

Journal of the American College of Dentists

Spring 1997
Volume 64
Number 1

Patient Centered Care

The background features a large, faint, circular seal of the American College of Dentists. The seal contains the text "COLLEGE OF DENTISTS" and "CURANDORUM HUMANITATIS CAUSA". In the center of the seal is a shield with a caduceus (a staff with two snakes) and a banner with the Latin motto "PROFESSIONEM INQUIRERE VERITATEM". The seal is partially obscured by the text and lines on the cover.

Journal of the American College of Dentists

A Publication Presenting
Ideas, Advancements and
Opinions in Dentistry

The *Journal of the American College of Dentists* (ISSN 0002-7979) is published quarterly by the American College of Dentists, Inc., 839 Quince Orchard Blvd., Suite J, Gaithersburg, MD 20878-1614. Periodicals postage paid at Gaithersburg, MD and at additional mailing office. Copyright 1997 by the American College of Dentists, Inc.

Postmaster: Send address changes to:
Journal of the American College of Dentists
Managing Editor
839 Quince Orchard Blvd., Suite J
Gaithersburg, MD 20878-1614.

The 1997 subscription rate for members of the American College of Dentists is \$30 included in the annual membership dues. The 1997 subscription rate for nonmembers in the U.S., Canada and Mexico is \$40. All other countries are \$50. Foreign optional air mail service is an additional \$10. Single copy orders: \$10.

All claims for undelivered/not received issues must be made within 90 (ninety) days. If claim is made after this time period, it will not be honored.

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For bibliographic references, the *Journal* is abbreviated *J Am Coll Dent* and should be followed by the year, volume, number, and page. The reference for this issue is *J Am Coll Dent* 1997;64(1):1-44.



Publication Member
of the American Association
of Dental Editors

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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Patient Centered Care

- 6 Patient-Centered Care and Today's Dental Practice
.....Kenneth L. Kalkwarf, DDS, MS, FACD
- 9 Consumer Satisfaction with Dental Care: Where Have We Been, Where Are We Going?
.....Gerry Kress, PhD; Jay D. Shulman, DMD, MA, MSPH
- 16 The Patient and the Shifting Health-Care Paradigm
.....Henrietta L. Logan, PhD

Manuscripts

- 20 Career Changers: Dentists Who Choose to Leave Private Practice
..... Christopher D. Rice, DDS, MA; William J. Hayden, DDS, MPH; Alan G. Glaros, PhD; David J. Thein, DDS, MSD
- 27 Dentists' HIV-Related Ethicality: An Empirical Test
..... Donald Sadowsky, DDS; Carol Kunzel, PhD
- 30 Design of a Compensation System for Dental Practice
..... James P. Scheetz, PhD; David O. Willis, DMD, MBA

Departments

- 2 *From the Editor* You Can't Argue With Success
- 4 *Letters* Fellows and Readers React
- 19 *Agencies* CheckUp
- 38 *History* Sealed with a Scarab: The ACD's Official Emblem Traces Its Heritage to Ancient Egypt
- 40 *Leadership* Holes In Our Heads - - WNL

FROM THE EDITOR

You Can't Argue With Success

It is one of the great success stories of the last half of this century. American and Canadian dentistry is the envy of the world. DMF among children has been cut almost in half; edentulism has been reduced by more than half. Orthodontics and cosmetic dentistry are being demanded by three, four, and more times as many patients as only a few decades ago. The number of treatment alternatives available to patients continues to expand. All of this is being made available to the public for costs that are rising more slowly than the cost of living in general. At the same time, dentistry is viewed by young people as a challenging and desirable profession, and dentists are held in high esteem by the public.

A system has been created that works — it works astoundingly well! Computers, the airline industry, and only a handful of other services available to the public could claim to offer such value.

And yet there is a shadow across the furrowed collective brow of the profession. In almost every professional meeting I attend and in many private conversations with dentists I hear the tug of this Janus-faced conversation: "We are successful — we are worried."

I think there is enough truth in this seeming contradiction to caution against choosing celebration or fretting and dismissing the rest. No one can ar-

gue with success, but it certainly doesn't explain very much either. Otherwise the great role models in America would be lottery winners.

There may be three good reasons to be worried in the face of success: we don't understand it so we may not be able to reproduce it consistently, it may fixate us in previously successful habits which are not adaptive to new circumstances, and we are uneasy about who should receive the credit.

My son plays hockey in college, and I watched one of his games recently where a team they had never beaten continued its dominance by a score of eleven to two. A new strategy employed by the opposition with great effect involved the center skating across the ice and passing behind him to a following wing, thus getting a good angle through misdirection. My son, who plays defense, was about the only one who was able to stop this strategy. During the first period he saved a goal when the puck hit him in the leg. Later, he was actually able to intercept the puck cleanly and advance it.

After the game I complimented him on what I thought I was excellent defensive play. To my surprise he said "well the first one was just dumb luck. I was so slow in following the play it hit me in the side of the leg. Later on I knew what to do because I was on the bench so much and could watch. (My son is the only freshman on the team

and does not get a lot of ice time.) The guys who were playing a lot were so intent on following the puck they never could figure it out."

In business this is known as the "Gretsky principle" after the great hockey scorer. The principle says "never skate to where the puck is, always skate to where the puck will be by the time you get there." To accomplish this requires an understanding of the game at a very deep level.

I am not suggesting that dentistry achieved four decades of success by accident like my son stopped the first shot on goal. It does seem, however, that there is not a deep understanding of the forces at play which favor the continued success of the profession. I know this is true because half a dozen readers will write to explain the one obvious key to the success of dentistry I have overlooked — and there will be six answers. David Ozar made this point in the last issue of the journal with respect to ethics. Some might argue that acting ethically is the only test that matters. Ozar said, "Do not rest satisfied that our inarticulate virtues will surely guide us well."

A second reason to be worried about success, especially when it is not well understood, is the fact that success may have been linked to circumstances which are changing. When I first taught in business schools I arranged for one or two highly successful executives to talk with each class. I

stopped doing this because the students were respectful but disinterested. These students were untrained but highly intelligent individuals who recognized that they were being given the keys to success for a time passed. The business environment has changed and what it takes to make it today is noticeably different from success criteria of even a decade ago.

The most dangerous form of hoping for success through previously successful behavior is an aggressive retreat to expertise. Recently I have encountered repeated citations of a quotation by Eric Hoffer: "In a time of drastic change, it is the learners who inherit the future. The learned find themselves equipped to live in a world that no longer exists."

The third problem with serendipitous empiricism — success that is not thoroughly understood and must be defended rather than explained — is the trouble it causes in the family. Success has many parents; failure is forever an orphan. Now we are having custody battles. If success cannot be understood, how do we know who should take credit for it?

My list of contenders as authors for the success of dentistry would include the following (presented in no particular order): recruitment of talented young men and women of character into the profession, aggressive and enlightened organized dentistry, opening of dentistry to a huge number of allied professionals with substantial responsibilities, the infusion of massive amounts

of capital into the business of dentistry through third parties, dental education that has been responsive to work force issues and rapid growth in the scientific foundations of dentistry, a dental industry that works in partnership with the profession to make scientific discoveries available at an affordable cost to both practitioners and the public, and a re-

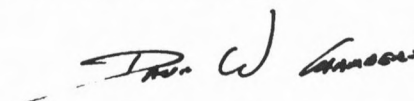
Success has many parents; failure is forever an orphan.

search enterprise that puts more powerful tools in the hands of dentists on a regular basis. It is almost unimaginable that dentistry would be the success it is today if even a single one of these forces had been absent or crippled.

I have one more story to tell about the problems of success that is not understood. It is not really a pretty story. At our dental school we had a student who came to us too soon. He lacked maturity and grounding in the basic sciences. As a result, he struggled through the first two and a half years of his education. He was constantly in front of the student academic performance committee because of his low grades. Faculty worked with him on a one-to-one basis in remedial and tutorial settings because they recognized the effort the student was exerting. This bothered the father, a promi-

nent dentist, immensely because federal guidelines for loan eligibility meant he had to step in to finance his son's education. Gradually the student improved his academic standing, and six months before graduation he achieved a clear and positive grade point average. As soon as his records came across my desk, I went to the clinic to congratulate him — he was thrilled and proud. Several weeks later at an alumni function I saw his father and pushed my way across the room to share the good news again. The father was proud in a different way. He put his arm around me in a knowing manner and said, "Do you want to hear how I did it? During the break I had my son come over to my office and work for two weeks. I know that all it really took was seeing a successful practice in operation."

Of all the dangers of success that are not understood, the most damaging is to steal or mismanage our children's future. Dentistry has been a dramatic success. No one should argue with success; but we should be diligent to understand it so we can share it. That is the only way I know to ensure the success of our children.



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



Letters to the Editor

Dear Dental School Dean:

The American College of Dentists has had an historic interest in ethics and professionalism in dentistry. The need for that concern — the need to broaden awareness and stimulate inquiry — has never been greater than it is today.

Enclosed are 20 copies each of the *Core Values and Aspirational Code of Ethics* of the College and the December issue of the *Journal of the American College of Dentists*. We hope you will share these with your Curriculum Committee, your Faculty Senate, your student body officers, the faculty member responsible for teaching ethics, and your administrative team.

The *Core Values and Aspirational Code of Ethics* is a succinct statement of basic ethical principles commonly accepted throughout the profession and a translation of these into ethical standards that Fellows of the College aspire to live by. This document took two years to develop and was approved by the Board of Regents in the Fall of 1996. Members of the Task Force included: Drs. Richard Bradley (NE), chair, Jack Conley (CA), Robert Ragan, (MS), Charles Kerkhove (IN), James Palmisano (NJ), David Chambers (CA), Robert Mecklenburg (MD), Thomas Hasegawa (TX), John Odom (OH), and Alvin Rosenblum (CA).

The *Journal* contains a history of the ACD and a statement of some the activities we have set for our agenda (in the President-Elect's address) and a

convocation address by Robert Biddington which explains the role the College played in making the teaching of ethics part of the accreditation standards for dental schools.

There is also a position paper developed by the Regents and Officers of the College and written by the Editor, Dr. David Chambers, placing "Dental Managed Care in the Context of Ethics." The featured theme of the issue is a set of papers presenting alternative ethical perspectives on a single case involving managed care. Several faculty members who teach ethics in dental schools have commented that "this one issue of the journal could be the foundation for an entire course in ethics." You have permission to reproduce any article which is of value in creating ethical inquiry at your school.

Sincerely,

Charles V. Farrell, DMD
President

Dear Doctor Chambers:

This is to acknowledge your letter of January 10th as it related to my suggestion that the *Journal* should consider the possibility of an article dealing with the role that dentists have in higher education. It was my impression that neither

the dental profession nor the public at large is aware of the significant roles that dentist have in our health care systems.

As you suggest, I will give my recollection of such positions being held with which I am familiar (almost all of these dentists were also deans of dental schools):

Drs. Joe Volker and C. A. McCallum — Presidents of the University of Alabama at Birmingham

Dr. Edmund Ackell — Vice President of USC and President of Old Dominion University in Virginia

Dr. Lawrence Meskin — Director of Graduate Education at Colorado

Dr. Judd Hickey — Chancellor of the University of Georgia Medical Center

Dr. Maynard Hine — Chancellor of the University of Indiana and Purdue University

Dr. Alvin Morris — Executive Director of the Health Centers of America

Drs. Bowyer and Wallace Mann — Provosts of the University of Louisville

Dr. Allan A. Copping — Vice Chancellor for Health Affairs, Louisiana State University

Dr. Errol Reese — Vice Chancellor for Health Affairs, University of Maryland

Dr. Robert Shira — Provost at Tufts University

Dr. John DiBiaggio — President at Michigan State University, University of Connecticut, and Tufts

Dr. Bernard Machen — Provost at Michigan



Dr. Hamilton Robinson — Chancellor at University of Missouri

Dr. Howard Oaks — Vice Chancellor of Health Affairs, SUNY-Stony Brook

Dr. H. Garland Hershey — Vice Provost, University of North Carolina at Chapel Hill

Dr. William Brown — Vice Chancellor for Health Affairs at Oklahoma University

Dr. Henry J. Van Hassel — Vice President at Oregon Health Sciences Center

Dr. D. Walter Cohen — President, Pennsylvania School of Medicine and Chancellor of Allegheny University

Jose Hernandez-Pavion — President of the University of Puerto Rico

Dr. James B. Edwards — President of the Medical College of South Carolina

Dr. Dominick P. DePaola — President of the Texas A&M University Health Sciences Division

Dr. W. Robert Biddington — Vice Chancellor for Health Affairs at West Virginia University

All of the foregoing information is from my memory. I would imagine that the American Association of Dental Schools would have more detailed information.

With kindest regards,
Sincerely,

Jacob B. Freedland

Dear Sir:

With reference to the Fall 1996 *News & Views*, I was intrigued by your front page statement on ethics that mentioned "It is unethical to participate in managed care programs that require the dentist to knowingly coerce patients." Intrigued only, for I do not understand what it means.

Whatever, too, there needs to be a priority to address contract provider organizations that coerce and intimidate the dentist through discretionary (two-tier) patient benefits. Such benefits, associated with "Preferred Propaganda" also coerce and intimidate patients relative to their selection of a dentist of choice. Is this the intent of the College's Code?

Sincerely,

Ben C. Spaulding, DDS

Dear Dave,

I've just re-read the Spring 1996 issue of the *Journal*, and it was even better this time. The *Journal* certainly has a new look, but the most impressive quality is the depth of discussion of important issues in dentistry. You have shown an understanding of the critical issues facing the profession and a willingness to confront them.

The profession has needed an ongoing forum for discussion of our problems, and the College has provided such a "rolling think tank." The *Journal* is allowing us to share the best and brightest talents in our profession.

Warm Regards,

Robert T. Ferris

Patient-Centered Care and Today's Dental Practice

Kenneth L. Kalkwarf, DDS, MS, FACD

Health care and health care delivery in the United States are rapidly changing as the result of multiple environmental factors. When these changes are coupled with the heightened expectations of today's health care consumer, many practicing dentists become concerned. They see the values and methods that allowed them to maintain a successful practice and comfortable lifestyle being eroded. The replacement environment is one that presents increasing risk and uncertainty. To maintain success in this new environment, dentists must carefully analyze the factors impacting their patients and adjust their practices accordingly.

The medical profession has moved rapidly in the past few years toward a system that "manages" the delivery and cost of the care it provides (Shortell, Gillis, & Anderson, 1994). The management of care has been assumed by health care corporations that sell their package to the payers, usually corporations and businesses, responsible for financing the health care of individuals. This change in medical financing has significantly altered the health care "marketplace."

The term "patient-centered care" has been increasingly used to describe modifications in medical care delivery systems implemented to stay competitive in this new marketplace. Various connotations of patient-centered care have been presented. One concept of patient-centered care starts with a philosophy of being patient-friendly and providing convenient, efficient service. This

makes consumers happy and satisfied, helping ensure the ability to continue providing contractual services (Tresolini, 1996). Another concept of patient-centered care begins to look at the patient beyond the disease they have or the treatment procedures they need. It accounts for all aspects of a person and considers not only their physical and psychological factors, but also their social, cultural, and economic dimensions (Cunningham, 1986). This conception takes the emphasis away from acute care of disease and places it on education, prevention, and long-term management, aiming at better long-term outcomes and ultimate financial savings.

It is unknown where dental care will eventually alight within health care's "managed care model." Estimates range from rapid and complete engulfment to insignificant integration. Most likely, the final answer will be somewhere in-between, with the final location determined on a regional basis by payers and consumers of dental care. Regardless of where the final balance resides, a patient-centered care model appears to be the appropriate direction for the modern dental office. A patient's satisfaction with his or her care will continue to be an extremely important factor in the maintenance of a dental practice. Traditional delivery of dental care, whether it's funded by patients' fee for service or their indemnity insurance plan, allows patients to choose their providers. Many practices will continue to aim at this clientele (Anderson, 1995). Patient satisfaction in this type of practice means they will return for their next appointment or phase

of care. Dissatisfaction results in a patient's transfer to another dentist. All managed care systems not only seek to control cost, but also strive to maximize their clients' satisfaction. Outcomes of patient satisfaction are typically collected by surveys and questionnaires (Kremsdorf, 1996; Wiethop, 1996). Renewal of a provider's contract is dependent upon an acceptable level of patient satisfaction.

The second concept of patient-centered care, an emphasis on all aspects of the patient, with a focus on education, prevention, and long-term management, is the hallmark of the care dentists have attempted to provide during the past 30 years. The majority of time in a typical dental practice is spent treating two disease processes, dental caries and periodontal diseases. It has long been recognized that periodontal diseases are bacterial infections and that successful therapy depends on a combination of preventive approaches and long-term management. A patient must have an appropriate commitment to ensure therapy success. It is increasingly more evident that dental caries is



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also the result of a bacterial infection and that the only successful way to control the disease over an extended time is by compliance with preventive regimens and ongoing maintenance.

The dental profession has been very successful with the patient-centered preventive approach to care it has embraced for over three decades. Individuals now routinely enjoy the opportunity to function with their natural teeth throughout their lifetimes. The profession must continue to advance this therapy approach to maximize the opportunities for all people to enjoy oral health. However, having the right approach to therapy is not enough to maintain success in practice. A dentist must have patients to treat. Patients must be satisfied with their dentist and the care he or she provides. Patients must want to personally return for care or the group paying for care must feel that the level of patient satisfaction warrants continuation with the provider.

The factors that lead to satisfaction among dental patients are undergoing dynamic change. Dentists, like most other health care providers, used to function in a paternalistic manner. The average patient's response to a dental treatment plan, if one was even presented, was "do what's needed, Doc." The dentist typically analyzed the patient's needs and background and then presented the type and level of care perceived to be appropriate. Today's dental patients live in a much different climate. They expect to be completely informed about their health care choices and make the final decision. Consumer health information is abundant on radio, television, and in popular magazines and newspapers. The World Wide Web provides on-line information about all aspects of health care. Dental patients know about oral diseases and dental treatment. They want an accurate diagnosis of their condition and the cost/benefit ratios of the available therapy options. Patients then expect to make the choice of therapy that they feel is most appropriate for them. It has been shown that a patient's perception of the dentist's ability to relate to them as an individual

will mediate both the patient's treatment acceptance and his or her willingness to participate in the decision-making process (Redford & Gift, 1997).

