry that was heretofore beyond development and partnership with the dental community.

Educational Program

We have state-of-the-art equipment and technology in every area of education and research. Our simulation laboratory is a beehive of activity. We teach all students through virtual-reality equipment. The entire college is wired and every student has his or her own laptop computer. Juniors and seniors have access to their patient families 24/7.

We have the ability to revise curriculum very rapidly and are teaching state-of-the-art dentistry.

Our large patient pool presents all students clinical learning opportunity and has enabled a cash flow which totally supports the clinic management. Tuition provides us with coverage for our faculty expense overhead. The centralization of our College of Medical Sciences allows for an integrated teaching environment to multidisciplinary health profession students and has eliminated much of the cost of basic science faculty core.

The local and state dental associations and their members have become our partners in the education process by providing a large adjunct faculty of high quality, an active participation in our continuing education programming, and intentional and aggressive support of our education and recruitment efforts of the student body.

Research

Our clinical research efforts have proven fruitful for industry funding because of our wealth of patient availability. We have begun multi-site clinical study programs with other dental college partners.

Clearly industry needs the dental schools to be their product laboratory and testing centers. Partnering will lead to intellectual property development and licensure, which in turn will lead to college and university endowment. All of this, of course, needs to be carried out with IRB and ethical oversight ensuring professional integrity.

There is tremendous economic pressure on some dental colleges caused by the rapid technological advancement in the equipment and environment of dentistry. The need for laboratory modernization and clinical facility replacement brings great pressures to bear on the administration.

Legislatures have seen fit in many states to cut back on dental school financial support. This has also resulted in damages to one of the keys to the faculty recruitment and retention situation. With the clinical practitioners now in a high economic earning capacity, there is a widening differential of earning power, making it increasingly more difficult to attract potential faculty members.

Industry has begun to try to provide a bridge to help solve this problem of practitioners earning so much more than faculty members. The commitment of large, long-term endowments to support special areas of dental education with exclusive post-educational relationships has brought both praise and admiration for its creativity as well as expression of fears and concerns from some dental circles. The integrity of the profession must be and will be maintained.

We are truly in a period of opportunity for dentistry to be innovative and creative and to advance into the twenty-first century. With advancement will come knowledge and skill to truly prevent and cure illness and diseases of the head and neck region and a healthier population of tomorrow. ■

Clearly, industry needs the dental schools to be their product laboratory and testing centers. Partnering will lead to intellectual property development , licensure, and endowments.

Founders of a Profession: The Original Subscribers to the First Dental Journal in the World

Malvin E. Ring, DDS, MLS, FACD

Abstract

A true profession is built upon a tripod: a formal organization, formal professional education, and a formal scientific literature. The United States was the leader in all three. In 1839-40, the American Society of Dental Surgeons was organized, the Baltimore College of Dental Surgery was established, and the first dental journal in the world, the *American Journal of Dental Science,* was founded. At that time there were only about three hundred trained and scientific dentists in the entire country; the rest were relatively untrained operators, outright quacks, or charlatans. In 1898, a list of the first subscribers to the first journal was discovered and published by G.V. Black. These initial subscribers may be considered the core group of truly professional American dentists. They became the leaders of the newly born profession of dentistry. Short biographies of some of them are included.

When the first dental journal in the world was to be launched in 1839, financial backing was meager and a committee of interested dentists met to find ways to finance it. Several, including Eleazar Parmly and Elisha Baker, met at Solyman Brown's home in May 1839 and constituted itself the publishing committee for the new venture. A comprehensive plan for content, size, and distribution was adopted, and Jahiel Parmly was appointed treasurer. He recommended a subscription plan of $2.50 per year; subscribers who paid one hundred dollars would receive forty copies of each issue (Asbell, 1988). The extra copies were to be given to colleagues in hopes of getting them to subscribe.

Thus, in June 1840 was launched the *American Journal of Dental Science,* which was to play a seminal role in the development of dental journalism throughout the world and serve as the "inspiration in the development of American dental periodic literature" (Asbell, 1966, 239). The first few issues were edited by Solyman Brown, although the cover bore the names of Chapin Harris and Eleazar Parmly as editors. Following the first issue, the financial situation was dire. The committee successfully appealed to the newly formed American Society of Dental Surgeons to assume financial responsibility. Solyman Brown and Chapin A. Harris were chosen as editors of the second volume, to be published in September 1841.

A list of subscribers was to be issued to acquaint non-itinerant dentists with communities needing their services. The list was also meant to keep quacks and poorly educated practitioners out of those towns where the subscribing dentists practiced (Ring, 1966).

Practitioners of the Time

In the latter part of the eighteenth century, dentistry in America was practiced by artisans and tradesmen, as well as by wandering mountebanks, quacks, and outright charlatans. It is estimated that by 1840 there were twelve hundred dentists in the United States. Included in this number were about three hundred dentists whose background was special. Some had medical training, but decided to devote their talents to dentistry; others had studied for several years as preceptoral students with established dentists. Historians believe it is these three hundred whom we can consider professional, educated, and scientific.

These men deplored the large number of untrained practitioners whose treatment was of the lowest character and whose ethics were highly questionable. They were determined to rid the field of them, and to do this they realized that they must first raise the standards. This would be most helped by a formal dental literature for those bent on improving their knowledge. We may

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therefore assume that those who subscribed to the first journal were dentists who ascribed to the highest standards of ethics and of scientific practice as it was known in those times. Quacks and untrained dabblers in dentistry were intent on pulling in as much money as they could from a gullible public, and it is highly unlikely that any of them would have been in this first list. The list therefore is a good picture of who the scientific and forward-thinking dentists were in those early days when dentistry was becoming a profession.

The List of Subscribers

It was not until 1898, however, that a list of the initial subscribers was published. This was at the urging of Dr. G.V. Black, at a meeting of the Odontographic Society of Chicago. His suggestion was roundly applauded in an 1898 editorial in the *Dental Register of the West* and "It was suggested that the names be placed upon permanent record."

There were 347 subscribers to the initial appeal, with 316 from the United States, 25 from England and Scotland, two from France, and one each from The Netherlands, Cuba, Bermuda, and Canada. New York, with 91, had the greatest number among the American states. Next were Pennsylvania with 33, Maryland with 31, and Virginia with 30. The remaining subscribers were from the following states: Massachusetts (21), Kentucky (16), Connecticut (15), North Carolina (14), Louisiana (11), Georgia (10), Ohio (1), South Carolina (8), New Jersey (6), Washington, DC (5), Alabama (3), New Hampshire (3), Rhode Island (3), Arkansas (2), Illinois (2), Iowa (2), and Missouri (2).

Some of the greatest names in this nascent profession were eager supporters of the idea of a journal owned and published by dentists. There had been several house organs published for some years, but these publications were essentially advertisements for dental supply houses or manufacturers. The *American Journal of Dental Science* was a truly scientific publication, on a par with the finest medical journals of the day.

The following are short biographies of only a few subscribers who made notable contributions to the advancement of the profession. They are listed in alphabetical order. The author regrets that constraints of space preclude the inclusion of many others equally deserving of mention.

Robert Arthur (1819-1880)

The first person in the world to be awarded the DDS degree, Arthur had been persuaded by this friend, Chapin Harris, to study dentistry and was a member of the first class of the newly founded Baltimore College of Dental Surgery. At the first commencement on March 9, 1841, Arthur (due to alphabetical precedence) was awarded the first diploma. In 1852, he helped establish the Philadelphia College of Dental Surgery, serving as professor of principle and practice of dental surgery and then as dean. Some of this faculty founded another college, the Pennsylvania College of Dental Surgery, and Arthur joined them and became that school's first dean. Strongly in favor of organized dentistry, he was a member of the first national dental society in the world, the American Society of Dental Surgeons. He was president of the Associated Alumni of American Dental Colleges (1855), of the Maryland Dental Association (1866), and the Southern Dental Association (1873). Dr. Arthur was recognized as a pioneer in gold foil restorations and discovered the property of annealing gold foil to allow it to weld (Arthur, 1856). He authored forty journal articles, as well as five books.

Christopher Starr Brewster (1799-1870)

A native of Connecticut, Brewster was self-taught and traveled throughout this country and Canada, perfecting his art. He mover to Paris, developed a reputation as a skilled dentist, and remained there for the rest of his life. It was he who persuaded Thomas W. Evans to leave America and settle in Paris. Although in the eighteenth century French dentistry was the leader, Brewster reversed the trend and brought the superior American techniques and innovations to the Europeans (Hoffmann-Axthelm, 1981).

Figure 1. Solyman Brown, a monumental figure in dentistry, at age sixty-five.

