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Continued Competency
1997 Annual Meeting
& Convocation

Journal of the American College of Dentists

A Publication Presenting
Ideas, Advancements and
Opinions in Dentistry

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Objectives of the American College of Dentists

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

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

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

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

D. To encourage, stimulate and promote research;

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

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

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

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

I. To encourage individuals to further these objectives, and to recognize meritorious achievements and the potentials 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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FROM THE EDITOR

The Secondary Market in Dentistry

I am afraid the dental profession has misread managed care. Most of the dentists I talk to characterize it as a scheme for compensating insurance executives for the work dentists do while denying patient autonomy in the process. Young dentists and sometimes the schools are blamed, and the profession has its hopes pinned on direct reimbursement as the antidote.

There is enough truth in every part of that picture to make it dangerous. Like a tea bag clinched on a tooth with frank caries, we have continued to tell ourselves that "dentistry is not like medicine; perhaps we will not catch managed care." The latest biopsy reports show that it has metastasized.

But managed care is not the root problem; it is a manifestation of the growth of secondary markets in dentistry. The question is not so much how dentistry is practiced and who is rewarded for it; the issue is who owns dentistry.

The classical model of dental practice is the solo practitioner, aided by several auxiliaries, providing long-term but largely acute reparative care to families of patients. In times still within the memory of some practitioners, all of the funds necessary for this arrangement were either in the pockets of the patients or the pockets of the dentists, excepting a few bank loans to enterprising practitioners

who were buying their offices. Although still the largest segment of the practice community, solo practice is also the segment experiencing the greatest decline.

Secondary markets trade in the resources necessary to facilitate primary ones. They are a phenomenon of the times. There are companies that sell insurance on the insurance that other com-

The issue is who owns dentistry.

panies write. On the NYSE, there are more mutual funds—designer bundles of primary stocks—then there are primary stocks themselves. The "American Dream" of owning your own house is so dependent on a mortgage—or two or three—that we never mention our co-owners. Spreading the risk associated with growth is a fundamental in our economic system.

Secondary markets have become necessary in dentistry because of its success. Dentists could not work enough hours per week to meet the demand for care so they hired extenders in the form of assistants, hygienists, and other dentists. The demand for services, especially chronic and preventive ones, also exceeded patient's abilities to pay for them and so

indemnity plans were created as a forced savings plan for patients and a mechanism to channel massive amounts of money from union groups, employers, and others into the oral health care system. Brokered care is just one more example of a secondary market.

Secondary markets stimulate the primary ones and remove some of the lumpiness and uncertainty found there. They are essential to growth. A company that wants to upgrade its equipment or hire new employees to better serve more customers will need a bank loan. A company that wants to open outlets in new territories will need to partner with others to ensure customers. Secondary markets involve a trade off, where a percent of ownership is exchanged for the probability of higher returns. Not all such exchanges are prudent, but a smaller percentage of a much larger pot is quite difficult without them. Each reader may know one or two colleges who have made unsound arrangements with secondary markets; most have personally used such markets effectively. Each reader will also know several examples of the two extremes of personal preference; the "control freaks" who have little to show but are masters of it all and those driven by greed to pursue unrealistic risks and thus jeopardize their families and their patients. There is even a sizable group who "talks poor"; enjoying the

benefits of secondary markets while running them down.

Let's consider four secondary markets. The first is being created now by dentists, in particular those who graduated fifteen to twenty years ago and are well established. This is the work force leverage market where dentists amplify their effort and maximize their fixed investments by hiring auxiliaries, hygienists, and other dentists to work for them. According to ADA figures, over 21% of all licensed practitioners are either salaried or independent contractors; about two-thirds of dental school graduates begin practice as associates. The number is almost double just ten years ago and the length of time it takes associates to begin their own practices is steadily increasing. The typical young professional receives as much instruction in practice management, dental procedures, and ethics from senior dentists as they do from dental schools.

Indemnity programs began about fifty years ago as a means for unions to pay dentists for the services rendered to dependents of union members. It was almost direct reimbursement. Initially, the state dental associations on the West Coast were supposed to be the secondary market for this arrangement, but they backed out. Now ninety-plus percent of dentists participate in such programs, again with senior dentists leading the way.

Brokered care is a slightly different kind of secondary market. It was created by the free market enterprise system in order to insure more equitable distribution of public resources. Again, according to ADA statistics, since 1990, general cost of living and cost of medical expenses in the United States have risen by about 17%; during the same period dental costs and the net income of dentists have both increased by 35%. Economists refer to this situation as "excess profits." Harvard Business School professor Michael Porter reminds us "The pres-

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ence of rates of return higher than the adjusted free market return serves to stimulate the inflow of capital into an industry either through new entry or through additional investment by existing competitors."

I can think of five ways to combat brokered care. The first, the most effective, and the method I have advocated on the pages of this journal, is to innovate and offer patients a wide variety of the

services they are seeking. A second and extremely effective means would be to dramatically cut the costs of oral health care. This would be appreciated by the public and would starve out the brokers. The third alternative is to commit to heavy advertising in an attempt to convince the public that there is a difference between traditional dentistry and broker dentistry. Not only is this an expensive proposition and one that runs counter to the moral fiber of the profession, the message must also be based on fact. A fourth strategy is to appeal to the government for protective laws and regulations. The final alternative is for dentistry to create its own secondary market and compete with the brokers. Direct reimbursement may be considered a gesture in this direction. A major selling point of direct reimbursement is the significant reductions in paperwork and review. But these are advantages primarily for the dentist and not for the payer. In all likelihood, payers would outsource the management of direct reimbursement, thus creating a new secondary market that looks a lot like the ones that exist now.

The fourth secondary market is more dangerous than the three mentioned so far. I have a natural evasion to three-letter abbreviations such as DDT and IRS. Although IPA, PPO, and HMO need to be watched carefully, the new threats are DMC and IPO. A dental management

corporation is a way to bring capital and management expertise to a group of dentists. The DMC can be owned by the dentists it serves, its services can be contracted, or it can be owned through legal fictions by a company which also employs the dentists whom it serves. Hiring staff, processing claims, purchasing expendables and other equipment and handling, OSHA and employee relations, computer systems and the myriad of other management issues essential to an effective dental practice can be centralized to take advantage of economies of scale and managed by individuals trained and experienced in these areas. Another advantage of the DMC is concentration of capital. This allows for the building and equipping of state-of-the-art offices in prime locations, development of effective computer systems, advertising, and other means of growing a practice not normally available to individual practitioners. It also provides an important corrective to a market anomaly that has disturbed senior dentists. Twenty years ago the organized profession lobbied mightily to reduce the number of candidates entering dental schools. This was both appropriate and effective. Now, however, an unfortunate situation has arisen where there are too few dentists entering practice and they are too heavily in debt to afford to buy the equity position developed by senior dentists in their

practices. The value of practices has declined in many states. Dental management corporations are a source of capital which has propped up the market for the sale of dental practices.

Since 1990 we have heard IPO about twenty times in association with dentistry. This is the approximate number of chains of dental offices which are traded on the stock exchange. In these cases, the equity position of dentists was sold to the public through an initial offering rather than to fellow members of the profession. Such chains pursue a profit motive through standardized efficient operation, serving the needs of the most lucrative market segments of the public, and employing dentists who cannot find good practice opportunities, who dislike management, or who are strapped with a burden of debt. These organizations will continue to exist and perhaps grow to the extent that organized dentistry permits these market conditions to continue.

Organized dentistry has been quite successful with non-dues income. Insurance companies, printing companies, travel companies, credit cards, etc. have all been used to lower the cost of membership in organized dentistry for those who now belong. Perhaps it is time for organized dentistry to consider creating its own secondary markets as well. That would free the profession from burden-

some dependence on intermediaries. One secondary market that might be considered is brokering arrangements other than direct reimbursement. Another is an education fund to relieve the burden of dental education. Schools cannot innovate quickly enough because of scarce resources and students are graduating with debts averaging about \$100,000. Loan forgiveness programs run by the government to direct recent graduates towards undeserved segments of the population have all but disappeared. Young dentists and established practitioners alike are looking to financial intermediaries to ensure a smooth handoff of the profession from generation to generation. That financial intermediary could be organized dentistry. Capital costs have made this transition awkward and increasingly risky. Without support from organized dentistry, there will be more fumbles and greater risk that new professional careers will be intercepted by purely economic interests outside the profession. The profession has a choice between blaming the victims and cursing the inevitable secondary market to help hold the profession in trust.



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



Letters to the Editor

Dear Fellows:

Objective F. of the American College of Dentists states: "To encourage the free exchange of ideas and experiences in the interest of better service to the patient." I believe that the Winter 1996 issue of the *Journal* has tried to do that. However, with biases that have been included in the discussion in the White Paper, "Dental Managed Care in the Context of Ethics," I believe that the College and the *Journal* have done a disservice, both to the College and to the dental profession in the United States.

The tone of the White Paper is very surprising after the Regents approved a new set of Core Values and Aspirational Code of Ethics that superbly apply to all dentists. In the tone of the White Paper, many of the negative aspects of the dental healthcare system are presented as only belonging to managed care, when in fact they should apply to all of dentistry. The method of payment does not dictate a person's ethics. I realize that this issue was about managed dental care, but I feel it inaccurately leaves the opinion that dentists who choose to participate in managed care plans have the tendency to be unethical.

The eighth characteristic of managed dental care states: "More opportunities for ethically based decisions are created for dentists." Dr. Ozar in his article in the same issue of the *Journal*, "Virtue Theory and a Dental Managed Care Case," points out that "In truth, if adequate care is indeed adequate for the patient's needs in the situation, then there is nothing unethical in providing it." He

goes on to say, "But as long as the treatment offered and performed is adequate, the dentist's feeling of acting unethically must be viewed as misrepresenting the situation."

Is it ethically or morally right for a dentist to tell a patient that he needs a more economical restoration (less cost to the dentist) than a crown (which costs the dentist more and requires more time) if the adequate way to restore the tooth is a crown, whether it is done in a capitation or any kind of managed care setting? In the reverse, is it ethically or morally right for a dentist to tell a patient that he needs a crown (costs more and more profit to the dentist) than a more economical restoration (less profit to the dentist) if the adequate way to restore the tooth is a non-crown restoration, whether it is done in a private practice, group practice, store-front dental office, third-party reimbursement, direct reimbursement, or any other fee-for-service setting?

To quote a primary principle from the White Paper, "The ethical and professional aspects of dentistry must always take precedence over its economic ones. The market nature of managed dental care must always be evaluated in an ethical and professional context; whereas the reverse is not meaningful." This should apply to all of dentistry, not just managed care.

In the White Paper under the title "Obligations of Dentists Who Do Not Participate in Managed Care Systems," the following is stated: "Dentists shall be obliged to report to the appropriate

reviewing agency as determined by the local component or constituent society instances of gross or continual faulty treatment by other dentists. Action is required because the patient's oral health is being threatened and not because of the nature of the reimbursement system." While the last sentence is an absolute, placing it under the title as shown insinuates that only dentists not participating in managed care should look after those in managed care. Should the reverse be true, dentists not practicing fee-for-service dentistry should have an obligation to watch the ethics of the fee-for-service dentist? As our Editor has so ably pointed out in his article in the issue on managed care, "Looking for Virtue in a Virtuous Society—Discursive Ethics and Dental Managed Care," "No communication is possible and no ethical community can be created for dentists such as these who do not recognize that the rules they use to judge others must be the rules they use to judge themselves."

The last statement in the White Paper states "The profession should refocus on the traditionally important roles..." Is it the responsibility of the College to recommend the methods of payment (traditionally important, meaning private fee-for-service dentistry) for dental treatment? There is no doubt that if a poll were taken, the vast majority of all dentists would vote to limit the practice of dentistry to fee-for-service. However, what about all the patients in this country who cannot afford traditional fee-for-service dentistry? Managed care

Letters



does allow some people to have dental treatment who could not previously afford it.

Does the College's insinuation that managed care dentists may do undertreatment serve the best interests of the public's dental health? Does the statement "at this time there is no conclusive evidence that dental care delivered in managed care settings is different in quality from care delivered in traditional settings" mean that the College has some evidence, but not conclusive evidence?

Perhaps in the interests of the dental profession and the public, the College should restate the White Paper to apply to all dentistry, not just managed care dentists. The ADA Council on Ethics, Bylaws and Judicial Affairs, in June 1997, changed its "Ethical Aspects of Managed Care" to "Ethical Aspects of Dental Practice Arrangements" to broaden the content to all kinds of business arrangements.

As President Chuck Farrell has challenged the College to become the most respected voice in dentistry, I

would challenge the Regents to set aside any biases in order to have a White Paper that applies to all of dentistry and not just managed care—thus being for the benefit of the patient, the profession, and the College.

Sincerely,

Sanford A. Glazer, DDS, EdS, EdD, FACD
Potomac, MD

The Challenges of Fellowship

ACD President-Elect's Address
October 17, 1997
Washington, D.C.

Edward C. McNulty, DMD, MDS, FACD

This week we have gathered in Washington upon the call of our President, Charles Farrell, to renew ourselves, to recall fondly those who are deceased, to honor notable contributors to the advancement of the profession, and to celebrate the election to fellowship of those candidates who sit amongst us. Admission to the College is only by invitation, supported by a double blind credentialing process. This ensures the selection of qualified Fellows for induction into the College. We congratulate each of you candidates on your election to fellowship, but most of all, for your leadership and active participation that brought you to the attention of your sponsors.

The Board of Regents meeting of the last few days, along with the College's agenda yesterday and this morning have been devoted to the business of the College and the enhancement of our leadership skills. We have also taken time to improve our Section's infrastructures, review their programs, and stimulate the dialogue at the Sections Leadership Assembly. Why all this activity? Occasionally, one hears the innuendo that the College is just an honorary society, but the activity of the last few days, and the energy that it has generated to activate new and continue ongoing projects, on the Section level throughout the year, repudiates that statement. We are an active, vital

organization, and we aim to make a difference!

Our Origins in Changing Times

Much has been written in recent years about the shift of paradigms in society and our profession and the necessity that we recognize these new models and use them to further our goals. The College itself was created in such a paradigm shift. The College was founded in 1920. A period of time when dental education was contested between university-based dental schools and proprietary dental clinics. Many journals were published by dental manufacturers which used these periodicals to sell their products. Misleading advertising was rampant and a segment of dental practitioners engaged in hucksterism.

A group of dedicated individuals from a cross-section of the dental profession conceived of an organization of leaders in dentistry that would be an apolitical representation of all dental practitioners, researchers, and teachers who could act as a catalyst to promulgate improvements in the service of dentistry to the public. They supported the concepts of a university-based dental education, the elevation of higher ethical standards, the espousal of professionally controlled and published dental journals, and the elimination of hucksterism and the up-grading of advertising standards. The

College was administered by a Board of Regents who soon developed a commission-based system to address particular areas of concern and use the expertise of Fellows and consultants knowledgeable in those fields, thereby enhancing its ability to be an architect of change and growth.

While the vision and mission of the College has remained steadfast over the generations, the College itself has evolved with time and has realized that through change it would become a more vital force in our profession. When the College first met in Boston, there were twenty-three founding members. By its second meeting in Milwaukee, forty-nine new candidates were proposed. It was rapidly realized that the work of the College could not be maintained without a larger membership base. Today there are over six thousand Fellows who account for about 3% of the dentists in the United States. These Fellows are also



Dr. McNulty is a faculty member at the New York University School of Dentistry and in the private practice of orthodontics at 553 Park Avenue, New York City, NY 10021.

members of forty-six Sections which allows the College to have an impact on the local as well as the national level. With the development of Sections, the North American continent was broken up into eight Regencies and eventually a Regent began to be elected to represent each Regency rather than being elected by the whole College as had been the

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custom previously. This gave each area of the country a voice in the governance of the College. Recently, Sections have been founded in Europe and six areas in Canada allowing all our Fellows to become more actively involved in the programs of the College at the grass roots level.

Have the Sections responded? Magnificently! The British Columbia Section has been the catalyst in establishing a \$1,000,000 endowed chair in ethics at the University of British Columbia. The European Section has established the Hildenbrand Lecture, given annually at the American Dental Society of Europe meeting. Time doesn't permit me to give examples from each of the other Sections that have developed viable programs which impact on the local professional scene and broadens the presence of the College and its ideals.

The same is true for the many new and continuing projects being run by the Sections in our country. To encourage the development of new, and the nurturing of established projects, the Board of Regents initiated the Section Achievement Award, given annually since 1995, for the best projects submitted by Sections for consideration by the Awards Committee. The co-recipients of this year's award are the Maryland Section and the New York Section, for the fine

Clinical Day programs that they put on in each of the dental schools in their Sections, thus exposing their dental students to the ideals and history of the College as well as the clinical excellence of the participating Fellows. This year the Awards Committee is also recognizing the Outstanding Section Newsletter.

Our organization's influence, however, goes far beyond its present programs. Dental history is resplendent with examples of the College providing an impetus to inaugurate worthwhile projects and then letting the ensuing organizations develop and mature on their own. In the 1920s, our Commission on Journalism produced a study that resulted in the founding of the American Association of Dental Editors. The College was supportive of the fledgling International Association of Dental Research. Another one of our committees spun off and became the William J. Gies Foundation, which from its beginning, provided essential financial support to the then newly launched Journal of Dental Research and developed the annual Gies Award for the best editorial in a dental journal. This Foundation presently continues its close association with the IADR and the AADE, as well as helping to fund student research scholarships and developmental teaching fellowships in collaboration with the American Association of Dental Schools.

It is clear, that like a pebble cast upon the water, with resultant ripples radiating outward, the effect that the College has had on the profession is much wider than the projects which it now runs. This is entirely in keeping with the College's mandate to act as a catalyst to promote improvements in dental health for the public.

Responding to the Challenges of Our Times

A more recent example of the College's ability to help shape change is the re-establishment of ethics courses in our dental schools. During the mid-1980s, through efforts instigated by the College, and working closely with the

ACD and the AADS, the ADA's Commission on Dental Accreditation established standards for teaching ethics in our dental schools while the AADS developed instructional guidelines for these courses. Meanwhile, in 1989 and 1990, the College introduced national workshops to develop ethics facilitator programs. In recent years, these workshops have been presented by some of our Regencies and Sections, while several Sections provide facilitators to dental schools wishing to avail themselves of this type of support for their ethics courses.

It is difficult to highlight all the activities of the College—from promoting oral health to supporting dental education and professionalism. In the last few years, our Journal has been revamped and revised as a referred journal expressing the College's and the dental profession's opinion on subjects vital to the future of the profession; white papers have been issued on ethics and on managed care; special conferences convened on information technology and the future of dentistry. This coming April, Ethics Summit I is to be held to establish a meaningful dialogue on ethics within the greater dental community. Realizing the impact of technology on our

*Have the Sections re-
sponded? Magnifi-
cently!*

practices and our lives, the College has established its own website to further enhance communication with its members. None of these initiatives could have been carried out without the encouragement, participation, and support of the Fellows of the College.

While taking a leadership stance on national issues, the College also realizes it can be influential on the local level. All entering dental students receive the booklet "Dentistry: A Health Profession

—A Guide To Professional Conduct” from the College through the active cooperation of our dental schools. This booklet was revised this summer and distributed to first-year dental students this Fall. In another initiative, a new, small wallet-sized card, “The ACD Test For Ethical Decisions,” has been developed. The Board hopes Sections will use it to give dental students and dentists in their area an easy-to-carry reminder of the core ethical values by which they should be practicing.

It is through Section activities where the College's efforts can be seen most readily by the profession and the public. People relate easily to people they know. You are the leaders of your communities and local societies and therefore must be the standard bearers for the College's programs. These Section endeavors will have a more lasting effect if people see you providing the needed leadership and the determination to carry them out. Yesterday, at the Section Leadership Assembly, over a dozen different projects were mentioned that are being sustained by various Sections of the College. This by no means exhausts ideas of ways to further ethics in our profession, encourage leadership development, and foster improved dental health for the public. Some Sections concentrate on just one project, but most Sections have multiple projects running throughout the year. While requiring a certain amount of coordination by the Section leadership, these projects allow more Fellows to actively participate in programs of the College and makes for an energized membership.

The Challenges of Fellowship

This brings me to a request I have for each and every one of you. We must increase the activity of the College on the Section level as a vehicle for service to the profession and the public. Pat Riley in his book *The Winner Within* made the statement that the dictionary is the only place where “success” comes before “work.” Individually, we cannot affect all the programs of the College, but our in-

dividual participation in some aspect of the College's programs will add up to an increased vigor in carrying out our mandate to improve ethics and professionalism in dentistry and to enhance the health of the public we serve.

In accepting the office to which you have elected me, I pledge to do all in my power to advance the ideals and programs of the American College of Dentists. I now ask you, each one of you individually, to participate in a project on the Section level. Your Section leaders are in place and working actively. They are all exceptionally able and dedicated,

the profession and the health of the public. Let us take this opportunity to reach to a higher level of excellence!

I would like to focus on one other priority for this year. That is membership. What I am about to say is really quite obvious, yet perhaps so obvious that few of us even think about it. Seventy-seven years ago, when the College was founded in Boston, it had a mere handful of Fellows. Each of us is a direct descendant of one of those charter members, not a blood descendant, but a College descendant. And what is the commonality of that ancestry?

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but they need your ideas and participation to make the College successful on the local level.

Volunteerism has become one of the catchwords of the moment and even the federal government has become involved. But volunteerism, by definition, cannot be imposed. This has never been a problem for the American College of Dentists. Everyone in this room is a proven volunteer, otherwise we wouldn't have been nominated for fellowship. It is this very attribute of being willing to do all we can to improve our profession and community that has set each Fellow apart from others in our profession. However, we mustn't take election to fellowship in the College as an end to our accomplishments, but rather as a platform for further service in our profession and community.