Technology and competition have greatly enhanced convenience in our patients' daily lives. It wasn't many years ago that renting a car meant standing in a long line, eventually selecting the type of car and options desired, and then signing a stack of papers. Now, databases track consumer preferences and instant check-in and check-out are commonplace for repeat customers. People expect this type of service in their daily interactions and are many times intolerant of anything less. Two-income families have placed a premium on convenience that accommodates their schedules and preserves

Having the right approach to therapy is not enough to maintain success in practice.

time. Retail outlets have evolved in response to these factors by offering extended shopping hours and "one-stop" access. Consumers have each established their individual expectations regarding cost and value, and the relationship between the two. Regardless of whether a shopper chooses a top of the line boutique or a chain discount store, they expect to have a wide choice of shopping hours, courteous service, and quality consistent with their personal definition of value.

These experiences in the retail marketplace are influencing patient's expectations of the dental office. Dentists must realize that each of their patients is becoming increasingly conscious that their time is a valuable resource. Patient's expect convenient appointment hours. They anticipate being acknowledged when they arrive for an appointment and being seen at their appointed time. It has been shown that more than anything, patients do not want to be kept waiting

(Brown, et al, 1993). If the office's schedule has gone awry, they expect to be informed of any estimated delay and given an option for rescheduling.

In the eyes of most health care consumers, there is an equation defining the type of care they seek (Value = [Quality of Care + Customer Service] ÷ Cost) (Gerbert, et al, 1987). As is evident in this equation, patients set their own criteria and scales to measure quality of care and level of customer service. Dentists tend to use technical criteria to discuss "quality." They focus on margins, contours, and contacts of restorations, root smoothness following periodontal care, apical seal of an endodontic procedure, and occlusion at the end of orthodontic care. The average patient doesn't have the opportunity, or the expertise, to evaluate these factors (Connor, 1996). Patients also typically do not experience the ramifications of technical failure until long after their dental care has been delivered. It is difficult, if not impossible, for patients to differentiate the technical quality of their dental care. Patients' perception of quality care relates to the way they were treated during their appointment, the adequacy of their input into decision making, the comfort of the dental procedure, and the efficiency of follow-up (Andrus & Buchleister, 1985).

Much of a patient's perception regarding quality of care and customer service is shaped during interaction with the dental office staff. It is important that everyone in the dental office have a clear concept of the office's values. A story that is used during service seminars in the business community tells of a customer who severed a twenty-five year relationship with his bank and withdrew several hundred thousands of dollars when an employee tried to charge him twenty-five cents to use a copy machine (Connor, 1996). The clerk thought he was doing the right thing. His boss had told him that there was a charge to non-employees for copies and he was efficiently following that directive. He didn't understand that the foremost value of the bank was satisfaction of the cus-

tomers, especially a long time, loyal customer. He had no idea of his role in the mission of the institution. Was this his fault? Of course not, it was the responsibility of management to accurately articulate the bank's values and give employees an opportunity to play a role in securing those values.

A dentist and the entire office staff should periodically take the opportunity to discuss and reaffirm the values of their dental practice. They should then place themselves in the role of their patients and evaluate all aspects of an office encounter from the perspective of the patient (Connor, 1996). Are phone calls met with courtesy and enthusiasm? Are office hours convenient for the type of clientele the office serves? Is the office convenient to find and easy to access? Are the surroundings of the office viewed positively? Is the waiting time following arrival at the office acceptable? Are patients completely apprised of their dental conditions and allowed to discuss how these conditions interface with factors personal to them? Are patients given options for therapy and presented with adequate information to make informed choices? Do patients have a clear understanding of both time and financial commitments? Is the patient comfortable during dental therapy? Are appropriate techniques used to minimize discomfort? Are patients informed of variables discovered during therapy and given adequate choice in defining the continuing course of care? Following an appointment, are follow-up questions and concerns addressed? Is the paperwork, subsequent scheduling, and arrangement for payment done in an organized and efficient manner?

If the dentist and staff address the office operations and procedures involved in patient care from the patient's viewpoint, they can identify those issues that will make a difference in their patients' satisfaction. In doing so, the dentist must be cognizant that today's public expects:

Convenience. Hours of service and access must fit with the busy lifestyles most individuals experience in the 1990s.

Courtesy and Respect. People expect to be treated in a courteous fashion. This sometimes becomes a dilemma because patients are not always right or fair (Billingsky, 1995). They may be unreasonable or hostile. Each interaction should strive to view the problem from the patient's perspective.

Much of a patient's perception regarding quality of care and customer service is shaped during interaction with the dental office staff.

Adequate Information and Involvement in Decision Making. This is a major change from previous times when the "doctor" made all the decisions. Patients have more access to information than ever before. They expect to be informed and they have been conditioned to weigh the opportunities and make an informed choice.

A Chance to Be Heard. Generally, dissatisfied patients do not complain to the dentist, they complain to their friends and then transfer to a new dentist (Connor, 1996). If encouraged to communicate their concerns in an open and non-threatening manner, patients will provide tremendous insight into the factors that go into their definitions of value and quality (Connor, 1996). A well structured survey can assist in judging the success following the implementation of changes (Rothman, 1995).

Quality Care (by their definition) at a Reasonable Cost (by their definition). Dental patients, like all consumers, each have a different perception of quality care and its relationship to cost. Some patients seek optimal outcomes as measured by esthetic harmony and treatment longevity. Others seek elimination of active disease and comfortable function. The dentist must carefully consider all factors and present appropriate treatment options.

Suitable education may assist patients to shape their definition of quality care.

The environment of the 1990s has fashioned a dental patient that is different from what the profession has experienced before. The dynamics of health care delivery, the rapidity of information transfer and ready access of health care information to laypersons, the lifestyles and working patterns of today's family, and the conveniences that individuals experience and expect in the retail marketplace have influenced the evolution of this new patient. The new dental patients are informed and willing to participate in treatment planning decisions, expectant of efficient and respectful service, and looking for "quality" as they define it. In order to maintain a successful practice, dentists must understand these patient needs and model their practices to accommodate them.

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Consumer Satisfaction with Dental Care: Where Have We Been, Where Are We Going?

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Abstract

This paper reviews research developments in the area of dental patient satisfaction over the past three decades, contrasts these with comparable developments in medicine, and suggests directions for future work in the dental arena. The conclusion of the review is that developments in managed care in medicine have stimulated a level of effort in patient satisfaction measures that have gone well beyond that in managed dental care. Analogous work in dentistry is needed as managed dental care plans grow in number.

Studies of Dental Patient Satisfaction

In 1962, Kreisberg and Treiman (1962) used the results of the National Opinion Research Center's interview to analyze public opinion about the practice of dentistry. The three leading concerns reported dealt with the dentist's personality, skill in minimizing pain, and the patient's fear of what might happen. McKeithen's (1966) findings were quite similar in that the dentist's personality was the most frequently mentioned (by 59% of the respondents) feature of the ideal dentist, 58% mentioned ability, and 41% cited ability to reduce fear. Dentist's personality was also cited by Collett (1969) as a major reason for patients to become dissatisfied and leave their dentist.

Koslowsky, Bailit, and Valluzzo (1974) collected patient evaluations from 428 private practices using a 20-item questionnaire covering four dimensions: personality, technical ability, office organization, and financial considerations. The first two dimensions were based on previous research and the second two were hypothesized by the researchers to be important. The scores were generally found to be high, but fee issues rated lowest followed by access to the dentist on evenings, weekends, and holidays.

Hengst and Roghmann (1978) administered a 12-item dental satisfaction scale to a group of welfare mothers. They found two dimensions of satisfaction: latent hostility or resentment and general glorification of the dentist. Degree of hostility expressed by these low income clinic users was more related to personal experiences than was the case for glorification. Unlike most other studies which report little negative affect toward dentists, they suggest that, at least among some consumers, strongly negative feelings exist. Hengst and Roghmann also deal specifically with



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A version of this paper appeared in the Compendium Paper of the Eighth Annual Conference of the National Association of Dental Plans and appears here by permission.

The tradition in dentistry prior to the 1970s was to define quality in terms of technical excellence and mechanical precision affected by the skilled clinician. Viewed in terms of this product orientation, lay opinions appeared to have no role in quality assurance. As the consumer and quality assurance movements grew, that view changed. A number of investigations have measured satisfaction of various patient groups with their dental treatment.

Patient Centered Care

the issue of bias. They warn against in-house surveys because patients are loath to complain to their dentist. Also, they point out that truly dissatisfied patients will have switched providers and gone elsewhere for care.

Three studies collected patient evaluations in dental school or university health center clinics. Dworkin, Picozzi, Nash, and Ruden (1970) and Kress, Ferraro, and Stiff (1972) surveyed patients in dental school clinics. Both sets of investigators reported (long) length of treatment as the

Courtesy and anxiety reduction produced high satisfaction.

greatest source of patient dissatisfaction. Kress and colleagues reported that the best-liked feature of treatment was the degree of student-expressed personal concern for patients as people. Estabrook, Zapka, and Lubin (1980) also found waiting time and delays in dental treatment to be least satisfying about a university health clinic, while courtesy and anxiety reduction produced high satisfaction. Comparing the findings of these three studies with those of Koslowsky, Bailit, and Valluzzo (1974), from the private sector, one sees a shift in emphasis from concern with delays to concern with costs.

Murtomaa and Masalin (1982) reported the results of a survey of 648 Finns designed to learn their views of dentistry. Degree of satisfaction with care was again very high, higher they report than ratings of physicians given by another sample of Finns. Patient image of the dentist was stated to be equally influenced by the dentists' personal and professional characteristics. They conclude by stressing the importance of teaching dentists interpersonal skills as a way to encourage wider public use of dental services.

Davies and Ware (1982) presented a detailed review of some 25 studies which employed dental satisfaction measures. They included several which dealt with dental attitudes of college students (Fanning & Leppard, 1973; Belok, 1977; Blum & Tuthill, 1977; Stacey, Slome, & Musgrove, 1978). In addition, they cited Bailit and Raskin's (1978) use of patient satisfaction as a measure of care quality and several studies of the relationship between attitudes and use or non-use of dental services (Bene, Novosky, & Geldart, 1974; Murray & Weise, 1975).

Davies and Ware developed the Dental Satisfaction Questionnaire (DSQ) based on previous studies from medical (Ware, Davies-Avery, & Stewart, 1978) and dental care literature. The DSQ included 19 statements about dental care, each calling for a graded response on a five-point scale ranging from "strongly agree" to "strongly disagree." It was administered to 3,464 adults. Factor analysis revealed the following independent elements of patient satisfaction: (a) access, (b) availability/convenience, (c) cost, (d) pain and, (e) quality.

Davies and Ware (1982) also reported that older persons, women, more educated, and higher income patients were more satisfied with their dental care. Finally, they reported that dental care was rated above medical care on items dealing with office waiting time and provider care in "checking everything."

In another survey of patient satisfaction, Kaplin and Murray (1981) reported a somewhat different factor structure of issues. They analyzed 859 patient questionnaire replies from 14 private offices. They report a mean rating of 94 on a 108-point scale covering the following six dimensions: (a) general treatment, (b) staff performance, (c) organization/efficiency, (d) convenience, (e) pain, and (f) patient-personal interaction. In contrast with the Davies and Ware survey, Kaplin and Murray reported no difference in overall satisfaction related to the patient

variable of age, sex, education, income, availability of dental insurance or governmental assistance, or length of time as a patient of the dentist.

Interest in quality assurance in dentistry rose to a high-point in the early 1980s when the Kellogg Foundation granted the American Fund for Dental Health (AFDH) one million dollars to support research in dental quality assurance systems. In all, twelve projects were funded by the AFDH, most of which dealt with various peer review systems of dental records and patients. One project, awarded to Kress and Silversin (1985), at the Harvard School of Dental Medicine, explored the role of patient satisfaction as a quality assurance measure. These investigators carried the traditional use of patient evaluations as an outcome measure to a different level; they used these evaluations as an intervention designed to produce improvements by providing a feedback loop to the dentist providers. Their study, published in 1985 in the *Journal of the American Dental Association*, represents one of the earliest applications of patient feedback to providers.

Dental care was rated above medical care on items dealing with office waiting time and provider care.

Kress and Silversin (1985) developed a patient evaluation form based on a series of focus groups. The form consisted of 26 items under the category headings of: (a) facilities, (b) appointments, (c) staff, (d) treatment, (e) dentist, (f) costs, and (g) communication. Responses ranged from "strongly agree" to "strongly disagree" on a seven-point Likert scale.

In another study published in 1985, Chapko (1985) and coworkers described the results of a 42-item dental patient satisfaction form that consisted of 13 subscales: (a) dentist-patient relations,

(b) technical quality of care, (c) access, (d) patient's waiting time, (e) cost, (f) facilities, (g) availability, (h) continuity, (i) pain, (j) auxiliaries performing expanded duties, (k) staff patient relations, (l) staff technical quality of care, and (m) office atmosphere.

One year earlier, Corah and coworkers (1984) had described the develop-

Studies suggested that patient satisfaction measures something other than technical quality as it may be defined by professionals.

ment of the Dental Visit Satisfaction Survey (DVSS). It included 25 dentist behaviors that were thought to produce patient anxiety. Most were said to be associated with patient satisfaction, most notably, dentists' empathy and communicativeness.

Since this relative flurry of activity in the mid-1980s, attention to dental patient satisfaction faded as if in concert with the fading of the so-called "busyness" crisis of the early 1980s, when organized dentistry had become preoccupied with marketing.

Two studies suggested that patient satisfaction measures something other than technical quality as it may be defined by professionals. In 1986, Abrams, Ayers, and Vogt-Peterson (1986) conducted dental examinations of 117 patients who described their self-perceptions of the quality of their dental treatment. A low correlation was reported, suggesting that patients and dentists were using different criteria when judging quality of dental care. A similar finding was reported by Crall and Morris in 1988. They found patient satisfaction not to be well correlated with the structure and process measures of their Development of Evaluation Methods and Computer Ap-

plications in Dentistry (DEMCAD) quality review system.

Apart from a few reports of patient satisfaction with a particular dental school or institutional clinic and some studies of patient satisfaction with particular dental treatments, relatively little has been published since the middle '80s. The exceptions include a study by Golletz et al. (1995) in which the DSQ, developed by Davies and Ware in 1982, was administered to a group of low income dental patients. The authors reported finding a factor structure similar to that reported by Davies and Ware (1982). They reported further that type of insurance coverage made a difference in satisfaction with pain management and access to care. A second recent study, by Chisick (1994), included patient ratings of 28 attributes of U.S. Army dental care. He reported satisfaction with all but the access attributes of care.

Although this review is concerned with satisfaction with dental services and its implications for dental quality assurance, a brief review of the literature on satisfaction with medical care is worth considering. The parallels between the two health care fields are instructive.

Satisfaction with Medical Care

Studies of patient satisfaction with medical care have looked at several different sets of independent variables: patient characteristics, organizational characteristics, characteristics of the doctor-patient interaction, and sociodemographic characteristics of providers. A consistent finding has been that the quality of the interpersonal interaction between physician and patient plays a major role in patient satisfaction (Ben-Sira, 1976 & 1980; Mechanic, 1968; Ross, Wheaton, & Duff, 1981). When the physician is supportive, establishes rapport, and communicates clearly patients are more likely to be satisfied with care.

Organizational factors have produced mixed results. Ross, Mirowsky, and Duff

(1982) indicated that no clear pattern has emerged to indicate patient preference between smaller and larger medical care organizations.

Patients with positive attitudes and expectations about medical services appear to be more satisfied (Greenley & Schoenherr, 1981). While findings about the role of other patient characteristics in satisfaction have been varied and sometimes contradictory, one pattern seemed clear from earlier studies: high socioeconomic status people were dissatisfied with large prepaid groups (Friedson, 1961; Shortell et al, 1977).

Physician characteristics were found by Ross, Mirowsky, and Duff (1982) to play a significant role in satisfaction with care delivered in large prepaid groups where patients do not choose the physician. Although no such differences were noted in solo practices where patients selected the physician, the group situation produced dissatisfaction when physicians were older, females, and from lower status and Catholic backgrounds. They concluded

Patients and dentists were using different criteria when judging quality of dental care.

that patient choice operates to eliminate the effects of physician-type on patient satisfaction with care.

Another focus of studies in the medical care satisfaction literature is on the role of patient satisfaction on the selection and continued acceptance or rejection of a physician. Ben-Sira in 1982 reported that satisfaction with the physicians affective behavior strongly determined the patients' evaluation of the physician's technical competence and choice of physician. Satisfaction with doctors' humane concern was found to be more relevant than more objective evidence of instrumental quality, e.g.,

Patient Centered Care

physician status and access to hospital facilities. Ben-Sira concluded that Israelis indulge in a relatively high rate of "doctor shopping" which is aimed primarily at obtaining more humane concern.

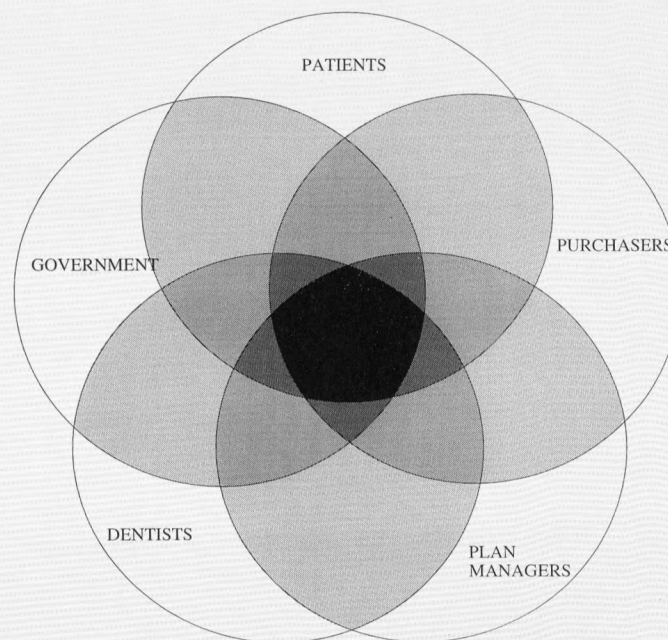
A 1982 study by Ross and Duff (1982) strongly supported the Ben-Sira finding. Based on interviews with 442 patients treated by 61 different physicians, they found that returning to the doctor for subsequent care was much more a function of satisfaction with the interpersonal component of the visit than the technical quality of care provided. Although quality treatment sometimes reduced the need for further visits, it seemed clear that patient use of physician services was strongly affected by psychological factors.

Wolinsky and Steiber (1982) cited several factors relevant to selection of a new physician based on a national survey of 1,530 adults. Here again, personality and manner of the physician was cited as being important. It was the second most important factor cited and greatest among lower socio-economic status patients with relatively poor access to medical care. While warning against equating interpersonal skill with technical quality of care, these authors suggest that medical schools include more training in personal interaction skills.