Solyman Brown (1790-1876)

Born in Litchfield, Connecticut, Brown first studied for the ministry and received a divinity degree from Yale. He served as pastor of several churches, and in 1822 he moved to New York City, but a failing voice cut short his preaching. Fortunately, he became acquainted with Eleazar Parmly, a prominent member of a great family of dentists. In his mid-forties, Brown became Parmly's student

Figure 2. Hand-cranked drill invented by John D. Chevalier, ca. 1850.

Figure 3. Thomas W. Evans at the height of his fame in Paris, ca. 1870.

and proved a proficient practitioner. Brown had a natural talent for poetry and published many poems. His crowning achievement was the publication of *Dentologia* in 1833. It was an epic work that dealt with diseases of the teeth and their treatment and was hailed by the critics as a masterpiece. This did much to elevate the status of dentistry. It was followed, in 1838, by *Dental Hygia,* which dealt with preservation of the teeth. This resulted in Brown receiving the sobriquet "poet laureate of dentistry" (Ring, 2002b). But his service to the profession extended far beyond his writings. He felt the need to organize, and it was he who called a meeting in his home which resulted in the first national dental organization, the American Society of Dental Surgeons. It was Brown who urged the society that a dental school be established, which became the Baltimore College; and it was in his home that the meeting took place that launched the *American Journal of Dental Science.* After twenty-eight years of practicing dentistry, his eyesight failed and he began manufacturing artificial teeth and established a dental supply firm. He and his wife ultimately moved to Dodge Center, Minnesota, where he wrote and sculpted until his death at age eighty-six.

Harvey Burdell (?-1857)

A respected dentist with a large clientele, Burdell had a commodious office in the heart of New York City. Little is known of his medical education, although he appended the MD to his name. The author has a certificate, written by Dr. Burdell, that gives us an insight into what preceptoral training consisted of. Dated "New York, May 4th, 1846," the note read, "This is to certify that Alfred Henry Colling has pursued the study of Surgical and Practical Dentistry in my office, under my immediate instructions, and from having had opportunities of witnessing dental operations rendered by him, I with the utmost confidence, and with a high degree of satisfaction, recommend him to the public as being amply qualified to practice the different branches of the dental art." The document is signed, "Harvey Burdell, MD, Dentist, 362 Broadway." Sadly, Dr. Burdell came to a shocking end. He was murdered in his home, stabbed and slashed to death, and his assailant has never been identified. It was one of the most sensational crimes of the nineteenth century.

John D. Chevalier (dates unknown)

It is not known if Chevalier was a dentist, but in 1833, he opened the first dental supply house in New York City. More than that, he produced and marketed outstanding hand instruments. He is most noted for the invention of the Chevalier drill in 1858. Dentists of the day were struggling to find a way to break through enamel, and the principal drill at the time was a long bur twirled between the fingers. Chevalier's invention was a geared drill with a mechanism like that of an eggbeater, with the drill offset at an angle that allowed better access to the tooth (Ring, 1995b; 1997).

Joseph Elmendorf (?-1871)

Located sixty miles southeast of Rochester, New York, in the Finger Lakes Region, is the village of Penn Yan, a community long in the forefront of technological innovation. Joseph Elmendorf moved to this thriving town in 1830 and began a dental practice which lasted forty-one years. He turned his practice over to his son Charles, whom he had tutored. Charles kept abreast of the most recent advances in dentistry and introduced them into the practice. We are indebted to him for a diary that he kept for forty years, never missing a day, which gives us a great picture of

dentistry in the latter half of the nineteenth century (Asbell, 1977).

Thomas W. Evans (1823-1897)

Evans was early on apprenticed to a Philadelphia silversmith and met a number of that city's dentists, for whom he fashioned instruments and gold springs for dentures. At the age of eighteen, he became a dental preceptoral student of Dr. John D. White while attending Jefferson Medical College. He settled in Lancaster, Pennsylvania, gaining fame as a gold foil expert. He emigrated to Paris and was introduced to Dr. C. Starr Brewster, who took him on as a partner. Evan's brilliant dentistry led to his position as dentist to Czar Alexander of Russia, the Sultan of Turkey, and the Empress Eugenie (Ring, 1985). Among his many contributions, he introduced nitrous oxide anesthesia to Europe in 1867. He received honorary DDS degrees from the Baltimore College of Dental Surgery in 1850 and from the Philadelphia College of Dental Surgery in 1853, as well as a number of others. Evans amassed a huge personal fortune, most of which went to create the dental school at the University of Pennsylvania, which carries his name (Ring, 1968).

Holton Ganson (1812-1875)

In Batavia, a tiny village in western New York, the first scientifically trained individual to practice dentistry was the physician Holton Ganson. He settled in Batavia in 1825 and was a well-respected medical doctor, having held the office of both president and secretary of the local medical society. Starting June 2, 1846, he published a newspaper advertisement stating that he "continues to devote a portion of his time to the practice of Dentistry in all its branches..." Dr. Ganson began the practice of dentistry as an answer to an urgent need for dental practitioners and because he found the work stimulating and challenging. Dentistry fit his skills well since he was the most eminent surgeon of the area, even performing delicate brain surgery. His total dental armamentarium consisted of a handsome mahogany chest containing an array of ivory-handled instruments (Weinberger, 1948).

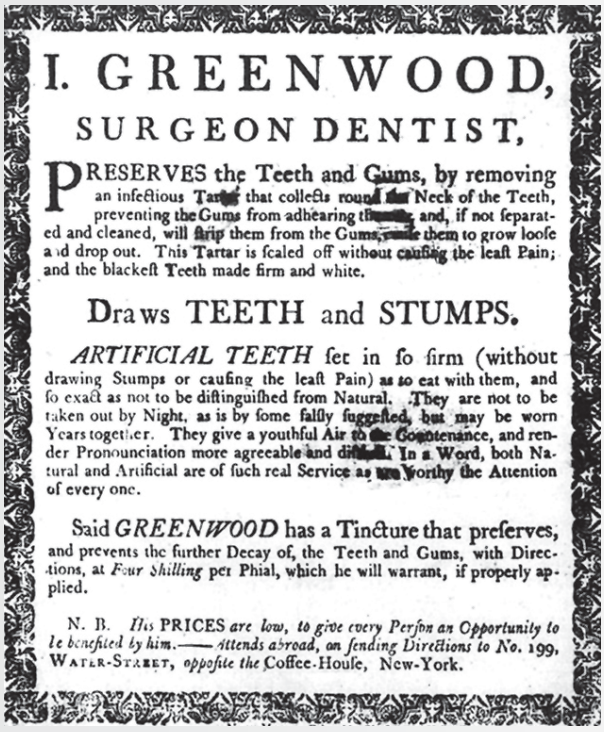
Isaac John Greenwood (1795-1865)

One of the best-known Colonial dentists, Isaac Greenwood, had several sons whom he trained to become dentists. The most notable was John Greenwood, George Washington's favorite. John passed on this heritage to his son Isaac John Greenwood. Cognizant of his father's outstanding reputation, Isaac John took his father's notes, added his own to them, and in 1859 published *Stray Notes on Dentistry in America,* a valuable source of information about early American dentistry. He published an account of these early practices in the *Dental Register of the West* in 1860 (Ring, 2002c).

Edward Maynard (1813-1891)

Dr. Maynard, practicing in Washington, DC, was the first to press the government to employ dentists in the military. But his efforts also extended to advances in armaments. He invented the Maynard Tape Primer Lock in 1945, supplanting the easily dropped copper percussion cap. His greatest contribution, however, was a breech-loading carbine, patented in 1859. Navy officials were astounded in their tests with this new rifle; of two hundred and fifty shots fired at five hundred yards, all hit the target. By the end of the Civil War, more than two hundred

Figure 4. Advertisement of Isaac Greenwood, Jr., ca 1783.



I. GREENWOOD,

SURGEON DENTIST,

PRESERVES the Teeth and Gums, by removing an infectious Tartar that collects round the Neck of the Teeth, preventing the Gums from adhearing thereto, and, if not separated and cleaned, will strip them from the Gums, cause them to grow loose and drop out. This Tartar is scaled off without causing the least Pain; and the blackest Teeth made firm and white.

Draws TEETH and STUMPS.

ARTIFICIAL TEETH set in so firm (without drawing Stumps or causing the least Pain) as to eat with them, and so exact as not to be distinguished from Natural. They are not to be taken out by Night, as is by some falsly suggested, but may be worn Years together. They give a youthful Air to the Countenance, and render Pronounciation more agreeable and distinct. In a Word, both Natural and Artificial are of such real Service as are worthy the Attention of every one.