Active involvement in our Sections is one way of giving back. All of us here have been fortunate in our lives and we owe something to the profession and the community, to help those who have not been so fortunate. We must give back. Face it—the College provides the best arena for us to help the public and the profession. We should take advantage of our position to improve the standards of

Throughout the years, Fellows have been chosen based on their proven abilities and willingness to lead others. The arduous double-blind credentialing process we go through insures that candidates are selected solely on their records. Likewise, sponsorship in the College is so meaningful that there is a tradition that each sponsor accompanies his or her candidate on the day of his induction into the College.

So this is your second challenge: if the College does not currently have a Fellow whom you have sponsored, sponsor one now. Many of you present today will remember Robin Williams' famous line in the movie “The Dead Poets Society.” Lecturing to a group of somewhat somnolent and indolent students, he jumps up on his desk and exhorts them, “*Carpe diem*”—“Seize the day!” I am not about to use this podium as a platform, but I am urging you not to wait till this Winter or even December, but to start the process of sponsoring a candidate now. Think of several good candidates from among your colleagues when you leave here and contact them without delay. And, incidentally, the emphasis should be on youth and diversity to ensure our future and our spirit. Quality goes without saying.

The sponsorship of Fellows into the College is the right and the duty of every Fellow. Don't feel that you have to become "seasoned" in the College before you can sponsor candidates. Remember your College lineage. Be proud of it—and *carpe diem!*

The vehicle that provides funds for our College to carry out many of its projects is our Foundation. It is supported by contributions from the Fellows and through special fund raising activities. Contributions to the Foundation are voluntary but are a privilege of membership. Each Fellow should regard his

or her contribution as an another opportunity to support the College in its efforts to better the profession.

You Are the College

As the College is about to embark on a new year, I am asking each of you for your commitment to the College and its ideals. Individually, I am looking for every one of you to dedicate some amount of time to be active in the College and its programs. Get involved—Be Proactive!

I have observed first hand that those Fellows who have become active on the Section level have benefited most by

their involvement in the activities of the College. I could expound on this theme, but it was said much better almost four hundred years ago by the English poet John Donne:

No man is an island entire unto itself;

Every man is a piece of the continent, a part of the main...

Any man's death diminishes me, because I am involved in mankind;

And therefore never send to know for whom the bell tolls—It tolls for thee.

Openness—Adapting to Success

Convocation Address
October 17, 1997

Knight A. Kiplinger

It is truly a pleasure and honor to be with you today. It has been about ten years since I last addressed a group of dental professionals. The occasion was a meeting of the Maryland Dental Association, where I spoke at the invitation of my friend Dr. Morris Antonelli, a Fellow of this College.

As I delved into the literature of your field while preparing for this address, I fully expected to find a lot of changes in your profession over the past decade. But I was startled by the enormity of the change...in technology, in delivery of service, in government regulation, and much more.

Rapid change is the hallmark of our times, so let's explore what effect change will have on our nation, the world, and your profession.

America Today

The U.S. is in the seventh straight year of economic growth. Excluding one mild national recession—from the Fall of 1990 through the Spring of 1991—America has had an amazing fifteen years of growth, accompanied by low inflation. This is an unprecedented record of economic expansion and the envy of other nations.

A unique characteristic of the present moment is that every region of our country is growing at the same time. In years past, even if the national economy was growing, some region was in the tank at a particular time. New England recently emerged from a very severe regional recession that lasted more than six

years. California, two years ago, was on its back with nearly 9% unemployment, but now California is once again one of our most robust states.

There are, of course, varying rates of growth by region. The Rocky Mountain states and the Great Plain states are going gangbusters, and so are the Southeastern states. You can forget about calling the North Central states "the Rust Belt," because they lead the nation in the re-industrializing of America.

The myth of American de-industrialization is dying hard, but gradually, it's dawning on the American people that we are not manufacturing *less* than before, but much more, and manufacturing is actually rising as a share of our growing economy.

We are in the midst of a services boom as well, but let's stop defining services as hamburger-flipping, car washing, and laundries. Services, by and large, are a dynamic sector whose average earnings are only slightly less than the manufacturing sector, and many service fields enjoy very high incomes. All of you dentists are in the service sector, as are your fellow health care professionals. Other high-earning services include architecture, engineering, law, accounting, financial services, and education.

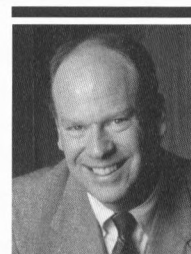
The real key to America's strong growth today is not our own demand for America's goods and services, strong though it is. The key is *foreign* demand for what America produces. American exports are booming, not just in manufacturing and agriculture, but in services as

well. The reason, quite simply, is that the U.S. makes top-flight products at an attractive price in countless categories, especially high tech manufactures.

What's Ahead?

A reasonable question now arises: Can this success continue? Yes, it can, but not at the torrid pace of the last several years.

Take the stock market, for example. The last three years in the stock market have spoiled investors for the rest of their lives. We are not going to see year after year of double-digit increases in the price of stocks. That's no knock on the American economy or on stocks. Stocks are still the place to be, and by default, the best place to park your capital for long-term appreciation. But if we're going to have average total returns of 10% or 11% per year on quality equities, spanning decades, we are going to see some years that are flat, or even declining, to balance out these 15%, 20%, and 25% years that we have had the past couple of years.



Mr. Kiplinger is Editor in Chief, *The Kiplinger Letter* and *Kiplinger's Personal Finance Magazine*.

In the general economy, we at Kiplinger foresee continued growth in 1998, but at a somewhat slower pace, as the rate of growth in capital spending tapers off, the rate of growth in corporate earnings declines, and the rate of growth in exports softens, too. Notice that I don't say the U.S. economy is going to *contract*. We're simply going to see a decline in the pace of expansion.

Now let's look further out. Let's broaden our lens to the next twenty or thirty years. Happily, America has put to

Only one major nation on earth knows what it's like to operate a market so open to foreign competitors. We Americans know that it's tough for American producers, but we also know that openness produces the world's highest standard of living for consumers. The rest of the world is beginning to understand this, but the rest of the world is playing catch-up with what we've known and practiced for decades.

In the last years of the 1980s, there was a lot of speculation about what to

westward to the exciting opportunities of Asia? That one nation, of course, is the United States. So the United States will be a significant partner in the Pacific Basin boom, as both a supplier to and customer of Asia, and the U.S. will prosper more than any other large industrial nation.

Dentistry Today

Now, let me offer you some thoughts about your own profession...its situation today and prospects for the future. First of all, a gigantic disclaimer: I am no authority on dentistry. We journalists are simply voracious learners; we're sponges for information. I am just the curious layman, the avid reporter, the outside observer. I did some homework before coming before you today, mostly reading in the current literature of your profession. My primary source was your excellent *Journal of the American College of Dentists*. I found it highly informative.

Browsing in the Journal's letters to the editor from Fellows of your organization, I get a sense that there is a great deal of anxiety in your profession today. There seems to be a lot of soul-searching, worry, and bewilderment about things that are happening...a feeling, among other feelings, that you're not getting enough respect from a fickle and ambivalent public...a public that insists on flawless work and enormous personal

America has put to rest the economic hypochondria that came over it in the late 1980s and early '90s.

rest—I hope forever—the economic hypochondria that came over it in the late 1980s and early '90s. You remember all the hand-wringing about what the '90s was going to look like as a decade. Many economists said it would be a lousy decade...our comeuppance for the excesses of the '80s, a long hangover from a wild party. In the view of many pundits, the U.S. was going to become a "banana republic," a colony of Japan. Europe was going to eat our lunch; Japan was going to walk all over us. Boy, was that wrong.

At the Kiplinger organization we said time and again how wrong that forecast was. We said that the U.S. was poised to pull away from its leading rivals in economic growth and technological innovation. This was not an appreciated message in that era, but time has proven the forecast to be sound, and if anything, rather conservative.

The Open Nation

Today it's beginning to sink in that the United States, unique among the major nations of the world, is well-positioned to benefit from the exciting opening of the world economy. The key word for the twenty-first century is *openness*...markets open to goods, to the movement of labor, to foreign investment.

call the next century. There were people ready to dub the twenty-first century the *Japanese Century*, taking over from the *American Century*. I believed then, and still do, that it is terribly short-sighted to name a century after any one nation. I don't call the twentieth century the *American Century*. I call it the *Atlantic Century*, because leadership in the world economy was very broadly shared between the old industrial economies of Europe and the new American powerhouse. Following that train of thought, we shouldn't name the twenty-first century after any nation.

Arguably, the twenty-first century could end up being called the *Chinese Century*, because China, on the strength of its sheer vastness, enormous population, and rich resources, will probably pass the U.S. as the world's largest economy—measured in total value of goods and services produced—some time in the next few decades.

I would prefer to describe the twenty-first century as the *Pacific Century*, because in the next century, all the nations of Asia will rank high among the world's fast-growing economies.

What about the U.S.? I ask you: What one nation borders both the Atlantic and Pacific? What nation looks both eastward to the Old World of Europe and

The key word for the twenty-first century is openness...

attention, while at the same time shopping relentlessly for the lowest price.

In gloomy moments, many of you focus on a number of forces that could have a negative impact on the private-practice, fee-for-service dental work that most of you do. In your gloomiest moments, some of you may even evince a

doubt or two that it was a good idea to become a dentist in the first place.

A year and a half ago, *Dental Economics* asked this question of a sample of hundreds of dentists around the country: "If you were starting over today, would you choose the same profession?" A bewildering 54% of the respondents said, "No."

Tough Challenges

Well, what *are* some of the troubling situations that may be weighing on you? You know them very well, but I'll tick off a few.

Let's start with the decline in traditional revenue sources, especially the treatment of tooth decay in young people. Fluoride and oral hygiene education have done wonders in this area. As a matter of fact, the success of preventive dentistry is something you, as a profession, can be the most proud of. But, as you well know, the decline of revenue from pediatric and adolescent dentistry requires that you look for replacement revenue from other kinds of services to a different population segment.

At the same time, you must contend with price competition from chain dental clinics and managed-care practices. Many of these are employing young dentists who are eager to work on salary. They come out of dental school with enormous debts. They're leery of incurring new debt to establish an expensive private practice, so they're willing to work on salary. From what I read, there are HMOs around America that are even offering young dental graduates a "signing bonus," an offer to repay some or all of their debt to go to work in a managed-care clinic on salary.

Conversely, there are some young practitioners in your field who have so much debt from their education and from starting a private practice that they are tempted to engage in what we might call "aggressive dentistry." This includes flamboyant advertising that overpromises results. It also includes the temptation to do unneeded work or pad billings to both individual payers and insurers.

This kind of behavior, however uncommon it is, can give a bad reputation to your honorable profession.

It's also discouraging to you that, according to a survey in 1989, 43% of the American people do not visit a dentist even once a year. As dismaying as that statistic is, however, it's a substantial improvement over forty years ago, when 63% didn't see a dentist once a year. At least the trend is going in the right direction.

Other challenging situations facing you today: The new technologies you must learn and acquire for your practice; the growing degree of government regulation; OSHA; Americans with Disabilities Act; AIDS prevention—the list goes on and on. Finally, the imperative of

with home medical test kits and home treatment kits, herbal medicines, and alternative therapies of all sorts. Professional tax preparers have to compete now with tax preparation software (including a program published by my own company). Bookkeepers and CPAs see many of their clients using software to do their own small-business accounting. A lot of attorneys, especially in wills, trusts, and estates, say that they are under pressure from do-it-yourself legal software. By comparison, your profession is much less vulnerable to this do-it-yourself movement. (I haven't seen any home kits for do-it-yourself root canals.)

You're also not alone among the professions in being worried about your public image and whether it's being sul-

The most encouraging sign for the future of your profession is the trend in aggregate spending on oral health.

constant retraining and upgrading of your skills. More and more states are requiring periodic relicensing of all professions, including dentistry.

You're Not Alone

There's an old saying that "misery loves company." I don't know if it's any consolation to you, but you are not alone in any of the tough challenges your profession faces today. In every service business and profession there is a battle going on between high-quality, higher-cost providers and lower-cost providers which frequently (but not always) cut corners on quality or service.

For example, we're seeing this in financial services, with battles of discount brokers versus full-service brokers, banks versus credit unions, and life insurance agents versus telephone quote services for inexpensive term life policies.

We're also in an era of "do it yourself" alternatives to professional services. The medical profession has to contend

with less-than-ethical practitioners. Imagine what I, a serious journalist, feel about being identified in the public's mind with the tabloid sleaze-mongers of journalism. Imagine what many principled attorneys feel about the over-aggressive practice of law by ambulance chasers and lawyers who set out to create a group of aggrieved citizens to constitute an instant class-action suit.

Positive Forces, Too

Having said all this, let me emphasize that I'm a very positive guy, and I think most of you are, too. So enough of this discouraging talk. For every negative force that is weighing upon you and your profession, we can identify an equal or greater number of very positive factors affecting the future of dentistry. Let's look at some of them.

First of all, there's the likelihood of increasing affluence for the American people. This is very, very important to you, because so much of your work is

elective dentistry, not covered by insurance. About 50% of dental bills are still paid by individuals personally, so their income growth is crucial to you. We're also seeing fairly strong income gains among ethnic and racial minorities, who have not heretofore been as heavy users of the oral health system as the majority population. Their entry into your system will be positive force on the demand side.

The age demographics of America look good for you, too. The U.S. has an enormous and growing population of middle-aged and elderly citizens, better off financially than ever before. They are keeping their teeth longer and needing a great deal of restorative work and periodontal work as they age. This will take up a lot of the slack in the shift away from pediatric dentistry. The American people are also becoming more and more concerned about how they look, so elective cosmetic dentistry will continue to be a booming field.

The new technologies, by and large, are also working in your favor, because they are making dental care faster and more comfortable for the patient. You have always been a profession of pain *relievers*, not pain *givers*, but there is still a significant portion of the population that is skeptical of that. Don't forget that 43% of the American people don't see a dentist regularly. It might be a financial issue for some of them, but for many, it's a fear issue as well. Technology is finally bringing the truly painless dentistry that was promised for decades and which, in fact, is virtually here now, even if some people don't quite believe it.

Another positive factor in your profession's future is the supply and demand situation in dental labor. Some fifteen years ago, there was an over-supply of young dentists coming into the field, and income growth flattened out. That is not the situation today, due in part to the closure of some dental colleges. And fifteen years from now, with a wave of re-

tirements of Baby Boomer dentists who are now entering their 50s, it is quite possible that there will be a shortage of dental professionals, which will firm up incomes in your field.

Another very positive trend, though a little harder to gauge statistically, is a subtle elevating of oral health to the same, or in some cases higher, level of public interest and demand as general medical health. I believe that this will, over time, lead to an increasing integration of dental and medical benefits in more and more public and private health plans, especially in Medicaid.

I hear that this is controversial in your field, with the ADA generally favoring dental benefit packages completely separate from medical benefits. But look at what happened in Oregon: A citizen

aggregate spending on oral health. Total spending is growing pretty well right now and will probably continue to grow. The last figures I saw showed growth, after inflation, in the range of 5% to 6% a year. Dental incomes are rising as well...a little less strongly than total spending, maybe on the order of 3% or 4% after inflation. Not spectacular, but decent growth nonetheless.

Adapting to Rapid Change

On balance, I think the positive forces facing the dental profession over the years to come greatly outweigh the negatives. I also know that you are a very resourceful profession, and you will find ways to adapt to change.

We are living in a time of change, but doesn't that define every era since the be-

Success will go only to the most nimble, the most adaptable, the most creative professionals in every field.

panel that—incredibly—didn't even include a representative of the dental profession, surveyed what people really want in a health plan and ended up ranking dental health very high. So they built dental benefits into a comprehensive state benefits package.

The risk of clinging to the insistence on separate dental benefits is that they are usually adopted only *after* medical benefits, *if* there's enough money. And in times of financial squeeze, they are probably going to be the first ones cut. So I think your profession should take a very close look at whether you might be better served by an integration of medical and dental coverage in both public and private health plans.

The most encouraging sign for the future of your profession is the trend in

gining of time? The times have always been changing, but never before in history has the *rate* of change...the fundamental *degree* of change...been so dramatic as it is today. And this is only going to accelerate.

The decades ahead, the early decades of the twenty-first century, will be fraught with as much danger as opportunity. Success will go only to the most nimble, the most adaptable, and the most creative professionals in every field. Today I offer my hearty congratulations to the new Fellows of the American College of Dentists. And I offer my best wishes that all of you, new and current Fellows, will be among these nimble, adaptable and creative professionals who will prosper in the years ahead. Thank you very much.

1997 Fellowship Class

The Fellows of the American College of Dentists are the leaders in dentistry and in their communities. They represent the creative force of today and the promise of tomorrow. We proudly welcome the 1997 class of Fellows . . .

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Rochester, NY

John J. Sauk
Baltimore, MD

Sumner Saul
Beverly Hills, CA

James K. Schmitt
Ft. Carson, CO

Robert M. Schreibman
Glastonbury, CT

Thomas J. Schripsema
Albuquerque, NM

Susan V. Seybold
Houston, TX

Laurence F. Shapiro
East Meadow, NY

Peter D. Shaw
San Diego, CA

Richard K. Shelly
Bloomington, IN

John T. Sherwin
Orange, VA

Harvey A. Silverstein
Staten Island, NY

Stephen P. Simpson
Hudson, OH

Melvin J. Slan
Rockville, MD

Bruce W. Small
Lawrenceville, NJ

Darryl R. Smith
Alberta, Canada

Maria A. Smith
Shelton, CT

Hugh C. Sobottka
Seattle, WA

Richard G. Somerlott
Clinton Township, MI

Arthur L. Sperling
Middletown, CT

Larry W. Spradley
Bedford, TX

Charles L. Steffel
Indianapolis, IN

Gene C. Stevenson
Houston, TX

Deborah Studen-Pavlovich
Pittsburgh, PA

William M. Stutzel
New York, NY

Edward K. Swain, Jr.
New York, NY

James Q. Swift
Minneapolis, MN

Donald Taylor
Quebec, Canada

Dennis M. Thompson
Lakewood, CO

Norman Tinanoff
Farmington, CT

William J. Tonne
Savanna, IL

Peter T. Triolo
Omaha, NE

Anthi Tsamtsouris
Boston, MA

John J. Tully
Gettysburg, PA

Bernard S. Unger
Norwalk, CT

Joseph G. Unger
Chicago, IL

Ned B. Van Roekel
Rochester, MN

Karin Vargervik
San Francisco, CA

Hermogenes Villareal
Passay City, Philippines

Howard L. Waldrop
Peoria, IL

Elizabeth A. Ward
Grain Valley, MO

Mark J. Weinberger
Troy, NY

Randy S. Weiner
Millis, MA

Lois L. Weiss
Flushing, NY

Gene B. Welling
Eureka, CA

George E. White
Boston, MA

Thomas G. Wieg
Mariposa, CA

Brian J. Wilson
Glendale, AZ

Mollie A. Winston
Atlanta, GA

Lorne A. Wiseman
Quebec, Canada

Mark E. Wiygul
Memphis, TN

Joseph A. Woodard
Columbia, TN

Thomas P. Worthy
Carrollton, GA

Peggy Wurm
New York, NY

Edwin H.K. Yen
British Columbia, Canada

Gary S. Yonemoto
Honolulu, HI

Joseph S. Young
Jackson, MS

Joseph J. Zambon
Buffalo, NY

Lonny E. Zietz
Grand Rapids, MI

William R. Zimbinski
Duluth, MN

Harry K. Zohn
Montville, NJ

Profiles in Professionalism: 1997 ACD Awardees

William John Gies Award

The William John Gies Award was established by the American College of Dentists in 1939 to recognize Fellows for outstanding service to dentistry and its allied fields. This award embodies the highest levels of professionalism, and it is the highest honor the College confers on its members.

Robert W. Elliott, Jr.



The 1997 recipient of the William John Gies Award was **Robert W. Elliott, Jr.**

Dr. Elliott graduated number one in his dental school class and never looked back. Entering the Navy Dental Corps in 1950, he quickly rose to the rank of Rear Admiral and assumed the reins of leadership in 1973. Although he retired in 1977, Dr. Elliott left an indelible legacy on the efficiency, effectiveness, responsiveness, mission relevance, and reputation of the Navy Dental Corps. His impact and inspiration will be felt well into the next century.

After retirement from the Navy, Dr. Elliott accepted the position of Associate Professor of Prosthodontics at Georgetown University, School of Dentistry. In less than two years he was acknowledged with the "Teacher of the Year" award. In 1986 he was recognized by Georgetown University with the honorary degree of Doctor of Science, *Honoris Causa*.

Dr. Elliott's has made numerous significant contributions to organized dentistry. He has served as a delegate or alternate delegate to the ADA for nine years. He has been active in the AADS serving as a delegate from 1974-1976 and also serving as chairman for the Council of Federal Dental Services. As a prosthodontist, Dr. Elliott was a Charter Fellow of the American College of Prosthodontists. He was President of this organization in 1976.

Dr. Elliott was inducted into the American College of Dentists in 1971. Within a few years he became Section Chairman. Not to be outdone by his former leadership roles, Dr. Elliott became the 63rd President of the American College of Dentists

in 1988. The following year he became President of the American College of Dentists Foundation. Most recently, Dr. Elliott has served as President, Academy of Dentistry International.

He is widely known for his contributions to dentistry; over the last 30 years he has lectured to numerous dental organizations both nationally and internationally.