The Consumer's Role in Health Care Quality Assurance

The studies from dentistry and medicine reviewed in the preceding paragraphs suggest that patient evaluations of the care they receive are based on many factors. These findings leave open the question as to the appropriate role of the consumer in quality assurance. Jago (1974), in an overview of consumerism in health, pointed out that professional groups have traditionally avoided consumer input. Consumers have played a role in planning and making health care available, but not in assessing its quality. McLaughlin (1971) cited evidence that 80% of patients in a teamster-funded surgical program, whose care was judged

Figure 1. Relevance of Data from Patient Satisfaction Survey to Stakeholders



by outside experts to be inadequate, believed that they had received good care. This would suggest that consumer views of quality may not be valid. Bellin and New (1969) agree in the sense that they asserted that even those who can afford to pick and choose fare no better than the poor in trying to obtain good medical care.

It was argued, on the other side, by Goldberg, Trowbridge, and Buxbaum (1969) that, in the U.S., those who can afford it can select and insist on care that meets their satisfaction. Certainly fee-for-service dental care has been and is still largely subject to the choice of the patient. A question remains as to the validity of patient views on the quality of either medical or dental care. Lebow (1974), after reviewing studies of consumer assessments of medical care in the mid-seventies, concluded that too little was known about their reliability and validity to insure stable results.

Quite apart from the question of whether patients and professionals evalu-

ate health care services by the same criteria, patient satisfaction has become accepted as a central component of health care quality and an essential part of Total Quality Management and Continuous Quality Improvement. In the era of managed care, consumer opinions have come to be more important than ever. Whereas the patient feedback provided by Kress and Silversin (1985) and that by Bataldin (1977) and Zimney, McClain, Bataldin, and O'Connor (1980) went, respectively, to individual dentists and physicians, that feedback today has new audiences: the various stakeholders in the health care market. These include dentist and physician providers, health plan managers, employee benefits managers of companies purchasing plans, government officials responsible for plan evaluation, and potential patients who may or may not select the plan. Figure 1 illustrates the fact that, while each stakeholder group has individual concerns, a good deal of overlap exists among them. In medicine one might add to the list the National Committee for Quality Assur-

provider or service delivery (technical quality/skills, provider communication, provider/patient interaction, accessibility and continuity of care, and outcomes), administrative and financial function (scope of benefits, cost of care, choice of providers, management of care, plan administration, and practitioner professional environment), and overall satisfaction (overall assessment of care and plan).

Recognition of the need for a standardized measure of patient satisfaction with managed medical care has stimulated a great deal of development effort. Because the various stakeholders have varied interests, it has been asserted that no single instrument could satisfy them all. For example, plan purchasers are likely to focus on comparisons among plans and be concerned with value received for their investment. This concern would include quality, quantity, and reliability of services, in addition to the degree to which their employee users are pleased with those services. Plan managers, on the other hand, might be more concerned with the performance of individual health care providers, with data useful for marketing the plan, and strategic planning; while government officials might be most concerned with access to care and cost. Dentists will benefit from constructive patient criticisms. Patients, while sharing many of the concerns of the others, tend to focus on the interper-

sonal aspects of their interactions with providers and their staffs. Thus, while much overlap would seem apparent in the collective interests of the five groups, they are not completely congruent. Figure 2 illustrates the matrix of varied ratings of salience for several major dimensions of satisfaction that would be constructed from the proposed data

Patients tend to focus on the interpersonal aspects of their interactions with providers

collection. This matrix would form the blueprint for development of the final measure or measures.

The practical upshot of this lack of congruence is that it is difficult to achieve the goals of the various stakeholders while limiting a patient evaluation instrument to a manageable length. Several major efforts are under way to develop multi-purpose medical evaluation forms. The Agency for Health Care Policy (AHCPR), NCQA, and the Group Health Association of America are among the major players in this effort. Another example is the collaborative work of the Xerox Corporation, GTE, and Digital Equipment Corpora-

tion to develop the Employee Health Care Survey (Packer-Tursman, 1996). Comprehensive forms for consumer evaluation of managed medical care programs are currently being developed by a consortium of the Harvard Medical School, RAND, and Research Triangle Institute. The project is called Consumer Assessment of Health Plans Study (CAHPS, 1996) and is sponsored by the AHCPR.

The Health Plan Employer Data and Information Set (HEDIS) was developed under the aegis of the NCQA, a private, non-profit organization that has reviewed "close to half the nation's 574 HMOs as part of its accreditation process for managed care organizations" (NCQA, 1996). HEDIS is a standard set of performance measures that will enable comparisons to be made among plans via a "plan report card." In addition to representation by the principal stakeholders in its development (providers, consumers, plans, and purchasers), there was extensive involvement from labor unions, the American Association of Retired Persons, the Centers for Disease Control and Prevention, the Health Care Financing Administration, Agency for Health Care Policy and Research, and state health departments. It is, by far, the most comprehensive attempt to quantify managed care quality and will be used by an increasing number of managed care organizations upon its adoption.

Figure 2. Matrix of Varying Interests of Stakeholders in Patient Satisfaction Dimensions

Stakeholders	Patient Satisfaction Dimensions								
	Overall	Personal	Access	Facilities	Technical	Delegation	Waiting	Cost	Continuity
Patients									
Dentists									
Plan Managers									
Purchasers									
Government									

Patient Centered Care

holders in its development (providers, consumers, plans, and purchasers), there was extensive involvement from labor unions, the American Association of Retired Persons, the Centers for Disease Control and Prevention, the Health Care Financing Administration, Agency for Health Care Policy and Research, and state health departments. It is, by far, the most comprehensive attempt to quantify managed care quality and will be used by an increasing number of managed care organizations upon its adoption.

The recently-released HEDIS 3.0 draft has only two dental measures: annual dental visits and availability of

A logical first step is to construct a multipurpose patient satisfaction form.

dentists — both of which apply only to HMOs serving the Medicaid population. Despite this, it does not take a great leap of imagination to realize that some organization, perhaps the NCQA, JCAHO, or the National Association of Dental Plans (NADP) will develop an analog for dentistry. It will be important that the differences between medical and dental care delivery be taken into account during this development. As dental services become more commonly offered as components of managed care plans, investment in such a development effort will become justified.

In contrast to these efforts in medicine, little recent effort has been devoted to patient evaluation of dental care. Maas (1996), in the June issue of the *Journal of Dental Education*, points out this contrast and suggests that analogous effort is needed for managed dental care plans. In our view, a logical first step in development of a "report card" for managed dental care plans is to construct a multipurpose patient satisfaction form. Ultimately, we believe that many additional steps will be needed to fill out the complete

dental evaluation picture. We agree with Maas that, while the HEDIS, per se, is not relevant for dentistry, HEDIS-like measures will become increasingly needed for dentistry. Likewise, the CAHPS measure of patient evaluation of medical plans will be of limited usefulness for dental plans. Before we speculate further on the overall evaluation needs of managed dental care, we will propose a plan to develop a broadly applicable patient satisfaction instrument.

Development of a Multipurpose Patient Evaluation form for Dental Plans

We propose that a logical first step is to develop a dental patient evaluation measure that includes the major concerns of the several primary managed care stakeholders while maintaining a reasonable length. The result intended is a single instrument that could serve multiple needs within a format that is short enough to be user friendly for patients and therefore likely to be completed by a large enough proportion of them to support valid conclusions. Ideally, this effort should include the NADP and the AHCPR.

The method proposed is to present a single, exhaustive list of items to representatives of each stakeholder group and to have them rank each item in terms of the degree to which they would value the information it conveys for their purposes. While much overlap is expected, similar studies of supervisors and employees have demonstrated divergent views of factors producing employee job satisfaction.

As one example of the issues to be included, Gold and Woolridge (1995) recently published a list of 13 issues derived from 21 plan-based consumer surveys of medical service. They include:

- Overall quality and satisfaction
- Interpersonal aspects
- Communication or information
- Timeliness of services
- Intention to recommend plan
- Technical aspects
- Time spent with providers

- Access and availability of services
- Intention to use doctor again
- Satisfaction with outcomes of care
- Choice or continuity
- Financial aspects and billing
- Physical environment

Within each of the major categories ultimately included in the survey form, a number of sub-categorical questions will be added. The final list, which would be designed to include all or most of the questions studied in previous dental projects, might number in the range of 80-100 items. Respondents would be asked to rate each on a five-point Likert scale ranging from highly relevant to not at all relevant.

Samples of respondents will be selected at random to receive a mailed survey from lists of each group as follows:

- Group 1 - U.S. practicing dentists (ADA listed)
- Group 2 - Patients covered by managed dental care plans
- Group 3 - Employer purchasing agents responsible for selection of plans
- Group 4 - Government officials responsible for plan selection
- Group 5 - Dental Plan managers

Analysis of the results would produce five average numerical ratings for each item, one based on each group. The final patient evaluation form would consist of those 25-40 items which reveal the greatest degree of agreement, or overlap, among the five groups.

The final product of this project would be a streamlined, multi-purpose dental patient evaluation form which could be used to monitor a variety of dental plans. It would be designed to maximize useful information for all five stakeholders in a form that is convenient and easy for patients to complete, thereby facilitating their participation in quality surveys. It is, of course, possible that the needs of the various stakeholders are so divergent as to make it infeasible to develop a single form that is universally satisfying. The proposed project may reveal that more than one form is necessary. Whatever the out-

come, it would seem that the time is at hand for research and development in this area. Managed dental care may be a much smaller enterprise than medical care, but each of the providers and consumers of dental coverage needs and deserves valid information on the basis of which to make informed decisions.

Beyond patient satisfaction, it seems clear that additional measures will be needed for managed dental care. Further, it is reasonable to speculate that the model that will be followed during development of those measures has been provided by the HEDIS and CAHPS developments in medicine.

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The Patient and the Shifting Health-Care Paradigm

Henrietta L. Logan, PhD

Abstract

The public's image of the relationship between the health care provider and his or her patients has shifted. This relationship was once seen by the public as being based on trust, compassion, and good will and now is viewed as much more subject to negotiation. The public's perception of dentists and physicians is that they have been seduced by technology, money, and specialization and that they have little time for patients' concerns, wants, and needs. Moreover, there has been a dramatic expansion of patient choice including treatment alternatives and providers. Never before have patients had access to so much information (and misinformation) about treatment, options, materials, and alternatives. All of these factors contribute to a growing discontentment among patients and practitioners.

Practice management courses are full of recommendations for shifting the unflattering perception of dentists and physicians to one of more "patient-centeredness." On the other hand, many dentists and physicians are frustrated because for them the patient has always been the center of the caregiving. For many caregivers and patients, it has become far too easy to alternately blame each other, other health care providers, the insurance industry, etc. for being the villain. This paper focuses on what patients want from their dentists. Patients have always assumed that the dentist is competent, reliable, and sincere. What patients also want today is to be involved and educated about their treatment options. Further, they want the dentist to listen, pay attention to their concerns, and to treat them as individuals.

Newspapers and magazines are full of descriptions of the wary, untrusting consumer. Consumers no longer are willing to take at face value labels such as "made in America." They question whether that means the product was assembled in America or the parts were made in America. Consumers wonder what "made with 100%" beef really means. Consumers have become concerned that the words on the food labels are just new words for additives that are believed to cause cancer.

The public is left to wondering what to believe.

Consumers of health care are no less wary. With so much information about choices in providers and treatments and short and long-term outcomes, the public is not sure whom to believe or trust. Overall, health care providers' recommendations are less likely to be blindly accepted and patients are more likely to get a second opinion than ever before. With well-publicized cases about the safety of materials, e.g., breast implants, it is hardly any wonder that the *Time* maga-

zine cover story of July 31, 1989, would read "Doctor bashing has become a blood sport." Whether dentists like it or not, the public perceives dentistry the same as medicine (Carlisle, 1994).

Some recent evidence suggests a decline in public confidence in dentists and a trend toward disenchantment among dentists themselves (Gerbert, Bernzweign, Bleecker, Bader, & Miyasaki, 1992). On the other hand, hostility from patients and a general lack of appreciation worry dentists (Mellor & Milgrom, 1995). Both dentists and physicians describe feelings of distress, communication problems, and doctor-patient personality clashes as problems in their practices. Patients may be seen by the practitioner as non-compliant and this leads to frustration for dentists and patients (Milgrom et al, 1996). Thus, both patients and dentists recognize something is missing from the doctor-patient interaction.

Modern-day patients have access, in the popular press, to a great deal of information about treatment procedures, options, and dental materials. It is common for patients to ask about



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“tooth colored filling material as opposed to silver material.” Patients may have read about “alloys” and mercury toxicity. Fashion magazines are full of information about tooth bleaching and whitening agents. When patients are informed that they have a carious lesion, they may immediately want to know what they have done wrong to allow such a thing to happen. After all, patients have read that with the right care, cavities are preventable.

In this consumer era of dentistry, concern about limiting radiation exposure is frequently on the mind of patients. Out of their desire to protect themselves and their family, patients may question the necessity of every radiograph and call on the dentist to defend his or her decision each time one is taken. Some patients may have read more about fluoride than the dentist has and may question the dentist's recommendation to use or not to use fluoride. Often patients know that lasers are available to dentists and wonder out loud why the dentist is still preparing teeth the “old fashioned way.” Patients may question the recommendation to crown a tooth since they have read that tooth structure must be removed during the crown preparation.

With all this “dental” information available and all of the implied choices patients are confused about what is best. With that confusion in the background, patients may seem to the dentist to be questioning his or her judgment. When expressed directly by the patient, their expression of fear about possible deleterious outcomes from treatment may seem confrontive and even insulting. It is easy then for the dentist to feel on the defensive and that he or she has to defend the ability to make such decisions. If the dentist is defending him or herself too vigorously, the patient can interpret it negatively and wonder why. In today's consumer-beware environment, patients may ask themselves whether they can trust such a defensive dentist to make a choice that is in their (the patient's) best interest. Some patients

may even worry that the dentist has been seduced by technology (gadgets), money, and specialization and that they have little concern for patients' concerns, wants, and needs.

The patient's lack of trust of the dentist caregiver may in fact be a statement that the patient does not trust him or herself to make a decision. Many patients arm themselves with information in an attempt to lessen the “power” difference between the caregiver and themselves. Patients may have misunderstood and misinterpreted this information. Moreover, some of the information they have read may not be accurate. To add to the problem, some patients complain that when the dentist becomes defensive

Patients wish to be involved in the decision making about their treatment.

and seems threatened, they stop asking questions about the technical part of dentistry. Patients then may be less willing to ask a dentist any question. Without those questions, dentists are left not knowing what the patient understands and they may proceed with treatment on an assumption about the patient's knowledge that is incorrect. The situation need not deteriorate further because engaging the patient in an open and honest dialogue can help to identify both the understanding and the misconceptions.

Current information shows that patients wish to be involved in the decision making about their treatment (Lipkin, 1996). In fact, many patients wish to be seen as an equal partner in the decision process (Delbanco & Daley, 1996). With the patient questioning every step of the way, it is easy for a dentist to respond impatiently or abruptly. No wonder dentists become defensive; they have had very little training in building relationships with patients (Gerbert, Love, & Caspers, 1996). Most of the time, the patient is

merely curious. A few minutes dedicated to answering questions and clarifying what the patient understands is enough to satisfy the question. In other cases, the dentist is well advised to take the time to answer questions before beginning treatment. In the long run, those moments of open conversation are practice builders and not a waste of time or money.

There may be age, cultural, and gender differences in how the patient views being an equal treatment partner. Older patients on the average are more willing to leave the decision making to the dentist. Younger patients often want more involvement (Hodne, 1995). It is quite common for the younger patient to want more time devoted to answering questions initially and to ask more questions as treatment ensues. Similarly, pediatric patients and their parents want information and to be involved in decision making (Pinkham, 1995). Older patients may be satisfied with less information but they too want to be involved and informed. With so many options in today's health marketplace and the overall mobility of individuals, patients can usually find a dentist who will listen in the way they want and answer their questions. Just being “nice” to the patient is not enough. Patients may leave a practice because they are not getting the information they want. Thus, if the dentist is to successfully attract and retain new patients (old or young), he or she has to be flexible enough in his or her interpersonal approach that he or she can treat patients individually.

In McNeilly and Brown's book on communication (1994), they note that when you talk to or listen to someone, listen to their language knowing that you do not know what they mean. You do not listen for your understanding, you listen for their understanding. The purpose of listening to a patient is to produce a shared understanding.

It has been assumed that everyone can listen but in reality it is the weakest link in the communication process. How many times do we as people start

formulating our answer before a speaker has finished their question? How many times do we assume we know what each other means when in reality there is little understanding? We have been prisoners of a view of listening that assumed that we transfer information intact to one another. In actuality, if we asked a dozen patients to repeat an explanation in their own words, we would get many different translations. One current view of listening suggests that there is not any "information," there is only interpretation (Spring & Smith, 1996). If we are to understand what the patient interpreted from what we said, we must ask clarifying questions. To ask clarifying questions we must pay careful attention to what the patient is saying all the way to the implied period at the end of their sentence. Any assumptions about or stereotyping of the patient should be put aside if the dialogue is to continue openly.

The purpose of the interview conversation with the patient is to establish shared meaning. The patient wants the question to be asked, "What is important to you as we jointly choose your treatment?" Patients want to be talked with and not talked to (Carlisle, 1994). One ingredient patients want in a doctor-patient interaction is openness. To do that, the conversation must be viewed as to-and-fro with the dentist initiating questions to clarify what the patient is saying and both dentist and patient responding to that clarification. The dentist and the patient must be open to the mutually determined shared meaning for the treatment. Sometimes patients do not know what questions to ask and the dentist can help by saying, "Sometime patients are curious about When they are, I tell them.... Do you have other questions about...?" If the dentist is to successfully engage in such a conversation, he or she must be aware of what is offered to the patient. Further, through this conversation and the to and fro of the questions and answers, what the patient thinks is being offered can be clarified.

If such a conversation has been effective, the dentist and the patient both share the same understanding of what

actions the dentist will take, what actions the patient will take (including charges and payments), what the time frame is, and what conditions must be satisfied for both to agree the task is completed. It is dangerous to assume clarity on any aspect of the treatment offer unless it has been specifically discussed.

When the treatment offer of the dentist has been accepted by the patient, a treatment agreement has been reached. That is, what is being offered to the patient must be sufficiently well understood that the acceptance of the offer by the patient is equivalent to a verbal contract. Before that agreement, it is anybody's guess what the outcome of the interaction will be. Most conflicts between people result from unclear agreements. Time spent on the front end of the treatment offer can save a great deal of time later. This time would have been spent in unraveling the issues surrounding a dispute with a patient.