Said *GREENWOOD* has a Tincture that preserves, and prevents the further Decay of, the Teeth and Gums, with Directions, at *Four Shilling* per Phial, which he will warrant, if properly applied.

N. B. *His* PRICES *are low, to give every Person an Opportunity to be benefited by him.*—*Attends abroad, on sending Directions to No.* 199, WATER-STREET, *opposite the* Coffee-House, New-York.

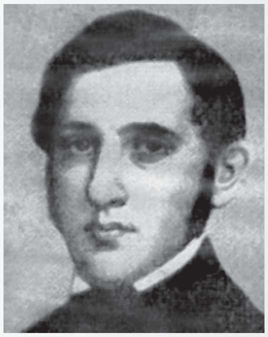
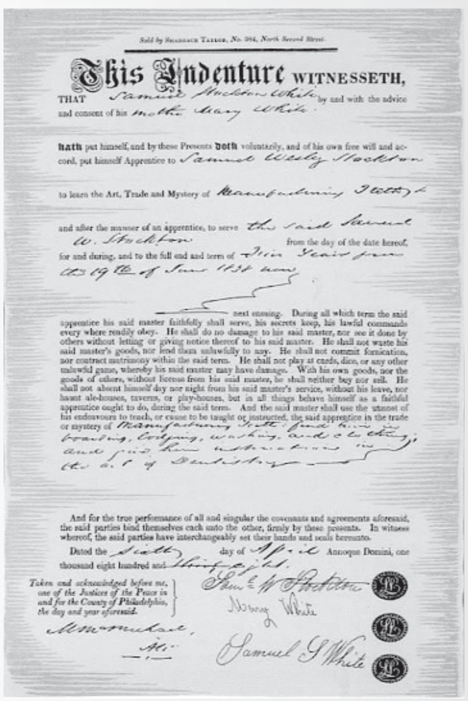


Figure 5. Benjamin A. Rodrigues, one of the most prominent dentists in the South.



Sold by Shadrach Taylor, No. 394, North Second Street.

This Indenture WITNESSETH,

THAT Samuel Stockton White by and with the advice and consent of his mother Mary White

hath put himself, and by these Presents doth voluntarily, and of his own free will and accord, put himself Apprentice to Samuel Wesley Stockton

to learn the Art, Trade and Mystery of Manufacturing Teeth

and after the manner of an apprentice, to serve the said Samuel W. Stockton from the day of the date hereof, for and during, and to the full end and term of Five Years from the 19th of June 1834 now next ensuing. During all which term the said apprentice his said master faithfully shall serve, his secrets keep, his lawful commands every where readily obey. He shall do no damage to his said master, nor see it done by others without letting or giving notice thereof to his said master. He shall not waste his said master's goods, nor lend them unlawfully to any. He shall not commit fornication, nor contract matrimony within the said term. He shall not play at cards, dice, or any other unlawful game, whereby his said master may have damage. With his own goods, nor the goods of others, without license from his said master, he shall neither buy nor sell. He shall not absent himself day nor night from his said master's service, without his leave, nor haunt ale-houses, taverns, or play-houses, but in all things behave himself as a faithful apprentice ought to do, during the said term. And the said master shall use the utmost of his endeavours to teach, or cause to be taught or instructed, the said apprentice in the trade or mystery of Manufacturing Teeth; find him in boarding, lodging, washing, and clothing; and give him instructions in the art of Dentistry

And for the true performance of all and singular the covenants and agreements aforesaid, the said parties bind themselves each unto the other, firmly by these presents. In witness whereof, the said parties have interchangeably set their hands and seals hereunto.

Dated the sixth day of April Annoque Domini, one thousand eight hundred and thirty eight.

Taken and acknowledged before me, one of the Justices of the Peace in and for the County of Philadelphia, the day and year aforesaid.

Saml W Stockton

Mary White

Samuel S White

Figure 6. The contract, dated 1838, of S. S. White, specifying his apprenticeship to his uncle, Samuel Stockton White.

thousand Maynard carbines were in the hands of Union soldiers and were later referred to as "the gun that won the Civil War" (Menzies Campbell, 1981).

Robert Nasmyth (dates unknown)

The Odonto-Chirurgical society of Scotland, founded in 1867, is the oldest dental society in the United Kingdom, and Robert Nasmyth was it first president. He practiced in Edinburgh and was one of the earliest to research trigeminal neuralgia. His competency was recognized by his being appointed dentist to Queen Victoria, George IV, and William IV. He had been trained in dentistry by John Fuller, a prominent London dentist, and went on to train his brother Alexander, whose name is perpetuated by the enamel cuticle know as Nasmyth's membrane (Ring, 2002a).

Eleazar Parmly (1797-1874)

One of New York's most celebrated practitioners, Parmly was preceptor to Solyman Brown. The two worked together to perfect porcelain teeth for dentures. Brown was a consummate artist and sculpted a bust of Parmly which is acclaimed as one of the finest art works of the time. In return, Parmly supplied an appendix of notes to Brown's epic poem *Dentologia*. It was Eleazar Parmly who co-edited the early issues of the *American Journal of Dental Science.*

Levi Spear Parmly (1790-1859)

Member of the distinguished family of dentists, Levi Spear Parmly was one of the most prominent dentists of the nineteenth century. He started out in Montreal, Canada, but finally settled in New Orleans. He wrote extensively on orthodontics, but his most notable contribution was the invention of dental floss in 1816. In his book *Practical Guide to Management of the Teeth,* he wrote "where teeth are kept clean, no disease will occur" and urged that "a thread [be] passed between the teeth after every meal." Because of his pioneering work on the subject, he is called "the apostle of oral hygiene."

Benjamin A. Rodrigues (1815-1871)

Dr. C. Staff Brewster of Charleston, South Carolina, had as his apprentice Benjamin Rodrigues, who had just completed medical studies. When Brewster moved to Paris, Rodrigues took over his practice and became very successful (Macaulay, 1969). He was soon recognized as the South's foremost oral surgeon (Ring, 1995a), and also invented one of the best early obturators. He was an active member of the American Society of Dental Surgeons from its inception. In 1850, the Baltimore College of Dental Surgery conferred upon him the degree of DDS. He was a frequent contributor to the dental literature and a sought-after lecturer.

Samuel W. Stockton (1800-1872)

Stockton was an early manufacturer of porcelain denture teeth in Philadelphia. He took on his nephew, Samuel S. White, as an apprentice to "learn the Art, Trade, and Mystery of Manufacturing Teeth" as well as to receive instructions in dentistry. For this, Stockton employed Dr. John D. White, an outstanding dentist, to instruct his nephew. S. S. White became not only a famed dentist, but went on to found the largest and most well-known dental manufacturing company in the world (S.S. White Dental Manufacturing Company, 1944).

William W. Thackston (1820-1899)

While working in his father's jewelry store in Farmville, Virginia, Thackston became interested in dentistry. His father was contemptuous of the untrained

dentists he knew, but relented when his son decided to enter formal training at college. William received his DDS from the Baltimore College of Dental Surgery in 1842. His graduation thesis, "The diseases of the maxillary sinuses," was published in the *American Journal of Dental Science.* He practiced in his hometown and began a lifetime of service to his profession. He was a founding member of the Virginia Society of Surgeon Dentists (1842), president of the Virginia State Dental Association (1872), and president of the Southern Dental Association (1887). He was also the first mayor of Farmville and in 1951 the town dedicated a bronze tablet on the site of his ancestral home.

Horace Wells (1815-1845)

Discoverer of the greatest gift to mankind–anesthesia–Horace Wells' name shall live in perpetuity. On December 11, 1844, Horace Wells was the first to demonstrate anesthesia at the Massachusetts General Hospital. Born in Hartford, Vermont, on January 21, 1815, he received his early education at some of the finest schools in New England. In 1834, he studied dentistry in Boston with a preceptor and in 1836 opened an office in Hartford, Connecticut, and built a thriving practice. In 1836, he published *An Essay on Teeth, Comprising a Brief Description of Their Formation, Diseases, and Proper Treatment.* His professional capabilities attracted preceptoral students, among whom were John Riggs and William T. G. Morton, both of whom were to make major contributions of their own. To prove the value of nitrous oxide as an anesthetic, Wells had his colleague, Riggs, extract one of his molars while under the effect of the gas. This took bravery on Wells' part; no one in the world had ever taken the drug to unconsciousness and he had no way of knowing if he would awaken. Awaken he did, saying, "I did not feel it so much as the prick of a pin!" and thus was the great discovery confirmed. When urged to patent it, he exclaimed, "Let it be as free as the air we breathe." Having encountered difficulties in convincing the authorities that he was indeed the one who discovered this great gift, he lost confidence in himself, gave up the practice of dentistry, and took his own life at the age of thirty-three. In 1944, a World Centennial consisting of every major health organization on the globe gathered to laud the name of this great benefactor who, one hundred years earlier, had shown the world that surgery could be painless (Archer, 1969).