Dr. Elliott's contributions to his community are equally impressive. He has served on the Board of the Key West Port and Transit Authority, the Board of Directors of the Key West Chapter of Big Brothers-Big Sisters, the Board of Directors of the Key West Rotary Club, and the Board of Directors of the Key West Maritime Historical Society, among others. He is an active member of numerous other patriotic, civic, and service organizations.

Dr. Elliott's extraordinary service to his country, his community, and his profession have been exemplary. At a time when others were silent, Dr. Elliott spoke. At a time when others only spoke, Dr. Elliott acted. At a time when leadership was needed, Dr. Elliott led—and how well he led!

Honorary Fellowship

The ACD confers Honorary Fellowship upon persons who are not members of the dental profession, but have made outstanding contributions to the advancement of the profession and its service to the public. These contributions may be in education, research, administration, public service, public health, medicine, and many other areas.

Nancy Quinn



The 1997 recipient of Honorary Fellowship was **Ms. Nancy C. Quinn**.

Ms. Quinn is executive director of the Ohio Dental Association and director of operations for its subsidiary, the for-profit Ohio Dental Association Services Corporation. Through her guidance and wisdom, she has directed the association to the forefront of comparable organizations and assisted the for-profit corpora-

tion in providing approximately 50% of the association's income. Her leadership as a founding member of the Ohio Dental Association Foundation has helped provide meaningful opportunities for members to serve others and participate in the advancement of the profession.

Ms. Quinn is also a leader in both local and national associations of executive directors. She is very active member of numerous civic organizations, including the Columbus Rotary Club and the Methodist Church. She leads by example and has a history of bringing out the best in others.

Award of Merit

The supporting services of dentistry are vital to the profession, providing key elements which enhance the effectiveness of dental care delivery and the growth of the profession. The ACD's Award of Merit was established by the Board of Regents in 1959 to recognize unusual contributions in dentistry and its service to humanity by persons who are not Fellows of the College.

Donald Guithues



The 1997 recipient of the Award of Merit was **Mr. Donald R. Guithues**.

Mr. Guithues has served the dental profession with dedication and distinction as the executive director of the Greater St. Louis Dental Society for 32 years. He followed his predecessor by continuing to improve and serve the members of his society. One year after assuming the position of executive director, he significantly improved the continuing education program. A program of six all-day sessions was immediately inaugurated. This program has now grown to 11 all-day seminars a year. Over his tenure as executive director, the Greater St. Louis Dental Society has shown vast improvements, including acquiring its own building.

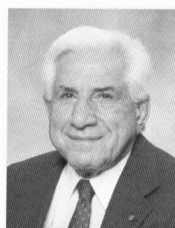
Mr. Guithues and others proposed the establishment of a Foundation for the Greater St. Louis Dental Society. After it was established, he worked with the Foundation to establish the Dental Health Theatre in St. Louis. Since its opening in 1977, over half-a-million children have attended these shows along with thousands of visitors.

Mr. Guithues has received numerous awards in appreciation and recognition of his service. Along with his dedication to dentistry, he has also found time to become active in numerous civic endeavors.

Service Award

This award is presented to recognize outstanding efforts of a Fellow of the American College of Dentists for exceptional and distinguished service to the College or to humanity through his or her professional service.

Emanuel Ploumis



The 1997 Service Award of the American College of Dentists was presented to **Dr. Emanuel Ploumis**. Dr. Ploumis is being recognized for his pioneering work helping other dentists whose lives became impaired as a result of alcohol and drugs.

Dr. Ploumis started his humanitarian endeavors over two decades ago, before it was fashionable or an "in thing" to do, when he encountered a colleague who was losing his practice and his family to the ravages of drugs and alcohol. Dr. Ploumis quietly, but with determination worked to help this colleague overcome his addiction. Then he found others in need of help and without seeking any funding he used his own financial resources to launch a program that eventually became a model for dental societies and associations. No one knew of his work except those who were affected and benefited from his help. In all, Dr. Ploumis has assisted well over 100 impaired dentists thereby providing a positive impact upon his fellow professionals and society at large.

Continued Competency—A Responsibility of the Profession

Edward C. Carlson, DDS, FACD
Kenneth L. Kalkwarf, DDS, MS, FACD

Abstract

For the past decade the Continued Competency Committee of the American Association of Dental Examiners has explored issues in continued competency for the dental profession. The efforts have focused on creating policy and standards which must be met by any continued competency assessment mechanisms. Nine potential systems are under review. Some, such as examination for diplomate status in a recognized dental specialty are already in place. The development and pilot testing of four new mechanisms—simulations, continuing education with measurable outcomes, case presentation, and in-office audit—is being encouraged.

Dentistry has prided itself as being a learned profession and has been recognized by the public for its professionalism. A profession, by definition, is a group of individuals with advanced knowledge and skill, who use that knowledge and skill for the benefits of others. Society recognizes a profession by granting it virtual exclusivity in its activities. In return, society expects a profession to do three things: (a) maintain the knowledge and skill base of the profession and use that base in a fiduciary relationship with each patient; (b) maintain self-control and self-regulation of all members of the

profession; and (c) place the patient's welfare above all else.

Dentistry, as does most professions, has rigorous accreditation guidelines to maintain consistency of its educational programs and structured examination processes designed to identify the appropriate knowledge base and requisite clinical skill level of beginning practitioners. However, as is also the case with many other professions, dentistry has done little to assure society that its practitioners continue to have a contemporary knowledge and skill base throughout the thirty to forty years of their practicing life.

Focused on this reality, and sensitive to consumer groups' developing interests in the continuing competency of health care providers, the American Association of Dental Examiners (AADE) established a Continued Competency Committee in 1989 to explore the assessment of a dental practitioner's continued competency. This Committee invited representation and funding from the American Association of Dental Schools (AADS), the American Dental Association (ADA), and the Academy of General Dentistry. The initial activities of the Committee were partially financed by a grant from the U.S. Department of Health and Human Services.

The Committee analyzed the professional environment and concluded that, other than entry level examinations to assess competency and mandatory continuing education experiences which has

been mandated by several state licensure boards and some professional organizations, dentistry was doing little by way of self-regulation. The profession could provide no assurance to society that dental practitioners continue to maintain appropriate knowledge and skills throughout their practicing life. Instead, dentistry had let the peer review entities of professional associations and the disciplinary arm of licensure boards deal with perceived incompetence on a complaint-by-complaint basis.

The Committee discovered a strong public interest in the continued competence of health care providers. In 1981, the National Organization for Competence Assurance stated that: "Continuing competency assurance is necessary... health care technology is advancing too



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fast for a certificate of competence earned at the beginning of one's career to constitute proof of competence many years later." (Swankin, 1996)

The Pew Health Professions Committee, in 1991, concluded that the health

profession should be based on three principles of continued competency evaluation in dentistry. The Committee also established a list of core criteria that they felt must be adhered to when developing or using any evaluation of continued competency in dentistry.

Dentistry has done little to assure society that its practitioners continue to have a contemporary knowledge and skill base throughout the thirty to forty years of their practicing life.

care licensing boards need to focus more attention on assessment of practitioners' continuing competency and move beyond mandatory continuing education attendance as a method to supposedly assure such competence. Several dental specialties had addressed the issue of continued competency earlier and monitored mandatory continuing education programs for board certified practitioners. Oral and maxillofacial surgery and pediatric dentistry moved farther and began to discuss and eventually implement programs of recertification for diplomates in the specialty (Meskin, 1994). Several medical specialties, including the American Board of Orthopaedic Surgery (ABOS), also responded early to the evolving environment and began a system of time-limited certification for their diplomates. Beginning in the late 1970s with a "practice review" as a pilot assessment tool, the ABOS had progressed by the late 1980s to a point where four recertification pathways were offered: written examination on current knowledge; a written examination based upon the diplomate's practice profile; a practice-based oral examination; and a practice audit (Swankin, 1996).

Based upon the pioneering work of some medical specialties, the ongoing entry level evaluation systems that had evolved within dentistry, and generally conservative attitude of the dental profession regarding evaluation of continued competency, the Committee identi-

fied three principles and criteria have been widely published (Low & Kalkwarf, 1996). The principles agreed upon were:

- By law, continued competency is a state's right and a state-controlled issue
- The state dental board is responsible for administering competency assessments. Boards may develop their own assessment procedures or use one developed by a test agency. Boards also may choose to accept an assessment administered by another state
- A state board may choose to administer one or more types of assessment. Licensees should be allowed to choose a board accepted mechanism to demonstrate their competency.

The criteria called for continued competency assessments in dentistry to be valid, reliable, and objective. The assessment must be clearly understood, uniformly applied, and avoid real or perceived conflicts of interest. The criteria must also state that if a licensee is found not competent, he or she should be allowed to correct deficiencies and then be re-evaluated.

The Committee also identified nine models for assessment of continued competency in dentistry that could fit their principles and criteria:

1. A state or regional clinical or simulated initial clinical assessment
2. Part II of the National Dental Board examination or other reassessment
3. AEGD fellowship examination or the written or oral examination for the

Certifying Board of General Dentistry (American Board of General Dentistry)

4. An oral written examination leading to diplomate status or renewal of that status by any of the ADA-recognized specialties
5. Credentialing through a federal uniformed service or the Department of Veteran's Affairs
6. Simulation testing
7. Continuing dental education programs with measurable outcomes assessment
8. Case presentation submitted by the licensee
9. In-office audit

The first five models are already functioning and are potentially available for use by licensing boards. The standardized, simulated case evaluation was identified by the Committee as requiring significant start-up effort and cost. The Dental Interactive Simulation Corporation (DISC), a consortium representing many facets of the dental profession, had focused on this particular method of education and assessment for several

The Committee discovered a strong public interest in the continued competence of health care providers.

years. Because of the expertise and experience already developed within DISC and the impressive alpha product that had been developed and demonstrated, the Committee elected to defer ongoing development of this process to DISC. It is understood that beta testing of the DISC system is to begin in the near future.

Many institutions and organizations present continuing dental education across the United States and the world. While some outcomes assessment does

Continued Competency

take place, especially in self-instructional materials to verify completion, most continuing education courses only require attendance to obtain credit. The Committee is aware that several entities are dis-

The criteria called for continued competency assessments in dentistry to be valid, reliable, and objective.

cussing the possibility of providing pre-testing and post-testing as part of their continuing education to assure that the educational program has been effective in transfer of knowledge and skills. The Committee elected to monitor this area and evaluate assessments that may be developed by continuing education providers for compliance with their continuing competency criteria.

Since the last two models, in-office audit and case presentation submitted by the licensee, were not currently available for use by licensing agencies, and there was limited apparent movement within the profession to develop specific assessments in these areas, the Committee decided to move forward with preparation of specific guidelines for these two processes.

A Licensee Case Presentation Subcommittee was formed in the spring of 1996 to specifically draft the guidelines for development and use of Licensee Case Presentations as an evaluation of a practitioner's continued competency. Using materials from multiple dental specialty organizations and documentation from regional dental testing organizations, the Subcommittee assembled a comprehensive working draft during 1996-97 for evaluating general dentist and dental specialists. The draft was presented for review by the full Committee in October, 1997. The Subcommittee re-

cently began work on a component to evaluate dental hygienists.

The Licensee Case Presentation is designed to assess the licensee's ability to properly diagnose, plan treatment, and provide oral health care for patients. Approaches and outcomes will be evaluated in a standardized manner and by specific standards. The Licensee Case Presentation process is expected to be advantageous to the practitioner because it does not mandate additional preparation, it only requires specific documentation of the care the practitioner is routinely delivering. The obvious concern regarding this process for the examining body is that the submitted cases, while representing the type of care the practitioner is capable of providing, may not represent the standard of care normally delivered in the practice.

A second Subcommittee, the In-Office Audit Subcommittee, was also formed in the Spring of 1996. It focused on the development of guidelines for an In-Office Audit process. The In-Office Audit option is designed to allow an

1997. The In-Office Audit Subcommittee continues to work on a valid and reliable scoring system, and a dental hygiene component.

The AADE, in partnership with the AADS and the ADA, is presenting a Continuing Competency Forum to review the proposed Licensee Case Presentation and In-Office programs. Future plans of the Committee call for finalization of these processes and the development of partnerships with one or two state licensing boards to conduct pilot evaluations of each process. It is anticipated that these pilots will begin later in 1998.

During the time frame of the Committee's activities, several other health professions organizations have moved forward with initiatives related to the assessment of continued competency: (a) the state of Virginia's Board of Health Professions developed guidelines for the evaluation of health professionals' competency; (Swankin, 1996) (b) the American Board of Medical Specialists developed guidelines that strongly rec-

The Licensee Case Presentation is designed to assess the licensee's ability to properly diagnose, plan treatment, and provide oral health care for patients.

evaluator to come into the practitioner's office and, reviewing records and supplementary materials, verify whether the practitioner is practicing within contemporary standards. The In-Office Audit requires no specific preparation by the practitioner, but is potentially viewed as intrusive and would have to be carefully coordinated to minimize disturbance and cost. The In-Office Audit Subcommittee has designed a comprehensive draft of an evaluation instrument focused on a chart audit and based on contemporary standards of care, adequate access to care for patients, and appropriate office facilities. The draft was presented to the full Committee for review in October,

ommended periodic certification; (Mancell & Bashook, 1994) (c) the College of Physicians and Surgeons of Ontario, Canada, implemented a peer-assessment program that has evolved into a sophisticated review process known as the Physician Review and Enhancement Program; (Cunningham et al, 1997) (d) the National Board of Examiners in Optometry initiated active discussions of a relicensure process and the evaluations necessary for its implementation; (Haine, 1996) (e) the California Dental Association initiated design of a voluntary continued competency assessment program; (Lau, 1997) and (f) health agencies in Britain (D'Cruz, 1996), South Africa (Nel

& Kent, 1994), New Zealand (Janes & Turner, 1995), and Australia (Winland, 1996) discussed or implemented various programs of continued competency assessment.

The dental profession's responses to the Committee's activities have been mixed and range from general support (Meskin, 1994) to outright opposition (Winland, 1996). This range of responses is not surprising. Dentistry, while enjoying the benefits of autonomy and the monopoly on oral health care that society has provided, has done little to fulfill its professional obligation to self-regulate and ensure that each practitioner possesses contemporary knowledge and skills. Requirements for attendance at continuing education courses and a system that disciplines major transgressions of a state's dental practice act provide

little positive incentive for a practitioner to maintain competency. For practitioners comfortable with such a system, change to a process providing peer review, and calling for ongoing accountability, can be viewed as threatening.

The American Association of Dental Examiners Continuing Competency Committee encourages the dental profession to continue discussing the role of self-regulation and verification of continued competency as a part of its professional responsibility. It would appear that this is the least dentistry can do to protect the welfare of our patients. The Committee also encourages the profession to proactively prepare itself should society, through the legislative or legal process, be successful in implementing a more rigid system of accountability for health care professionals.

References

- Cunningham, P.W., et al (1997). Defensible assessment of the competency of the practicing physician. *Academic Medicine*, 72, 9-12.
- D'Cruz, L. (1996). In search of the competent dentist. *British Dental Journal*, 180, 44-45.
- Haine, C.L. (1996). Role of clinical examinations in the future of credentialing and clinical privileging. *Optometry and Vision Science*, 73, 350-351.
- Janes, R.D., & Turner, N. (1995). Reaccreditation in general practice. *Canadian Family Physician*, 41, 1733-1738.
- Low, D.S. & Kalkwarf, K.L. (1996). Assessing continued competency: an approach for dentistry. *Journal of the American Dental Association*, 127, 383-388.
- Mancell, E.L., & Bashook, P.G. (1994). Recertification: new evaluation methods and strategies. Evanston, IL: American Board of Medical Specialties.
- Meskin, L.H. (1994). Do you know a good dentist? *Journal of the American Dental Association*, 125, 352-354.
- Nel, C.J.C., & Kent, A.P. (1994). Maintenance of professional competence, continuing medical education and recertification. *South African Medical Journal*, 84, 462-464.
- Swankin, D.A. (1996). The Role of Licensing in Assuring the Continuing Competency of Health Care Professionals. Washington, DC: Citizen Advocacy Center.
- Winland, R.D. (1996). Continued competency — a test in autolysis. *Academy of General Dentistry Impact*, November, 3.

Continued Competency: The Experience of the California Dental Association

Calvin S. Lau, DDS, FACD

Abstract

The California Dental Association has developed a program—Quality Improvement through Lifelong Learning or QUIL3—that enables a dentist to privately and confidentially determine whether he or she meets current clinical practice standards and has the requisite knowledge to practice dentistry competently. Using the concept of continuous quality improvement (CQI), this innovative program was two years in development and attempts to positively and proactively address issues associated with dental performance. QUIL3 is an initial step.

How does a dental association address the desire by some of its members to have more freedom of movement to practice dentistry in another state or licensure jurisdiction? That was a fundamental issue more than two years ago for the California Dental Association (CDA), but, as will become evident in the course of this article, the key issue now is what role can CDA take in a *positive* and *proactive* manner to help its members to stay current in the ever-changing clinical practice of dentistry? This is a progress report to the Spring, 1996 *JACD* article (Gartrell, 1996) on continued competency assessment.

Just as the American College of Dentists espouses core values and an aspirational code of ethics, might there be some fundamental principles in dealing with continued competency in the context of contemporary issues, perceived threats, and dentist concerns? Recently the American Dental Association revised its *Code* to reflect five ethical principles. Additionally, ADA is also a significant organization in the arena of licensure matters and competency—both initial and continued—and is involved directly or indirectly with the Dental Aptitude Test, National Board Examinations, and accreditation. There seems to be a trend to go back to foundational values when trying to devise or modify a program. This article addresses these issues and more.

With good intentions CDA started developing a comprehensive, in-depth program of voluntary continued competency assessment. More recently, however, its House of Delegates considered instead a program of **Quality Improvement through Lifelong Learning (QUIL3)**. There are significant differences between what the original concept was and what the program represents today.

Freedom of Movement

CDA developed a strategic plan that incorporated as one of its elements the desire by many of its members to be able to practice in other jurisdictions without

the burden of another licensure examination, which in most cases is identical to the initial licensure examination that new dental graduates must take in order to receive a license to practice dentistry. For California-licensed dentists today there is little opportunity to practice dentistry in other states or regions without taking and passing another licensure examination. Licensure by credentials is not generally available for California dentists wishing to practice dentistry elsewhere, but is an attractive alternative to the initial licensure examination.

CDA leadership realized that in order for licensure by credentials to occur, there was a need to measure a dentist's ability to practice competently. That is the idea behind continued competency assessment. If a uniform and standardized system could be developed and implemented nationwide, then the current barriers to freedom of movement would dissipate. To develop such a pro-



Dr. Lau served on the *ad hoc* Committee on Voluntary Continued Competency Assessment for the California Dental Association. He is in private practice and is a clinical professor of restorative dentistry at the University of Southern California School of Dentistry.

gram, an aptly named group was appointed within CDA—the *ad hoc* Committee on Voluntary Continued Competency Assessment (CVCCA). The author along with four other dentists comprised this group for two years; one member served one year and was replaced in the second year. This was intended to be an *ad hoc* committee that would develop a program based on voluntary participation by dentists. The committee surveyed the field, reviewed literature, investigated other areas of health care, and most importantly sought feedback from its members as the project evolved.

Continuous Quality Improvement (CQI)

Early in its proceedings the committee became aware of and participated in a small part of medicine's process for facility accreditation. In 1996 a legislative mandate in California led to an increase in accreditation activities within medicine. A CVCCA member and a CDA staff member participated in a program sponsored by the California Medical Association (CMA) and the Accreditation Association for Ambulatory Health Care (AAAHC). The purpose of that program was to train the people who would be performing site visits as part of the accreditation process for medical facilities.

It was the committee's intention to benchmark the field by using the best of what other people and organizations had already developed and applying the concepts to its task. The CMA/AAAHC program showed the value of basing evaluation on clearly stated standards and also using a cyclical process to facilitate improvement. That process is called continuous quality improvement (CQI).

The four elements for a CQI cycle are: Plan, Do, Check, and Act. This is commonly referred to as the PDCA cycle described in the dental context by Dr. Annette Weintraub (1996). While this concept is relatively new to dentistry, medicine has seen its application increase in the last dozen years. The process itself is founded in American industry and has a long track record for promoting improvement in a variety of applications.

Standards and CQI became the basic measure and process, respectively, for the development of QUIL3.

Continued Competency Assessment

The subject of continued competency assessment is relevant for licensing jurisdictions and groups such as the American Association of Dental Examiners (AADE). The AADE formed a committee in 1991 to develop a report that detailed terms, principles, criteria, and models for assessment. The report was published in 1993 and was subsequently excerpted in the *Journal of the American Dental Association* (Low & Kalkwarf, 1996). There was representation from the American Association of Dental Schools (AADS), the ADA, and the Academy of General Dentistry.

The definition proposed in that report for continued competency assess-

with an organization that included calibrated evaluators, a certification committee, and staff to make it all work for CDA member dentists. Besides being standards-based, a method of verification that ensured validity, reliability, and objectiveness was deemed essential.

In early 1997 the Committee released its first draft, called the *Self-Assessment Manual*, for the voluntary continued competency assessment program. Overwhelmingly the feedback was negative. Leadership from the local dental societies rejected any hint of in-office evaluation. The message was clear: a comprehensive program was not what the membership wanted. The long-term advantage of a system to measure competency and permit freedom of movement was too intangible for most dentists to accept.