What patients want is well stated by this patient. *"Being a partner in dental treatment means that I, the patient, accept your (the dentist's) competency to provide a service that I cannot do for myself. As your partner I want you to exercise your expertise on the technical front in such a way that my attitudes, goals, beliefs, and expectations are respected and incorporated into that care package. Please remember that I am an expert on me, my attitudes, my goals, my expectations, and my level of current commitment. I will tell you what they are if you just ask me. A partnership implies to me that you, the dentist, and I, the patient, blend our lives in such a way that your skills merge with my dental and personal needs to produce something that we both need. We must design this service together through our conversation because much of what I bring to this appointment cannot be seen on radiographs or through your dental exam."*

There are traditions and phrases common in dentistry that are barriers to establishing patients as partners in their treatment. For instance, "work on a patient" is hardly a term used for an active partner. "Compliance" is a phrase that implies "patients should do as they are told" as opposed to what is mutually agreed on. Some dentists were trained to

determine what is best for the patient and to "persuade" the patient to accept the treatment plan. "Recall" has taken on a pejorative term from the auto industry in which defective parts are replaced. Words are important because they set the tone for the doctor-patient interaction. Dentists may want to rethink the use of words that imply passivity on the part of the patient. Passivity in today's climate "smells" of lack of involvement which is just what today's patient is trying to avoid.

Patients have always assumed that the dentist is competent, reliable, and sincere and will be "nice." What patients have probably always wanted, but are demanding today, is for the dentist to pay attention to their individual concerns and to treat them as individuals, to listen to them, to know what is being offered to them, and to participate as partners in the choices for their care.

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CheckUp

At a time when so much of the dental profession is changing, one truth remains constant: satisfied patients are a dentist's most valuable asset.

Because of this, patient satisfaction should be viewed as the hub of the wheel around which the practice revolves. Despite the barrage of rhetoric to the contrary, all the other important aspects of the practice (technology, production, profit, etc.) are the spokes on the wheel. Focus too much on the spokes rather than the hub and you'll find your practice riding a road considerably rougher than necessary.

After all, what good is a new intraoral camera if patients don't return because of the demeanor of its operator? In the long run, how profitable is increased production if a packed schedule raises the attrition rate when patients tire of the additional time spent in the waiting room? Over the long haul, satisfied patients will yield far greater returns than any short-term solution.

The advent of managed care and internet access to detailed information about the delivery of dental care has created an increasingly knowledgeable and demanding patient population. Now more than ever before, dental patients are demanding high quality care delivered at convenient hours by friendly, capable staff—all at a price their insurance company deems "reasonable and appropriate."

In short, it's becoming harder and harder to keep patients satisfied. So why don't all dentists routinely assess the satisfaction of their patients? One of the more common reasons is, "We don't need to do a patient survey. If our patients don't like something we're doing, they'll just tell us." The truth is

that very few patients will express an opinion — positive or negative — unless they are asked. However, when given the opportunity to fill out a brief, non-threatening survey, patients are eager to provide feedback about both positive and negative experiences. Even if they don't take advantage of the opportunity, most patients appreciate the invitation and the demonstration of the staff's concern for their satisfaction.

A number of dentists have said they are afraid to conduct patient surveys because they don't think they could handle

Why don't all dentists routinely assess the satisfaction of their patients?

negative comments from their patients. That's like leaving your credit card bill unopened because you're afraid to see how much you've spent. Meanwhile, the interest on your debt continues to accrue.

Fortunately increasing numbers of practitioners are committing or recommitting to the goal of patient satisfaction.

Since launching our service in 1993, CheckUp has helped dentists measure and increase patient satisfaction through simple, inexpensive surveys which require a minimum of effort and produce relevant, actionable information.

In 1995, the ADA-CheckUp® survey was introduced as a member service of the American Dental Association. Now we are forming partnerships with a number of state dental associations which have expressed interest in marketing the survey to their members.

In a typical CheckUp survey, a questionnaire is designed which allows pa-

tients to anonymously rate their satisfaction with every important aspect of the practice. The questionnaire typically consists of about 40 closed-ended questions and ample space for open-ended comments and suggestions. The survey and postage-paid envelope are either handed to patients as they leave the dental office or mailed to their homes.

Completed surveys are returned directly to CheckUp, which results in a higher response rate than surveys returned to the dental office. CheckUp tabulates the data and sends the dentist a comprehensive report detailing not only how satisfied patients are on an absolute basis, but also how the patients' ratings compare to patients in other practices.

This comparative information is the real value of the service, and because we conduct so many surveys we're able to provide the research for the same amount or less than the dentist would spend on a do-it-yourself survey. Most practices survey 250 to 1,000 patients at an average cost of a dollar per patient surveyed.

Whether dentists avail themselves of the CheckUp survey or some other method of measuring patient satisfaction, both the public and the profession are well-served by a renewed commitment to patient satisfaction.

But satisfying patients while maximizing production and profit is no easy task. In fact, there are times when these two objectives are at odds and a choice has to be made. A commitment to quality and a genuine understanding of the long-term payoff can reduce the temptation to cut corners or take the path of least resistance.

Additional information about the ADA-CheckUp survey can be obtained by calling 1-800-849-0869 or e-mailing Cusurvey@aol.com.

Career Changers: Dentists Who Choose to Leave Private Practice

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Alan G. Glaros, PhD; David J. Thein, DDS, MSD

Abstract

Some dentists have voluntarily chosen to leave the dental profession despite the considerable time, effort, and financial expenditures involved in their educations. The purpose of this study was to survey the entire population of dentists who had identified themselves as being principally employed in a career outside of clinical practice in the American Dental Association's 1991 Census. A four-page survey was mailed to 654 former dentists, with a total of 237 usable responses (36%). Analysis of major demographic variables showed no significant difference between the survey respondents and the 1992 ADA Survey of Dentists. Major reasons cited by respondents for entering dentistry included professional, financial, and independence factors. Respondents as a group rated their dental school experience as average in degree of difficulty. Clinical dental experience was varied, with a substantially smaller percentage (37%) choosing solo clinical positions than the 1992 ADA Survey of Dentists reported (69%). Reasons for leaving practice included financial, stress, and external regulation concerns. Current careers varied widely, with business, teaching, medicine, and investing being the most common. Respondents ranked their current careers as considerably more favorable on measures of perceived creativity, freedom, belonging, and whether they would choose the same career again. These findings indicate that there was a difference between the perception of a dental career and the reality of clinical practice for the study sample.

Career change is becoming increasingly common in the United States. Individuals entering the labor force today will make an estimated 2.5 occupational transitions before retirement (Neisbett & Auberdeen, 1990). The causes of these changes may be involuntary (disability), or voluntary (career dissatisfaction). Aspects of career satisfaction include characteristics of the work, nonwork factors, the individual, and the similarity between the expectation and the reality of an oc-

cupation (DeLong, 1982; Gould, 1978; Lange, Loupe, & Meskin, 1982; Sheehy, 1976; Shugars, DiMatteo, Hays, Cretin, & Johnson, 1990; Smith, 1993). The perceived advantages of a dental career include financial benefits, interpersonal contact, high public esteem, and independence (Allen, 1985; Grogono & Lancaster, 1988; Hartley, Scheetz, & Strauch, 1978; Lawson, 1976; Romberg et al, 1984; Waldman, 1994). However, recent studies report that the facets of clinical dental practice with the greatest



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This project was supported in part by the Rinehart Research Fund, project number 9452. Appreciation is extended to James Volker, dental student, and Ann Marie Corry, dental librarian, both at the UMKC School of Dentistry, for their assistance on this project.

dissatisfaction were insufficient income, the threat of malpractice, demands of managing the practice, third-party involvement, stress associated with dental procedures, and lack of personal time (Gerbert, Bernzweig, Bleeker, Bader, & Mitasaki, 1992; Hochman, 1994; Jacobsen, 1994; Katz, 1987; O'Shea, Corah, & Ayers, 1984; Romberg & Cohen, 1990; Shugars, DiMatteo, Hays, Cretin, & Johnson, 1990; Simon, Peltier, Chambers, & Dower, 1994; Tarpey, 1985; Yablon & Rosner, 1982; Yablon, Speigel, & Wolf, 1989).

Different measures have been employed in studying the career satisfaction of dentists in the United States (Born, 1985; Chapko, et al, 1986; DeLong, 1983; Koslowsky, Bailit, & Valluzzo, 1974; Mozer & Lloyd, 1992; Murray, 1980; Shugars, DiMatteo, Mays, Cretin, & Johnson, 1990; Shugars, Hays, DiMatteo, & Cretin, 1991; Wingrove, Porter, Bisby, & May, 1994). Despite differences in instruments, there has been an obvious downward trend in the percentage of respondents over the last twenty years who would choose dentistry again. The eight studies listed in Table 1 report the percentage who would choose dentistry again — ranging from a high of 90% in 1972 to a low of 47% in 1992 (Gerbert, Bernzweig, Bleeker, Bader, & Mitasaki, 1992; Koslowsky, Bailit, & Valluzzo, 1974; Mozer & Lloyd, 1992; Murray, 1980; Shugars, DiMatteo, Hays, Cretin, & Johnson, 1990; Wingrove, Porter, Bisby, & May, 1994; Yablon & Rosner, 1982). Although most of these studies were regional, the 1992 study by Gerbert et al. is significant for its size and national sample. A 1992 study of female Michigan dentists reported 78.4% had "career satisfaction" (Gunn, Maxon, & Woolfolk, 1992).

Comparison of these satisfaction rates with studies of other professions yields mixed results. A 1988 report on physicians, nurses, and pharmacists found career satisfaction rates of 77%, 72%, and 65% respectively, while a regional 1992 survey of pharmacists found that 68% would choose that profession again (Wolfgang, 1988). How-

ever, a comparison of 1993 studies on physicians and dentists in the state of Iowa (Wingrove, Porter, Bisby, & May, 1994, 1993) found that a greater percentage of surveyed dentists were satisfied with their career choice than were their medical colleagues (61% vs. 55%).

The vast majority of dental graduates are involved privately in clinical practice. Dentists who desire a change may make the transition to alternatives within the profession such as research, dental education, or public health (Abrams, 1981; Herman, 1984; Keye, 1985; Muchmore, 1984; Neidle, 1982). We defined these occupational options as "partial career changes" since the alternative career still requires a large portion of the individual's dental education. However, there is a small percentage of dentists who change careers to non-dental fields such as general business or real estate sales (Shugars, DiMatteo, Hays, Cretin, & Johnson, 1990). We defined these alternatives as "complete career changes" as the new occupation uses little of the individual's dental education.

Complete career change represents a dramatic step for the individual dentist due to various economic, psychological, and social reasons. First, dental educa-

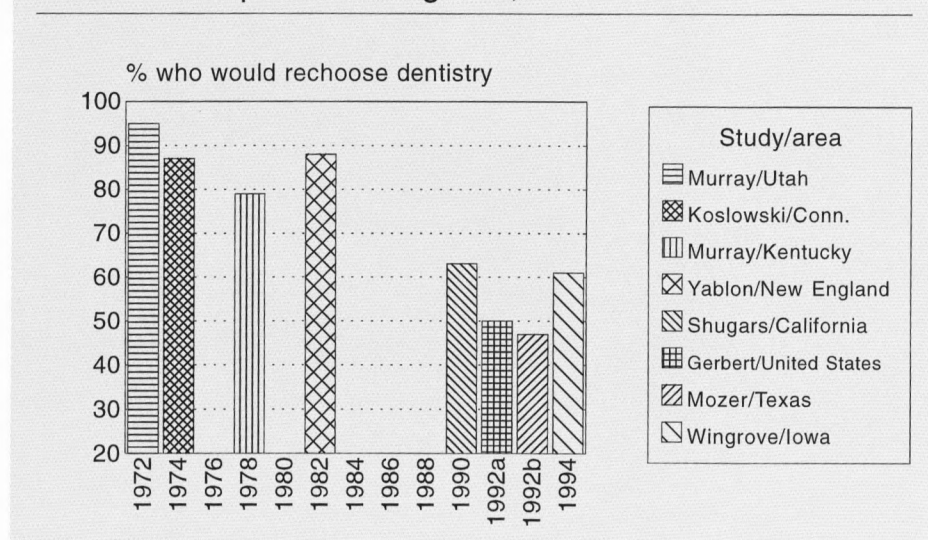
tion represents a major economic investment for the individual. Student expenditures (including books, instruments, and fees) for four years of dental education at a state-supported institution in the United States currently average over \$48,000 for residents, and over \$69,000 for non-residents (American Dental Association, 1991). Second, dental education represents a significant investment in time and effort, yet many of the clinical skills are not easily transferred to other vocations (DePaola, 1991). Finally, traditional social patterns in America include choosing a single career to which one remains committed for life, especially for professionals (Born, 1984).

Purpose

Examination of the interests, characteristics, and motivations of dentists who have left the dental profession might provide a better understanding of problem areas that dental recruitment, dental education, and the dental profession need to address, as well as insight into how the profession of dentistry is changing in the 1990s. The purpose of this descriptive study was to quantitatively and qualitatively survey a population of former dentists who had voluntarily left

Table 1

Dental Career Satisfaction published figures, 1972-1994



the profession for an occupation other than clinical practice in order to examine various aspects of their career histories. Interpretation and discussion of the findings may highlight issues which could affect future recruitment and retention efforts for the profession.

Methods

The surveyed population consisted of all dentists who identified themselves in the ADA's 1991 Census, which is conducted every three years on all dentists in the United States, as having a primary occupation that is not related to clinical practice of dentistry. The names and addresses for this sample (n = 700) were provided by the Bureau of Economic and Behavioral Research of the ADA (American Dental Association, 1992).

A survey instrument was developed and tested that requested information about the individual's demographics, career history, and perceptions of a dental career at various stages of their life. Some questions were derived from three other surveys: (a) a dentist satisfaction survey (Missouri Dental Association, 1991; Shugars, DiMatteo, Hays, Cretin, &

Johnson, 1990), (b) a dental career attribute survey (Bethscheider, 1989), and (c) our pilot study (Rice, Thein, Glaros, & Hayden, 1992). The Dental Satisfaction Questionnaire (DSQ) was validated in earlier studies by Shugars, and data have been gathered from over one thousand dentists in private practice in both California and Missouri. The dental career attribute survey reported by Bethscheider was conducted by the Johnson O'Conner Research Foundation and data were gathered from eighty-seven dentists in clinical practice during the period 1980 to 1988. The pilot study of our instrument consisted of a five-page, short-answer questionnaire dealing with pre dental, dental, and post dental experiences that was administered to 15 partial and complete career changers in 1990. The final instrument was constructed to allow as many open-ended short answers as possible.

A cover letter asked if potential respondents met the three major inclusion criteria for the study: (a) graduation from dental school, (b) voluntary career change, and (c) engaged in an occupation outside the general scope of clinical dentistry for at least one

year. A single mailing of a cover letter, the survey instrument, and a postpaid return envelope was sent to the sample in December 1994. No follow-up contacts were attempted, and responses were accepted for three months after the initial mailing.

Responses were coded by the first author, and the data were entered into a computer. Basic frequencies and distributions were derived for all variables. Comparisons of selected demographic variables were made between the surveyed group's responses and the published demographics of the 1992 ADA *Survey of Dental Practice*, which is conducted annually on a carefully constructed sample. Differences between career changers and the ADA samples were examined using appropriate statistical methods, including chi-square and *t*-tests.

Results

Thirty-six surveys were returned as undeliverable, while ten were returned with notification that they did not qualify for the study as their career change was involuntary (i.e. due to a disability). A total of 237 usable responses were received from the remaining population of 654 for a response rate of 36.2%. Respondents ranged in age from 33 to 82 years old, with an average age of 50.4 ± 8.4. Males comprised 88.4% of the sample. One-fifth noted that there was another dentist in their family.

Predental Experience. A majority of respondents (67.8%) listed no predental career, defined as an occupation in which they were engaged full-time for at least one year prior admission to dental school. About one-fourth (26.6%) reported one predental career, and a small minority (5.6%) reported two or three predental careers. Predental work experiences varied widely (Table 2), with 47 different occupations listed. Military experience was noted by 5%, as was any experience in an allied health field (pharmacy or nursing), while only 3% listed any work experience in a dentally-related field. Only one re-

Table 2

Frequent Predental Careers

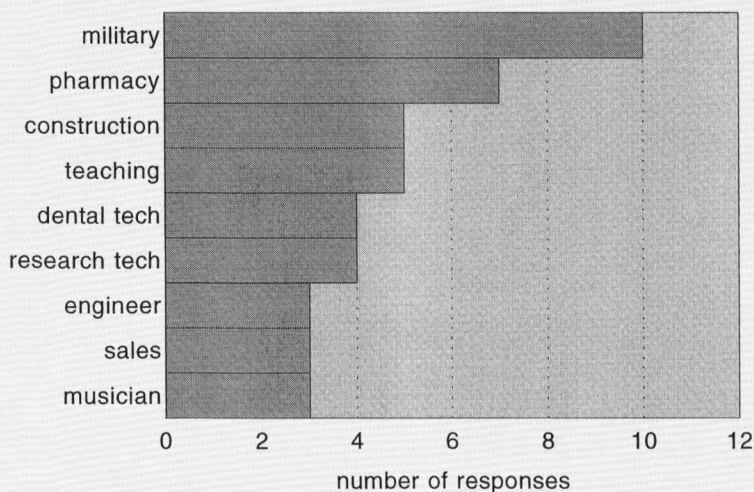
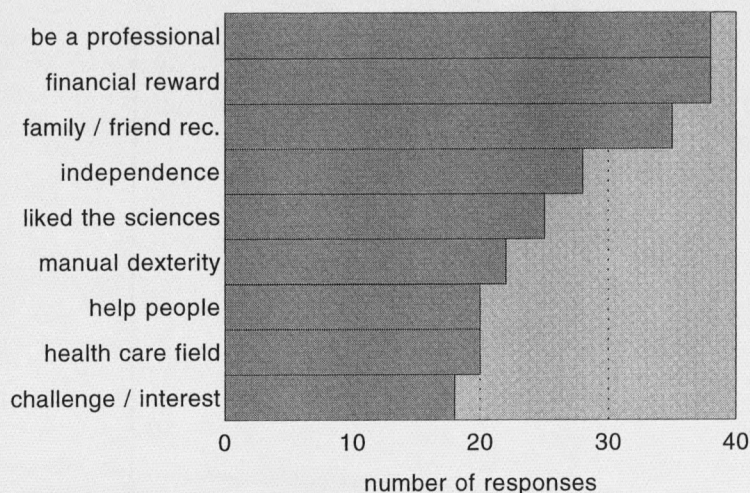


Table 3

Reasons for Entering Dentistry



spondent reported experience as a dental hygienist prior to entering dental school.