Figure 7. The immortal Horace Wells, discoverer of aesthesia, at age thirty.

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Issues in Dental Ethics

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Errors in Dentistry: A Call for Apology

Barry Schwartz, DDS

Abstract

Bad outcomes occur in dentistry and sometimes these are the results of dental errors. In both cases, this essay will argue that apologies are very important in maintaining a relationship with the patient that is based on trust and mutual respect. Nevertheless, apologies are often not forthcoming in dentistry for a number of reasons that deserve careful examination. In particular, the dentist's fear that an apology will increase the risk of legal harm will be critiqued. Ethical and psychological reasons for making an apology will be discussed, and strategies to assist clinicians in making an apology will be offered.

The only one who makes no mistake is one who never does anything!
–Theodore Roosevelt

An apology is the superglue of life. It can repair just about anything
–Lynn Johnston

Errors occur in every health profession and are not limited to negligent practitioners. In dentistry, bad outcomes occur in spite of dentists' best efforts and even the best dentists make mistakes sometimes. Dentists are taught perfection, strive for perfection, yet are constantly challenged by imperfection (Scheirton, 2003). But dentists are often not well trained in how to deal with this paradox. An important component of this process is an apology to the patient. In fact, an apology is frequently essential to fulfilling the patient's needs when faced with a mal-occurrence. Nevertheless, the need for an apology in such situations has not been adequately addressed in the dental literature. The purpose of this paper is to call attention to and to begin to fill that gap. The paper will address some of the ethical, psychological, and legal aspects of apologizing when maloccurrences happen, and will offer some strategies to assist dentists in offering an apology under these circumstances.

Honest Reporting of Bad Outcomes and Errors

A professional relationship that does not have honesty as one of its main underpinnings creates wary patients who hesitate to offer the dentist their trust and cooperation. Many patients enter the dental office already suspicious of persons in positions of authority, caused by stories in the news and familiarity with often grossly exaggerated or deliberately misleading marketplace advertising. The burden of communicating to the patient that the dentist-patient relationship is not a commercial relationship therefore falls chiefly on the dentist. Good dentistry depends not only on technical precision, but also on a level of cooperation by the patient. Even the technical success of dental practice can be adversely affected by actions that produce wary and mistrusting patients. How a dentist deals with adverse outcomes will

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significantly impact this relationship.

Adverse outcomes can have many causes. Patient's symptoms and diagnostic tests can be inconclusive, rendering diagnosis challenging and fraught with uncertainty. Time constraints, stress, distractions, and many sorts of unforeseen circumstances can all impact negatively on the outcomes of treatment. Consequently, adverse events happen and from time to time these involve undeniable errors on the part of the dentist.

The disclosure of error is not explicitly addressed in the *Code of Ethics of the Royal College of Dental Surgeons of Ontario,* under which the author practices, nor in the ethics documents of the American Dental Association or the American Colleges of Dentists. The closest statement about the disclosure of error in these resources is in the section on "Justifiable Criticism" of other dentists' work in the American Dental Association's *Principles of Ethics and Code of Professional Conduct:* "Patients should be informed of their present oral health status without disparaging comment about prior services" (Section 4C). This directive clearly implies that a dentist who observes a bad outcome must inform the patient about it even if the patient is not yet aware of it. But none of these documents provides guidance about how to do this properly or of the important role of apology in the process.

The Importance of an Apology

One of the obvious reasons why dentists do not offer apologies to patients is their concern that an apology will lead to litigation. According to Don McFarlane, the Director of the Professional Liability Program of the RCDSO, "While an insured dentist may regret that an untoward incident/accident occurred in the course of rendering dental treatment to a patient, an apology may be seen by some patients and/or their legal councel as an admission of his or her liability. Such admission could have the effect of compromising his/her malpractice coverage."

But refraining from apologizing solely to protect oneself is in conflict with the dentist's general obligation to place the health and well-being of the patient above other concerns, since this obligation includes preserving wherever possible a positive dentist-patient relationship. Even in situations in which a mistake in treatment has been made, this obligation should take priority over the dentist's other concerns.

As a matter of fact, however, the College of Physicians and Surgeons of Ontario cites the view of a lawyer and former member of council in their publications that disclosure and a focus on the dentist-patient relationship is also salutary: "Patients often access legal processes because of a perception that true facts are being hidden and disclosure is denied or limited. A full and frank disclosure will often be enough response for the patient" (Samis & McNinch, 2003). Similarly, another lawyer quoted in the *Annals of Internal Medicine* argues that: "Close to half of malpractice

The fact that a bad outcome has occurred should be disclosed to the patient as soon as possible after it is discovered. Delay in addressing the matter could compound the situation and subject the patient to further harm.

cases could have been avoided through disclosure and apology...What the majority of patients really wanted was simply an honest explanation of what happened, and if appropriate, an apology. When they were offered neither, they felt doubly wronged and then sought legal counsel" (Wu, 1999).

In such situations, the fact that a bad outcome has occurred should be disclosed to the patient as soon as possible after it is discovered. First of all, delay in addressing the matter could compound the situation and subject the patient to further harm. But it is also essential to address the potential impact of the situation on the dentist-patient relationship right away, whether dental error is involved in the bad outcome or not. Finally, if the matter did come to include legal action, delay might also increase the dentist's liability.

A proper reaction to a bad outcome must begin with the relevant facts. The first step should be a clear explanation of what has happened to this point, what is problematic about it for the patient's oral health, and the potential for further adverse effects if nothing is done to reverse the situation. Second, the patient will often want to know why this happened. If the dentist honestly believes that the procedure was completed fully within the standard of care and that no dental error is involved, then an explanation of the fallibility of the technology or the limits of diagnostic information would be the ethically appropriate reply. If the dentist believes that result is a consequence of dental error or if this is unclear to the dentist, an honest answer would include this (Ozar & Sokol, 2004). Third, the patient will ordinarily inquire, and in any case needs to be involved in determining, what the dentist believes should be done about the situation now and also who will be paying for these interventions. The dentist should therefore be prepared to either discuss these matters with the patient on the spot or explain when they will be discussed. And fourth, the central focus of this essay, is the apology.

Obviously, the way an apology is worded will depend on the dentist's honest judgment of whether the bad outcome has derived from an instance of bad clinical judgment or substandard treatment by the dentist. If so, as indicated above, an honest apology must include this in some way. But the dentist may sincerely judge that the bad outcome was not the result of dental error, but "one of those things" that sometimes happen, within the range of bad outcomes associated with every treatment modality regardless of the dentist's skill and care. In that case, the apology should be worded accordingly.

The Role of Apology in the Professional-Patient Relationship

When a professional apologizes to a patient, it is a very significant way of showing respect for that person. The process of being involved in a treatment maloccurrence or error unleashes many emotional responses for both the health care practitioner and the patient. An apology can help bridge some of those emotions by demonstrating to the patient that the dentist can take responsibility for his or her actions and that the dentist has compassion for the inevitable negative feelings of a patient caught up in such a situation. In many instances, an apology can even reverse the injured patient's feelings and bring the patient to view the dentist as an empathetic friend rather than someone who may cause the patient yet more hurt (Engel, 2001).

Ethically and practically, successful treatment is not entirely a matter of outcomes. In a well developed dentist-patient relationship, there exists good interactive communication and proper informed consent, which in turn promotes mutual trust. In such relationships, patients often understand that not every treatment is totally predictable and not always entirely successful. For instance, in these cases, unless the enormity of the error itself fractures that trust and communication, patients do not look for unreasonable compensation. But when communication and trust are not attended to, the patient's sense of having been harmed is increased, and legal redress is going to be more likely as well.

Dentistry involves a personal interaction of some intimacy and most patients consider their mouths to be a very private part of the body. This vulnerability is the reason why treatment-related maloccurrences have such significant repercussions, including anger, a feeling of betrayal, and the potential for a loss of trust. On the positive side, this is why trust is such an integral component in the dentist-patient relationship, and even in the face of a bad outcome or dental error, the dentist who responds wisely with sympathy for the patient and an appropriate apology for what has taken place can maintain trust and even enhance the relationship to the patient.