The resiliency and resourcefulness of the committee was challenged by the volume and magnitude of critical commen-

In order for licensure by credentials to occur, there is a need to measure a dentist's ability to practice competently.

ment is "a system to verify a licensee's ability to use the knowledge, skills, and judgment associated with the profession to perform effectively in the domain of possible encounters defining the scope of dental practice" (Low & Kalkwarf, 1996, p. 385). It appears that the subject of continued competency has the potential to bring three key organizations—ADA, AADS and AADE—together at the same table, working on the same page to set a direction for resolving future licensure issues and conflicts.

The Initial Program

The CDA committee initially felt that its charge was to develop a comprehensive program that would encompass a self-assessment, compliance with clinical practice standards, an in-office evaluation that included a chart audit, a didactic examination to test knowledge, and case presentation. Administratively, it would be necessary to develop an infrastructure

tary. Three-quarters of the way through the PDCA cycle it was time to act on the results of months of efforts. How could a comprehensive program be modified to win the acceptance of dentists? It turned out that the Committee had to dramatically shift course and abandon any initial attempts for a comprehensive program that had elements of verification.

Refocusing on the Task

The Committee soon realized that it was necessary to separate its program from any link to licensure and instead to focus on a program that would have immediate benefits for its members. Instead of trying to develop a program that could lead directly toward supporting a system of licensure by credentials, what became more important was to offer dentists a program to measure one's performance and knowledge without being intrusive. The trade-off would be that

Table 1. The Clinical Practice Evaluation of QUIL3:

| |
|--|
| Rights of patients |
| Diagnostic imaging services |
| Clinical records |
| Quality of care provided |
| Quality management and improvement |
| Emergency services |
| Professional conduct |
| Professional certification and improvement |
| Research activities |
| Administration and compliance with regulatory agencies |
| Environment of care |

verification could no longer be an integral part of an initial program.

With finite resources and time the Committee determined that it would be far more productive to look at trying to improve the performance of the overall profession and not concentrate on the outliers or "bad apples" that governmental agencies so readily target. Rather than trying to compete with state boards of dentistry, it would be a better use of resources to raise the performance of the vast majority of dentists. In other words if all practitioners and their performance could be represented on a bell curve with the extreme left being the bad apples, then wouldn't it be desirable to shift the curve to the right? This harkens back to discussions by Dr. Donald Berwick about quality of care and how to continuously improve it. Berwick (1989) chides health care regulators about the cost and ineffectiveness of relying on inspection to improve quality; he goes on to say that inspection tends to be linked to standards of care, which usually are minimalist in nature. The danger is that these types of standards, which serve as a dividing line from the bad apples, may start as floors, but rapidly become ceilings for the achievement of excellence.

The fundamental principles for developing a program became clearer. The focus had to be on quality of care based on objective standards, of immediate benefit

for dentists, and integrated with a process of CQI. In fact CQI would be the fabric, interwoven with all the elements.

Education and Lifelong Learning

A basic tenet of dental education today is espoused by new accreditation standards that take effect in 1998: "Graduates must value the role of lifelong learning and self-assessment in maintaining competency" (Commission on Dental Accreditation, 1996).

Additional support for this concept is found in the Institute of Medicine (IOM) Report (Field, 1995). In regards to continuing education, the report offers a guiding principle "that learning is a lifelong enterprise for dental practitioners. It cannot stop with the awarding of a degree or the completion of a residency program." There is also a reference to quality assurance and improvement consistent with the way Weintraub later described it. Additionally there is a section on licensure that alludes to continued competency, live patient examinations versus simulations, and a uniform clinical examination. An emphasis on a uniform clinical examination has been a recent ADA focus. It will be interesting to see if this serves as a transition to lifting licensure barriers and expediting practitioner mobility.

Accountability

Less than a year after the IOM report was released, a report from the Pew Health Professions Commission became available (O'Neil, 1995). Entitled "Critical challenges: revitalizing the health professions for the twenty-first century," this report looked at the whole American health care system, including dentistry. It stated that as a result of cost reduction, enhanced patient and consumer satisfaction, and improvement of health care outcomes, there will be some identifiable characteristics for health care in the next century. Two particularly relevant characteristics were that health care would be "more accountable to those who purchase and use health services" and "more reliant on outcomes data and evidence."

Service to the public is fundamental to the dental profession. One of dentistry's objects is to encourage improvement of the health of the public, but this carries with it the additional responsibility to have accountability. QUIL3 is a starting point for demonstrating accountability by using standards that incorporate a CQI process supportive of lifelong learning.

QUIL3

The Quality Improvement through Lifelong Learning (QUIL3) program is the result of much research, feedback, collaboration, and change. The document was developed as a user-friendly program to allow a dentist to privately and confidentially evaluate his or her clinical practice and knowledge. An important part of the program is a listing of resources from which a dentist is able to acquire further knowledge and information about a specific area.

QUIL3 is a dynamic program, subject to change and improvement. The program lacks any means for external verification and, as such, has limited value for outside agencies attempting to measure dentist performance or knowledge in a standardized and objective manner. Nonetheless the program offers a valuable service to CDA dentists because it places in one document the means and resources to permit an individual to see

Table 2. The Knowledge Evaluation of QUIL3:

| |
|--|
| Treatment planning |
| Radiology |
| Oral pathology |
| Oral surgery |
| Oral medicine |
| Treatment modifications for medical conditions |
| Periodontics |
| Endodontics |
| Restorative dentistry |
| Pediatric dentistry |
| Dental materials |
| Pharmacology |

how he or she "measures up" and where to go for further information and improvement.

As presently constituted there are two main elements to the program: Clinical Practice Evaluation and Knowledge Evaluation. The areas covered in these evaluations are shown in Tables 1 and 2. The Clinical Practice Evaluation section covers the scope of what constitutes the performance areas in dentistry. Each begins with a "standards" statement. An example would be under clinical records: "The clinical record system allows for retrieval of patient information. Records are legible, accurate and timely." Under this are enumerated major points, subpoints, and bullets detailing specific areas for compliance. Compliance is rated essentially as yes, no, or does not apply. Within many of the statements are numbered references that lead to resources for further information and improvement.

The Knowledge Evaluation section contains approximately one hundred multiple choice questions. Because this is an evaluation and not an examination, there is an accompanying answer sheet containing a detailed explanation or rationale for the proper response. The process permits not only finding out if a participant's response was right or wrong, but also reasons why. Develop-

ment of this Knowledge Evaluation section was a cooperative effort between CDA and the five California dental schools. Experts from each of the schools contributed the questions and annotated answers that comprise this section. The reliability of the questions was verified through pilot testing of two distinct groups. The first group was comprised of volunteer dentists who answered the questions during the 1997 spring and fall CDA scientific sessions. That group was compared to a control group of first-year dental students who answered the same questions during the second week of their dental curriculum. Not surprisingly, the first-year dental students fared quite poorly with a mean score of 35%. The dentists on the other hand had a mean score of 72%. The Kuder-Richardson test reliability (KR20) was 0.944; any score above 0.75 shows that the questions are considered reliable.

Both the Clinical Practice Evaluation and Knowledge Evaluation sections are intended to be self-paced with built-in mechanisms to learn and improve. The QUIL3 program has no reporting back to CDA about any results or ratings. Despite this, if nothing else, the CQI process is introduced to participants through this innovative program. That alone can serve as a mechanism to accomplish change in a scientific and measurable way.

Conclusion

The California Dental Association has developed a program for self assessment of a dentist's clinical practice and knowledge. Using a process of continuous quality improvement, the program is self-paced and confidential with no reporting back to CDA.

The final chapter in this area doesn't exist. This is but an initial effort by one organization to bring some sense to a highly emotionally charged area that includes quality of care, licensure, competency, and accountability to the public. Where this program leads is beyond the influence of any one organization. Perhaps the subject of continued competency will catalyze the confluence of various agencies representing education, government, and organized dentistry to work together for the benefit of its members and the public they serve.

In October, 1997 the ADA House of Delegates voted not to undertake development of a proposal for a national voluntary CQI program. In contrast the CDA House of Delegates later in December voted to approve QUIL3. The discussion continues...

References

- Berwick, D.M. (1989). Sounding board: continuous improvement as an ideal in health care. *New England Journal of Medicine*, 320, 53-56.
- Commission on Dental Accreditation (1996). Accreditation standards for dental education programs. Chicago, IL: American Dental Association.
- Field, M.J. (Ed) (1995). *Dental education at the crossroads: Challenges and change*. Washington, DC: National Academy Press.
- Gartrell, R.S. (1996). Continued competency assessment: what the California Dental Association is doing. *Journal of the American College of Dentists*, 63 (1), 11-13.
- Low, D.S., & Kalkwarf, K.L. (1996). Assessing continued competency: an approach for dentistry. *Journal of the American Dental Association*, 127, 383-388.
- O'Neil, E.H. (1995). *Critical challenges: Revitalizing the health professions for the twenty-first century*. San Francisco, CA: Pew Health Professions Commission.
- Weintraub, A.E. (1996). Continuous quality improvement and dental practice: a marriage of necessity. *Journal of the American Dental Association*, 127, 1099-1106.

Continued Competency: A Practicing Dentist's Perspective

Harriet Seldin, DMD, FACD

Abstract

As professionals, dentists should continue to learn and improve our skills throughout our careers. Continued competency testing, however, will neither assure nor accurately measure this process. It isn't necessary, won't improve the public's dental health, and would be very expensive.

What does continued competency testing really mean to our profession, and who wants it? To protect the public, we are required to be licensed to practice dentistry. In California, we take State Board clinical and written exams and fifty credits of approved continuing education courses every two years. (Many states have continuing education requirements.) If there are no complaints, we practice indefinitely. Unlike physicians, dentists are directly tested on clinical skills in order to have a license to treat patients, making us already more "tested" than our medical colleagues.

California is one of very few states in which dentists who have not graduated from ADA-accredited schools are permitted to practice. While a new law will change the educational requirements for licensure, at present the State of California has no control over the educational background of its dentists. Likewise, the California Dental Association has very little control over who can be a member. As an example, a rehabilitated felon is

qualified for membership. Organized dentistry has difficulty denying membership to "bad actors." Our government and our profession have few controls over who may start a practice. In the future, however, competency may be evaluated periodically during a dentist's career.

Who is Looking at Continued Competency Assessment?

There are proposals at the state and national levels to change the current system by implementing continued competency assessments. Suggestions run the gamut from self-assessment quizzes to relicensure clinical exams.

In California, the "need" for this process is explained by some in terms of the prospect of licensure by credentials. With licensure by credentials, dentists who have not passed the California State Board would be allowed to practice in California. With continued competency testing, even if they couldn't be tested at entry, they would be tested later on, along with everyone else. However, if continued competency testing isn't necessary for the more than thirty states with licensure by credentials, it seems unclear why it would be necessary to protect the citizens of California. Although applicants would not have had to pass the California exam, they would be required to have passed a licensing exam in another state.

While efforts are being undertaken to reduce government regulation on the federal and state levels, there are elements within our profession seeking to

increase regulation drastically. CDA established an *ad hoc* Committee on Voluntary Continued Competency Assessment. While the language they use is "voluntary," it could easily slip into being mandatory. In the present anti-regulation environment, the Committee's initial proposals included "on-site observation of patient care, view of completed cases, and chart audits." This intrusion into our operatories by our peers from CDA would be a "member benefit." Who would pay for these professional audits? CDA members, naturally.

Due to spirited membership feedback, the CDA continuing competency committee (later renamed by itself the more user-friendly "QUIL3—Quality Improvement Through Lifelong Learning") drastically scaled back its proposed testing and auditing program to a self-assessment only mechanism. The self-assessment process is a non-threatening enhanced form of continuing education, and something that at least some practicing dentists would support.

ADA also is looking at continuing competency. However, the October 1997 ADA House of Delegates defeated a resolution to produce a continuing com-



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petency program. Upon reflection, both CDA and ADA have moderated their positions.

No matter what is done by State dental associations or the ADA, the Boards of Dental Examiners may do something else since not all dentists are members of organized dentistry. If dental associa-

There are elements within our profession seeking to increase regulation drastically.

tions and Boards of Dental Examiners follow this misguided bandwagon, we could end up with two tests in each state.

While there has been a lot of talk about continued competency, there has been very little action. The American Association of Dental Examiners is looking at various ways to evaluate dentists after initial licensing, but so far only the State of Utah has put continued competency assessment into law. California Dental Association put a lot of funds and effort into developing a program, but the program was received poorly and has been drastically scaled back.

Some advocates of continued competency testing speak of it as a way to assure quality in managed care programs or to fight managed care. I don't understand how they are related, especially in a voluntary program. Patients who are concerned about the background of their dentist can inquire about the status of the dentist's license and can ask about professional credentials and education. Participation in continuing education programs, specialty board certification, certificates from GPR's, Fellowships in the AGD are all existing ways to let our patients know that we care about quality. Periodic continuing competency testing isn't necessary and certainly would not assure a higher quality of dentistry.

In California, the Department of Corporations requires dental plans to

conduct in-office audits of participating dentists. If CDA set up a continued competency program, would the plans relieve themselves of this responsibility by turning it over to CDA? Possibly. If dental plans saved money by not auditing dental offices, would the plans pay more to participating dentists? I doubt it. CDA legally cannot oppose dental plans, but why aid and abet the current situation? Why take over a dental plan's regulatory responsibility and have CDA's membership foot the bill?

Is Continued Competency Testing a Solution?

Currently, questions regarding quality of care go to dental society peer review, the Board of Dental Examiners, and dental plans. Information can reach the National Practitioner Data Bank. In California, the Department of Corporations (which regulates pre-paid dental plans) has an 800-number complaint line. When insurance is involved, complaints can be made to state insurance commissioners. There is very little fraud in dental care, according to CDA and ADA promotions of direct reimbursement in which there is no dental claim review. (See sidebar on quality of dental care in California.)

If organized dentistry undertakes continued competency testing, then who will be tested? We are all dentists, all members. We should all be treated equally by our all-encompassing professional organizations. This means that specialists (including public health dentists and oral pathologists) should be tested the same way as general dentists. In its initial run, CDA's continuing competency committee sought to test only general dentists. This is just plain wrong, and would lead to further fragmentation of the profession.

What will be the result if dentists fail the tests? Will they lose their licenses, their practices, their businesses, their livelihoods? Will they be forced into bankruptcy because they don't remember some arcane tidbit they learned in dental school thirty years ago? Will they be allowed to retake the test, and how many times? Will there be remedial continuing

What is the Quality of Dental Care?

Except from Attachment A to Resolution 57 on continued competency before the 1997 California Dental Association House of Delegates:

The need for a new continued competency program has not yet been demonstrated. In fact, statistical data obtained from the State Board of Dental Examiners in 1989-90 revealed little enforcement activity based upon reported instances of malpractice. Of 411 reports of malpractice during that year under Business and Professions Code 805, only four were referred for disciplinary action. The assumption is that the vast majority of these cases involved instances of specific negligence rather than general incompetency; otherwise more accusations would have been filed.

Additional data from the Board of Dental Examiners reveal that during the period July 1989 through December 1990, fifty-eight accusations were filed against dentists by the attorney general. (It is noteworthy that these fifty-eight accusations were the only formal actions taken on over 2,959 complaints filed during that same time period.) Of the 58 accusations twenty were substance abuse related. The Board of Dental Examiners has approximately eight hundred on-going investigations at any given time. As of January 9, 1991, 791 active investigations were under way. Of these, only forty-nine were classified as Category I offenses—harm to patient. Some of the forty-nine Category I investigations are non-competency related inasmuch as they may deal with single instances of gross neglect and or substance abuse. These numbers relate only to dental licentiates: to put them into perspective, there are over twenty-five thousand licensed dentists in the state of California. These numbers simply do not support the hypothesis that a competency problem exists with California dental licentiates.

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education to help them pass a re-test? Will they be allowed to practice during the process? These questions should be answered in a fair fashion before testing is put in place. The punishment should fit the crime.

In my opinion, inadequate dental care is usually not caused by a lack of competence. Economic issues and ethics play a much greater role. A dentist may be very competent, for example, to do a crown. The margins and occlusion may be beyond reproach. However, maybe the crown wasn't needed. Perhaps it is inappropriate treatment driven by financial need in a very competitive marketplace.

Ethical issues are involved in undertreatment as well as overtreatment. In an underfunded capitated plan, a dentist has a disincentive to provide care. Treatment may be denied or delayed. Continued competency testing will not address these issues unless the program is so invasive and intense that it will be cost-prohibitive.

To cite an extreme case: a few blocks from my office, a dentist was arrested recently. He was charged with stalking a patient, sexually assaulting a staff member, and Medicaid fraud. It was later said that he was living and working in the U.S. on an expired visa, so there may have been immigration law violations. How would a continued competency assessment program remedy these lapses in the ethical and legal standards of practice?

Before any continued competency program is undertaken, it would make more sense to scientifically determine whether there is a significant problem with the provision of quality dental care in the U.S. If there is a problem, then we should spend our efforts determining

what is causing the problem. If it is a problem of clinical competency, perhaps a reassessment of educational standards and protocols is in order.

If it is an ethical issue, there might be other remedies. This is an area in which the American College of Dentists is in the forefront. I just received my "ethics wallet card" with my ACD renewal no-

Inadequate dental care is usually not caused by a lack of competence.

tice. This gentle reminder of how we should approach ethical problems is very well done; dental education and continuing education should take a look at it. Curricula might be changed to emphasize ethics.

Similarly, economic causes might lead to changes in reimbursement mechanisms. An ADA-commissioned study related to dental care under different reimbursement systems is being undertaken by the Rand Corporation.

The Issue is Oral Health Outcomes

The real issue is how should we practice to optimize our patients' oral health status. It is the outcomes for patients, not the continued competency test scores of practicing dentists, that should be our concern. However, research about patient outcomes is in its infancy. We're not ready to apply it to dentistry, certainly not ready to issue report cards based on outcomes. We need dental diagnostic codes

and a better understanding of outcomes before such measures regulate our ability to practice.

Unfortunately, continued competency testing probably won't protect the public, and is unlikely to help dentists. Who will it benefit? The educators and the regulators? Boards of Dental Examiners would set up new bureaucracies. Developing and administering a simulated clinical exam, for example, would be very expensive. Of course, we'll be the ones paying for it. Schools will need to set up new remedial courses. According to a quarterly report of CDA's continued competency committee, "A new appraisal mechanism...could be developed through a joint effort of CDA and the dental schools." Might be a good project to keep the test developers, academicians, and auditors busy.

Who is demanding these intrusions into our dental practices? It is only because the process was initiated by some of the leadership of dental associations that it has been presented in the dental press in such a positive light. If this project was the pet of a despised government regulatory agency, our association government relations offices would be leading the lobbying charge against it. We'd be electing congressmen to work to remove the agency's funding. Instead, we have been spending our own dues dollars to develop continued competency programs and more funds to "educate" the membership about why we should embrace it.

Even though well-intended, continued competency testing offers little benefit to either practicing dentists or their patients. It's time to turn our efforts to programs that actually improve the appropriateness and quality of care.

Continued Competency Assessment: Reflections from the State Board Viewpoint

Bruce P. Kinney, DDS
and Lisa Anderson

Abstract

Continued competency for the dental professional has become an issue of national interest. It is a complex issue that asks many questions. The State of Washington Dental Quality Assurance Commission has been authorized to examine continued competency by the state legislature. To date, no formal steps toward implementation have been taken. This is not a result of stone walling by the Commission. It is a reflection of the complexity of the issue and the difficulties encountered in establishing effective mechanisms for evaluation of competency.

Formal, valid, and reliable assurance of quality for patients seeking oral health care—How can it be done? Who is pushing the concept? Is it realistically attainable? Acting in the public trust, as state boards must do requires thoughtful and defensible answers to such questions. Too often in such issues involving multiple parties, the “obvious” solution is only correct when the problem has been narrowly defined.

What patients want and expect from a practitioner is quality care, high levels of skill, and excellent professional judgment. Care, skill, and judgment—How do

you measure for them? In structured circumstances such as dental education or initial licensure examinations this has been defined. However, it is not readily apparent what sort of system can be created to do this validly and at a reasonable cost in the real life circumstances of a dental practitioner.

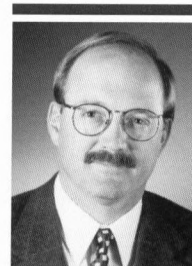
Those involved in regulation and licensing of dentists across the country are very familiar with the drive for development of continuing competency mechanisms. Many states require continuing education for maintaining licensure. However, correlation between continuing educational programs and competency can be debated.

The American Association of Dental Examiners (AADE) conducted a significant study of continuing competency in the dental profession. The study, published in 1994 and summarized elsewhere in this journal, cited nine mechanisms for assessing continuing competency. There are many issues to be considered implementing any one of these mechanisms. Issues include cost factors, acceptance by the profession, definition and determination of measurable outcomes and level of competency required (general vs. specialist). Additional factors such as cultural and regional differences in practice standards must also be considered.

Most practitioners would agree that there are those in the dental profession that could benefit from further training

to reach or maintain competency required to serve patients effectively and safely. Indeed, brief exposure to the various transgressions of practitioners requiring formal discipline by a state board is quite convincing. The need in a small number of cases has never been contested. The challenge facing the boards is to find, if possible, a mechanism that (a) accurately identifies practitioners who need assistance, including a diagnosis of what remedial help is required, while (b) not being an unwarranted intrusion on competent practitioners or (c) an unrealistic financial burden on the profession or the state.

Conceptually, there is even debate on how broadly to define competency. One



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must consider the question of what is competency. Limiting the definition to matters of technical skill or currency of knowledge would increase the chances of developing a mechanism that meets the three criteria enumerated above. Experience, however, shows that many complaints against practitioners originate from poor communication and ethical lapses. "People skills" play a significant role in the public's perception of quality of care.