Dental School Experience. The most common reasons for pursuing a dental career (Table 3) included a desire to be a professional (16% of respondents), financial reward (16%), independence (12%), involvement with science (11%), and the opportunity to work with one's hands (9%). Respondents were asked to rank the ease or difficulty of various aspects of their dental school experience on a Likert scale, with "1" being the easiest and "5" being the most difficult. Manual (laboratory and clinic) factors were rated as the least challenging (2.36 ± 1.10), with academic (didactic) aspects ranked as more difficult than the manual factors (2.51 ± 1.06). Psychological factors were reported as significantly ($p < .01$) more challenging than either the manual or academic parts of the respondents' dental school experience (3.04 ± 1.24).

Clinical Dental Experience. The respondents' clinical dental experiences varied considerably, with a range of one to four (mean of 2.1) different clinical positions held, and an average of 6.2 years duration in each. Solo practice accounted for 37% of all clinical posi-

tions, associateships for 31%, group practice for 15%, and military practice for 11%. Ninety-one percent of all clinical experiences were in general dental practice. Practice location was primarily urban (47%), with 38% listed as suburban, and 15% as rural. Postgraduate dental training leading to a degree or certificate was reported by 31% of the sample, with 6% listing more than one of these experiences.

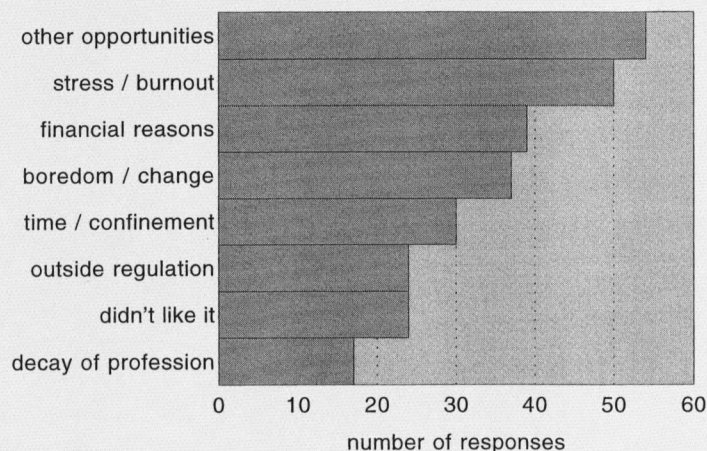
Postdental Experiences. Reasons for leaving traditional clinical dentistry were more varied than the reasons for entering the profession, with a total of 55 different response categories. Twenty-two percent of respondents listed the availability of other opportunities as the reason for leaving, with stress and burnout (21%), lack of financial reward (16%), and boredom and time for a change (16%) close behind. Table 4 lists the most common responses and their frequencies.

Respondents reported from one to five postdental occupations (mean of 1.4) which were scattered among 105 different occupations. Similar responses were aggregated to categories. The most common choices (see Table 5) included business (10% of respondents), teacher (10%), physician (9%), and investor (7%). Forty-four respondents (18.6%) stated they had re-entered dental practice either part time or full time. Nineteen respondents (8%) reported re-entering a nondental occupation that they had prior to dental school, the most common of which was pharmacy (2%).

Respondents were also asked to compare their clinical dental experience with their current (or most recent) nondental occupation on six measures of job satisfaction. These included the degree the re-

Table 4

Reasons for Exiting Dentistry



spendent felt the career provided (a) a creative outlet, (b) some financial reward, (c) a sense of freedom, (d) a sense of belonging, (e) some degree of difficulty to perform, and (f) an overall feeling that they would choose that career again. Respondents were asked to rank the occupation on a Likert scale of "1" (most agreement) to "5" (least agreement) for each statement. Chi-square tests revealed a significant difference ($p < .01$) between the respondents' perception of their dental career and their nondental career on all the measures except the amount of financial reward (see Table 6). Respondents found their nondental careers provided more of a creative outlet, made them feel less trapped and isolated socially, were less difficult, but offered no greater financial reward. They strongly felt they would re-choose their nondental careers rather than their dental careers.

The voluntary comments section of the instrument generated a wide variety of responses which could be aggregated into some broader categories. Frequent statements included how much they appreciated someone looking into these issues, what an arduous journey it was to actually switch careers (and that there was little guidance or assistance available), how potential students need to

know both themselves and dentistry before admission, and how difficult both the profession and dental school are. Many of the respondents who had re-entered dentistry on at least a part-time basis ($n = 44$) reported they enjoyed dentistry more once they had spent some time in a different occupation.

Discussion

The population surveyed in this study was similar in many demographic variables to the average dentist in private practice (Berry, 1996). The average age for respondents was 50.4 years old, while that for professionally active dentists in the ADA was reported as 46.9 in 1996. Males represented 88.4% of the survey respondents, compared to 86.8% in the ADA report. Twenty percent of respondents noted a dentist in the family, while 11.5% of the 1994 applicants to U.S. dental schools noted they had a parent who was a dentist. However, the study population was significantly ($p < .01$) less likely to have held a solo clinical position (37% vs. 69%). We speculate that this could be a result of this sample's larger degree of uncertainty about their dental future.

It is unclear whether the list the ADA provided for this study was current and complete. The ADA census of all den-

tists is conducted every three years, and this sample came from the 1991 census. The authors believe that the actual number of complete career changers is probably far greater than the sample size would imply, as the dentists who leave and still respond to a mail survey from the ADA may represent a minority of the actual population of former dentists. The sample used also could represent a reporting error, as many career changers may have chosen not to report any change for personal reasons. The response rate of 36% was better than expected in light of the respondents' assumed lack of interest in their former occupation and the probability that many more than ten of the initial 700 names may have left clinical dentistry due to a disability. There is also the probability that a far greater number of dentists who experience similar career dissatisfaction are partial career changers, e.g., dental educators, public health dentists, etc. Many more may merely live out the consequences of choosing a career path for which they were poorly suited as they have made such a substantial investment in time, money, and effort.

Career choices are as distinct and unique as the individuals who make them. This study did not attempt to look extensively at the sample population's individual career paths. The reasons for pursuing dental education (Table 3) were similar to those reported in the literature for dentists in general. The fact that only seven of the respondents (3%) cited any significant work experience in a dentally related field prior to admission suggests the study population may have not had a realistic idea of clinical dental practice. Although similar figures for all dentists were not available for comparison, over 7% of 1994 applicants to U.S. dental schools noted they had earned a certificate in a dental field, i.e., registered dental hygienist, certified dental assistant, or certified dental technician (American Association of Dental Schools, 1992).

The portion (31%) of career changers who received significant postgraduate training after dental school may indicate

Table 5

Frequent Postdental Careers

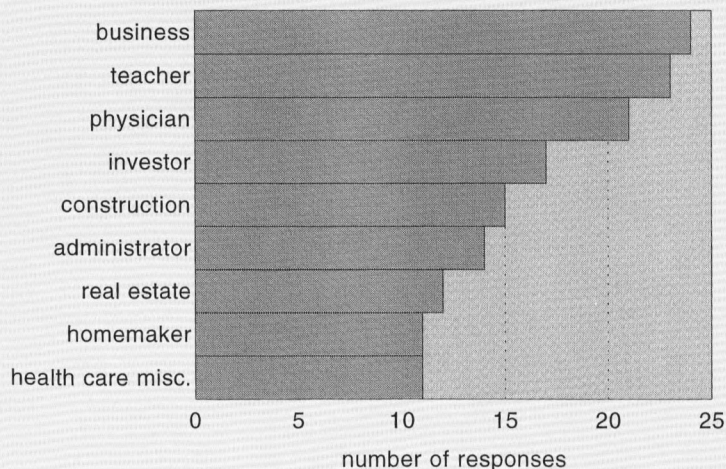
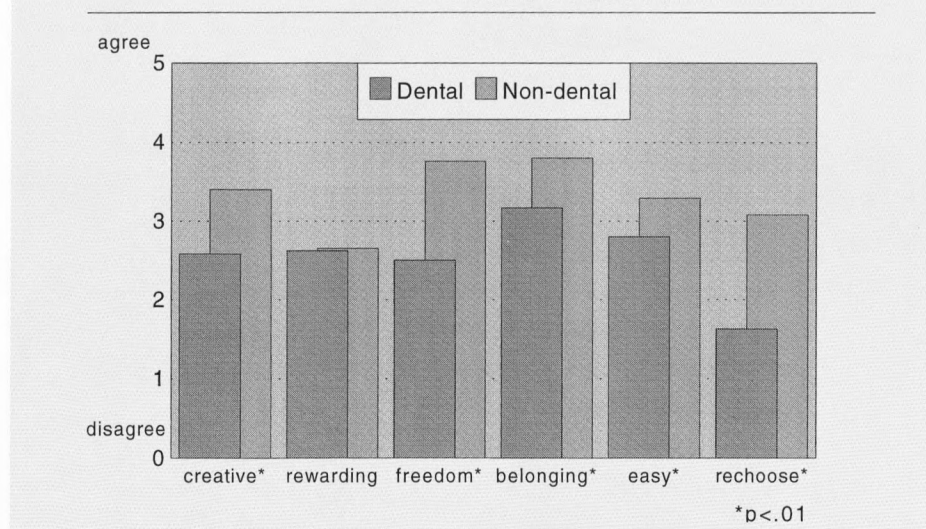


Table 6

Career Evaluation Dental vs. Non-dental Career



a search for change within the confines of traditional dentistry. The relatively short length of time (6.2 years) in each clinical career experience, and the fact that respondents averaged 2.1 different experiences may reflect the overall lack of satisfaction most respondents had in clinical dentistry. Again, data on all dentists were unavailable for comparison.

Comparisons of the reasons for entering (Table 3) and for leaving the profession (Table 4) reveal some marked disparities between the respondents' perception of a dental career and the reality they faced once in practice. The second most common response for both entering and exiting dentistry was financial considerations, clearly indicating a variance between the general perception of economic reward in dentistry and the respondents' own experiences. Similarly, independence was the third most common reason for entering, yet excessive outside regulation and interference was the fourth most common reason for leaving. Finally, although being associated with a profession was the most common reason cited for entering dentistry, the "decay of the profession" was the eighth most common reason for leaving.

Conclusions

Dentistry requires such an extensive period of arduous study, as well as a major financial commitment, that leaving the career is a drastic personal move. Dental satisfaction and dental career change is an area that should be addressed by both organized dentistry and dental education. The loss of time, money, and effort involved in this drastic occupational change should be minimized for the benefit of the involved individuals, their schools, the dental profession, and society.

Although this study may represent only a portion of the entire population, some suggestions may be offered. There appeared to be strong differences between this population's perception of a dental career and the reality of clinical practice, especially in the areas of economic reward, freedom, and professional identity. The small percentage of students who had any prior experience in the dental field may indicate a need for more exposure prior to career choice. Further, there exists numerous measures of personality and occupational interest which could assist both the applicant and the school in making a successful choice. These factors may be important consid-

erations for dental school admission of officers, especially in light of the growing applicant pool from which they may choose.

Further research is warranted in several areas. A more accurate sample could be obtained by comparing graduation lists at selected dental schools with licensure records. A more detailed survey instrument could be developed to better measure and categorize responses. A greater effort to contact those members of the sample population who failed to respond to the written survey would increase the response rate, as many former dentists who have changed careers may have been initially reluctant to answer a written survey from their former profession. A comparison of attitudes on the positive and negative aspects of a dental career by currently practicing dentists might reveal differences between that population and those who are career changers. Finally, this study was limited to dental school graduates; it may be enlightening to see if similar results are obtained from those students who begin dental school and do not graduate.

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Dentists' HIV-Related Ethicality: An Empirical Test

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Abstract

This article attempts to determine to what extent, in the context of treating HIV+ patients, a sample of New York dentists has attitudes, opinions, experiences, and reported behaviors which are consistent with the core ethical principle that "the dentist's primary professional obligation shall be service to the public." The article explores and reports differences in these characteristics in two groups of dentists, one strongly agreeing that dentists are ethically obligated to treat HIV+ patients and one strongly disagreeing with the same proposition. Acceptance of extra exposure to risk among health professionals seems not to be as pervasive as it once was. Conspicuous differences in perceived risk, safety, and potential loss of income associated with HIV, as well as concerns about treating homosexuals, are apparent between the two groups of dentists mentioned above.

The notion that a patient's welfare is critical and perhaps paramount, is inevitably identified as a criterion of ethical conduct in analyses of the ethics of health care professionals (Ozar, 1993; Ozar & Sokol, 1994). "The dentist's primary professional obligation shall be service to the public," is a sentiment expressed in the first paragraph of the ADA code of ethics (American Dental Association, 1996). The report and discussion below is, to some extent, an attempt to put this ethical principle to an empirical test in the particular context of willingness to treat HIV+ patients (PHIV+). The paper will also report differences in attitudes, opinions, experiences, and reported behavior of two groups of dentists, those who agreed strongly and those who disagreed strongly with the statement: dentists are ethically obligated to treat HIV+ patients.

Methods

Data were collected, via a mail questionnaire, from 1226 of the 1671 eligible active general private practitioner dentists (response rate, 73.3%) in two boroughs (Queens and Manhattan) of New York City. (A copy of the complete questionnaire is available from the first author upon request.) Eligibility requirements included direct patient contact of at least 16 hours per week. The sample was drawn from the master list of the American Dental

Association, a comprehensive list of nonmember and member dentists (for details of sampling plan see Sadowsky and Kunzel, 1994). In order to encourage participation, potential respondents received a \$10 check and, if necessary, as many as three follow-up mailings.

Respondents were asked, among other items, to respond via a four-point Likert scale (agree strongly, agree somewhat, disagree somewhat, disagree strongly) to the statement, "Dentists are ethically obligated to treat HIV+ patients." Because we were interested in the attitudes and orientations of dentists who held strong opinions about their HIV-related ethical obli-



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This research was supported in part by the National Institute of Dental Research, grant DE 10301.



The June issue of *ADA News* had as its front page headline, "Ensuring patient welfare comes first: Dr. Ten Pas." This message was the focus of a presentation by then Association President Ten Pas to a congressional subcommittee on May 30, 1996.

gations, we analyzed two groups of respondents, those who strongly agreed with the proposition stated above (n=456) and those who strongly disagreed with it (n=162). Attitudes and orientations often associated with willingness to treat PHIV+ were assessed by comparing results for the two groups, using chi-square analyses.

Results

Self-efficacy, practice liability, concerns and worries about safety, and possible homophobia, discriminate those who strongly believe that dentists have an ethical obligation to treat HIV+ patients from those who feel strongly that

they do not (see Table 1). Those with the former predisposition are much more likely than those in the latter group to feel more competent to provide dental treatment for PHIV+ (89% vs. 55%) and to feel relatively safe treating them (90% vs. 51%). They are less worried about becoming infected with HIV (42% vs. 74%) and are less concerned about the potential damage to their practice if they treat PHIV+, e.g., patients and staff leave. They also are more likely to indicate that private practice is an acceptable location in which to treat PHIV+ (74% vs. 20%) and to indicate their willingness to do so in their own practice (89% vs. 42%). Finally, in what may be a tactic for

“dumping” PHIV+, half of the respondents who feel strongly that dentists do not have an ethical obligation to treat PHIV+ are likely to refer PHIV+ elsewhere, while 90% of those who agree strongly that dentists do have an ethical obligation to treat PHIV+ are likely to treat PHIV+ themselves.

There are no statistically significant differences in professed ethical responsibility with respect to demographic variables, i.e., age, gender, ethnicity, solo practice vs. other, or volume of practice. However, differences in attitudes and orientations of dentists who have strong feelings, either for or against the proposition that dentists have an ethical obligation to treat HIV+ patients are large and of such magnitude that they are highly statistically significant. These differences may also be considered as an indication that there may be a typology of dentists who hold such widely divergent views about dentists’ ethical obligations.

Discussion

The data and analyses presented in this paper do not explain why a substantial group of dentists are unable to support the ethical principle that patient welfare is paramount with regard to willingness to treat HIV+ patients. The study design was cross-sectional and consequently no causal direction can be imputed. Whether dentists have the attitudes, opinions, and orientations discussed above because of their ethical orientations or have an ethical predisposition because of pre-existing attitudes and opinions cannot be determined from these data.

Regardless of causal direction, conspicuous problems for some dentists include concerns about risk or safety and potential loss of income. Stigmatizing attitudes toward homosexuals and drug abusers may also be part of the dynamic whereby the respondents in this study form their own concept of ethical behavior.

With respect to personal safety, the risks associated with caring for patients are not new. Indeed, before the

Table 1. Ethics-related attitudes and orientations regarding dentists’ willingness to treat HIV+ patients.

	Strongly Support tx ethic	Strongly Don't Support tx ethic	χ^2 *
Patients would leave my practice if they knew I treat PHIV+	62.1%	82.1%	20.91
My staff does not want me to treat PHIV+	45.1	84.8	73.00
I feel I can safely treat PHIV+ persons in my office	90.2	50.9	112.08
I feel competent to provide dental treatment for PHIV+	89.1	54.6	87.58
By using barrier techniques, I feel safe when treating PHIV+	89.3	40.4	157.27
I'm personally worried about acquiring HIV from patients	41.9	74.1	48.26
I will not treat homosexuals for fear of contracting AIDS	4.1	18.4	31.69
Private practice is an acceptable location in which to treat PHIV+	73.6	19.6	142.83
I am willing to treat PHIV+ in private practice	88.5	42.1	135.65

* All differences are significant at p < .0001.

relatively recent advent of vaccines and antibiotics, infectious diseases were a constant threat to the general population and more especially to healers. Although during times of special peril, e.g., epidemic plague, outstanding courage has not been demonstrated by all health professionals, under more ordinary circumstances in the past, health professionals seemed to have accepted the fact that their work was associated with special risk.

However, acceptance of extra exposure to risk seems not to be as pervasive among health professionals as it once was. Nowhere is this change more patent than it is with respect to HIV. This "new" disease, perceived by

many as resulting in certain death, has led to avoidance of PHIV+ by large numbers of health care workers despite its relatively low risk compared, for example, to hepatitis. Whether differences associated with modern medicine and dentistry in the education, experiences, and socialization of health care workers are explanations for the change is a matter of speculation.

Whatever the facts and however they are interpreted, it is clear that ultimately the burdens, whether they are personal health status or financial in nature, should be shared by members of the profession. The characterization of those who disagree strongly that dentists are ethically obligated to treat HIV+ patients

should enhance our understanding and may suggest different research designs and intervention strategies which may lead to change.