One of the important effects of an apology is its communication of the professional's willingness to offer it, even if no dental error is involved. If people are to have confidence in one another, there has to be some predictability that the principles which guide each other's conduct are similar. Therefore, an apology in this kind of situation is both an affirmation of the human relationship that

exists between dentist and patient and an affirmation of shared values and beliefs. Both the dentist and the patient want and expect the patient to simply benefit from the combination of appropriate technology and the dentist's expertise. The maloccurrence, whether from a failure of a fallible technology or from the fallibility of the dentist, disappoints and saddens them both. When a dentist apologizes to a patient he or she acknowledges the patient's feelings of being wronged and reaffirms the validity of those feelings in the light of their shared values and a shared understanding of what ought to have happened. In the best of situations, this can have the affect of lessening the emotional injury of the patient, as well as the patient's feeling of deep vulnerability, by placing it in a broader, shared context. Moreover, in the situation in which dental error is involved, a proper apology can lessen the patient's anxiety that the same error might be repeated by the dentist (Hoffman, 1999).

These same points can be made in another way. There are psychological phenomena that occur between people when there are conflicted personal values at stake. One is cognitive dissonance, or sometimes called litigation hypnosis. This occurs when one of the parties is so convinced that he or she is right that it becomes impossible to accept information and conclusions that are not congruent with these deeply held beliefs. An apology by the dentist can defuse the patient's hurt by acknowledging the harm that the injured party experienced, helping the patient view the situation from a broader point of view that includes them both.

The second phenomenon is reactive devaluation, which occurs when an offer made by one party appears less attractive because of the proposal's source. This can occur when an offer is made too quickly and the other party feels that much more is available to them or where there is willingness for the settlement to have a punitive impact in order to ensure recognition of the harm that was caused (Golan, 1996). This possibility reinforces the importance of apologizing for the bad outcome not only sincerely, but promptly, putting the healing of the dentist-patient relationship ahead of the questions of cause and possible blame, follow-up, and determination of who will pay.

Patients experience numerous emotional responses upon learning of a bad outcome, including sadness, anxiety, depression, anger, and frustration, especially if they think that the bad outcome was the result of dental error and or was preventable. Patients who judge that the dentist's explanation of the outcome is incomplete or, worse yet, evasive will have their level of distress increased.

Barriers to Apology

The dentist's own emotional response to the bad outcome, and especially to bad outcomes that occur as a result of dental error, may strongly hinder the dentist from offering a sincere apology to the patient. It may move the dentist to focus on his or her own feelings instead of focusing on caring for the patient and addressing the needs of the relationship. A study of physician error, for example, found that physicians typically felt upset and guilty about harming the patient as well as experiencing disappointment in failing to practice medicine to their own high standards. While they were also fearful regarding a possible lawsuit and anxious about the negative repercussions to their professional reputation, the most difficult challenge for many physicians was forgiving themselves for the error that occurred. The study found, however, that the need to tell patients about the errors, their cause, and their prevention can create stronger links between doctors and safety programs, as well as build better relationships with the patients themselves, thus not only reducing future errors, but improving communication and the ensuing level of trust with patients (Gallagher, 2003).

Many dentists may believe that anything they say can be used against them in a court of law and they are sometimes taught to "offer regret that an untoward incident occurred and not

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the acceptance of responsibility of the outcome" (McFarlane, 2003). In a similar way, physicians are sometimes advised to accept responsibility for outcomes, but avoid attributions of blame (Hebert, 2001). Consequently, there is a tendency for the dentist or physician to become cold and indifferent to the patient at precisely the time when the patient needs emotional support the most.

But the Harvard Medical Practice study in 1991 found that only 2% of negligent maloccurrences ever lead to malpractice claims. In a further qualitative study involving injured patients who sued their doctors, the plaintiffs were "disturbed by the absence of explanations, a lack of honesty, the reluctance to apologize, or being treated as neurotic" (Vincent, 1994). In fact, many patients who have experienced adverse events have said they would be less upset if the health care practitioner had disclosed the error honestly and compassionately and had also apologized (Gallagher, 2003). In a *National Post* article describing a lawsuit against St. Catharine's General Hospital, the parents of a missing stillborn child were quoted as follows: "We understand that mistakes are made. We just wanted someone to come before us and apologize,...to look us in the eyes and say, 'I screwed up, it was me, I'm sorry.' We would never have pursued legal action if someone at the hospital had just explained to us what happened" (Owens, 2004).

This approach has been borne out by studies of medical malpractice. When physicians were honest about what happened and accepted responsibility, patients were less likely to sue. A study by Daniel Shuman, found that in the medical malpractice arena, when physicians were honest about what had happened and accepted responsibility, patients were less likely to seek legal redress. An apology that is properly given and accepted can often defuse anger and even avoid litigation (Shuman, 1994). There are also times when simply obtaining an apology is the object of litigation. Consequently, the process of suing the defendant can be more than a mere attempt to recover a loss, or even to seek monetary compensation for pain and suffering; it may simply represent the desire to seek an explanation of what has happened as well as an attempt to secure some form of retribution.

In any case, it is worth stating that the tort system allows the defendant to mount a vigorous defense in order to establish that an injury may not have been due to incompetence but rather an unfortunate outcome to a difficult procedure (Merry, 2003).

In a similar vein, many dentists may think that an apology is an admission of liability. But consider the following medical case. In a 1982 decision, *Senesac v. Associates in Obstetrics and Gynecology,* the Supreme Court of Vermont held that a doctor's admission of a mistake did not automatically prove that the doctor departed from the appropriate standards of medical care. The plaintiff, armed with an apology, must prove his or her case just as if the apology did not exist. In this case when a physician apologized for "inadequate surgery," it was not an admission of guilt according to the court (Deese, 1992). An apology by itself does not prove any of the elements of the case for malpractice (Phinney, 1992). Because an apology pertains to a doctor's/dentist's self-image and his feelings, it is not evidence of any particular medical fact or event. This leaves the plaintiff legally in the same position as someone who did not receive an apology (Rehm & Beatty, 1996). The state of Massachusetts in 1986 enacted

a law making evidence of expression of sympathy or benevolence relating to pain, suffering, or death of a person involved in an accident inadmissible. A plaintiff, in Massachusetts, should be aware that the expression of sympathy cannot be relied upon to strengthen his or her case. Subsequently, Texas and California enacted legislation that bars the accessibility in court of benevolent gestures or any communication of sympathy in connection to accident-related injuries. These laws pertain to civil accidents (motor vehicle accidents) as well as to medical situations when a patient has suffered a poor result or a mal-occurrence (Bettman & Bullock, 2001).

It should be noted that there is a major difference in saying "I'm sorry" and offering an admission of guilt or fault. An expression of sympathy may avert a malpractice action whereas a confession of fault could have negative repercussions in court (Demorest, 2001).

But an honest explanation of the relevant facts, an expression of sympathy, and a sincere apology may avert a malpractice action. And since courts often have a difficult time in distinguishing between unavoidable mishaps and faulty behavior, the risk of an unjust verdict can then be avoided.

Further Ethical Reflections

In addition to the strong reasons from professional ethics that have already been noted, there are also ethical grounds for an apology in the principle of justice. Justice concerns giving to each what he or she is due. One aspect of this concerns the rights of patients to proper acknowledgment of wrongs committed and, though the details are more complicated here, proper restitution as well. But as has been noted, quite often a proper apology is deemed even by the patient to fulfill that requirement when there is a strong relationship of trust between patient and dentist and no significant negligence of professional duty has been involved. But even when dental error is not involved and this reality has been accepted by the patient, the patient still has not received what he or she believed (with the dentist) was his or her due. The fallibility of the technology has taken its toll and the dentist's apology is an acknowledgment of this injustice, even though it has not had a human cause other than humans' inability to create infallible technologies. In other words, there are important reasons to apologize as a matter of justice towards the patient, even when no dental error is involved.

Another way to make the same point is to see an apology as an affirmation of the social contract between the dentist and the patient, enabling them to maintain a common moral ground in the fact of adverse circumstances. Thus an apology can be a sign of the strength of a relationship, because it is not easy to admit a mistake when pride is at stake. It is an act of honesty and solidarity in the face of adversity, especially if it needs to include an admission by the dentist that he or she did not perform up to standard.

Viewed from another perspective, an apology is an important act of beneficence toward the patient because it restores the self-concept of someone who has lost something expected or, in the case of dental error, who has been offended (Lazare, 1995). One might also formulate the ethical obligation to apologize for a dental error as deriving from the obligation to respect patient autonomy. For patients to be totally autonomous, they must have complete information regarding their condition (Beauchamp & Childress, 2001). An apology can also be understood as flowing directly from a proper ethics of care, since it encompasses honesty, integrity, and empathy for the position of the patient. In all of these ways, the point

Ten Guidelines for Speaking With the Patient

Speak directly towards the problem and not in an obscure manner.