Another consideration is the quality of care provided by non-dentist members of the dental team. Further ques-

Boards, in their disciplinary role, must take a constructive position with regard to substandard practitioners. Many issues remain to be addressed with regard to handling dentists who are identified as being "incompetent." Any continued competency assessment mechanism that simply divides dentists into "pass" and "fail" groups—even if done with a high degree of accuracy—is inadequate.

Who is driving continuing competency issues? Is it the "wet" fingered dental practitioner? How about groups such as the AADE? One could also speculate that third-party carriers would be much

eral public. Is such acceptance a factor in determining what mechanisms can or should be used?

The Dental Quality Assurance Commission of Washington State has carefully examined the issue of continuing competency since its formation in July of 1994. Current plans include participation in a pilot study on continuing competency sponsored by the AADE and another involving the DISC program (Dental Interactive Computer Simulation). The Commission also serves on the Department of Health Interdisciplinary Task Force for all health care professionals. These projects may provide many answers.

This is a complex issue and there are many questions. Members of the public, concerned professionals, or government agencies might see the lack of progress in development and implementation of continued competency assessment in dentistry and conclude that boards and commissions are protecting their own. This is far from the truth. The parameters and issues are controversial. Many different constituencies have a stake in the outcome. Boards and commissions must ensure that all voices are heard and that the aggregate benefits of any system put in place clearly outweigh the aggregate costs.

The public and the profession can be assured that Dental boards and commissions are examining this issue carefully. There is no clear path. What is clear is that any mechanism and process for continuing competency assessment that is implemented will take extensive resources, study, debate, and time.

The views and opinions expressed in this article are the authors' alone. They are not intended to reflect the views and opinions of the Washington State Dental Quality Assurance Commission or the Department of Health.

What patients want and expect from a practitioner is quality care, high levels of skill, and excellent professional judgment.

tions come to mind regarding billing practices, fees and sterilization procedures. Considerable discussion is occurring regarding competency, but not all voices are talking about the same thing.

Consideration must also be given to existing state laws. While the legislature in the State of Washington authorizes the Dental Quality Assurance Commission to examine continuing competency, there is no authority in the law to test beyond the entry level. The assurance of competency of dental professionals is an issue of state's rights. But would regional boards, the American Dental Association, the AADE, or the Academy of General Dentistry be better entities to conduct assessment?

Presently there are issues in recognizing licenses across jurisdictions based on formal training, National Dental Boards, and initial licensure examinations. Continued competency requirements that differ from state to state could further complicate freedom of movement within the profession. Similar issues would have to be considered with regard to specialists.

in favor of a state or professional supported system that certifies their member dentists as competent. In the State of Washington the legislature has specifically authorized participation in pilot projects for the purpose of developing flexible, cost efficient, effective and geographically accessible competency assurance methods. Are state governments a driving force behind continued competency evaluation?

What groups have a stake in the process? Certainly state governments, state and national associations, specialty organizations, third party carriers, dentists and the public. With such a range of legitimate stake holders, it is unlikely that a simple system will be readily agreed to by all concerned parties. State boards must be cautious that the interests of one group are not advanced to the detriment of others.

Continued competency assessments are routine in other professions. Consider the airline industry and professional pilot currency training and requirements. Simulation is utilized with great effectiveness and enjoys acceptance by the gen-

Assuring the Continuing Competence of Health Care Professionals in the Public Interest

David A. Swankin and the Citizen Advocacy Center

Abstract

A citizens' advocacy group expresses its concerns over the current state of procedures in place to protect the public from health care practitioners who may no longer be competent, despite their level of knowledge and skill when initially licensed. The growing concern over continued competence, the inadequacy of mandatory continuing education courses to address this need, and some promising initiatives, including one by the American Association of Dental Examiners are discussed.

Can the public be confident that health care professionals who demonstrated minimum levels of competence when they earned their licenses continue to be competent years and decades after they have been in practice? The quick answer is: "No."

The fact is that state governments, through health professional licensing systems, do not impose specific requirements on licensed professionals to demonstrate their continuing competence. Many state boards do require licensees to take continuing education courses to maintain their licenses. However, with some significant exceptions, these requirements ask only that licensee show that he or she has *attended* approved

courses. Whether the chosen courses are relevant to the licensee's specific practice, or whether the information presented in the course has been understood, is not subject to regulatory review. The only exception is for that small percentage of licensees (2% or 3% and often less) who are brought before their licensing boards on a disciplinary matter and who are required as part of a board-imposed disciplinary order to take specified remedial educational courses or to otherwise upgrade their practice deficiencies that led them to be disciplined in the first place.

Private certification and specialty boards have paid much more attention to the continuing competence of health professionals than have state health licensing boards. More and more observers concerned about continue competency are asking the licensing system to reassess its responsibilities in this area.

The Role of a Citizen Group

The Citizen Advocacy Center is a unique support program for the thousands of public members who serve on health care regulatory boards and governing bodies as representatives of the consumer interest. Whether appointed by governors to serve on regulatory or other health policy boards or selected by private sector institutions and agencies to serve on boards or advisory panels, public members are typically in the minority and are usually without the resources and technical support available to their coun-

terparts from professional and business communities. The CAC is a not-for-profit organization created to serve the public interest by providing research, training, technical support, and networking opportunities to help public members make their contributions informed, effective, and significant.

CAC's goal is to equip public members to be advocates for excellence—to continually press their boards to serve public policy goals more effectively and efficiently. To this end, CAC disseminates information and provides forums for the examination of public policy affecting healthy care delivery and regulation. CAC distributes a quarterly publication entitled *Citizen Advocacy News & Views*, convenes conferences, and produces research reports on topics of current and practical concern to regulatory and governing boards, hosts an annual meeting, and



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conducts training seminars for individual states, regulatory bodies, and others.

While CAC was created to maximize the leverage of public members, it does not attempt to drive a wedge between them and professional members. Instead, CAC's services and publications are available to and valued by professional mem-

"In nearly all fields, but especially those related to science and technology, the knowledge explosion has been enormous. It has become increasingly difficult, even for conscientious professionals, to keep abreast of developments. Unless practitioners make strenuous efforts to keep up with their fields, the

proof of competence many years later. Demonstrations of continuing competence are as reasonable and necessary as are required demonstrations of entry-level competence."

The State Issues Task Force created by the Pew Health Professions Commission took a similar position in the November 1991 report. They characterize the problem of "assessing the continuing competence of practitioners, [as] a much more difficult task at which many professional license bodies have done very little other than requiring attendance at continuing education courses. There should be more attention to assessing the actual practice performance of licensees using quality assurance techniques and evaluation of consumer and professional criticisms about licensees."

Lawrence and Lincoln Weed (1994) comment "Credentials cannot correlate reliably with actual performance unless credentials are based on periodic, random audits of actual performance. Stated differently, credentials based on a one-time demonstration of capacity

More and more observers concerned about continuing competency are asking the licensing system to reassess its responsibilities in this area.

bers of regulatory and governing boards and the executives and attorneys who staff these institutions. CAC has been commended for avoiding propaganda and partisan politics in its examination of issues and for not casting public members in an adversarial role *vis a vis* their professional counterparts.

The Issue

Citizen Advocacy Center Board Chair Benjamin Shimberg has probably written more than any other person about licensing's failure to monitor the continuing competence of health care professionals. Addressing a gathering of optometry boards, he described the situation this way:

"It is amazing how little board members know about their licensees once that precious piece of paper has been mailed. An individual may practice for twenty or thirty years, renewing his or her license annually or biannually by mail. The board office thus knows that a given licensee is still alive and where his or her office is located. But unless a licensee gets into serious trouble, any contact between the board and the licensee is unlikely.

"More important, however, is the matter of continued professional competence. Has the licensee kept up with the field? Does he or she practice at the state-of-the-art level? Do the services he or she delivers to the public meet minimum standards of competence set by the board?

probability is high that over time their knowledge and skills will diminish."

In 1981, the National Organization for Competence Assurance published *Guidelines on Continuing Competence*. This document noted that "Continuing competence assurance is necessary...Health care technology is advancing too fast for a certificate of competence earned at the beginning of one's career to constitute

Table 1. Criteria developed by the American Association of Dental Examiners for Any Measure of Continuing Competence

- a. The assessment must be reliable and valid
- b. The assessment must be applied uniformly
- c. The assessment must measure objective standards
- d. The assessment should cover the scope of practice of the licensee
- e. The license should cover the scope of practice of the licensee
- f. The frequency of reassessment to assure continued competency of the licensee should be based on a state's license renewal cycle. A cycle of four to eight years is suggested
- g. Basic current dental knowledge and information, not out dated procedures and concepts, should be included in any assessment
- h. Assessments must distinguish between competent and incompetent practitioners
- i. Conflicts of interest must be avoided
- j. In the event a licensee is found not competent, the licensee should be assisted in remedying the deficiency. The licensee then should be re-evaluated by any approved method, without prejudice.

should never be permitted to insulate a health care professional from ongoing scrutiny of actual performance. Just as businesses are perpetually subject to the scrutiny that results from competition in the marketplace, so health professionals should always be subject to periodic evaluation of their actual performance in providing health care to the public. Redefining credentials on this basis is necessary for the public to have real assurance of quality."

Is Mandatory Continuing Education Enough?

While very few licensed health care professionals are required by law to periodically demonstrate their continuing *competence*, significant numbers of them, in every health profession, are required by law and regulation to earn continuing *education* credits. There is no disagreement that continuing education—sometimes referred to as life long learning—is a valuable, positive, useful activities for all professionals. The controversy is over equating *mandatory* continuing education with a guarantee of continuing competence.

The literature is replete with criticisms of the idea that mandatory continuing education requirements assure, or even partially assure, that practitioners continue to possess minimally acceptable

whether it is, in fact, an effective corrective to incompetent practice. The move from voluntary to mandatory continuing education was stimulated by the belief that all professionals were not equally conscientious in keeping up with their fields. But to mandate something so

There should be more attention to assessing the actual practice performance of licensees using quality assurance techniques.

loosely conceived as continuing professional education is an invitation to abuse. There is no assurance that the professionals will take courses related to their practice. Even if they do, to expect an effect on performance assumes that professionals will know what they need to learn, will participate in such a way as to learn something, and then will be able to apply that learning to their practice, is tenuous. Since most courses focus on knowledge and since there is not necessarily a connection between knowledge and performance, it is unlikely that these courses would have an impact on practice."

In many states, the mandatory CE requirement merely specifies the number of credit hours the licensee must earn in a set period of time. Often the licensing board will, by regulation, specify the ways in which mandatory CE credits can be earned. Many boards are given the authority to approve mandatory CE providers. Some boards do it themselves; others enter into relationships with one or more professional associations to do the accreditation work for them. In a number of states, mandatory continuing education requirements specify some of the subjects that must be included in a licensee's program.

In 1979, the California Department of Consumer Affairs issued a report entitled *The Value and Relevance of Mandatory*

Continuing Education. This report focused on continuing medical education and reached a skeptical conclusion. "Mandatory continuing education provides a regulatory finger in the dike to licensure reform. Regulatory band-aids which attempt to redress abuses without chal-

lenging underlying forces that produce the problems are destined to fail. When one such band-aid fails, we attempt another, and the regulatory bureaucracy becomes ever more complex, cumbersome, and truly oppressive." The report recommended that the California legislature refrain from imposing any further continuing education requirements, pending the development of job-related competency assurance measures and the completion of a comprehensive analysis of a number of policy questions.

Fifteen years later, the Colorado Board of Nursing, after much consideration, repealed all mandatory continuing education requirements for RNs and LPNs in that state effective 1994. The board claimed "there is no research available either in Colorado or anywhere in the nation that shows any correlation between linking continuing education with license renewal and the continuing competence of any licensed group." Colorado board educational consultant Jan Zubieni (1994) commented that mandatory CE is a "program that has not demonstrated a public safety benefit."

Approaches to Evaluating Continuing Competency

In 1992, the state of Virginia took a significant step in redirecting attention away from mandatory continuing education, focusing instead on evaluating con-

AC's goal is to equip public members to be advocates for excellence.

levels of competence. In his book *Of Foxes and Hen Houses*, Stanley S. Gross (1994) put it this way: "While it seems reasonable to suppose that continuing education would have a positive impact on the practice of some providers, there remains a question whether continuing education should be mandated and

Continued Competency

tinuing competence. The Board of Health Professions promulgated a document entitled *Guidelines for the Evaluation of Continuing Competency and Continuing Education Requirements*. In Virginia, the Board of Health Professions is an umbrella agency composed of representatives of all the health professional licensing boards, as well as five public members; it has no enforcement powers, but rather provides policy oversight and guidance in an advisory capacity.

In its introductory statement to the new guidelines, the Board cited the Governor's Regulatory Reform Advisory Board comment: "Continuing competence is one of the dominant issues in professional regulation. Regulatory boards are careful to ensure that candidates for licensure are competent, but it is possible to practice for a lifetime with-

requirements whether for initial licensure or for recertification. They framed the following principles:

1. Continuing competence requirements should be validated by reference to specific performance competencies (knowledge, skills, abilities) required for the continued safe practice of a licensed or certified health occupation or profession.
2. Continuing competence mandates must be accompanied by a requirement that the practitioner present credible evidence that he or she possess the requisite competence.
3. Continuing competence requirements and the criteria upon which they are validated must be relevant in their reflection of changing occupational roles, levels of specialization, the technological and therapeutic environment, standards of care, and public expectations.
4. Requirements should be based on a national level of evidence.
5. Continuing competence requirements must be administratively feasible, cost-effective, and equitably applied and enforced.
6. Continuing competence requirements should represent the least restrictive provisions consistent with public protection and should be established only when the public is not effectively protected by other means.

At least one licensing board association, the American Association of Dental Examiners, has also begun to address the issue of continuing competence head on. In April 1992, AADE adopted a resolution directing its continuing competence committee "to develop criteria and mechanisms that might be used in evaluating the ongoing competency of

licensees." The committee first published report, in 1993, contained the following principles:

1. Continued competency is a state's right and a state controlled issue.
2. The responsible party is the State Board. Boards may use their own test or that of a testing agency. Boards also may accept an assessment from another state.
3. The licensees should be allowed to choose which board-accepted assessment mechanism they use to demonstrate their competency.
4. Mechanisms developed should conform to commonly accepted criteria (shown in Table 1).

The issues raised by the AADE committee are all on target, and whether one agrees or disagrees with each of the draft criteria, the AADE deserves plaudits for tackling the issue head on. What AADE has done needs to be done by the entire licensing community.

Conclusion

The view of the Citizen Advocacy Center is that it is time for the licensing community to make continuing competence a front burner issue. Finding acceptable answers to the major issues involved will not be an easy task. But if the licensing system is to offer assurances to the public that health practitioners meet minimum levels of competence throughout their entire careers, not just at the time of entry and initial licensing, then it must address these questions, and answer them.

References

- Gross, S.J. (1984). *Of foxes and hen houses: Licensing and the health professions*. Westport, CT: Greenwood Publishing Group.
- Weed, L.L., and Weed, L. (1994). Reengineering medicine. *Federation Bulletin* (of the Federation of State Medical Boards), 81(4).
- Zubieni, J. (1994). *Issues* (Newsletter of the National Council of State Boards of Nursing), 15(2), 1.

The controversy is over equating mandatory continuing education with a guarantee of continuing competence.

out being required to demonstrate continuing competency...The community of regulators acknowledges the need for prevention and agrees that some system for monitoring the continuous acquisition of knowledge, skill, and ability by health practitioners is a warranted use of State regulatory powers."

The Virginia Board of Health Professions adopted a policy that all practitioners must meet the same standards of

Contributors to Dentists' Job Satisfaction and Quality of Life

Henrietta L. Logan, PhD; Patrick J. Muller, MA;
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Abstract

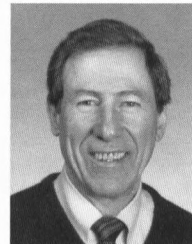
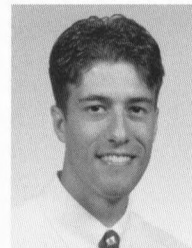
Every career has the potential for producing personal satisfaction and dissatisfaction, and much of that assessment is dependent on what an individual values in life. The purpose of this study was to identify factors that contribute to dentists' job satisfaction and the overall quality of their lives. Multiple regression analysis was performed to find the best set of predictor variables. After controlling for age, sex, and length of time in practice, the combination of variables that best predicted overall job satisfaction was income, respect, and patient relations ($R^2=57\%$). The combination of variables that best predicted overall quality of life, after again controlling for age, sex, and length of time in practice were income, professional time, and personal time ($R^2=83\%$). Although over half of the dentists surveyed are satisfied with their career, they are dissatisfied with their level of stress, professional environment (threat of malpractice litigation), and amount of personal time. Implications and recommendations are discussed.

Technical terms defined at end of article: correlation coefficient (r), multiple regression, level of significance (p).

The profession of dentistry is a noble and respected one with which most dentists are proud to be associated. Like any job, however, the practice of dentistry has a number of characteristics that can produce either satisfaction or dissatisfaction for the practitioner. These job characteristics can be viewed positively or negatively depending on the perception of the clinicians (Smith, 1993). Whether the dentist perceives the challenges and opportunities of the profession as intellectually, emotionally, and physically stimulating or not has a tremendous impact on the individual's level of career satisfaction and even more broadly on his or her overall quality of life (Cooper & DiBiaggio, 1995).

Just how satisfied are dentists? In general, there is little agreement. Eccles and Powell (1967) surveyed 261 dentists (88% response rate), and 60% of all respondents expressed a liking for their vocation and only 19% a dislike. Page and Slack (1969) surveyed graduates of the Dental School of the London Hospital Medical College and found that 62% would make the same career choice. On the other hand, a cross sectional study of job satisfaction reported by 621 Columbia University Dental Alumni (Yablon & Rosen, 1982) revealed that job stress and lack of personal time were sources of significant job dissatisfaction. Results of a survey of California dentists (Shugars, DiMatteo, Hays, Cretin, & Johnson, 1990) showed that only one out of every

two dentists was satisfied with his or her career. Dentists tended to be satisfied with some parts of their job and careers but there was substantial variation in their overall career satisfaction. The most



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Table 1. Characteristics of Respondents (n=119)

| Characteristic | |
|--------------------------------|-------|
| Personal | |
| Average Age (years) | 47.5 |
| Sex | |
| Males | 91.2% |
| Females | 8.8% |
| Practice Location | |
| -rural | 38.7% |
| -suburban | 17.6% |
| -urban | 43.7% |
| Primary practice type | |
| -sole proprietor | 70.6% |
| -partnership | 10.1% |
| -incorporated practice | 16.8% |
| Average hours/week in practice | 36.0 |

satisfied group was older, had higher incomes, attended more continuing education, and employed dental auxiliaries.

Given the range of findings, it would be useful to know more about what contributes to dentists' perceptions of job satisfaction. A study by Levoy (1980) theorizes that predictor variables in satisfaction with the practice of dentistry can be traced to an individual's basic set of values. Further, Mozer (1995) suggests that there are three major reasons for a practitioners' discontentment with dentistry: (1) unrealistic expectations on the part of the dentist in regard to what the profession can provide, (2) intensified demands of production amidst feelings of inability to measure up, and (3) an inadequate value system. This study focuses on the third of these reasons.

Values are defined as the set of criteria that an individual uses to judge some things more desirable than others (Omery, 1989), whereas occupational choices are generally believed to be based on a person's awareness of his or her own values and the extent to which a job/occupation will provide an opportunity to realize those values. Consequently, perceptions about job factors (likelihood that one's hard work will be acknowl-

edged or that career advancement is possible) and the importance an individual places on those factors help to define the amount of job satisfaction one experiences. It follows that if there is a large discrepancy between personal values and the work role, job dissatisfaction is likely.

At present, little data are available to substantiate the purported relationship between an individual's values and self-reported job satisfaction and assessment of the quality of their life

Bebeau, Born, & Ozar, 1993; Orner, 1978). The following study was designed to determine whether such a relationship exists. Specifically, we examined whether there is a significant relationship between an individual's hierarchy of values (achievement, altruism, autonomy, comfort, security, and status) and his or her level of career satisfaction. Further, we compared dentists' perceptions of the quality of specific factors such as staff interactions, income, stress, etc. with their overall satisfaction with their jobs and their assessment of the quality of their life.

Methods

Procedure. This survey targeted actively practicing Iowa dentists who work at least thirty weeks per year. A list of names and addresses of all the dentists licensed in the state of Iowa was acquired from the University of Iowa College of Dentistry. A sample of 200 was obtained using a list of random numbers generated by computer. The questionnaire was sent to the sample population in the Fall of 1993. One hundred nineteen were returned, yielding a 60% response rate. An additional nine were undeliverable due to change of address, re-

tirement, or death. No follow-up contacts were made to non-respondents.

Instrument. The job satisfaction research instrument was modified from the DSS (Dentist Satisfaction Survey) (Shugars et al, 1990). The revised instrument included three to seven items on each of eleven sub-scales, plus overall quality of life and overall job satisfaction scales. The eleven sub-scales were labeled professional environment, delivery of care, income, patient relations, personal time, practice management, professional relations, professional time, respect, staff, and stress.

Each item of the 11 scales used a Likert-type format with responses ranging from 1 (strongly disagree) through 5 (strongly agree). There are also overall scales for satisfaction and quality of life. Mean item scores for each sub-scale were determined and three categories based on score ranges were established: (1) 1.0-2.4=dissatisfied, (2) 2.5-3.5=neutral, (3) 3.6-5.0=satisfied.