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Design of a Compensation System for Dental Practice

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Abstract

The compensation system has an impact on the performance of employees in a dental practice. A comprehensive system includes many aspects in addition to the pay that employees receive. This paper explores issues related to the design and implementation of compensation systems in dentistry. Major considerations are the role of pay as a motivator of employees, decisions affecting pay equity of employees, the impact of wage and hour laws on pay decisions, the relationship of performance appraisal to potential pay increases, the use of bonus and incentive plans, and incorporation of fringe benefits into a compensation system.

Employees seek many kinds of rewards from working. Financial reward may not be the primary reason people remain as employees of a dental practice. The effect of the compensation package on employees should be clearly understood by dentists so that a comprehensive and rational system will be implemented. It is crucial that the design of the compensation system be understood by employees so they will be aware of how the points mentioned in the following paragraphs affect them and contribute to the overall earnings they receive.

Every dental office wrestles with the question of how to determine the compensation package for employees of the practice. If compensation is inappropriately set, employees may be dissatisfied and their performance may reflect this dissatisfaction. Conversely, employees may be satisfied with their earnings, but the satisfaction may not be evident in their performance. While there is no one best method for determining compensation, there are principles that are applicable in a wide variety of dental practices. Many studies have been conducted to assess the impact of compensation on performance in a variety of organizations. No one has developed the one best way to design a compensation system so that every dentist and employee will be satisfied. The purpose of this paper is to review the relevant aspects of compensation determination for application in a dental practice.

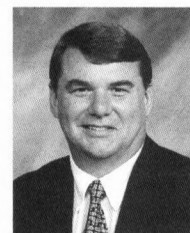
The Role of Pay as a Motivator

Many employers and managers hold the popular belief that employees are primarily motivated by money. While it is true that employees are interested in how much they earn, it is easy for dentists to fall into the trap of believing that if employees' salaries are increased, they will work harder. This belief is a myth. D'Aunno and Fottier (1993) state that employees care about the amount of money they earn, but many other factors also affect work motivation. Among these are interper-

sonal relations with co-workers, interpersonal relations with superiors, intrinsic feelings of accomplishment, extrinsic aspects of the work setting, and the mechanism by which pay is presented and explained to employees. Another myth is that highly motivated workers are more productive. D'Aunno and Fottier (1993) point out that highly motivated employees may perform poorly if their efforts are not properly channeled so that productivity is one of their goals.

Equity in Pay Determinations

Many theories of work motivation have been proposed. One theory that attributes a central role to pay is equity theory (Adams, 1963, 1965). This theory posits that employees compare their level of inputs and outcomes with those of



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other workers and use this comparison to determine if they are fairly compensated. One outcome that is readily apparent and easy to compare is pay. The theory states that if an employee perceives that he or she is underpaid or overpaid, the employee may take several possible actions. First, the person may reassess the level of inputs and outcomes when compared with another person and adjust his or her assessment of the situation. For example, an employee who feels underpaid may come to the conclusion that the comparison employee works harder and is paid in accordance with the amount of effort put forth, thereby resulting in a pay differential that the lower paid employee can rationalize. Second, the employee may attempt to influence the inputs or outcomes of the comparison employee. Examples include attempting to persuade the comparison employee to put forth less effort or trying to influence a supervisor that the comparison employee is overpaid and adjustments should be made so that pay equity is established. Third, the employee may decide that he or she has selected the wrong comparison employee and realizes the need to select a more comparable comparison employee. Fourth, the employee may reduce his or her involvement in the work relationship. The ultimate example would be the employee who resigns because of the perceived inequities in the reward system.

Several implications of this theory are relevant for the practicing dentist. First, it must be recognized that pay is a motivator, but not the only or even the most important motivator of employees. Second, the perceived equity of rewards provided to employees is as important as the reward itself. Pay is the most visible reward and many employees compare themselves to others on the basis of earnings. Therefore, a compensation system must be designed so that employees as well as the dentist perceive the rewards as equitable.

Wallace and Fay (1988) explored the relationship between equity in the work

setting and its impact on employee behavior in great detail. They examined four aspects of equity: external, internal, individual and process. There are implications related to each of these aspects for a dentist in making pay decisions.

External equity is the influence of the labor market on the amount of money that an employer pays for a given position. Specifically, external equity focuses on supply and demand forces that impact pay rates in the dental practice. Dentists must be aware of wage rates in the community and realize that the pay schedule for various types of dental employees will be influenced by what other

No one has developed the one best way to design a compensation system.

employers are paying employees for jobs requiring comparable skills. Other relevant employers are not limited to dentists, but also include employers outside of dentistry. If dentists cannot hire employees with the qualities they are looking for, external factors may force dentists to increase the starting pay for new employees above that which they had intended to offer.

Internal equity focuses on determining the worth of a job to the organization. In a dental practice, internal equity involves a decision of how much each position in the practice contributes to the success of the practice. The dentist is faced with deciding, for example, how much a hygienist contributes to the practice relative to the contributions of an expanded duty dental assistant. Thus, internal equity looks at the comparable worth of each position in the practice. Wallace and Fay (1988) site the following factors for determining relative worth: (1) responsibility, (2) skill needed to perform the job, (3) effort expended, and (4) working conditions. Many dentists pay hygienists a higher salary than other em-

ployees because they have more responsibility and require more skills to do the tasks assigned to them. For this reason, hygienists may be paid more even though the effort expended and the working conditions may be comparable to that of other employees in the practice. The dentist must be able to justify to himself or herself and the employees of the practice that internal equity has been achieved. If employees do not believe that internal equity has been achieved, they will look for employment in another setting or put forth less effort to achieve perceived internal equity.

Individual equity focuses on the individual rather than the job or position. The previous types of equity considered the job or the position regardless of who occupied the position. Individual equity looks at how the salary for individuals is determined. Individual equity considerations suggest that the employee with longer job tenure receives higher pay and the more productive employee be paid more. This last statement may seem like common sense, but pay equity among employees doing the same job is a problem because of a tendency to consider factors other than longevity and performance. The other factors most often include psychological traits displayed by employees that appeal to the dentist. If, for example, an employee and the dentist both are involved in church activities, the dentist may perceive the employee to be more productive than another employee because of their shared interest in a common activity. A dentist must recognize the potential pitfalls that may arise in assessing employees and focus on the contribution to the practice rather than on extraneous factors that may influence the dentist's assessment of employees.

The last aspect of equity is process equity which looks at fairness in the administration of the compensation program. Wallace and Fay (1988) have identified five aspects of process equity: organizational culture, openness regarding the compensation system, communications related to operation of the

Organizational culture refers to a set of beliefs about what is acceptable behavior in an organization that is derived from a concern for people and for productivity. The action and behavior of the dentist sets the tone for the practice such that the concern for both people and productivity can be high or low. Sethia and von Glinow (1985) label culture as *integrative* if the concern for both people and productivity is high. The culture is *caring* if the concern for people is high coupled with low concern for productivity. If the concern for productivity is high and the concern for people is low, the culture is termed *exacting*. And the culture is labeled *apathetic* if both the concern for people and productivity is low. With the exception of the apathetic culture, any of the remaining three styles result in the successful operation of a dental practice if all members of the practice are aware of the culture and its impact on the operation of the practice.

Openness of the compensation system focuses on the availability of information about compensation matters to the members of the organization. If process equity is to be achieved, openness should be the norm of the organization. In this context, openness refers to freely sharing information about how the compensation system is administered, but does not imply that earnings of each employee will be shared with other employees of the practice. Letting employees know how compensation levels are established and providing information that is comprehensive and understandable is especially important.

Much of the dissatisfaction related to compensation may arise from a lack of understanding of how compensation is determined. A clear explanation of this process increases employee understanding of equity issues. The dentist should take responsibility for communicating this information to employees.

Employee participation in compensation decisions is problematic because involving employees in these decisions erodes the control of the dentist. The piece of information that may be viewed as the most confidential is the earnings of

each employee. Even though a dentist may try to keep this information confidential, an employee who desires to know how much other employees are earning will probably be able to obtain this information. Therefore, we suggest that the dentist recognize the likelihood of employees knowing how much everyone in the practice is earning. Employees may play a role in the overall design of the compensation system, but should have no input regarding the earnings of individual employees. Employees may influence the frequency of pay (weekly or biweekly), the relative importance of various factors in performance assessment, and the availability of fringe benefits, but the ultimate decision of how much an employee earns is the responsibility of the dentist.

The last part of process equity is the grievance and appeals process. We suggest that the dentist be willing to discuss with all employees any problems the employees have with their level of compensation. These discussions should be open and nonconfrontational. However, the dentist must realize that he or she makes the final decision and some employees may not be satisfied with the outcome of the discussion. If the dentist feels that an employee was fairly treated, no further discussion is needed and the employee must realize that no further actions regarding compensation will occur.

Wage and Hour Requirements

The Fair Labor Standards Act (FLSA) governs several aspects of the employment relationship. The FLSA distinguishes between two classes of employees: exempt and nonexempt (Milkovich & Newman, 1992). Exempt employees are not subject to the provisions of the FLSA whereas nonexempt employees are covered. Exempt employees are defined as those holding professional, administrative, and executive positions.

In order to qualify as exempt all of the following conditions must be met:

1. The work must involve knowledge gained through prolonged and specialized study or be original and creative.

2. The work must require the exercise of discretion or judgment.
3. The work must be mainly intellectual and nonroutine.
4. The job must include primarily management duties.
5. The person holding such a position must supervise two or more employees.
6. The person must control or heavily influence hiring, termination, and promotion decisions.
7. The person must be required to exercise discretion.
8. The person must devote at least 80% of his or her work activities to the activities listed in the previous seven points.

In a dental practice, the vast majority of employees are nonexempt. The only possible exempt employee is an office manager who meets the criteria set forth in the preceding paragraph. A hygienist, assistant, receptionist, laboratory technician, or insurance clerk would be nonexempt.

The FLSA requires that nonexempt employees be paid the federal minimum wage. Some states may have higher state minimum wage requirements that dictate a minimum wage above the federal level. Any nonexempt employee who works more than 40 hours in one seven-day work period must be paid at the rate of 1.5 times the usual hourly pay rate for any hours above 40. Further, if an employee is paid biweekly, the provisions of the FLSA state that overtime must be computed on seven-day time intervals. An employee who works 38 hours in one week and 42 hours the following week is entitled to two hours of overtime pay even though the person is paid biweekly. Even though nonexempt employees are paid a salary rather than an hourly wage, the provisions of the FLSA are applicable. Thus, the weekly salary can be divided by 40 and an hourly rate is obtained for assessing compliance to the minimum wage provision and for computing overtime pay if a nonexempt employee works more than forty hours in a seven-day time period.

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The FLSA also includes record-keeping provisions related to payroll and employee time reports of nonexempt em-

We recommend basing pay on both performance and longevity.

ployees. Employers are required to keep all payroll data for three years. These data includes time and earnings records that show the wage rates employees are paid, hours worked each day, and any other information relevant to earnings and time worked. In order to be in compliance with the FLSA requirements, a dental practice must use either a sign-in sheet that indicates starting and stopping times for each morning and afternoon worked, or a time clock that records this information. If sign-in sheets are used, the employee must sign the form verifying that the information reported is correct. These forms should then be kept by the practice for three years.

Pay Based on Performance vs Pay Based on Longevity

A decision to pay employees based on performance as opposed to longevity involves a consideration of how the dentist views the role of pay in the employment relationship. If a goal of the practice is to reward those employees who have contributed in outstanding ways to the practice, pay should be based on performance. The dentist who wishes to minimize discussions about pay and wants a simple reward system should base pay on longevity. If both performance and time on the job are considerations in pay determinations, both performance and longevity may be used to determine pay levels.

Heneman (1992) has summarized many of the issues related to basing pay decisions on performance, referred to as merit based pay. He has identified the following characteristics associated with merit based pay:

1. Merit pay is awarded on the basis of actual rather than potential performance.
2. Merit pay decisions are based on subjective ratings of employee performance rather than more objective measures such as units produced or profits generated.
3. Merit pay is based on individual performance whereas incentive plans in many organizations are based on group performance.
4. Merit pay is based on an assessment of performance over time rather than performance at one point in time.

Heneman (1992) has further identified the following as being associated with the successful implementation of merit based pay systems:

1. Expected performance must be clearly defined and communicated to employees.
2. Performance must be accurately measured for each employee.
3. Employees must place a value on increased pay.
4. The relationship between pay and performance must be understood by employees.
5. Specific goals must be established for employees.
6. The relationship between pay and performance perceived by employees should be treated as being as important as the actual relationship between pay and performance.

The administration of a merit based system is more complex and requires more effort than a pay system based on longevity. The underlying assumption is that overall performance of the practice will be increased by linking pay to performance because employees will put forth more effort if they are financially rewarded for their efforts. However, if employees are not motivated by the poten-

tial for increased earnings, a merit system will not achieve the goal of increasing the productivity of the practice.

A dentist who wishes to avoid the hassles of administering a merit based system should consider a pay system that rewards time on the job. If employees are paid according to length of service, there is no incentive for superior performance other than the employees' desire to perform at a superior level. This approach encourages employees to perform at a level that does not result in termination for poor performance, but there is no economic incentive to exceed that level. The dentist who is satisfied with the productivity that results from a pay system based on longevity has no need to consider performance as a basis for determining pay levels. This is a very simple system to administer and usually results in few disagreements between the dentist and employees regarding pay issues because pay levels are known by everyone in the practice and increases are based on length of service.

We recommend basing pay on both performance and longevity. This implies that a dentist will be able to define and measure performance as previously discussed. This type of system rewards the employee who stays with the practice for an extended period of time, although the employee will never reach the maximum pay level unless performance is superior.

If an employee stays with a practice for a long period of time, the person may eventually reach a point at which he or she is at the maximum for a particular job. Increases after this time may be related solely to increases in the cost of living. Employees should clearly understand that earnings may reach a plateau and future increases will reflect only changes in the cost of living.

Performance Appraisal

If employee performance is used to determine pay increases, the dentist must evaluate performance in a rational and consistent manner. This requires a system that focuses on the day-to-day activities performed by employees. This approach implies that a dentist will identify

the activities performed by each employee and develop a mechanism to assess the level of employee performance. This does not mean that performance is judged as either satisfactory or unsatisfactory. The focus is on the level of performance recognizing that, except in rare instances, there is room for improvement. If performance is consistently below the level of expectations, the employee should not be retained in the practice or the expectations of the dentist should be revised.

We stress the importance of evaluating only job related behaviors. It is inappropriate to focus on personality traits, attitudes, or beliefs of individuals when evaluating performance. However, this is probably the most common pitfall that occurs when evaluating employee performance. While an employee may be pleasant and enjoyable to be with, these qualities must not be allowed to cloud the issue of whether or not the employee is performing the work-related activities at a level that justifies continued employment in the practice. The dentist must be able to put aside personal opinions and focus on the accomplishments of the employee as a member of the practice. Further, if pay increases are influenced by performance evaluations, the outcome of these evaluations must be explained to the employee so that it is clear how performance relates to pay raises. There is no substitute for open communication regarding these issues, and it is the responsibility of the dentist to provide this information to employees.

Bonus and Incentive Plans

An issue related to pay determinations is whether to use a bonus or incentive plan as a means of increasing the productivity of a dental practice. An underlying assumption related to the implementation of bonus or incentive plans is that employees are motivated by the opportunity to earn additional income. If employees are not interested in the additional income, a bonus or incentive system will not be effective in increasing productivity of the dental practice. Thus, the dentist

must assess the willingness of employees to put forth the additional effort that will result in increased earnings. A related concept is that the productivity of the practice cannot be increased only by additional effort by the employees. If more patients are seen by the practice, the dentist as well as the employees must put forth additional effort. We stress the point that employees cannot be more productive unless the dentist is also more productive. Therefore, a dentist who chooses to implement a bonus or incentive plan should realize that he or she will be required to work harder in order to increase the productivity of the practice.

There are advantages and possible drawbacks to consider when deciding whether to use a bonus or incentive system. In the preceding paragraph one potential advantage was discussed: increased production which leads to increased earnings by the dental practice. Another possible advantage in-

*Employees cannot be
more productive
unless the dentist is more
productive.*

cludes more involvement of employees in the operation of the practice because they have a stake in the financial aspects of the practice. If the bonus or incentive earnings are based on group performance, the performance of one employee affects the earnings of all members of the practice. If an employee is not contributing at the level expected by other members of the practice, pressures may be exerted on the lax employee by other employees because they want to earn as much as possible.

One possible drawback focuses on the concept of paying employees additional compensation for achieving what they should be doing given their usual hourly pay rate. An incentive system rewards employees for additional effort. The argument is some-

times put forth that all employees should be expected to perform at their maximum capabilities without the use of an incentive system. However, it has been hypothesized that many employees put forth less than maximum effort. Lawler (1994) summarized several studies that showed an increase in productivity when incentive systems were used. These findings support the argument that employees do not always work at optimal levels.

Another possible drawback is that a bonus or incentive system may be disruptive among employees because they will compete with each other for a limited pool of additional income. This may be a problem if the incentive earnings are based on individual rather than group productivity.

If a bonus or incentive system is to be used in a dental practice, we recommend the system be based on group rather than individual achievement so that cooperation rather than competition is fostered among employees. Further, if a group-based reward system is used, there is no need to keep a record of individual contributions. For example, it is difficult to assess how the activities of a receptionist have contributed to the productivity of the practice. It is possible to count the procedures performed by a dental assistant, but the assistant may not have control over the number of procedures performed. For these reasons we recommend a system based on group rather than individual performance. One way to structure a group based incentive plan is to establish a target level of net income for a specified time period such as a month or a calendar quarter and provide a bonus to every employee if the target level of net income is exceeded. We recommend a range of 25% to 35% of the amount in excess of the target amount be distributed to employees. The remainder should go to the dentist because he or she has expended additional effort in order to increase the level of net income, and we reiterate that the employees cannot be more productive unless the dentist is more productive. If less than 25%

is distributed to employees, they are likely to perceive that the additional effort is not justified. A distribution of more than 35% to the employees does not recognize the contributions of the dentist in increasing productivity of the practice. For example, suppose that a solo practitioner employs a staff of four and establishes a target level of net income of \$30,000 per month. If the target level is not achieved, each employee receives his or her hourly wage with no bonus. The bonus might be structured so that employees receive 30% on the net income in excess of the target level. Thus, if net income is \$33,000 for a month, each employee would receive a bonus of \$225 and the dentist would receive \$2,100. An alternative approach is to reward employees based upon net income falling into pre-established ranges. Using \$30,000 as the target amount, each employee in the practice would receive a \$150 bonus if net income fell in the range of \$30,000 to \$33,000, the bonus would be \$300 if the net income was between \$33,000 and \$36,000, and each employee would receive \$450 if the net income exceeded \$36,000.