Sit close to the patient, not on the other side of a desk, so as to share in the problem with them.

Touching their arm is not inappropriate.

Speak in an empathetic manner with humbleness in your tone.

Give the patient ample time to assess the information, and regain composure before continuing with the next points.

By looking uncomfortable with the process you will look more human and demonstrate that this is not an every-day occurrence.

Apologize: Admit that a bad outcome has occurred and, if appropriate, that a mistake in judgment or treatment has been made and not that it was an "unfortunate complication." "I am sorry about what has happened" is appropriate to a bad outcome not involving dental error. But in the case of dental error, "I am sorry that you were harmed by this error" expresses more direct ownership of the problem and is a more sincere apology.

Explain to the patient clearly what steps can be taken to rectify the situation as best as possible. Included in this is informing the patient of their right to legal recourse.

Explain to the patient what steps you will take to ensure this does not happen again.

Give the patient the opportunity to get a second opinion or to transfer to another dentist if that is what the patient would require. This is essential if the patient has lost trust in you to perform any future work, including the reparative treatment.

made earlier in terms of professional ethics is reinforced: An apology is an integral part of the ethics of the dentist-patient relationship.

Conclusions

Obviously, proper informed consent prevents unrealistic patient expectations and raises patient awareness and acceptance of potential risks. But bad outcomes occur in the best of dental practices and sometimes these are the result of dental error. When bad outcomes occur, effective communication skills are essential for healing and maintaining or restoring trust within the dentist-patient relationship. But merely providing the patient with appropriate information without acknowledging the patient's sense of loss and injustice in the situation will rarely resolve it adequately. What is needed, if the mutuality of the dentist-patient relationship is to be restored, is an apology for what has gone wrong.

The most difficult challenge for many physicians was forgiving themselves for the error that occurred.

The precise character of this apology will depend upon the dentist's honest judgment of whether dental error was involved or not. But without an appropriate and sensitive apology for the maloccurrence, the dentist will be asking the patient to repair their relationship alone and at the worst of times. Experience indicates that failures in this area often have other bad consequences, including recourse to the courts. But the most effective way to maintain or restore trust and a strong dentist-patient relationship is to be prepared to explain the relevant facts honestly and apologize sincerely for what has happened.

Giving patients what they need and deserve continues to be an integral part of dentistry, especially if it means saying "I'm sorry" when it is indicated.

Finally, because of the importance of this lesson for daily dental practice, dental educators must also make a point of incorporating it into the training of dental students. Educators in dentistry need to remember that errors will occur, and consequently students need to be prepared in how to deal with their mistakes appropriately and to the well-being and satisfaction of the patient as their first priority. ■

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The Progressive Era

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Abstract

The American College of Dentists was founded in 1920 for the purpose of encouraging young dentists to continue study and to apply science to their practices. This ideal emerged in the Progressive Era, which lasted roughly from 1895 to 1920. The animating spirit of this period was that the human condition could be improved and that the way to achieve this was through science and the use of experts working together. The Progressive Era saw inventions, such as automobiles and airplanes, telephone and radio, that required mass production and brought people together. It also spawned many political and legislative innovations that we now take for granted. Among these are the Food and Drug Administration, the Department of Commerce, and the Federal Trade Commission. Workers' compensation and other social protections were introduced, as were city commissions; the income tax; women's suffrage; and initiative, referendum, and recall. Medicine, for the first time, became an effective way to treat disease as it developed a scientific foundation.

"It seems to me, there is a need for some mark of distinction with which to reward a man that has done advance work and with which to stimulate the college and activity of the young men, so that they may try to place the profession on a basis far beyond that of the view of the average practitioner, who looks upon it shortly after graduation simply as a particular method of earning a livelihood. The principle is good."

These are the words of Dr. H.E. Friesell of Pittsburg, PA, on August 20, 1920. They were recorded at the Copley Hotel in Boston, Massachusetts, at the organizational meetings of the American College of Dentists.

The organizational meetings took place on August 20 and 22 in conjunction with the National Dental Association (the original name of the American Dental Association). Twelve eminent dentists attended and many of the twenty-nine others who had been invited wrote letters in support.

The minutes of the organizational meetings, which run twenty-four pages in length, reveal something of the nature of the dental profession early in the twentieth century and the mind of its leading men. The world, dentistry, and the American College of Dentists have changed much in the past eighty-five years. If one of us sat in on those August meetings in 1920, we would have been surprised. For example, the purpose of the College was not to be recognition of accomplishment but stimulation of achievement. The primary emphasis was to be on young men and not the veterans in the profession. Leadership and political achievement would be left to the National Dental Association.

The focus of the College as originally conceived was to be education and advancement of knowledge, including research conducted in private practice. The term "college" was used in the English sense of a body of eminent practitioners who would confer recognition on young practitioners who demonstrated high quality application of their education to the practice of dentistry. The minutes reveal that the working model was the American College of Surgeons. (This is in contrast to the current use of the term "college" to mean an educational organization that grants a degree based on completion of courses, whether they can do anything with that in practice or not.)

The terms "fellowship" and "degree" were used interchangeably in the organizational meetings. In the minds of those who formed the College, it was to be something of a combination of board of dental examiners, the Academy of General Dentistry, and specialty organizations such as the American Board of Orthodontics. Because none of those organizations existed in any effective form at the time, the American College

America changed from agrarian, individual self-sufficiency and an economic policy of laissez faire (let things happen as they will) to an urban, interconnected society where progress was viewed as inevitable and susceptible to guidance by experts and science.

of Dentists was revolutionary. Because all of them came into effective existence, the American College has gradually redefined itself.

Dr. Thomas B. Hartzell, who later demonstrated how practitioners could grow their own practices and the profession (in this case by developing the specialty of periodontics), attended the organizational meeting of the American College and remarked, "There is no reason for creating an organization to honor the older men in the profession, and if that were the central idea I would not be much interested in it. The principle function of this little group is to create something that would stimulate growth."

Political and Social Context

The formation of the American College of Dentists was clearly a response to the conditions in dentistry at the beginning of the twentieth century and was partially determined by the characteristics of the individual leaders involved. Its early identity can be better understood by placing it in the broader social and political context of America during the twenty-five years from 1895 to 1920. This period from just before the Spanish-American War to the end of World War I is known as the Progressive Era. This was a defining period in American history, and one that set its stamp on the relation between professional organizations and society. It is hardly an accident that the American College of Dentists was founded at the end of that era and that it embodied the rugged optimism of the times and an abiding faith that professionals could change society.

The Progressive Era began following a deep, three-year depression from 1893 through 1896. It ended in 1919 or 1920 in economic strength and self-confidence. America changed from agrarian, individual self-sufficiency and an economic policy of laissez faire (let things happen as they will) to an urban, interconnected society where progress was viewed as inevitable and susceptible to guidance by experts and science.

All but the last few years of the Progressive Era were led by the Republican Party. William McKinley was elected in 1896 and again 1900. He was assassinated in the autumn of 1900 and his vice president, Theodore Roosevelt, finished that term and was reelected in 1904. Roosevelt hand-selected Howard Taft to succeed him in 1908, but Taft proved a poor manager and Roosevelt could not keep his hands off the job. The split within the Republican Party, ultimately resulting in Roosevelt belatedly running as a third-party candidate on the Bull Moose ticket against Taft in 1912, opened the way for Woodrow Wilson, a Southern Democrat. Wilson's two terms saw the completion of the progressive agenda with changes such as a national income tax and women's suffrage. They did not, however, sustain the reform momentum, and the disillusionment caused by World War I ended the Progressive Era in American isolationism.

The Fruits of Progressivism

It comes as a surprise, then, to realize how much of what we take for granted in this country emerged in the period from 1895 through 1920. (Some of the highlights are summarized in the sidebar.) Listen to the optimism and power in the opening lines of Carl Sandburg's poem "Chicago," published in 1916:

Hog Butcher for the World
Tool Maker, Stacker of Wheat,
Player with Railroads and the
Nation's Freight Handler;
Stormy, husky, brawling,
City of the Big Shoulders.

The most obvious examples of progressive innovations were the automobile, airplane, telephone, movies, phonograph, and radio. This was more than chance, Yankee ingenuity. Each of the innovations was somewhat complex and established a pattern of technology supported by science. Each of the innovations also involved massive manufacturing and marketing organizations associated with the rise of management theory and practice. Finally, these innovations share a common feature of changing the way people relate to each other. They reduce isolation, especially in rural areas; they expand the work day and the work location; they pull together remote parts of the country and even make international communication easier. In a word, the signature technologies of the Progressive Era use science and management to created larger communities.