An additional 15 comparisons measured the relative importance of each of the following six values: (1) achievement, (2) altruism, (3) autonomy, (4) comfort, (5) safety, and (6) status (Lofquist & Davis, 1978). Each value was paired with the remaining to establish its relative importance. For instance, "achievement is more important to me than altruism" and "achievement is more important to me than autonomy" are examples of the fifteen comparisons. As with the other sub-scales, dentists rated these comparisons from 1 (strongly disagree) through 5 (strongly agree) (Lofquist & Davis, 1978).

Results

Characteristics of the 119 respondents are shown in Table 1. The demographics of this sample are nearly identical to those found in a 1993 survey of the 1418 practicing dentists in Iowa (Field, Kambhu, Jakobsen, & Logan, 1996). The average age is nearly 48 and over 90% are male. Approximately 70% are sole proprietors of their practices.

Three out of five respondents were satisfied overall with their careers. Large

Table 2. Pearson product moment correlation analysis between values and sub-scales and overall satisfaction and overall quality of life.

| | Overall Satisfaction | Quality of Life |
|-----------------------------|----------------------|-----------------|
| Sub-scales | r-value | r-value |
| 1. Delivery of Care | 0.32** | .25** |
| 2. Income | 0.55** | .68** |
| 3. Patient Relations | 0.40* | .17 |
| 4. Personal Time | 0.29** | .77** |
| 5. Practice Management | 0.35** | .44** |
| 6. Professional Environment | 0.22* | .26** |
| 7. Professional Relations | 0.25** | .32** |
| 8. Professional Time | 0.26** | .66** |
| 9. Respect | 0.65** | .42* |
| 10. Staff | 0.29** | .24** |
| 11. Stress | 0.28** | .26** |
| Overall Quality of Life | 0.42** | .42** |

* $p < 0.05$

** $p < 0.01$

proportions of dentists are satisfied with the respect they receive from being a dentist (74%), with their staff (83.9%), with their professional relations with other dentists (89%), with their delivery of care to the patient (90.8%), and with their relations with patients (95%). On the other hand, dentists are most dissatisfied with the amount of stress they are under (55% dissatisfied). Results also showed that 60% are satisfied with the amount of personal time available and (27%) are dissatisfied, the rest are neutral. Twenty-one percent (21%) were dissatisfied with the professional environment, whereas 44% were satisfied.

The values as ranked by the dentists are as follows (highest priority to lowest): security, altruism, achievement, autonomy, comfort, and status.

Table 2 shows the Pearson product moment correlation coefficients comparing overall job satisfaction as well as overall quality of life with values. Job satisfaction and respect were significantly related as were job satisfaction and income. Of the six values, only security was significantly related to overall job satisfaction. Quality of life was significantly

correlated with personal time ($r = 0.77$, $p < 0.01$), income ($r = 0.68$, $p < 0.01$), and professional time ($r = 0.66$, $p < 0.01$). Patient relations was significantly related to overall career satisfaction ($r = 0.40$; $p < 0.05$) but was not related to overall quality of life. Age was significantly correlated with job satisfaction ($r = .26$; $p < 0.01$) and quality of life ($r = .29$, $p < 0.01$). There were no values which were significantly related to overall quality of life.

Using a multiple regression techniques we identified the best set of predictor variables of overall job satisfaction and overall quality of life. (See Table 3.) After statistically controlling for age, sex, and length of time in practice of the respondents, the combination of variables which best predicted overall job satisfaction was income, respect, and patient relations. This combination accounted for 57% of spread in job satisfaction scores. The combination of variables that best predicted overall quality of life after again controlling for age, sex, and length of time in practice of our respondents was income, professional time, and personal time. This

combination of three variables accounted for 83% of the spread in quality of life scores.

Discussion

In the present study, three out of five dentists were satisfied with their careers. This is somewhat higher than had been previously reported (Shugars et al, 1990). Large proportions of the dentists in this study are satisfied with the respect they receive from other professionals and their community as well as with their professional relations with other dentists and their relationships with patients.

The items used to assess professional environment referred to issues surrounding malpractice litigation. Over a quarter of the respondents expressed dissatisfaction with that part of their professional environment. They also report that the threat of a malpractice suit influences their treatment decisions and has altered the way they practice dentistry. This relationship between satisfaction and concern about malpractice is consistent with what has been reported in prior research (Shugars, 1990). Thus it is clear that practicing risk management—including knowing patients' goals and concerns and careful attention to obtaining consent for care—is very important to these dentist in their day to day treatment decision making (Pollack, 1985).

It is noteworthy that in this study, relationships with patients was marginally related to career satisfaction but not to an assessment of overall quality of life. Quality of life was associated with the amount of personal and professional time and income. As expected and as reported in prior research, age was significantly related to job satisfaction and quality of life. Interpretation of this finding should be made cautiously, however, as younger dissatisfied dentists may have left the profession with only the older and more satisfied dentists remaining.

As shown in prior research, dentists are least satisfied with the stress and the amount of personal time available to them. Over 50% of Iowa practicing dentists are dissatisfied with their stress level and more than a quarter are dissatisfied

with the amount of personal time available to them. Additionally, our results showed that satisfaction with the amount of professional time available was also related to the dentists' assessment of the quality of their life. That finding prompted a supplementary analysis comparing levels of stress and levels of job satisfaction. In that supplementary analysis, we did not find that higher levels of stress were associated with decreased levels of job satisfaction (Chi square=7.38, $df=2$, $p<0.05$).

Some researchers have suggested that when satisfaction is high, stress should be low (Knoop, 1994). Our findings do not support that putative relationship. It is very likely that the pressures from external regulatory agencies with frequently changing and complex regulations and the uncertainty of the financial picture for dentistry are major sources of stress for the dentist respondents in this study. These circumstances would be quite different from those found in other jobs and careers in which the values of the individual might be in conflict with those embodied by their employer. That is, dentists can like their career and dislike the external stress associated with the practice of their profession in today's health market place. Dentistry, like any occupation, cannot consider itself immune from the macro-level economic forces at work today.

Results of this study demonstrate limited support for the role values play in job satisfaction. Of the six values used, security was the only one significantly associated with overall job satisfaction ($r=-0.26$, $p<0.01$). Specifically, dentists who rated security as relatively more important in their hierarchy of values were least satisfied with their career. After, however, age, sex, and length in practice were entered as control variables in the regression equation, security dropped out and was replaced by income. Not surprisingly, security and income are strongly associated but income appears to be the stronger predictor of job satisfaction.

It is interesting to note the contributions security, income, and patient rela-

tions make to dentists' job satisfaction and their quality of life because of the profound interdependency those contributions seem to have. There is an old dental adage that, "If you take care of your patients, your patients will take care of you," and it is easy to see a connection between good patient relations, stable income (a solid, vibrant practice), and security. Patient-centered health care's role in building and maintaining good patient relations is now well-established. This recognition leads to the conclusion: patient-centered health care \rightarrow good patient relations \rightarrow stable income \rightarrow security.

Conclusions and Implications

We can conclude from our findings that there is little support for values as basic predictors of job satisfaction or overall quality of life. Except for security, the values used in this study were not significantly related to job satisfaction or quality of life. Age was positively related to job satisfaction and the overall quality of life for this group of respondents. Although these dentists are dissatisfied with

their stress levels, this dissatisfaction is not significantly related to their overall job satisfaction. Job factors such as the amount of personal and professional time available continue to be a source of concern for dental practitioners.

The implications we can draw from this are that dentists have high levels of stress and thus could benefit from stress management programs (Rossman, 1986). One benefit of learning new ways to respond to stress might be to limit the deleterious health effects that excessively stressful responding can produce (Perkins, Leserman, Gilmore, Petitto, & Evans, 1991). Secondly, since malpractice is a source of dissatisfaction with the professional environment, more effort could be made by dental organizations to teach dentists the strategies that are most likely to produce satisfied patients and reduce the risk of litigation (Chambers & Abrams, 1992). Moreover, dentists should examine those actions in their practices that are most likely to contribute to patient dissatisfaction (failure to understand patients' treatment goals) and design new approaches to improve pa-

Table 3. Multiple regression analysis of overall job satisfaction and overall quality of life.

Job Satisfaction, R-squared = 0.57

| Variables | Parameter Estimate | Standard Error | Type II Sum of squares | F | Prob>F |
|-----------|--------------------|----------------|------------------------|-------|--------|
| Intercept | -0.79 | 0.59 | 0.65 | 1.83 | 0.1802 |
| Income | 0.25 | 0.08 | 3.51 | 9.88 | 0.0023 |
| Pr Rel | 0.26 | 0.13 | 1.30 | 3.64 | 0.0598 |
| Respect | 0.62 | 0.11 | 12.15 | 34.20 | 0.0001 |

Quality of Life, R-squared = 0.83

| Variables | Parameter Estimate | Standard Error | Type II Sum of squares | F | Prob>F |
|-----------|--------------------|----------------|------------------------|-------|--------|
| Intercept | 0.09 | 0.21 | 0.02 | 0.17 | 0.6806 |
| Income | 0.34 | 0.04 | 7.47 | 79.52 | 0.0001 |
| Prof time | 0.26 | 0.06 | 1.64 | 17.43 | 0.0001 |
| Pers time | 0.35 | 0.04 | 7.35 | 78.34 | 0.0001 |

tient-staff-doctor interactions. Finally, since good patient relations are important to job satisfaction, malpractice avoidance, and income and security and since good patient relations are founded in practicing patient-centered health care, more attention and resources should be paid to supporting patient-centered education and continuing education for dental students and practitioners.

References

- Bebeau, M.J., Born, D.O., and Ozar, D.T. (1993). *Journal of the American College of Dentists*, 60(2), 27-33.
- Chambers, D.W., and Abrams, R.G. *Dental communication*. Sonoma, CA: Ohan Group.
- Cooper, T.M., and DiBiaggio, J.A. (1995). Understanding the effects of stress in dental practice. *Preview*, 4(2), 4-10.
- Eccles, J.D., and Powell, M. (1967). The health of dentists: a survey of South Wales 1995/66. *British Dental Journal*, 123, 379-387.
- Field, H.M., Kambhu, P.P., Jakobsen, J.R., and Logan, N.S. (1996). Iowa dentists' activities with regard to nursing homes. *Journal of Dental Research*, 76, Abstract #2270.
- Knoop, R. (1994). Relieving stress through value-rich work. *Journal of Social Psychology*, 134, 829-836.
- Levoy, B. (1980). What do you want from your practice? *Dental Economics*, 70(6), 65, 66, 69.
- Lofquist, L.H., and Davis, R.V. (1978). Values as second-order needs in the theory of work adjustment. *Journal of Vocational Behavior*, 12, 12-19.
- Mozer, J.E. (1985). Frustration and values: a look at frustration and values in the profession of dentistry. *Journal of the American College of Dentists*, 52(3), 17-21.
- Omery, A. (1989). Values, moral reasoning and ethics. *Nursing Clinics of North America*, 24, 499-505.
- Orner, G. (1978). The quality of life of the dentist. *International Dental Journal*, 28, 320-326.
- Page, C., and Slack, G. (1969). A contented profession? A survey of Old Londoner dentists. *British Dental Journal*, 127, 220-225.
- Perkins, D.O., Leserman, J., Gilmore, J.H., Petitto, J.M., and Evans, D.L. (1991). Stress, depression, and immunity: research findings and clinical implications. In N. Plotnikoff, A. Murgu, R. Faith, and J. Wybran (Eds.) *Stress and immunity*. Boca Raton, FL: CRC Press, pp. 167-188.
- Pollack, B.R. (1985). Risk management in the dental office. *Dental Clinics of North America*, 29, 557-580.
- Rossmann, M. (1986). *Healing yourself: A step-by-step program for better health through imagery*. New York, NY: Walker & Co.
- Shugars, D.A., DiMatteo, M.R., Hays, R.D., Cretin, S., and Johnson, J.D. (1990). Professional satisfaction among California general dentists. *Journal of Dental Education*, 54, 661-669.
- Smith, C. (1993). Beyond chairside: why do dentists decide to switch careers? *AGD Impact*, 21(3), 6-8,9,10.
- Yablon, P., and Rosner, J.F. (1982). The career satisfaction of dentists in relation to their age and income. *Journal of the American College of Dentists*, 49(3-4), 45-52.

Technical Glossary

Editor's note: In an effort to make research papers that contain technical concepts more "user friendly" the Journal will attach a technical glossary to those papers where it seems useful.

Correlation coefficient (r): Correlation is a measure of association. If the average number of new patients per month and the average net income per month for each dentist in a group were known, it is likely that they would be correlated—practices with more new patients would also be the practices with larger net incomes. The coefficient of correlation is a numerical measure of the strength and direction of association. Strong associations run in the .6 to .8 range. Correlations higher than this are unusual and normally mean that one is measuring the same thing in two ways—as the distance across a field in yards and the distance across the field in paces. Moderate correlations are in the .3 to .6 range. That might be a reasonable estimate for the correlation between new patients and net income in a practice. When items are independent of each other, they have no association and the correlation coefficient r is near zero. Negative correlation coefficients between 0 and -1 are possible as well. This only means that one of the items being measured is scored in the reverse order. There is a strong correlation between average golf score and earnings on the pro tour—but it is a negative correlation (perhaps in the -.5 to -.7 range).

Multiple regression (R^2): Most events of interest have multiple causes. For example, the salary paid hygienist's would be related to the hygienist's skill or contribution to the practice, the busyness of the practice, the scarcity

of hygienists in the area, and cost of living in the community. Multiple regression is a method used to estimate the contribution of multiple factors on a variable of interest. There are several recognized ways of making these estimates but they all have the desirable feature of not double counting the contribution of factors that are related. The maximum variation in the variable of interest (say hygienists' salaries) can only be 100% — although in practice, the actual explained variation is much less. The statistic that is used to express how much of the target variance has been explained by a combination of predictors is R-squared, R^2 .

Level of significance (p): It is standard practice in research literature to test hypotheses against data and to report the results of these "tests of significance" in terms of p-values. If a dentifrice with fluoride is more effective in reducing caries than the same dentifrice without the active ingredient (the hypothesis), then average measures of new caries in the group with fluoride should be smaller than average new caries in a comparable group without fluoride (the data). There are literally hundreds of tests for statistical significance, the correct one in each case depending on factors such as the research question, the experimental design, number of test groups, sample size, etc. But all tests of significance can be converted to a p-value—a number between 0.0 and 1.0. Smaller p-values lend credibility to a study, with $p < .05$ having become an arbitrary standard. Virtually any result can be made "statistically" significant by increasing the sample size, controlling variance, or selecting the hypothesis in a clever fashion.



The Dignity of the Drill

Eric K. Curtis, DDS, FACD

Abstract

A dental historian eulogizes the handpiece as a symbol of the profession. The popular image, especially in literature, of a whining instrument for inflicting pain is contrasted to dentists' appreciation for the technical sophistication and functional elegance of this indispensable tool of the trade.

At the Dr. Samuel Harris National Museum of Dentistry in Baltimore, director of education Jacqueline Eyl holds a slim, elegant instrument. It looks like some kind of antique awl, albeit one with an ivory handle and curiously hollow metal tip. "Who knows what this is?" she asks. The dentists she is addressing stir slightly. They are aware that the almost-familiar gadget is something dental. Members of the audience take turns palming the ivory grip, appraising the instrument's heft and appreciating its balance. "Notice how easily it fits in your hand," Eyl coaxes. "What would you imagine something like this could do?" The dentists take turns feeling again the smooth coolness of the instrument. Then slowly, absently, one dentist begins to twirl the thing in his fingers. And suddenly he understands. "Yes!" nods Eyl. "It's a handpiece."

Dentistry has always demanded decisiveness. For centuries that demand was answered by what became the ancient symbol of dentistry—the extraction forceps. Dentistry's twentieth century emblem, on the other hand, is the descendant of that hopeful, ivory-handled drill. A shift in emphasis was inevitable. Even

when extraction was the ubiquitous choice for treatment, there were misgivings. Nineteenth century Philadelphian David Bates penned this poetic argument for restorative care:

The tooth is out, once more again

The throbbing, jumping nerves are stilled
Reader, would you avoid this pain?

Then have your crumbling teeth well filled.

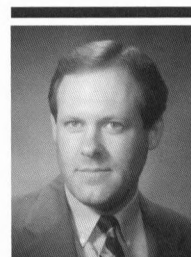
Admittedly, for all its gentility, the manual handpiece described—made ready for action by fitting various burs at the tip—never really captured the essence of dentistry. It was slow. It was tentative. As Ms. Eyl demonstrates to museum goers, the long, slender burs were often simply twiddled between finger and thumb to remove decay. Or, resembling the primitive contraptions used to start fires, burs could be spun around by vigorous back-and-forth sawing motion on a small bow. The tedious nuisance of excavation demanded determination, as well as the compliance of stoic patients, and often provoked shortcuts. Holes were sometimes filled with just a shrug and a plug of lead or gutta percha, skipping the caries removal.

The turning point, at which the standard for timely closure for dental problems became, well, *closure*, was not provided by philosophy, but practicality. Since the Industrial Revolution, progress has been measured in terms of speed and efficiency. The promise of speed focused both professional and public attention on the drill. James Morrison took out patents for a foot treadle in 1872. (An electric engine had been introduced in 1868, but it failed commercially; few dental offices had electricity.) Morrison's system of pulleys was adapted for drills right up to the 1950s. The average belt-driven, gear angle handpiece in 1938

rumbled along at a speed of only 2,000 rpm.

After World War II, better cutting diamond and carbide burs came into wider use, which in turn encouraged higher motor speeds. By 1950, 6,500 rpm was the norm for dental handpieces, a movement still so slow that dentists could tie a tuft of cotton to the pulley and invite their patients to "Watch the bunny!" as the white puff began its lazy, convoluted rotation around the spools. Then airplane designers noticed the windmill, and an unusually primitive concept inspired dramatic advances. The turbines that boosted jets up to mach speeds accomplished similar wonders for dental drills. In 1957, Washington D.C. dentist John Borden filed a patent for a practical air turbine handpiece, called the Airtor, which transformed practice for most of the profession. Posting bur speeds of 250,000 rpm, the new handpiece was marketed in 1958.

The Airtor captured the attention of the world's patients as well as their dentists. "I must only ask you," the protagonist of Gunter Grass's 1970 novel, *Local Anesthetic*, imagines his dentist saying, "to share my faith in my high-speed drill and in the three hundred fifty thousand rpm provided, with a minimum of noise, by the turbine head of my air drive!" The fast dental engine made the drill the



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workhorse of dentistry. Operative procedures, instead of extractions, became bread and butter dentistry; wags dubbed the new restorative routine "drill, fill and bill." Noted *Time* magazine in a 1985 report on dental advances (which was even titled, "Today's Dentistry: A New Drill"), "Tooth decay was a perennial national problem that meant a mouthful of silver for patients, and for dentists a pocketful of gold." But even with a decline in caries, the handpiece is still the embodiment of the profession. Said *Time*: "Despite the difficulties, dentists are not about to hang up their drills and call it quits."

Everyone knows the dentist means the drill. In a TV advertisement several years ago, a guilty patient sits fidgeting in anticipation of his dental appointment. The voice-over intones in a stern baritone: "You didn't get the plaque off like the dentist wanted you to!" The patient flinches as he hears the terms of his approaching penance—the graphic grind of a drill in the next room.

Popular culture does not particularly associate the drill with healing. Its func-

tion is obscured by the ruckus of its whiz and grind, and patients simply accept its existence as part of the scene—in something of the same way that tabloid stars become famous for being famous. People think the dentist drills instinctively. In his book, *Dave Barry Turns Forty*, the humorist predicts that "as our life spans increase, the dental professional will eventually run out of teeth, and will have to start grinding away at our skulls." To make a character seem odd, all you have to do is describe his liking the dentist's drill. In H. Allen Smith's 1946 novel *Rhubarb*, Willy Bodfish advertises his eccentricity by proclaiming a "passion for the drill." Willy explains, "When that old drill starts on my teeth it makes my whole head feel light, just like a big purple bubble." The galvanizing vibration and sound made ready material for comedians. In 1897 Hale quipped, "He got into my mouth...and drove a lawn-cutting machine up and down my jaws for a couple of hours." Ranted American comedy writer S.J. Perelman, who honed his acerbic skills on slapstick scripts for the Marx Brothers: "[the dentist] snatched up his drill, took a firm purchase on my hair, and teed off. A mixture of sensation roughly comparable to being alternately stilettoed and inflated with a bicycle pump overcame me; two thin wisps of smoke curled slowly from my ears."

The poet Ogden Nash made dental operations a metaphor for construction in his 1938 poem, *This is Going to Hurt Just a Bit*: "And your mouth is like a section of road that is being worked on / And it is all cluttered up with stone crushers and concrete mixers and drills and steam rollers and the there isn't a nerve in your head that you aren't being irked on." In the 1980s, humor columnist Andy Rooney still expected a rise from his readers by invoking the burlesque image of his dentist's "jackhammer."

Yet the drill represents something far more sensitive: the dentist's means of expression. William Gass, in his 1958 essay "The Artist and Society," ponders the writer's propensity to pontificate. Writers, including critics, journalists, and novelists—"those used to shooting off their mouths"—speak up as society's self-appointed authorities on everything from art to world affairs, while the average person seldom presumes to offer a public point of view. One of Gass's first choices as the sober, modest Everyman in society are dentists, and the defining voice he would assign them is the sound of the handpiece. "Israel makes war," Gass declares, "and there are no symposia published by prizefighters, no pronouncements from hairdressers, not a

ding from the bellhops, from the dentists not even a drill's buzz..."

The drill even becomes the sound of conversation. In Dorothy L. Sayers's "In The Teeth of the Evidence," detective Lord Peter Wimsey discusses a case with his dentist Mr. Lamplough, who responds, "Just a little bit over this way, please. That's splendid." Gr-r-r, whizz, gr-r-r."