When establishing a bonus or incentive plan, several factors should be considered. First, a realistic target amount must be established. It would be quite difficult for a new practitioner to determine an expected level of net income with little or no history upon which to base this type of projection. Second, the target level must be such that it is not routinely achieved with little or no additional extra effort. Conversely, the target amount should not be set so high that employees perceive little or no opportunity to exceed the target amount. Establishing a target amount requires accurate and realistic projections of what the practice may be able to achieve in the future if everyone puts forth additional effort. Third, it must be recognized that changes in the fee schedule will result in changes in the level of net income. Thus, when the fee schedule is revised, the structure of the incentive system in terms of target amount and payment mecha-

nisms should be reviewed. Fourth, the employees must fully understand the workings of the incentive system so that they clearly understand how their extra efforts are being rewarded. The system may not be accepted by employees, even though they receive substantial rewards, if they do not understand how the rewards are allocated. This level of understanding by employees implies that they will know the financial details of the practice. If a practitioner is unwilling to share financial information with employees, such a plan should not be considered.

In summary, do we feel that incentive systems can be beneficial? The answer is a qualified yes, provided that the dentist is willing to invest the time and effort required to develop a comprehensive and rational system. However, a practitioner should keep in mind the issues discussed in this section and realize that an incentive system can have detrimental as well as positive effects on employees.

Fringe Benefits

When designing a compensation system, a dentist should include fringe benefits in the compensation package. In order to be competitive in the marketplace when recruiting employees, many dentists must offer some fringe benefits as a means of attracting and retaining qualified employees. Commonly provided fringe benefits include paid vacations, paid sick leave, paid holidays, reimbursement for continuing education expenses, and free or reduced-cost dental care for employees and their families (Willis, Scheetz, Butters, & Sleamaker, 1995). Less commonly included fringe benefits include disability insurance, health insurance, life insurance, and contributions to a retirement plan.

We will review considerations related to each of the most commonly provided fringe benefits. If *paid vacations* are provided, the primary questions to be answered are (a) how much vacation time is allotted for each employee and (b) who decides when vacations may be taken. Paid vacations are commonly tied to

length of employment so that an employee has more vacation time as the number of years with the practice increases. For example, an employee may have one week of paid vacation for each of the first two years of employment, two weeks for years three through five,

A dentist should include fringe benefits in the compensation package.

and three weeks in every year past five years of employment.

With regard to deciding when employees may take vacations, consideration must focus on the wishes of employees and the staffing needs of the practice. We suggest that employees be required to request vacations in advance of the usual lead time that patients are scheduled. For example, if patients are usually scheduled three weeks in advance, then employees may be asked to submit their vacation requests four weeks prior to being on vacation so that patients can be scheduled accordingly, given that reduced staffing will occur when employees are on vacation. If an employee desires to take vacations with family members who may take vacations only at specified times of the year, the employee may be disgruntled if he or she is forced to take vacations at times that do not coincide with those of other family members.

A dentist should make an effort to accommodate the wishes of employees in this regard, but the dentist must also realize that it may be impossible to accommodate all wishes of employees regarding the scheduling of vacations. If the dentist will be treating patients, it is essential that an adequate number of staff members be present so that treatment can be provided in a timely manner. If two of four employees of a practice are on vacation at the same time, timely

treatment may be impeded. The dentist will be forced to decide how many staff personnel may be on vacation at the same time. A dentist may decide to close the office, and everyone in the practice will be on vacation at the same time. The dentist should realize that this approach may not be favored by some employees, but the dentist has the ultimate responsibility for deciding vacation policies. It is extremely important that employees understand these policies. Therefore, we strongly urge practitioners to fully explain vacation policies as part of the hiring process so that there will be no misunderstandings after an employee is working in the practice.

A second commonly provided fringe benefit is *paid sick leave*. If paid sick leave is provided, the primary question to be answered is how much sick leave is allocated for each employee each year. We believe it is important to stress to employees that paid sick leave is not another form of paid vacation and should only be used when an employee is ill. For this reason, we suggest that a dentist consider providing no more than five paid sick days per year. Furthermore, a buy-out provision may also be used to avoid abuses of paid sick leave. Two alternatives are converting unused sick leave to paid vacation and paying employees for the unused portion of their sick leave at the end of the year. This approach encourages employees not to view sick leave as a "use it or lose it" type of benefit and also lessens the possibility that a dentist will have to reschedule patients because an employee will be absent with little notice. By using this approach, the practice should operate more efficiently because the necessity to function with an employee absent on short notice will be decreased. Our last suggestion regarding sick leave is that employees who are sick must speak with the dentist rather than another employee of the practice. If employees know they will have to answer some pointed questions about their use of sick leave, they may be less inclined to abuse sick leave privileges.

The third fringe benefit to consider is *paid holidays*. There are typically six to ten paid holidays per year depending upon

An example of the tax advantages of flexible benefits.

Assume an employee wants to withhold \$2,400 per year to pay for health care for an elderly parent. The gross pay is \$20,000 per year and the income tax rate is 25%. Under Option 1 nothing is withheld from the employee's pay for elder care expenses. Under Option 2 \$200 per month is withheld. The results of both options are as follows:

	Option 1	Option 2
Gross pay	\$20,000	\$20,000
Pretax care costs	0	2,400
Taxable income	20,000	17,600
Taxes (@25%)	5,000	4,400
Posttax care costs	2,400	0
Net income	\$12,600	\$13,200

This simple example shows that the employee has more take home pay if the amount of health care costs are deducted from pretax rather than posttax income. There is a benefit for the employer as well as the employee under flexible benefit plans. The employer is required to pay withholding expenses such as social security and unemployment taxes based on the level of employees' taxable income. As the example shows, the taxable income of the employee and, therefore, the expenses of the employer may be reduced through the implementation of a flexible benefit plan.

the type of organization. Some of these may include more than one day off, specifically Thanksgiving and Christmas. If the office is closed for more than one day during a holiday period, the dentist should carefully consider the impact on revenue versus the availability of patients. If it is obvious that patients are reluctant to schedule treatment for the day after Thanksgiving, it may be appropriate to include this day as a holiday. However, if patients request appointments on this day, the practice should be open. There are no hard and fast rules for establishing holidays. Holiday policy should be discussed as part of the hiring process so that employees will not be confused about which days are considered as holidays by the practice.

The fourth fringe benefit to consider is *reimbursement for continuing education expenses*. Many states have laws that require dental office employees to take part in continuing education offerings in order to maintain their licensure or certification. The question to be answered is:

who pays the cost of these activities? Many dentists pay all or part of these costs as a means of attracting and retaining employees. Many employees will expect to receive their regular pay on days that they attend continuing education courses because they view their attendance as benefiting and contributing to the productivity of the practice as well as enhancing their skills. Furthermore, it may be a financial hardship for an employee to forego a day's pay. The practice can treat continuing education reimbursement as any other business expense. If the practice pays all or part of the cost of continuing education, we feel it should be the prerogative of the dentist to decide which courses an employee may attend. In this way, the dentist can select those courses that will benefit the practice and eliminate those that have little value.

The last fringe benefit is *dental care at no cost or reduced cost for employees and their families*. One argument for providing dental care as a fringe benefit for employees

is that patients may be less likely to accept treatment if it is obvious that employees need treatment, but have not been treated. Conversely, if an employee has been treated by the dentist, he or she can point out to patients the benefits of receiving treatment and show the patient the excellent work performed by the dentist. The issue of whether or not to treat family members at no cost or reduced cost is not easily decided. Many practitioners limit treatment to immediate family of the employee to include the employee's spouse and children who are attending school. Furthermore, when treating family members, reduced costs may apply only to cleanings and simple restorative procedures as a means of limiting the amount of reduced-cost treatment provided by the dentist. For example, if full mouth reconstruction is needed by a family member, we feel it is unreasonable for the dentist to provide treatment of this magnitude and not be fully compensated. Lastly, if the services of a dental laboratory are required as part of the treatment, the employee should be asked to pay the full laboratory cost because this is an expense that, in our opinion, should be paid by the employee rather than the dentist.

The cost of providing fringe benefits can be substantial. The typical practice should expect to spend 20% of salaries on fringe benefits. Thus, if the annual pay of employees totals \$70,000, the fringe benefits can be expected to add an additional \$14,000 to operating expenses. For this reason, a dentist should carefully consider which benefits will be provided to employees and clearly communicate that the compensation received includes more than the dollar amount employees receive as take-home pay.

A newly developed approach to providing a benefit package is called a cafete-

ria or flexible benefit plan. These plans allow an employee to choose those benefits that are needed by the employee and forego benefits that are not needed. For example, an employee who has health care coverage through a spouse's place of employment may not need coverage provided by the dental practice. However, the employee may be responsible for an elderly parent who requires care paid for by the employee. If a specified dollar amount is withheld from the employee's paycheck, this amount may be treated as a business expense by the practice and is a pretax expense for the employee, such that neither the practice nor the employee pays taxes on the amount withheld.

Summary

In this paper we have discussed many issues related to the design of a compensation system relevant to the operation of a dental practice. A well designed system can reward employees who have performed well and encourage continued outstanding performance. It is the responsibility of the dentist to understand the implications of actions taken with regard to compensation and to consider how these actions will affect the employees of the practice. Many times the reactions of employees will be a surprise to the dentist because the implications of compensation decisions have not been assessed. It is extremely important that a rational and well thought out approach to compensating employees be used by a dentist. Assessing the implications and potential reactions of employees to actions taken by the dentist can alleviate many problems that may arise from hasty decisions related to compensation.

Our final advice focuses on the necessity of communicating compensation

decisions to employees. Some employees may be dissatisfied with the actions taken by the dentist. This reaction may be unavoidable, but the occurrence can be minimized if the dentist takes the time to meet individually with each employee and discuss how the current level of earnings was determined and what the employee could do in the future to earn pay increases. It may be threatening for the dentist to engage in these discussions, but it is essential to communicate this information to employees. There is no acceptable substitute for face to face communication. By doing this, the dentist provides an opportunity for each employee to ask questions and raise issues of concern which, if discussed in a calm and caring manner, can further enhance the productivity of the practice and improve the interpersonal relationship between the dentist and the employees of the practice.

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Sealed with a Scarab: The ACD's Official Emblem Traces Its Heritage to Ancient Egypt

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From the coat of arms to the corporate logo, every enterprise craves a symbol to announce and burnish its identity. Marshall Dillon stacked social and moral leverage onto his legal authority by pinning a star to his shirt. Superman never rescued Lois Lane without the power of that famous spandex "S" on his chest. More discreetly, Fellows of the American College of Dentists may sport their own mark of distinction: a gold lapel pin or lilac and rose rosette.

The College's lapel pin bears the image of its seal. Such medical trademarks are practically as old as western medicine. The healing art's senior insignia, of course, is the caduceus. That symbol owes its eminence to Homer, the eighth century B.C. Greek poet who gets the official byline for composing the larger-than-life stories of the *Iliad* and the *Odyssey* that mark the beginning of Western literature. Amid the *Iliad's* tales of the Trojan War struggles of Agamemnon and Achilles, emerges another alliterative hero named Asclepius. Although rumored to be Apollo's son, Asclepius debuted in literature as a mortal, both a warrior and "blameless physician." Medicine was a gallant and sorely needed occupation in that hazy world of bronze-age carnage, and his impeccable reputation eventually elevated the good doctor's status. By Hippocrates' heyday four centuries later, Asclepius had been transformed into a god of medicine, complete with

a collection of temples and healing-cult following.

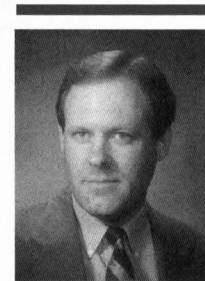
Asclepius' sign was the snake. In contemporary America, snakes are rarely appreciated. However, earlier, less squeamish cultures considered them a potent symbol of knowledge. The Mesopotamian epic hero Gilgamesh lost the herb of healing to a snake. Asclepius, in contrast, received his healing skills from a serpent. As a result, he was often portrayed with a snake coiled around his staff. Christianity eventually eclipsed Asclepiad priests as arbiters of the meaning of disease and healing. Nevertheless, Apollo's son has left modern medicine several readily recognizable legacies. One is the names of his deified daughters, Hygieia (hygiene) and Panacea (cure-all). The other is his symbol. Filtered through Roman mythology by way of the messenger god Mercury, the snake on a stick evolved into two snakes intertwined on a winged staff to reinforce the transcending power of deliverance and healing. The caduceus is an enduring ensign of modern medicine.

Dentistry is sometimes represented with a caduceus bearing the letter "D" at center. The official emblem of the dental profession, as adopted by the American Dental Association in 1965, incorporates the original Asclepian symbol with a distinctive variation. Its central figure is a serpent coiled around a medieval Arabian cautery instead of a staff. The Greek letter delta, for "dentistry," and the Greek letter omicron, for

"odont" (tooth) form the periphery as an interlocked triangle and circle. In the background are thirty-two leaves and twenty berries representing the permanent and temporary teeth.

The word caduceus means herald. Yet not all dental societies herald their presence by perpetuating the caduceus. The seal of the American College of Prosthodontists, for example, bears the image of a torch. And current design trends may favor more literal symbols. The symbol of the Arizona Academy of General Dentistry, bordered by the outline of the state's shape, displays the silhouette of a clutch of dental instruments, including explorer, extraction forceps, and amalgam carrier. The Chicago Dental Society's mark is simply a bold, interlocking arrangement of three stylized letters, C, D, and S.

The emblem adopted as the seal of the American College of Dentists likewise studiously avoids the traditional caduceus. Probably around 1932, when the College was developing its fellowship certificate, a Mr. S.M. Phelps was charged with developing a seal. Phelps' mentor



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was Dr. H. Edmund Friesell of Pittsburgh, PA, a charter member of the College's first Board of Directors (which later became the Board of Regents), and the first ACD vice president. The Phelps-Friesell symbol bypassed the Greek influence entirely, and instead pays homage to the place of dentistry's first ascendancy: Egypt.

Egypt offered the College a significant choice of motif for at least four reasons. First, the Egyptians were the first to recognize dentistry as a separate health care specialty. Greek writers from Homer to Herodotus praised the physicians of Egypt for their wisdom and skill. There were apparently compelling incentives along the Nile to pursue such preeminence; the Greeks also knew Egypt as the "mother country of diseases." Such a reputation provides an explanation for Herodotus' observation that, "Medicine is practiced among them on a plan of separation...some undertaking to cure diseases of the eye, others of the teeth, others of the head, others of the intestines, and some of those which are internal."

Second, Egypt also boasts history's first identified dentist, Hesi-Re, a court practitioner whose hieroglyph designates him "chief of the physicians who treat teeth." Hesi-Re's name, in fact, means "praised by the king." The king in question was Djoser, an Old Kingdom pharaoh who, around 2600 B.C., built the great Step Pyramid at Saqqara. Hesi-Re's was an impressive medical generation. The pyramid's versatile architect, Imhotep, was also a physician who became venerated later on as a god of healing. Imhotep's meteoric career was irresistibly similar to that of Asclepius, and the Greeks eventually declared the two deities equivalent.

Third, Egypt provides one of the world's oldest extensive medical texts, which contains significant dental sections. The Egyptians suffered from a variety of dental problems. Severe attrition, resulting in alveolar abscess and cyst formation, was a common malady. At least among the nobility, caries and calcu-

lus were probably as widespread as they are in the modern West. The Egyptians were also meticulous record keepers. Many of their medical writings still exist. The most comprehensive and best preserved is the Ebers Papyrus, discovered in 1872 at Thebes by the German professor Georg Ebers. Compiled between 3500 and 1550 B.C., the papyrus describes diseases and catalogues prescriptions and treatments, among which are numerous references to dental disease and preventive measures. For example, for "strengthening a tooth," the reader is directed to apply a mixture of equal parts meal of the seed of emmer (a wheat-like grain), ocher, and honey.

Fourth, Egyptian art yields abundant interesting and versatile images for designers to exploit. The land where hieroglyphics were not only a way of writing but an art form produced dentistry's first symbol: an eye (denoting one who deals with or treats, e.g., practitioner) and a horizontal elephant's tusk. Some symbols were universal. The sun was central to the Egyptian sense of life. The beetle, or scarab, was a symbol of creation and new life. The winged scarab represented the morning sun. The moon was regarded as the night time sun. The lotus blossom was also a sign of the sun, and of renewal.

The College's emblem engineers assembled such Egyptian-inspired components into their design. The seal's outer circles are embellished with the ornament from an ancient tomb. Just inside the perimeter lies a pair of lotus flowers. The center of the seal shows twin Egyptian figures holding a scroll, whose inscription represents a portion of the Ebers papyrus containing a dental prescription. A winged scarab below supports the moon, while at the base of the scene crouch two crocodiles supporting the sun; the crocs' fat was used for toothache relief.

At its inception the College had decided on two official colors. Lilac was adopted, since it was already the sanctioned color of the dental profession. American rose (red) was also chosen, at the suggestion of the wife of founding member Dr. John V. Conzett. The Col-

lege colors trim the academic gowns worn at ceremonies, but the seal gets its own separate complexion: a blue border and trim, with red highlights; peach for the figures and scroll; and a gold background in the middle.

And the writing on the scroll—what does it mean? Several years ago, Dr. Jim Fanno, an ACD Regent from Canton, OH, had to know. "Someone confronted me, and told me that as a leader I ought to understand the seal's inscription," he says. "And I really didn't."

Dr. Fanno accepted the challenge. As a celebratory gesture for the College's 75th anniversary in 1995, he had the original seal copied and magnified. Through Dr. Bruce Donoff, dean of Harvard's School of Dental Medicine, Dr. Fanno located Paul Chapman, a Boston neurosurgeon and Egyptologist.

Dr. Chapman agreed to help with a translation, and flew the inscription to Egypt to compare it with other writings. His report: "The central inscription is a remedy found in column 72, lines 13-14 of the Ebers Medical Papyrus. The person who copied it [from the papyrus] apparently didn't realize that the ancient text reads from right to left. Copying from left to right resulted in lines 1-2 and 3-4 on the seal being transposed. It also caused the beginning of the title of the next remedy to be included in the middle of the copied text. In any case your seal does contain a genuine prescription which reads as follows: *Another remedy to expel necrotizing swelling of the teeth: one part 'shepses' plant, one part gum, one part honey, and one part oil to be bound upon it.*"

Even with its mistranscribed prescription, the seal has worn well these last six or so decades. Crocodile fat and beetle juice have long since given way to resins and titanium, but the ancient Egyptian preoccupation with excellence that resonates in the ACD seal stands as a continuing inspiration to latter day dentists. Besides, the symmetry is pleasing, and not a little mysterious looking, and my wife likes the colors.