Legislative Revolution

In terms of sheer volume of significant legislation, the twenty-five year period of the Progressive Era may be unmatched in American history. The whole political apparatus changed, from city councils to the way we elect the president. Politics was no longer a means of preserving society and distributing the public wealth; it became the means by which society was improved. The nineteenth century had been dominated by a philosophy that government left individuals and businesses alone. What happened was meant to happen, including business monopolies, slums, disease, and farmers struggling against drought. By the end of the century, 40% of American manufacturing was controlled by 300 companies. The trusts, such as Rockefeller and Carnegie, grew to an enormous size, protected by tariffs but undisturbed by any internal legislation or regulation.

Timeline for the Progressive Era

1896 *Plessy v. Ferguson*–"separate but equal"

1898 Spanish-American War
U.S. annexes Hawaii

1901 Vacuum cleaner invented

1902 Bureau of the Census established, later becomes Department of Commerce
First gramophone recording–Enrico Caruso
Muckraking begins with Lincoln Steffens writing in *McClures Magazine*

1903 First flight at Kitty Hawk
U.S. assists Panama in declaring independence from Columbia

1904 New York subway system opens

1905 Roosevelt mediates end of Russo-Japanese War, receives Nobel Peace Prize
First movie theater opens
Einstein's theory of relativity

1906 Radio broadcasting begins
Role of vitamins in health established

1908 Ford introduces Model T–cost is $850, color is black
National Conservation Commission

1909 National Association for the Advancement of Colored People founded

1910 Boys Scouts of America founded
Carnegie Foundation publishes "Flexner Report" on medical education

1912 Sinking of Titanic
Radio Act assigns call letters to stations

1913 Income Tax (16th Amendment)
Direct election to U.S. Senate (17th Amendment)
Federal Reserve Board established
Crossword puzzles invented
Bras invented

1914 Official opening of the Panama Canal
Federal Trade Commission established
First traffic light on Euclid Avenue in Cleveland, Ohio

1915 First transcontinental phone call
KKK rechartered (legally recognized)

1916 First woman elected to U.S. Congress
National Park Service formed

1918 Frederick Taylor's publications on management as a science

1919 Prohibition (18th Amendment)

1920 Woman's suffrage (19th Amendment)

The essence of pragmatic philosophy is that truth is determined by the utility of our beliefs.

The poor conditions of Negroes, the poverty and squalor of immigrants in urban ghettos, and the inability of farmers to get ahead were all seen as expressions of human nature. Economic depressions happened. The progressive revolution was to reverse this thinking.

Laws were passed to regulate interstate commerce and the Departments of Commerce and Transportation were established. Pure food laws were enacted at the national level and the government department that eventually became the Food and Drug Administration was put in place. Minimum wages were established in law, restrictions on child labor were enacted, and maximum work weeks (with special attention to women and children) were developed. Disability insurance and workers' compensation provisions were enacted. Legislation placed limits on the monopolies and gave some advantages to labor—but on the whole, this was a balanced response and the trusts were only bent and never busted, despite the political rhetoric.

During the Progressive Era, cities got busy addressing their problems. Before the tidal wave of building codes, sanitation laws, public clinics and inoculations, public ownership of utilities, and working rules could be launched, two major problems had to be overcome. One was political corruption and cronyism and the other was state domination of cities.

Throughout the nineteenth century, the balance of population and political power was agricultural and concentrated in state legislatures. (Have you ever wondered why state capitols are so often in towns so small no one can remember their names?) In many states, cities held their charters from the state legislature and could not even appoint city officials without state approval. As city populations swelled, these constraints were eased. But the major changes in the effectiveness of city government came by introducing the city council concept and placing professional men in positions of responsibility. Election by wards was replaced by citywide election and the newly enacted civil service regulations brought in commissions and city managers with profession expertise.

The nature of the political process changed as well. Referendum, initiative, and recall were developed as a means to give a direct political voice to the people and were used effectively to circumvent state legislatures over issues such as urban policy. Prior to 1913, United States senators were elected by state assemblies. In 1920, women won the right to vote in national elections (the first state to grant women's suffrage was Wyoming in 1904.)

Fiscal policy was changed as well, when the Federal Reserve system was established and the national income tax was enshrined in 1913, with the Federal Trade Commission following a year later. It is no accident that the Bureau of the Census, which started in 1902, morphed into the Department of Commerce. For the first time, the power of building policy on data was being recognized.

Such changes appear liberal from the perspective of 2005. That is not the way they were seen by progressives. Virtually all of these reforms were initiated by Republicans and resisted by the courts, and initially even by labor. There is some debate over whether party bosses used their voting blocks of urban immigrants to contribute to social change. The preponderance of evidence suggests that most of the changes were initiated by the well-educated and financially successful upper middle class and only exaggerated during the Wilson era by urban rebels, resulting in the backlash of the 1920s.

This unusual perspective can be illustrated by the example of the establishment of the national park system. This occurred in 1908 as an outcome of Roosevelt's National Conservation

Convention. The purpose of the national park system was not to preserve wilderness for tourists or ecologists. Rather, Gifford Pinchot, the department's first head, was charged with and aggressively pursued a policy of developing the land, which the administration saw as being wasted, into productive use through grazing and controlled logging and mining.

Foreign Policy

America's relationship with the world has been characterized as expansionist and militaristic during the years of the Progressive Era. It would probably be more accurate to refer to it as economic market growth. The annexation of Hawaii was precipitated by and largely carried out by U.S. sugar cane growers. U.S. support of breakaway rebels in Northern Columbia led to the new country of Panama and its lease of land for the commercially profitable canal. Although the United States did become a significant naval power during these years, its standing army was less than 1% of men of military age. This contrasted sharply with European military practices and the combination of economic opportunity and escape from compulsory military service fueled massive immigrations to the United States, largely from Mediterranean and Eastern European countries, during this time.

Earlier immigrations were of a different character. In the 1840s, there were a number of failed liberal revolutions in Europe that brought large numbers of Germans and Scandinavians to the United States. For the most part, they became farmers in what was then called the Northwest, which is why states such as Minnesota, Michigan, Iowa, and especially Wisconsin developed deep liberal ideals.

During World War I, America adopted a pacifist stance, fueled in part by an ideology that society had progressed beyond the need for conflict and President Wilson's hope of becoming the peace broker through "peace without victory." The failure of these policies is sometimes credited with leading to the "so what" attitude of the 1920s.

Expertise

We have yet to penetrate to the essence of the Progressive Era. Its optimism, energy, and progress were due to something deeper than ideology and the opening of the political process. The driving force was applied science. Policy was based on what worked rather than tradition. Positions of respect and influence were opened to men (and for the first time, in large numbers to women) who could make things work. Money and privilege were to become the consequences of political, business, and social enhancement rather than prerequisites for filling positions that did little to improve society. The Progressive Era saw the birth of expertise.

For the first time, in Louis Brandies' Supreme Court case involving minimum wages, systematic data showing the effect of law on social conditions was admitted as legal evidence. Large cities, such as New York, Philadelphia, and Chicago, established commissions to gather facts to help identify needed regulations and justify the actions taken. Universities became "the fourth branch of government," developing departments of sociology, economics, political science, scientific agriculture, and wide networks of extension programs designed to reach the intelligent citizen. The social sciences were invented by the progressives. The English model of educating the elite in rhetoric and the classics was replaced in major universities by the German model based on science as the accumulation of useful knowledge through observation and experimentation.

The muckraking journalism (so named by Roosevelt) that exposed conditions in the economic monopolies, unsafe work conditions, and impure food and drugs, were not headlines in the newspapers; they were generally book length, deep analyses published serially in magazines and intended for the general public.

The quintessential giant in the Progressive Era was William James. James, Charles Pierce, and John Dewey created the uniquely American philosophical position called pragmatism. James was born into a Brahmin Bostonian family and educated at Harvard, then informally in Europe as an artist. He also earned a medical degree, only slightly less informally. His productive professional life began with an appointment at Harvard to teach philosophy. In addition to systematizing and popularizing pragmatism, James held classes for both students and for the public at large in Cambridge, Massachusetts. In the fourth stage of James' career, he developed the first experimental laboratories for the study of perception and learning, thus creating the discipline of experimental psychology (the first time data were used to try to understand the human mind and condition).