The drone of the drill is so universally recognized that it becomes the basis for

The handpiece lets practitioners do more good, more comfortably, in less time.

analogy. A mystery novel uses the hum of the handpiece to set an edgy mood: "The mosquito entered on Tuesday night. It announced its presence with a whine not unlike the drill in Dr. Fox's office." Reviewing a New York theater production, a *Time* magazine arts critic offers a dental comparison to suggest the effect of the play's musical score: "Phillip Glass has contributed his customary pulsating music, which has the narcotic effect of nitrous oxide coupled with the distant hum of a dentist's drill, yet is curiously pleasurable."

The noisy arrival of chemical caries dissolution, and then lasers, have led many to expect the obsolescence of the whirring bur. But it would be impractical to dismiss the drill, and disingenuous to apologize for it. The handpiece's shrill ministration continues to quietly save countless mouths from misery. The dental specialties of prosthodontics and endodontics owe it their ascendancy. The drill gave profligate tooth extraction a guilty conscience. Its unforeseen efficiency over the last three decades may ultimately account for the recent perceived oversupply of dentists in America. Even so, the air turbine handpiece should be an object of celebration. It lets practitio-

The handpiece, as dental symbol, merits the same simple, sharp regard given the surgeon's scalpel.

tion is obscured by the ruckus of its whiz and grind, and patients simply accept its existence as part of the scene—in something of the same way that tabloid stars become famous for being famous. People think the dentist drills instinctively. In his book, *Dave Barry Turns Forty*, the humorist predicts that "as our life spans increase, the dental professional will eventually run out of teeth, and will have to start grinding away at our skulls."

To make a character seem odd, all you have to do is describe his liking the dentist's drill. In H. Allen Smith's 1946

History



ners do more good, more comfortably, in less time. Moreover, it has cleared the dentist's office of frighteningly mechanical, pulley-cluttered images. Gone is the stubborn dental description found in John Porter's 1967 novel, *Winterkill*: "The instruments of discomfort hung over and around him like large preying insects." The modern drill, philosophical descendent of the windmill, is a less intimidating presence. It promises a clean, untangled, breezy operation.

In fact, the current generation of high speed handpieces are enjoying, in the words of AGD staff writer Erik Martin, a "rotary renaissance." Some models exceed speeds of 450,000 rpm,

and handpiece inventories reportedly have increased nearly 50%. Popular regard for the instrument should keep pace. The handpiece, as dental symbol, merits the same simple, sharp regard given the surgeon's scalpel. "The scalpel," declared surgeon Richard Selzer in his 1974 book of essays, *Mortal Lessons*, "is all grace and line, a fierceness. It grins. It is like a cat — to be respected, deferred to, but which returns no amiability." Drills, too long derided as the blue-collar tools of tooth carpentry, should be freshly observed. Seen now with dignity, they are clearly high performance rotary scalpels that elegantly excise damaged tissues. Drills provide the technical wiz-

ardry for odontological reconstructive surgery.

Perception is everything. "So I shall make of my fingers, words, of my scalpel, a sentence..." wrote Selzer, imagining the knife, like his writing, as a creative extension of his mind. If only the lofty metaphors built on the surgeon's blade would be applied to the bur. Granted, it's wishful thinking. As it stands, dental handpieces are accepted by dentist and patient alike with a grudging resignation that resembles my wife's weary appraisal of our children: they may get on your nerves, but you can't really live without them.



How Groups Work

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

Abstract

Almost all work is done in groups. Although groups all have the twin characteristics of striving to accomplish a common task and serving the needs of members, the variety of groups is enormous. Seventeen types of groups found in work settings are discussed. Norms and roles are also discussed because these are the rules for membership and the job descriptions which groups create and enforce for their own use.

Groups are collections of people who have agreed on a common way of behaving and are pursuing a common goal. Groups share tasks because individuals realize they can accomplish many things together that are impossible working alone. Groups also agree on and enforce maintenance activities such as protocol, membership, and expected behavior because most of us are willing to trade some of our freedom for predictability on the parts of others. The two key dimensions of groups are the task function and the maintenance function; with most of the weight going to the latter.

The variety of groups is almost infinite. Seventeen will be described below, with no pretense that this is an exhaustive taxonomy. The intent is to show some of the many ways we work together.

Work Teams: The most common work group is a team. The sports world, entertainment, and corporate America are

built on the foundation of teams. This is the work group which characterizes virtually all dental practices. Team members play diverse roles depending on their expertise, experience, and the demands placed on the organization. There is a common goal such that each team member will be rewarded if the team as a whole is effective. Team success is due both to the talents of the members and their coordination; the latter being ensured through procedural rules and the designation of a leader. Teams are intended to be relatively permanent. Their membership changes gradually as one or two members leave and replacements are assimilated. A team is expected to do the same work over and over again.

Bureaucracies: Large organizations are usually composed of interlocking layers of teams. Upper level teams are composed of the leaders of the groups at the immediately lower levels. Their leaders associate at the third level and so forth. These interlocking levels of leadership provide structure, status, coordination of effort, and communication within the organization. The term bureaucracy comes from a French word and refers to the multiple drawers in a desk. This analogy is appropriate because of the relative importance of structure over individual talent in such an organization. Title matters, and individuals are expected to conform to the roles they play. Behavior is ritualized so that it can be standardized, especially for any one holding an "office" as in a military officer, a security officer, an officer of the court, or even a house officer in a hospital. Bureaucracies, with their standardized interlinking parts, are a

phenomenon of the industrial era. From the fall of Rome until the Enlightenment, there were no standing armies in Europe and no bureaucracy to speak of other than the Church. It was the need for concentrated capital and repetitive, standardized work processes in the eighteenth, nineteenth, and twentieth century smokestack economies that created bureaucracies. As the Information Age replaces the industrial era, bureaucracies are becoming unviable as a general organizing principal for work groups.

Adhocracies: So-called "flat" organizations minimize formal structure and reduce layers of vertical authority. Some new organizational forms include experiments with matrices, project teams, and other flexible arrangements. In an adhocracy, each person's role and authority is not fixed and is allowed to change based on the context and the situation. The compliance officer in a hospital may be the most important person available when an OSHA inspection is underway. Similarly, an accountant, not the CFO, will have high status during an audit. Successful marriages are adhocracies.

Despite the advantage of having the best person for the situation take a leadership role, a strong tendency remains for individuals to assume roughly the same status position in different organizations. For example, a professional individual such as a physician is more likely to be elected jury foreman and have his or her opinions respected. This is known as the "leadership trap"; the danger that individuals with general leadership ability will fail to recognize those circumstances where others have more relevant skills.



Self-Directed Work Groups: In the traditional approach to work design, jobs are person-sized collections of related tasks assigned to individuals. Within limits, the individuals determines when they will do a task, their approach to it, etc. With self-directed work groups, the collection of tasks that constitute a job is much larger and is assigned to the group rather than to individuals. The group then decides how the work will be done, which person will perform which functions, how they will be coordinated, initial evaluation, and so forth. Those who advocate such groups cite *esprit de corps*, flexibility of scheduling, and the fact that those closest to the work usually have the best knowledge of how it should be designed as benefits for this arrangement.

Quality Circles: Quality circles began in Japan in the 1950s as a way to involve front-line workers in improving productivity. They are small groups of workers responsible for a particular function who meet regularly, perhaps every other week, to discuss ways to improve what they are doing. They report problems, propose and implement solutions, and report results to management. The groups are voluntary, but meet on company time. The concept has not been well received in the United States because of the historical philosophy that management, not workers best knows how to structure a job; because American management regards meetings as down time; and because of unions. Recently there have been several decisions by National Labor Relations Board judges declaring quality circles to be unfair labor practices on the grounds that management is attempting to influence the way work is performed. Study clubs are an excellent example of quality circles in dentistry.

Communities of Practice: Professionals such as attorneys, engineers, or ministers, experience vigorous training which usually includes apprenticeship. This creates a common approach to work, standards for quality, and even ethical codes that such professionals take with them regardless of the work setting. A periodon-

tist in the Army will look more like another periodontist than like another Army officer.

Communities of practice have a sometimes paradoxical approach to communication. They prefer to talk with others who are doing the same part of a job at another location than with those who are working on different parts of the same job within their own organization. There is a norm within such communities for the free sharing of information among colleagues. A business professor will compete for the opportunity to present a short paper based on thousands of pieces of evidence and hope for a half filled room of his or her colleagues. The same professor acting as a consultant to a firm, would be sued for revealing one scrap of information, such

*B*ureaucracies are becoming unviable as a general organizing principle for work groups.

as the profit margin on a particular product. As a community of practice, dentistry is struggling with this problem. We do not know which information to give away or how much to charge for it. Dental educators ring their hands because students stay away from lectures by outstanding faculty members in orthodontics, for example, but several years later they will pay exorbitant fees to hear the same or perhaps less credible information.

Committees: Committees are relatively permanent, representative groups concerned with the maintenance functions within an organization. Almost without exception, committees are charged not to do any productive work but rather to set the policy, make the sticky decisions by spreading blame, provide a forum for hearing alternatives, and tinkering with

organizational structure. All of these activities help organizations to be more productive. Membership on standing committees is usually representational. That is, members are elected or appointed from various groups within the organization in order to insure a balance among the voices heard. Some members are *ex officio* which means by virtue of their office—whoever fills that position in the organization is automatically on the committee. The maintenance function and the representative membership of committees establishes conditions that lead to posturing, compromise, inclusiveness rather than incisiveness, and formality that may not well suit the daily operation of the organization. All of the jokes about camels being horses designed by committees and committee's notorious waste of time are deserved; that is the way committees are designed—they are not meant to be efficient or productive, but to adjust policy and group interests within the organization.

Project Teams: Sometimes groups are brought together to address a specific issue which has a clear beginning and a clear end. This is called a project, and project teams are staffed specifically to complete assigned projects. The team exists only long enough to move the project from concept to plan or only long enough to implement the plan. (It is unusual for a project team to handle both the concept development and its implementation and the "hand-off" between project teams is an important consideration.) Projects are non-reoccurring activities, although some, such as building a new facility, may last for several years. Sometimes project teams are called *ad hoc* committees.

As our society becomes more complex and rigid structures unresponsive to the environment are more expensive, project teams are gaining in popularity. In fact some writers are urging professionals and those in management positions to view their careers as a portfolio of overlapping projects which they manage,



rather than looking to the organization for career development.

Collaborative Teams: Collaborative work groups are brought together for the sake of creativity. They differ from project teams in that no clear objective can be articulated and thus no reasonable timetable established. They are problem-driven and usually involve brutal candor. Some of the most famous collabora-

Mentor/protégé: When Ulysses went to fight the war in Troy he left his son with a trusted older family friend who would see to his education and general development. The name of the friend was Mentor. The mentor/protégé relationship is a mutual exchange where the former provides guidance, specific tips and skills, and opens opportunities for the latter, who gives the mentor status and prestige,

accident and New Years revelers in Time Square know their cue is the moment the large ball reaches the bottom. In most crowd behavior, the precipitating events are carefully orchestrated; the arrival of the president, the unveiling of the new product, or the announcement of certain votes. The paradox of the crowd is that large emotional displays are triggered by procedural detail. Much of convention politics falls into this category; or consider the umpire making a unpopular call on the home team during the world series.

Social Groups: People join together in social groups to satisfy their own needs, particularly for belonging and status. Although service organizations and alumni groups might also have goals pointing outside the group, most decisions are made based on satisfying members' needs or in response to what the public might think of the organization. They are often rich in tradition and ritual; they have more officers than they need. Professional honorary associations are of this type.

Dominant Coalitions: This and the next two are examples of leadership groups within working organizations. The dominant coalition is a loose collection of individuals whose personal agendas determine the agenda for the organization. Usually the dominant coalition is a subset of the formal power structure, augmented by an "up-and-comer," a trusted advisor, a past officer twice removed, or even someone outside the organization. This group acts informally and provides a valuable service for the organization as a whole because it develops and tests alternate scenarios for the future in a low risk, high expertise environment.

Cabals: A cabal is a formal advisory group to an individual who has the power to run an organization without the use of a board or other governing body. The cabinet is a cabal for the President of the United States in his capacity as chief executive officer. Although membership in the cabal is formal and is known to everyone, the deliberations of such a group are often unavailable to the

A *s communities of practice we do not know which information to give away or how much to charge for it.*

tions—Gilbert and Sullivan, Crick and Watson, Rogers and Hammerstein—were tumultuous and involved individuals of vastly different temperaments. Sometimes a team, a quality circle, a standing committee, or a project team might be called upon to function in a collaborative way. This is rarely successful since these groups lack both essential resources such as a public group memory that can be easily manipulated and a tradition of candid critique. Collaborative groups are also unusual among the professions (excluding academics for the present). Creativity is not as highly prized among professionals as are predictable results. No one, for example, applauds the creative landing of a 747 or an open heart surgery that was accomplished in an unconventional fashion.

Network: Networks are connections of contacts and opportunities. Each person is the center of his or her personal network, where each connection represents a transfer of information rather than productive work in the physical sense. Networks have almost no entry or exit costs or membership requirements, but they do have an etiquette of expecting everyone to give a little in kind for what they get and protocol such as respecting confidential sources, asking permission, and not chatting over long on ListServes.

an opportunity to further some of the mentor's ideas, and occasionally a youthful spark. Usually these relationships form spontaneously, although there are some large organizations which have experimented with formal mentoring programs. The relationships work best within a community of practice, such as research or the legal profession. Mentor/protégé relationships have distinct phases and seldom last more than a few years. They are not universally beneficial for the protégé, as in the case of over dependence on a mentor or where a mentor loses favor within an organization, thus ending the career opportunities of the protégé as well. Some associate arrangements in dentistry involve mentoring.

Crowds: A crowd is a group with very large numbers and a very short duration, usually hours or days. Examples of crowds include the annual sales meeting for Amway, spectators at a sports event, political conventions, and meetings of houses of delegates. The purpose of a crowd is to facilitate expression of unusually strong feelings or decisive actions that cannot be comfortably handled on an individual basis. The maintenance function of crowds is organized around rhetorical language and symbols which appeal to latent emotions and precipitating events. Racial unrest may erupt into a riot over an incident so small as a traffic



public or the membership and there is no mechanism of accountability. The term is ancient, but it acquired a faint odor of disrespect in the time of Charles II in seventeenth century England. His Privy Council contained five members whose names were Clifford, Arlington, Buckingham, Ashley, and Lauderdale.

Boards: Boards of directors, trustees, regents, and so forth are legal entities which both formally guide and are empowered to distribute the assets of large organizations. Collectively they are empowered to speak for and act on behalf of the organization. Because of the power they possess and because of the access they have to information, boards have a fiduciary responsibility and may be sued, collectively and individually, for their actions as board members.

Reference Groups: Sometimes called norm groups or peer groups, reference groups provide the standard of comparison we use to determine whether we are doing well or not. The reference group may include other dental practices in our geographic area, other members of the country club, and a few high school friends we have stayed in touch with. We don't usually interact with reference groups, except occasionally to pump them for information, and they are often poorly defined. Sometimes they are com-

charge, the job descriptions, the procedure manual, and any other formal document about how a group is supposed to work are only approximations. The real rules are contained in the group's norms and its roles.

Norms: A norm is the behavior expected by a group from anyone who wishes to be a group member. Being a dentist, having expertise in a particular area, or having been appointed chairman are not norms—they do not describe the way individuals behave. Forms of address and deference, attendance patterns, level of commitment and contribution, what one wears, which topics can be discussed, and a vast number of other subtle behavioral patterns are monitored by group members to determine who is participating appropriately and who is not. Norms are almost never written and the most common way of discovering that one has violated a norm is to recognize that sanctions, such as uncomfortable looks or even having a comment ignored, are being imposed by the group. Management can write any rules it wishes or reward and punish any behavior it chooses, but if this comes in conflict with the norms of a group, at least passive resistance can be expected. No brilliant idea, regardless of how articulate the presenter, is likely to be accepted by a

cising a role, sanctions will be encountered if one customizes too much. Second, it is the group that defines the expected behavior and not the person who fills the role. Election or selection into a role within a group is usually determined by the group's perception that the individual is willing and capable of behaving in a way consistent with their expectations for that role.

Roles are no cake walk. In fact, they are the source of considerable stress within organizations. There are three

A norm is the behavior expected by a group from anyone who wishes to be a group member.

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posites of the best or worst characteristics from selected groups and sometimes they are largely fictitious. Reference groups seldom meet the task criterion of working together for a common purpose, but they do meet the maintenance criterion of satisfying members' needs in terms of identity.

Norms and Roles

To understand how groups function it is necessary to know their rules. The first thing to realize is that the committee

group if its norms are questioned in the process.

Roles: A role is the behavior of any individual who accepts a position that the group defines. Group leaders are expected to behave a certain way, so are spokespersons, worker bees, those who record the groups' history, those who do the groups' dirty work and clean up, etc. It is important to realize two things about roles. First, they apply to the position and not the person. Whereas a certain degree of latitude is allowed in exer-

types of conflict associated with roles. In the first conflict, the role is ambiguous: its boundaries are not clear, different members of the groups have diverging views on what is appropriate, and inconsistent behavior seems to be called for. CEOs who are brought in to clean up ailing companies frequently encounter this kind of difficulty. They are told "be decisive; but not too harsh." The extent of their authority is ill-defined. A second type of role conflict comes from the fact that individuals occupy multiple roles because they are in multiple groups. Conflict of interest policies are in place to protect attorneys from representing clients with antagonistic interests, faculty members from teaching and grading their own children, and board members from using insider trading information. The third kind of role conflict arises between the roles one plays in a group and one's own character. It is not that unusual for individuals to find themselves faced with doing something personally objectionable because of their position within a group. Many ethics issues are role conflict of this third type. A physician, for example with conscientious objections may be asked to remove a patient from



life support. Drama, from sitcoms to grand opera, is little more than working out the details of the three types of role conflict just enumerated.

A Story

Once I served as a consultant to the board of trustees for one of the specialty groups in dentistry. My task was to advise the board on ways to improve their examinations for candidates for diplomate status. I spent three days with the board observing their procedures, discussing their objectives, and accompany-

ing them at breakfast, lunch, and dinner. This group of about eight individuals was a team, a quality circle, a committee, a board, and perhaps above all else a social group. Every spare minute was filled with story telling, and high status went to those with the best jokes. The competition was fierce.

I soon learned that I was the second consultant in as many years to be asked to consider their evaluation problem. Just to protect myself, I asked for a copy of the previous consultant's report. To my amazement, he had said almost every-

thing I intended to say in my own report. Being ill at ease, I engaged the Executive Director in a private conversation, mostly about the qualifications of the previous consultant. The information I received went something like this. "Oh, I suppose he was a bright enough fellow, but he didn't really understand his job. He was always joking around, and didn't seem to take this thing seriously." I had heard enough. I never told a joke, I laughed when appropriate, and I submitted my report. Mine was very well received.

Editor's Note

Summaries are available for the four recommended readings preceded by an asterisk (). Each is about five pages long and conveys both the tone and content of the book 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 Office in Gaithersburg. A donation to the ACD Foundation of \$15 is suggested for the set of summaries on competition; a donation of \$50 would bring you summaries of all the 1998 leadership topics.*



Recommended Reading

* *Belasco, J.A., and Stayer, R.C. (1993). Flight of the buffalo: Soaring to excellence, learning to let employees lead. New York, NY: Warner Books.*

A best-selling popularization of the notion that managers fail precisely because they assume they must be the experts on everything their employees do when all they really need to be good at is setting up circumstances where employees can excel. An easy read and quite motivational.

Berne, E. (1963). The structure and dynamics of organizations and groups. New York, NY: Ballantine Books.

The author of *Games People Play* works out the theory that there are only three roles—parent, adult, and child—in the context of organizations and groups.

Brown, R. (1965). Social psychology. New York, NY: The Free Press.

An excellent example of the way social psychologists view groups. Technical, of course since the book was written as a college text, but very strong, even frightening discussion of crowd behavior. Long, pedantic, but effective chapter on the development of moral behavior is a bonus.

Feldman, D.C. (1984). The development and enforcement of group norms. Academy of Management Review, 9, 47-53.

Four ways groups develop standards for how their members are expected to behave and four ways groups enforce these norms.

* *Fisher, K. (1993). Leading self-directed work teams: A guide to developing new team leadership skills. New York, NY: McGraw-Hill.*

Your basic introduction to empowerment, employee responsibility for their work, coaching styles of management, and such buzz words of the early '90s.

* *Katzenbach, J. R., and Smith, D.K. (1993). The Wisdom of Teams: Creating the High-Performance Organization. New York, NY: Harper Business.*

The book discusses the contexts in which teams are most effective, characteristics of effective (and not so effective) teams and the traditional alternative—the work group—the difficulty of using teams at the top, and some things executives can do to promote team effectiveness. The book stresses that teams work best in well-run organizations—[hardly a useful revelation!]

Hampton, D.R., Summer, C.E., and Webber, R.A. (1987). Organizational behavior and the practice of management. Glenview, IL: Scott Foresman and Company.

A management approach to the topic of groups. Organizational behavior is the discipline in management devoted to this topic. Related topics include the development of groups, organizational culture, conflict management, and change.

Miller, G.R., and Steinberg, M. (1975). Between people: A new analysis of interpersonal communication. Palo Alto, CA: Science Research Associates.

Typical treatment of groups from the communication perspective. The maintenance function is well covered in topics such as handling emotions, conflict, and reciprocal relationships.

Patton, B.R., and Giffin, K. Decision-making group interaction. New York, NY: Harper & Row.