The essence of pragmatic philosophy is that truth is determined by the utility of our beliefs. The old system for deciding what was true involved reasoning backwards from views thought to be self-evident or at least anchored in centuries of tradition. The pragmatists said we can find truth by reasoning forward and studying our beliefs by examining their consequences in action. The pragmatic view of truths laid the foundation for the system of scientific research we know today and for academic disciplines and political organizations intended to

improve the lot of society. Those today who are comfortable with the logic of research ("If this hypothesis is true, we should be able to observe the following outcomes...") may be surprised to learn that this way of thinking only became the standard a hundred years ago.

Medicine

At the turn of the last century, medicine hardly resembled the profession it is today. It would not be uncharitable to characterize medicine as ineffective, ungrounded in any understanding of disease processes or efficacy of treatments, with the principal difference between the noble practitioner and the quack being largely a matter of the dignity with which palliative measures were administered. One person in every six hundred claimed to be a physician, and medical education consisted of as little study as two years on top of high school, even less in some parts of the country. There were over one hundred fifty medical schools, about the same number as today. And all but a handful of these were proprietary in nature and unaffiliated with universities.

As the Progressive Era opened, city governments emphasized public health and inoculation programs. In urban areas, routine care was given at dispensaries. These were facilities for non-emergency, ambulatory patients, staff by physicians in the community. Within twenty years, the medical profession was able to duplicate such services on a private basis and the number of dispensaries declined precipitously as they became focused on the underserved, as they are today.

Another example of the logic of the Progressive Era involves patent medicine. Throughout the last half of the nineteenth century, various nostrums were regularly sold directly to the public. The only requirement for patent medicine was that it contained unique ingredients for which a patent had been secured. Food and drug laws and the fledgling Food and Drug Administration, founded in 1904, began asking for evidence that drugs were effective and safe. By this time, the American Medical Association had become strong enough to take on drug manufacturers. It was agreed among its members that prescription drugs could be advertised only in medical journals; any drugs marketed directly to the public would be boycotted by physicians and not prescribed to their patients. That arrangement held in the United States until about four years ago.

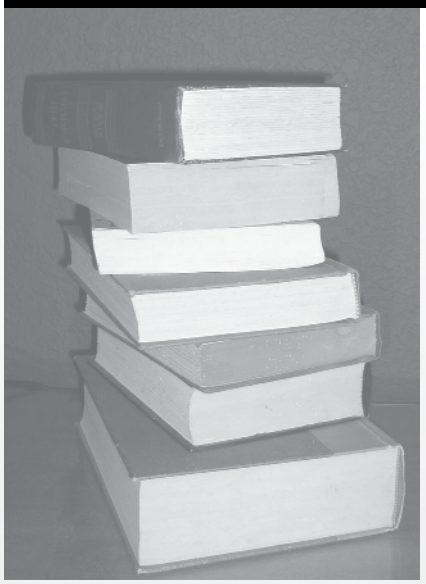
The freewheeling atmosphere in medicine and dentistry during the last half of the nineteenth century can be directly traced to the fact that there was money to be made from an uninformed public and little way of knowing whether one approach was better than another. It was the era of sectarian medicine—with chiropractic, homeopathic, osteopathic, eclectics, and other dogma-based approaches thriving. It was also the era of the medical persona. Hinman had an approach to medicine and four or five medical schools. Rush had the same. This was later copied in dentistry by Painless Parker and Harry Tweed, and has begun to reemerge today as gurus organize in academies.

What brought sanity to medicine was science. Simply put, science-based medicine worked better than medicine based on dogma, and the public wanted it. The ethos of the expert, grounded in scientific knowledge for the betterment of mankind, that characterized the Progressive Era demanded it. The Carnegie Commission for the Advancement of Teaching began as a philanthropic foundation more than a hundred years ago and continues its work today. Its fourth bulletin, a four-hundred-fifty-page investigation of medicine in the United States and Canada, was published in 1910 and authored by a high school principal named Abraham Flexner. It documented the rapid decline of medicine based on personal opinion of persuasive individuals with financial interests and vigorously championed medical education in university contexts in order to provide a realistic financial base and a scientific foundation. In terms of expressing faith in experts' ability to promote the public good, the *Flexner Report* was quintessentially a document for the Progressive Era.

Back to Our Future

The twelve visionaries who met in 1920 to form the American College of Dentists were almost certainly familiar with the *Flexner Report.* (William Gies, a biochemist, was to begin work on his equally famous report on dentistry—also sponsored by the Carnegie Foundation—in 1923.) They were doubtless "men of their times" who had seen what science, organization for public enhancement, and "the expert" could do. They grew up as America was experimenting with the ideas that privilege and lack of organizational oversight combined to promote disparities rather than progress. They came together, in the name of progressivism, to promote growth for individuals entering the profession, a growth based on science for advancing society and supported by a community of like-minded professionals. ■

Recommended Reading



Summaries are available for the three recommended readings marked with asterisks. Each is about eight pages long and conveys both the tone and content of the original source through extensive quotations. These summaries are designed for busy readers who want the essence of these references in fifteen minutes rather than five hours. Summaries 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 the Progressive Era; a donation of $50 would bring you summaries for all the 2005 leadership topics.

John D. Buenker (1973).
Urban Liberalism and Progressive Reform.*
New York: Charles Scribner's Sons.
ISBN 684-13531-0; 299 pages;
cost unknown.

This is an academic treatise rather than a popular presentation, designed to prove the point that the social and political changes of the Progressive Era could be explained as a function of urban liberal ideals stimulated by the new wave of immigration from Eastern and Southern Europe. While it is widely agreed that welfare reform and opening of the political system to direct representation occurred during this period, the argument [in the reviewer's opinion] falls short. The detailed statistical analyses of voter reports show a correlation of policy and immigrant interests, but the study focuses only on seven heavily industrialized states in the period 1910 to 1912. In the end, the author argues that the Progressive Era was not of a piece and his view explains part of the effects.

"In the main, urban liberalism included a desire for government intervention in the economy to protect the less fortunate, the welfare state, a tax policy based primarily upon the ability to pay, a one man–one vote political philosophy, and a determined opposition to legislated morality" (viii).

Arthur A. Ekirch, Jr. (1974).
Progressivism in America: A study of the era from Theodore Roosevelt to Woodrow Wilson.*
New York: New Viewpoints.
ISBN 0-531-05359-8; 308 pages;
cost unknown.

Comprehensive, balanced, and readable introduction to the Progressive Era. Coverage includes emergence of progressive ideas in Europe and their articulation by American intellectuals; the contributions of Populism and Socialism; the Social Gospel and muckraking journalism; the crusade for social justice and urban liberalism and their significant reforms in labor, housing, and voting; state reform, especially universal, direct suffrage; Roosevelt's rise and effective policies in regulating (rather than destroying) the trusts and the national parks; Taft's inept presidency and the split in the Republican Party that resulted in Wilson's election; the alignment of American expansionist foreign policy and its economic growth; Wilson's shifting and regressive policies; and the disillusionment following World War I.

Flexner, Abraham. (1910).
Medical Education in the United States and Canada.*
Boston: D. B. Updike. [Bulletin 4 of the Carnegie Foundation for the Advancement of Teaching]

The Carnegie Foundation commissioned this study of American medical education shortly after the turn of last century. Flexner visited all one hundred fifty U.S. and Canadian medical schools and worked closely with the American Medical Association. His report blasted the proprietary schools, which he said were dying in large numbers for economic reasons, and established the foundation of medical education as a university program grounded in science. The model proposed by Flexner requires completion of at least two years of

Continued on next page.

Recommended Reading

college as a prerequisite and four years of medical training. The preclinical first two years should emphasize science and laboratory learning; the final two years would be clinical (both inpatient and outpatient—dispensary and hospital) and would be based on a system of rounds and case discussions. Flexner excoriates the trade schools for their cheap and ineffective lecture model. Flexner's style is passionate and combative. But he did his homework, and his vision has obviously had stamina. The first two hundred pages of the "bulletin" are a compelling essay; the final three hundred fifty pages are reports of his visits to all the schools.

Richard Hofstadter (Ed.) (1963).
The Progressive Movement: 1900-1915.
Englewood Cliffs, NJ: Prentice-Hall.
No ISBN; 185 pages; about $2.

A collection of excerpted contemporary writings.

Lewis L. Gould (Ed.) (1974).
The Progressive Era.*
Syracuse, NY: Syracuse University Press.
ISBN 0-8156-2163-9; 238 pages; price unknown.

The Progressive Era in America was roughly the twenty-five-year period between the beginning of the Spanish-American War and the end of World War I. During this time America changed from a predominantly native, agrarian country to an urban one. Major social and political changes occurred, including minimum-wage and child-labor laws, popular election of the president and senators, the FDA and National Parks Service. A predominant feature of the period was the belief that society could be improved by science and management.

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