Group formation, purposes, and dynamics are presented, along with a thorough treatment of how groups make decisions, where they surpass individual decision makers, and how to make them more effective.

* *Schrage, M. (1989). No more teams! Mastering the dynamics of creative collaboration. New York, NY: Doubleday Currency.*

The thesis of this journalist's work is that teams promote conformity at a time in American organizations when creativity is needed. A blend of polemic, rich illustrations of collaborative teams, and an analysis of the requirements for making groups creative.

How to Write a Research Paper

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

Abstract

This paper contains practical suggestions for developing finished research in science and health fields into publishable manuscripts. Although the classic outline of introduction, methods, results, discussion, and conclusion is used, it is shown how a different order of composition is more effective. Each section is discussed from the perspective of the potential reader and basic questions are posed so that an effective paper would result from answering these questions. Suggestions are also offered for preparing tables and figures, handling references, and doing rewrites.

The purpose of a research paper is to present the results of a disciplined comparison of data with theory and thereby advance the cumulative knowledge in a field. This paper assumes that the literature has been reviewed and a carefully constructed research design was used to gather data and that meaningful results emerged when the data were analyzed appropriately. It is now time to communicate this work.

Select the Appropriate Journal

You want to communicate your results to those who can most use the information. Usually this will be in a jour-

nal you already read regularly. If you feel there may be other journals that regularly publish articles on the topic or on the subjects or methods you used, head for the library. Read several issues of any potentially appropriate journal to absorb the style and scan several years for content. Photocopy the "instructions for authors" pages of the journal you have chosen to pursue. These instructions are usually printed once a year, in the last issue of the journal each year. Make one copy for yourself, one for whoever will be doing the typing, and one for each of your co-authors.

Outlining the Manuscript

There is no need to outline a research paper. All manuscripts follow the same structure: (a) Title, authors, communication, and acknowledgments, (b) abstract, (c) introduction and statement of the problem, (d) methods, (e) results, (f) discussion, (g) conclusion, (h) references, and (i) tables and figures. The trick is to realize that the manuscript should not be prepared in the same order that it will be printed. The following order is recommended for preparing a research manuscript: (a) tables and figures, (b) introduction, (c) methods, (d) results, (e) discussion, (f) abstract, (h) references, (i) title, acknowledgments, etc.

Start with the Results

A research article is centered in the analyzed and organized data—that is where the writing should begin. Create tables that present the numbers and fig-

ures that display the relationships that matter most. In the old days, it was easy to distinguish between tables and figures. Tables could be produced on a typewriter; figures had to be photographed. With computers, this distinction is becoming blurred, but the contrast still holds generally that tables present data numerically while figures present them visually. Figures also show equipment, examples of results, and schematic relationship—an overview of the experimental design, for example.

The first table to create *describes* the characteristics of the samples. What do you know about the samples that might be related to the results you achieved? Such tables help the reader orient toward your study and allow them to estimate which other groups the results might generalize to. If the study is of very simple design, such a table might not be reported; but it should always be made for your use at least.

The next set of tables *describes* the results. In some literatures it is expected that the means, standard deviations, and intercorrelations of all dependent variables will be reported. It is also appropriate to report the reliability of any measurement methods used.

The final group of tables shows the *inferences* you are making from the results. These tables are crafted to show relationships, the tests of hypotheses. The arrangement of data is dictated by the research design, with, for example, results of control and experimental samples grouped separately. Often, the number

How to Write a Research Paper

of hypotheses will match the number of such tables. Figures can then be made from the most important of these tables to highlight visually the patterns in the results.

As a practical matter, the descriptive and inferential tables can often be combined, but it is wise to approach their development in the order presented above. Use the style of the journal you have selected as a guide to the number of tables and figure to prepare.

Each table or figure should be prepared on a separate page and given a tentative number. The title of each should mention the problem and the point which is being illustrated (five or six words is too brief, more than two dozen is too many). Each variable should be described in a footnote to the table, especially if they are abbreviated in column headings. The results of statistical tests can often be coded with symbols (* = $p < .05$; ** = $p < .01$; etc.) next to columns of numbers, making certain that the meaning of these symbols is also explained in a footnote.

Introduction

The introduction must answer the reader's question "Why should I read this?" The introduction must create a question of the form "Based on what we know from previous science and practice it is not absolutely clear which course of action to take; but the right kind of data would help make choices clearer — I collected such data; wouldn't you like to know what the data suggest?" The first paragraph of the introduction should frame such a question; unambiguously delineating the alternatives and showing how people might respond differently depending on the results of the study.

The research project must be grounded in literature and practice. Science is a collaborative and cumulative enterprise. The value of otherwise sound research can be marred if its connections with community practice is not apparent. (One who gets interesting results but can't tie them to the body of knowledge

or practice in a field is called an "empiric"; not a nice thing to say of anyone.)

The relevant literature should be summarized. The objective of the summary is to show that there is a question that fresh data might clarify. Sometimes the references are to theoretical issues (problem-based learning promotes reflection); sometimes to practice (curricula have little place for reflection). Literature reviews are unnecessary in research articles. All the reader needs is a compelling stem for a question that the data might answer.

The introduction section is one of two places in a research article the reader expects to see references (the other being the discussion section). References should be included to the general literature, related disciplines, whenever a specific claim of a factual nature is made, and when alternative views are presented.

The introduction section closes with a single sentence statement of the research objective. This might be a hypothesis, or set of them. The general requirement for the objective is a challenge that data of a certain kind will advance our understanding of a theoretical or practical question. The research objective should also be rephrased as a question and placed as the first sentence of the manuscript.

Methods

The methods section explains the nature of the data. Readers want to know enough about where the data came from, how they were captured, and how they may be effected by any experimental intervention used to answer two questions: (a) are the author's conclusions reasonable or could they be explained by alternative hypotheses?—the question of internal validity; and (b) are the author's conclusions applicable in other similar contexts such as those the reader faces?—the question of external validity or generalizability. Anything about the data that is reasonably useful to answering these questions should be included in the methods section.

The study should be situated in context. What type of setting was involved? Are there any environmental influences on the data? The purpose for which the data were gathered may make a difference. For example, tightly controlled experimental designs may not be generalizable to naturally occurring situations.

The subjects must be described. Any characteristic that might reasonably affect the interpretation of the results should be mentioned. Whether students are left-handed matters little when reporting National Board scores; but it may be material in a study of four-handed dentistry. A sound practice is to define the population (the group of subjects that might have been included in the study) and the selection method for drawing the sample from that population. It is also helpful to identify the unit of analysis and any relationship that might exist among these measures. For example, alternative methods of home care instruction might be given to patients in various offices. Is the unit of analysis some average score across patients in each office or is it individual patients? Is more than one site being sampled in each patient's mouth?

Some research studies draw conclusions from naturally occurring groups; others introduce an intervention into part of a group to see what difference this intervention makes. When there is an intervention, it must be described in sufficient detail for the reader to understand what was done. Normally it is also appropriate in these cases to present test comparisons showing that the groups exposed to the intervention were no different from those not exposed *before* the outcome variable were collected. Some literatures (such as business) follow the practice of performing tests to show that the intervention was actually effectively applied. For example, if a drug were tested to show an effect of stress on blood pressure, the experimenter would be expected to show that patients actually perceived that they were stressed.

Methods of data capture should be described. What instruments were used? How and under which circumstances were the data collected? The type and range of the data should be described. Are the data numeric, comparative, categories? Was there any editing; any manipulations? Where known, connections among data should be mentioned. This is especially important where multiple measures are taken from the same source, as when a subject serves as his or her own control or when there are repeated measures or multiple measures from the same subjects.

Results

The tables and figures have already been produced. The results sections is essentially a "walking tour" in words of these tables and figures. Start with the descriptive data and the measures of reliability. Move on to describe the results as expressed in dependent variables, beginning with the univariate comparisons and moving through multivariate and then interaction effects. Although you can reference the results to the hypotheses, do not interpret the results—either in terms of how important they might be, how they related to other findings, or what policy might be based on them (that is for the discussion section). Unexpected results and incidental findings may also be presented; but they are last.

Discussion

The discussion section is an analytic synthesis of the introduction and the results sections. It is the other section where references to the literature are found. The first sentence in this section should be a single-sentence reformulation of the statement of the issue. Rephrase the final sentence of the introduction section—that was the challenge your data were supposed to illuminate. (Let's be honest, many readers start their reading of research articles at this point and you want to give them the best start possible.)

The discussion section answers two questions (a) "How do the data amplify our understanding of the issue posed in

the introduction?" Do they confirm one or another theory or practice, deepen our interpretation, call for a reformulation of the problem? (b) The second question is reciprocal, "How does theory clarify our understanding of the data?" What results make better sense in various theoretical contexts? Generally, the relationship between theory and data is not complete and exact, and it is in attempting to reconcile the discrepancies, gaps, and imprecise fits, that true scientific insight can be demonstrated. That's why we do research—to see what new things can be revealed by holding up data against theory. The discussion section is where this creativity is demonstrated. There are usually several reasonable interpretations; but obviously conclusions that cannot be justified are a serious flaw. The most general conclusion and the one that pushes the field forward should be offered as a one-paragraph summary of the discussion section and is placed at the end.

Conclusion

Occasionally this section is omitted; often it is a two or three paragraph recapitulation of the high points of the article. Many authors use the conclusion to call for further research in the field (a sure sign that they have some grant applications under review or that their thesis advisor has other students working in the area). Occasionally, authors will use the conclusion to recommend policy action that is supported by the research. This is especially characteristics of survey research or other papers where the author is really reporting data with a view of justifying a predetermined policy. If the final paragraph of the discussion section is written along the lines suggested in the previous paragraph, it serves very well as a conclusion—either with or without a separate heading.

Abstract

Now it is time to write the first words the reader is likely to read, either with the journal in hand or when doing an on-line bibliographic search—the abstract. The way to write a good abstract is to write a good paper and then extract key sen-

tences from it. The target length of the abstract can be determined by looking at articles in the journal you have selected; some journals have templates requiring entries in predetermined areas. Generally fifty to seventy-five words is appropriate. Aim for a single sentence on each of the following topics: (a) copy the statement of study objective (end of the introduction), (b) why does the study matter, with reference to the literature? (c) what is the context and who are the subjects? (d) if there was an intervention, describe it, (e) what data were captured? (f) copy the topic sentence in the last paragraph of the discussion section.

References

Most text books advocate working out the references before writing an article; some imply that this should be done as one works on the introduction and discussion sections. I feel this is too soon—it should be done *after* the article has been written. Here are my reasons. A research article is not intended as a review of the literature or a demonstration that the author has read the literature. If the references are at hand, there is a temptation to write around the topic so they can be included. The references direct the interested reader to entry points in the literature. The rule is: reference any statement where a keen reader would ask "how does the author know that?" These points tend to be claims that are not universally known to a normally informed reader and theoretical perspectives. The reader's perspective can best be captured when reading a draft of the finished article. Finally, there is the practical matter that working with references gets in the way of the smooth development of ideas.

There are three major approaches to citing the literature. (a) Some law and sociology journals, as well as many of the humanities place references among the footnotes at the bottom of each page. (b) The most common practice in the science and health literature is to make citations in the text with superscripted numbers and arrange the references in the order of these citations. (c) Business,

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psychology, education, and a growing number of science and health journals arrange the references in alphabetical order and use the authors' names and year of publication as the citation in the text.

Obviously, the style used will depend on the journal you wish to send your manuscript to. Consult the "instructions for authors" sheet. Regardless of the ultimate format, however, there is a case to be made for using the so-called APA (American Psychological Association) style of alphabetical listing of references and citation by author name and year of publication. It is easier to move text and add references in this format; the final draft can be readily converted to other styles. (Some authors claim that footnote features of word processors allow authors to avoid some of these problems. That is true for the authors but not editors who generally detest footnoted format and in some cases refuse to accept manuscripts with this feature.)

Rewrites

A writer who has followed the steps above has a first draft of a research manuscript that should address the basic requirements and, if grounded in the literature and based on a good research design and data collection and analysis, should make a worthy contribution to the literature. Four more drafts (and oc-

casional iterations within them) are needed prior to publication. The first rewrite should be done by the author and accomplished from the point of view of potential readers. Set the manuscript aside for a few days; read some in the journal to which you intend to submit the manuscript; and, just before rewriting, reread the "instructions to authors." This rewrite is to make the manuscript meaningful to readers. Imagine yourself in their minds, ask "why?" and "how do you know that?" often. Cut anything you put in to make yourself appear knowledgeable that doesn't directly relate to the point of the article. If you find yourself having to go along way 'round to explain a point, there is a good chance that this material should be removed and used as the basis for another article.

The second rewrite should be done by your coauthors and collaborators. They also need copies of the "instructions to authors" and the rewrite might be done in a group setting. Of course, this step is skipped if there are no collaborators. The third rewrite is done in response to the critique of colleagues who are representative of potential readers but who have not been involved in the research. This can be a senior colleague in your institution or those at other institutions. Try to pick the kinds

of individual whom the editor of the journal you have in mind might pick. Take their feedback seriously and respond appropriately.

Follow all directions in the "instructions to authors" in submitting your manuscript and wait for the reviews. Most papers accepted for publication involve requests for both general rewrites and specific changes. That is the job of the reviewers and the editors; consider them as serious attempts to improve your paper and the literature generally. The most common practice is for the editor to return a copy of your manuscript with marginal notes and a summary of the reviewers' suggestions. Sometimes, the reviewers' comments are included as well. It is expected that you will rewrite the manuscript in response to this feedback. A practical problem for editors is seeing the differences between the original submission and the revision. A useful way around this is to prepare an "editor's rewrite" on the computer showing the changes you have made. Deletions are indicated with strike-throughs, additions are underscored or shown in bold, and commentary is indicated in italics. The "editor's rewrite" is printed on hardcopy. Then all strike-throughs and italics are removed and the underscore or bold is converted to regular text. This clean version of the manuscript is submitted on disk.

Elements of Style for the *Journal of the American College of Dentists*

References

List all references in alphabetical order by first author, or in the case of more than one reference by the same author(s), from the one with the oldest publication date to the most recent. Following the name of the author or authors, the year of publication is shown in parentheses, followed by a period. Next appears the title of the publication. For journal articles, the title is followed by the name of the journal, the volume (and sometimes the number or month), and the pages. Books and reports are followed by the city of publication and the name of the publisher.

Authors

Full last name, [space] initials followed by periods without spaces and then a comma, [space], & before the last name, even if there are only two of them.

Palincsar, A.S., Stevens, D.D., Jr., & Lipson, M. Y-P. (1989). Informed strategies for learning: A program to improve children's reading awareness and comprehension. *Journal of Educational Psychology*, 76, 1239-1252.

Committees, commissions, or associations are listed as authors, with no period following them.

Commission on Dental Accreditation (1996). Accreditation standards for dental education program. Chicago, IL: American Dental Association.

Editors, translators, etc. show with abbreviation (Ed.), (Trans), etc. after initials of last named individual.

Rogoff, B., & Lave, J. (Eds.) (1984). *Everyday cognition: Its development in social context*. Cambridge, MA: Harvard University Press.

Year

Year of publication shown in parentheses. Where more than one publication by the same author(s) appeared in a single year, assign lower-case letters by alphabetical order of the titles.

American Dental Association, Department of Educational Surveys (1993a). *Dental School Trend Analysis*. Chicago, IL: The Association.

American Dental Association, Department of Educational Surveys (1993b). *Survey of Dental Educators*. Chicago, IL: The Association.

Journal Article or Report

Non-italics, upper case for first word of title, and subtitle if so published and for proper nouns; otherwise lower case throughout.

Editorials, letters, reviews, etc. indicated with appropriate designation in square brackets following the title.

Name of journal printed in full, in italics, the first letter of each word (other than articles and conjunctions) in upper case [comma]

Volume and number or month in parentheses is used if pages are numbered from 1 in each number within a volume; report volume only if pages are numbered consecutively through a volume. Volume is shown in italics; number, if any, not in italics.

Page numbers shown inclusive and in full.

Chambers, D.W. (1995). A profession starved for policy [editorial]. *Journal of the American College of Dentists*, 62, (1), 2-4.

Report titles shown as journal articles, but city and publisher shown as for books.

Books

Titles shown in italics, upper case for first word of title, and subtitle if so published and for proper nouns; otherwise lower case throughout.

City and state of publication, separated by a comma and using postal two-letter state code, followed by a colon: name of publisher. (If publisher is the same as the author, as in the case of many association reports, the phrase "The Association" can be substituted for the name of the publisher.)

Toffler, A. *Power shift: Knowledge, wealth, and violence at the edge of the 21st century*. New York, NY: Bantam Books.

How to Write a Research Paper

Chapters Within a Book and Papers at Conferences

Book chapters same for author(s), year of publication, and title; followed by "In" editors of book, with initial of first and middle names preceding last names and designation (Ed.) or (Eds.) following editors; title and publication of book shown as usual. Pages of chapter shown following title of book within parentheses.

Lysynchuk, L. (1984). Expectations and what people learn from failure. In N.T. Feather (Ed.), *Expectations and actions: Expectancy-value models in psychology* (pp. 207-240). Hillsdale, NJ: Erlbaum.

Papers cited as journal articles, except for phrase to the effect "Paper presented at the annual meeting of [organization], [location of meeting]."

Citation of References in Text

References are cited in the text by the name or names of the authors (without initials, unless needed to distinguish between different authors with the same last name) and the year of publication of the reference. The citation is preceded by a space and follows closing quotation marks but precedes punctuation. It is

normally enclosed with parentheses. Multiple citations listed in alphabetical order and separated by semicolons with no other punctuation.

... here are several educational references (Lysynchuk, 1984; Palincsar, Stevens, & Lipson 1989; Rogoff & Lave, 1984).

Where the meaning is clear from the text, a citation can be made with just the year of publication in parentheses in association with the author.

Lysynchuk's (1994) pioneering work in reading ...

When six or more authors are listed on a publication, the citation only (not the reference) can be shortened using first author and the term et al (not in italics)

(Rogers et al, 1996)

Reference to a page where a quotation is found is made by adding the page number in the usual citation.

... occurs in unusual cases" (Boyle & Finner, 1992, p. 258).

Submitting a Manuscript

A single copy of the manuscript accompanied by a disk version of the paper and a single copy of any figures are all that is necessary. The names of the author and coauthors and their institutional affiliations and addresses and the fax number and e-mail address of the primary author should appear on a separate page that will not be sent to reviewers.

Authors are discouraged from using advanced features on word processing programs. Superscripts should be avoided except where they are parts of conventional statistics. Boxes, inserts, and bullets, etc. will normally be lost in conversion. Manuscripts citing references using a footnote convention will not be accepted for review.

Please scan any disks sent through the mail for viruses before mailing them. The preferred formats are Word 2.0 and WordPerfect 6.0—higher versions tempt authors or their secretaries to use features that are lost in conversion, often creating difficulties in type setting.

The Manuscript Referee Process

Eight unsolicited manuscripts were considered for possible publication in the *Journal of the American College of Dentists* during 1997. Six were accepted for a publication acceptance rate of 75%. One of the manuscripts accepted was rewritten and published as two papers.

Thirty-four reviews were received for the eight manuscripts considered (4.1 reviews per manuscript). Seventy-six percent of the reviews were consistent with the editor's decision regarding publication. Cramer's V statistic, a measure of consistency of ratings, was .582 (with 0.0 representing random agreement and 1.0 representing perfect concordance). There is no way of comparing the consistency of the reviews for this journal with agreement among other reviewers because it is not customary for others to report these statistics. The College feels that authors are entitled to know the consistency of the review process.

Special appreciation is expressed to Dr. Walter Guralnick of the Harvard School of Dental Medicine for his assistance in assembling the papers in the theme issue on financing oral health care. The College thanks the following professionals for their contribution to the dental literature as reviewers for the *Journal of the American College of Dentists* during 1997.

Kathy Atchison, DDS
Los Angeles, CA

Robert C. Baker, DMD, FACD
Winnipeg, MAN

Ron Botto, PhD
Alton, IL

John Brouder
Boston, MA

Gerald L. Cogan, DMD
Beaverton, OR

Neal A. Demby, DDS
Brooklyn, NY

Steven I. Gold, DDS, FACD
New York, NY

Jack Hadley, DDS, FACD
San Francisco, CA

Thomas K. Hasagawa, Jr, DDS, FACD
Dallas, TX

William E. Hawkins, DDS, FACD
Phoenix, AZ

Eric Hovland, DDS, FACD
New Orleans, LA

Wyatt R. Hume, DDS, FACD
Los Angeles, CA

Laurence E. Johns, DDS, FACD
Hagerstown, MD

Denise Kassebaum, DDS, MS, FACD
Denver, CO

James E. Kennedy, DDS, MS, FACD
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Robert Kiger, DDS
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Robert E. Mecklenburg, DDS, MPH, FACD
Potomac, MD

Ivar A. Mjör, BSD
Gainesville, FL

John Molinari, PhD
Detroit, MI

John Odom, PhD
Columbus, OH

Larry L. Pace, DDS, FACD
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Jim Palmisano, DDS, FACD
Toms River, NJ

Donald E. Pathoff, Jr., DDS
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James E. Quinn, DDS, MBA
Oklahoma City, OK

Robert T. Ragen, DDS, FACD
Cleveland, MS

Donal Scheidel, DDS
Vermillion, SD

Robert J. Shankle, DDS, FACD
Chapel Hill, NC

L. Don Shumaker, DDS, FACD
Cleveland, OH

Denice Stewart, DDS
Philadelphia, PA

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Alan G. Glaros, David J. Thein

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| <i>The Patient and the Shifting Health-Care Paradigm</i> | Spring 16 |
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