Holes In Our Heads - - WNL

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

Aristotle offered two definitions of man: “the rational animal” and “the featherless biped.” The latter is more apt. What really distinguishes the cognitive features of man from both animals and machines is our aspiration to be rational and our willingness to settle for workable approximations to that goal. We are only rational within normal limits.

The computer is a misleading model for our rational capacities. We differ in the following ways: both our input and our output are interpreted and edited — in fact, we selectively ignore the vast amount of available input; we work on patterns rather than sequentially and often know what we do not know; emotions, values, and purpose are part of human mental operations; and, perhaps most importantly, things don’t stay put in our brains. Stored information shifts over time, with detail and individuality fading as the images converge towards stereotypes or useful generalizations. Obviously, we would throw away any computer with such an unfaithful memory; but cerebral plasticity is essential for humans. Without it, learning would be impossible.

Human rationality is flawed — broadly and predictably. Those who know where the holes are in our heads have a significant advantage over those who assume they don’t exist or they don’t matter. The following is a partial catalogue.

Bounded Rationality

Most decisions are too complex to justify spending very much time on them. To

investigate all of the features of every car available for purchase, including methods of purchase and finance options, would require so much time that an optimal decision might only be made after the next model year has been introduced. A definitive diagnosis and treatment plan for any patient could realistically require more time and patience than either the dentist or the patient is willing to afford. Typically, we rely on standardized, prototypical decisions and look to the high points for any necessary adjustments. This strategy is called “satisficing” and is an example of bounded rationality.

The social defensibility of decisions is usually more important than their validity.

James March is a decision scientist at the Stanford School of Business. He observes that “studies of decision making in the real world suggest that not all alternatives are known, that not all consequences are considered, and that not all preferences are evoked at the same time.” The fact that rationality is bounded gives rise to various strategies, including stereotyping, decomposing, editing, the use of heuristics, and framing.

Stereotypes are the stock-in-trade of mental operations. We cannot think without them; in fact we cannot even see or listen without them. The brain simply cannot hold or manipulate all the individual details it is exposed to. The es-

sence of clear thinking is to take advantage of more useful stereotypes than other people do and to keep them open for modification based on new information. In fact, the essence of learning is to develop better stereotypes.

Complex tasks are *decomposed* into simpler ones. Problems are broken into parts that are more familiar and tasks are sequenced so as to escape the interactions that often exist. The mind has a much stronger pull towards breaking things into parts than it does towards putting them back together again, even after the parts have been dealt with.

Editing is an enormous topic which will be addressed shortly. For the present, it is sufficient to note that the social defensibility of decisions is usually more important than their validity. Inexperienced staffers are often dismayed that their bosses use numbers known to be inaccurate and bury certain valid information. This is not because their bosses out rank them and are devious; it is because this is the natural bent of the mind.

Another problem with editing is the habit of managing numbers as a substitute for managing what the numbers refer to. Because we cannot comprehend an organization — even one as small as a private dental office — in its essential individuality, we resort to indexes that capture important characteristics of the organization. The health of a dental practice is not the number of new patients per month, the ratio of appointment time filled by the hygienist, etc. This is number managing, not management of a dental practice. This is the so-called “bottom line mentality.” It usually



reveals more about the owner's values and promises than it does about the organization.

Heuristics are useful search rules. "Keep it simple," "look for deviations from the norm," and "always double check the numbers" are examples of heuristics. They are approaches to problem solving that tend to work in most circumstances. They do not guarantee a solution. Good decision makers have good heuristics, but as we will see in a moment, many of us make a habit of misapplying them on occasion.

The last predictable feature of decision making that follows from bounded rationality is *framing*. This refers to the way we ask our questions, one of the most critical components in the answers we obtain. The customary habit is to overlay familiar patterns on novel problems. If the customary approach is approximately effective, we accept the results. It is very rare to begin a problem from scratch and it is surprisingly uncommon to modify our customary approaches if they don't seem to work. Experts in decision science place great emphasis on framing as a factor in explaining how decisions are achieved.

Because bounded rationality precludes systematic and thorough consideration of a problem, controlling the attention of the decision maker becomes an important factor. Each of us has been in meetings where asking the right question amounted for more than all the information and analysis present around the table. We have also been in meetings where individuals drew our attention away from the essentials of a problem and destroyed the effectiveness of the group. The media is very sensitive to the issue of attention in decision making. There is no need to tell us what to think as long as there is a steady and consistent pressure directing us towards what we should think about. It is no accident that the blueprints given to writers outlining the approach and scope they should take in covering a story are called "framing sheets."

Errors in Judgement

The topic of decision making is highly complex because it involves both values and judgments. It is sufficient to begin a catalogue of the holes in our heads by focusing only on judgment — our summary descriptions of how things are in the world based on inspection of the evidence. Well known judgment errors include the "halo effect" (believing a child's teeth are worse than they are because the oral health in his family is poor) and the "contrast effect" (thinking a child's teeth are better than they are because the last patient had such poor oral health). A sampling of other judgment errors follows.

Estimating Probabilities. We tend to be poor at estimating probabilities from empirical data. Very common events are over estimated and very rare events are under estimated. "Usual" becomes "always;" and "seldom" becomes "never." We pay too much attention to the local patterns in data. When a team that is averaging .500 wins three games in a row, we call it a "streak." In actuality, any three games selected at random would be all wins or all losses one quarter of the time.

We tend to be poor at estimating probabilities from empirical data.

Another version of this problem is the "gambler's fallacy," which makes the false assumption that the statistical distribution of a whole set of events will be replicated in any part of those events. Human nature strongly favors a bet of tails after five successive flips of a coin producing heads. The assumption is that random nature must correct itself. (Of course the actual odds are 1:1.)

Although we over-react to the patterns we are aware of in data, we tend to under estimate their existence. When shown sets of numbers such as the height and the weight of a group of men, most

people under estimate the degree of association between the actual numbers presented. This effect is very pronounced in the range where associations are moderate, as would be the case for the correlation between gingival condition and oral health practices of patients. The big surprise comes from asking these same people to estimate the degree of association between variables such as height and weight *in the abstract*, that is without reference to data. We tend to be more accurate in drawing conclusions about common associations based on our generalized experience than we do from the same degree of association expressed precisely in quantitative terms.

Discounting the Baseline. Several years ago the *New England Journal of Medicine* published a paper where physicians were asked to estimate the probability that a patient had a particular disease given a positive laboratory test for that disease. The physicians were told that the base rate of the disease in the population was one in one thousand and that the test was known to have a false positive rate of 5%. The average of all physicians placed the probability of the disease given the test (in other words the likelihood that a therapeutic intervention should be started) of over .50. The most typical response was .95 (a virtual certainty of picking up the hand piece if the disease were something such as caries). Eleven percent of physicians chose the correct response — that is a 2% chance that a patient has the disease. This fallacy of judgment, under valuing the baseline, is typical of our concern with what is before us immediately and an insensitivity to its context.

The baseline problem just mentioned can be given further meaning by reframing it in the following way. Assume that the baseline rate of incompetent practice among dentists is one in one thousand. Further assume that chart audits in a dental practice have a 5% false positive rate in detecting incompetent practitioners. What is the probability that a dentist with bad charts in his or her sample is incompetent and should be prohibited from practice? This



reframing illustrates another fallacy of judgment. This is called *attribution error*. We tend to attribute success to our own efforts and failure to environmental circumstances. In the case of judgments, different estimates can be obtained depending on whether we are the subject or the object of the probability estimate.

Availability. The likelihood of dramatic, salient, or even unusual events

We tend to attribute success to our own efforts and failure to environmental circumstances.

tends to be exaggerated. Most dentists will over estimate the number of fourth molars they have seen. In a committee meeting, your opponent has stated the scientifically derived probability of an unlikely event — say the probability of legionella in office water lines. If you wish to increase the probability of this disease occurring in the minds of your fellow committee members, all you need to do is to describe in specific and graphic detail one instance (even hypothetical) of the disease occurring and of its consequences. The anti-fluoride forces understand this principle. So does the media, which is almost devoid of empirically based generalizations and is filled with sensational details. (I am talking about both the news and advertisements.)

If you have the facts, a little detail can be very misleading. In one study in decision science, individuals were told that they would be given a list containing names of either engineers or lawyers. They were also told that the list would contain 30% engineers. When asked to guess based on this information only which names belong to lawyers and which names belonged to engineers, most subjects distributed the estimates in

roughly a 3:7 ratio. Subjects were then given the same names and brief personal sketches of each individual. The information might allow one to speculate about career choice, although the actual pairings were done randomly. This time, subjects were worse in assigning their ratios of lawyers and engineers. This same experiment is actually being conducted in America today on a massive scale and with the same results, that a little information leads people to make worse judgments than they would based on the general facts alone. This experiment is called the stock market.

Consider this question: which of the following is most probable? (a) Jennifer is left handed because her mother is, (b) her mother is left handed because Jennifer is, (c) it is equally probable that Jennifer and her mother are left handed. Although (c) is the correct response, almost an equal number of individuals choose (a), adding some information that was not called for in the question.

Another example involves brief descriptions of individuals' background and interests (say, social interests and mathematical affinities) and then asking for judgments about probable characterizations. Judges tend to rate the probability of an individual with social interests and number affinity as more likely being a banker and involved in civil rights issues than the probability of either being a banker or being involved in civil rights issues individually. Of course it is a logical impossibility that the conjoint probability of two events could be greater than the probability of either of them independently. Again, we have an example of the proclivity for using bits of information to fabricate a more meaningful story than actually is warranted by the data.

Confidence and Accuracy. Each of us has colleagues whose lack of valid judgment in no way presents an impediment to their confidence. We need to be careful about this distinction because some of the things that are done in the name of improving validity only

serve to improve confidence. A typical example is checking the data. Having another look at the same data in the same fashion is called redundancy. It has no effect on the accuracy of data. Getting more detail about a situation typically has the same affect. The current crisis of validity in the judgments of dental examiners on initial licenser examinations is an example of such a situation. Their efforts in recent years to improve the judgments they make by the same means has added to *their confidence* without improving their accuracy.

Representativeness. Our judgments are very strongly influenced by mental models or prototypes of what we expect to see. A surprising number of people will say that pink resembles red to a greater degree than does red resemble pink. We make judgments by using mental anchors, or representative prototypes, as standards then making suitable adjustments based on available information. The problem is, our adjustments tend to be insufficient.

Each of us has colleagues whose lack of valid judgment in no way presents an impediment to their confidence.

Anchoring can also lead to problems with regard to risk. How often have we sat in committee meetings where the forces of conservatism seem to reign supreme? We argue convincingly that there is a 50:50 chance for tripling our advantage and are defeated by those who argue there is a 100% chance of the program costing one third of what it might produce. On logical grounds alone, the optimistic plan is half again as good as the conservative one (multiply the reward or cost by its probability and compare the two alternatives). It is human nature to be conservative in such judgments — of-



ten extremely conservative. Anyone who has argued for dues increases knows what I am talking about: small certain losses out weigh larger foregone opportunity. That is just the way our mind is wired.

In a similar fashion, perceived risk changes depending on where one stands relative one's goals. Those who are succeeding take small and calculated risks. I have noticed, for example that successful innovation in dental practices is a by product of successful practices. Those who are failing tend to take large risks, typically quite large, in hopes of recaptur-

*Small certain losses
out weigh larger fore-
gone opportunity.*

ing their goal. Utter failures are desperately rigid and irrational in their decision making. This analysis helps explain why very poor individuals are most likely to be lottery winners. They play more often because they realize that the price of a lottery ticket will not lift them out of poverty if spent on food, education, housing, or other "rational" improvements.

There are two ways the mind assesses the representativeness of events as a way of estimating their probability. One is to compare the event to prototypes or norms and the other is to construct plausible scenarios around the event. If a large number of assumptions is necessary in order to create a scenario for the event, it is viewed as being improbable. On the other hand, if a few salient assumptions can be made as the foundation for a story about future events, then

it is judged to be likely. It is the mind's preference in constructing such scenarios to hypothesize a small number of events that occur conjointly and involve the subjects or actors in the story. It is unlikely to construct scenarios with several interacting events occurring primarily in the environment. This is called the "strategic planner's fallacy." The likelihood of a few conjoint events occurring under the control of an individual or organization tends to be significantly exaggerated, resulting in most strategic plans falling short of their objectives.

Learning to Make Judgments. Learning means being able to make more useful judgments in the situations we find ourselves in or being able to make judgments which qualify us to function in new and more rewarding circumstances. The problem, though, is somewhat like sitting a chair and trying to lift yourself by putting your hands under the seat and pulling. As one expert in the field of decision science observed, "The contest between expectations and evidence is apt to be an unequal one." We do learn from evidence, but it is often of discounted value relative to what we already feel we know.

Those who have investigated how individuals learn from experience tend to structure the question in terms of whether our actions are in line with experience or opposed to it and whether the results are positive or negative. This leads to four possibilities: trying something new and succeeding, experimenting and failing, trying something customary and succeeding, and failing at the customary behavior. The evidence points to retarded learning in judgment based on failure to distribute our efforts across the four possible alternatives. Most of us spend most of our time in what is called "single-cell learning." That means we do

the customary things and get the customary results. "Two-cell learning" means paying attention to both the positive and negative results of our customary actions. The significant shortcoming in "two-cell learning" is that we underestimate the negative consequences — both their frequency and their significance — and we tend to rationalize them away.

True learning is "four-cell learning." Here there is a judicious attempt to experiment with new actions and to systematically monitor both their success and failure and to compare these to the results of our customary actions. Experts tell us that a significant deterrent to self improvement is lack of failure. There is a well known story in the decision science literature about the waiter. The waiter begins his career with a working hypothesis

*Experts tell us that a
significant deterrent
to self improvement is
lack of failure.*

about which customers are big tippers. He spends most of his spare time trying to please the individuals he has targeted. Because he does receive some level of tips from them he continues this behavior. But there is no way to know whether this is the most successful the waiter can become or whether his working hypothesis about who gives the big tips is correct because he does not try giving attention to others.

Sadly, all of the people who fail throughout their lives to test their working hypotheses do not work as waiters.



Recommended Reading

Bartlett, F.C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge, England: Cambridge University Press.

Sir Frederic was knighted for this research. He systematically studied the “telephone game” where a story is corrupted as it is retold and other situations to prove conclusively that remembering something as it actually happened is a rare or non-existent phenomenon.

Einhorn, H.L. (1980). Learning from experience and suboptimal rules in decision making. In T.S. Wallsten (Ed). *Cognitive processes in choice and decision behavior*. Hillsdale, NJ: Lawrence Erlbaum.

Why do we fail so often to learn from experience? The answer is, paradoxically, that we are fixated on achieving success. We tend to lock into the first strategy that appears to give us satisfactory results. We stick with the strategy, often ignoring or rationalizing unsatisfactory results, rather than experimenting to find a better strategy.

* Kahneman, D., Slovic, P., and Tversky, A. (Eds). (1980). *Judgment under uncertainty: Heuristics and bias*. Cambridge, England: Cambridge University Press. [Out of print]

Large collection of papers on judgment and systematic error in judgment. These are research papers, most of them previously published, that report experimental studies. It is highly technical reading but filled with surprising facts.

Langer, E.J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32, 311-328.

Study of gambler behavior in Las Vegas. Interesting summary of some of the behavior patterns of gamblers that prevent them from responding rationally to odds. The major trap is thinking they have some control over random events.

* March, J.G. (1994). *A primer on decision making: How decisions happen*. New York, NY: The Free Press.

A leading decision scientist from the School of Business at Stanford tries to explain the unusual patterns of decision making to the management community. The most readable and least technical of the resources available.

* Shapira, Z. (1990). *Risk taking: A managerial perspective*. New York, NY: Sage.

Shapira's thesis is that the American cultural value opposing irrationality has allowed individuals in key organizations such as government, universities, business, the media, and medicine to concentrate power in the hands of a few in the name of focusing rationality. The bad joke, according to Shapira, is that the power elite do not function in a rational fashion. Probability is anathema to managers — they only deal in win or lose. They also feel quite confident that they make decisions work by what they do after they have made a commitment to a course of action.

Simon, H.A. (1973). Organization man: rational or self-actualizing? *Public Administration Review*, 33, 346-353.

One of only two psychologists to receive a Nobel Prize, Simon observed that human experts regularly beat computers at chess because they limit their search for alternative moves to a set which contains the best choices. Thus he developed the idea of “bounded rationality.”

Editor's Note

Summaries are available for the three recommended readings preceded by an asterisk (*). Each summary is about four 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 predictable errors in judgment; a donation of \$50 would bring you summaries of all the 1997 leadership topics.

ACD 97 Summer Conference



August 8-9, 1997
 Hilton Riverside
 New Orleans, Louisiana

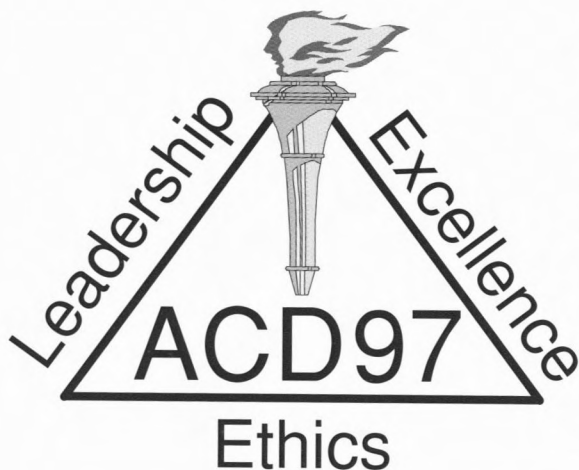
Preliminary Schedule

Friday, August 8th _____	
8:30 a.m. - 12 noon	Regency 6 Meeting & Nomination/Credentials Workshop - Everyone Welcome
1:00 p.m. - 5:00 p.m.	Dr. L. Ronald Martin "Getting to the Root of the Problem"
Friday Evening	Social Hour & Dinner on your Own
Saturday, August 9th _____	
8:30 a.m. - 12 noon	Dr. Corky Willhite "Smile Design: The 'Blueprint' for Success in Cosmetic Dentistry"
Saturday Afternoon	Golf Tournament or Time to Enjoy New Orleans
7:00 p.m.	Banquet

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ACD 97 Annual Meeting

Preliminary Schedule



October 16-17, 1997
 Sheraton Washington Hotel
 Washington, DC

Thursday, October 16th _____	
9:15 a.m. - 11:15 a.m.	LeaderSkills Workshops
1:00 p.m. - 3:00 p.m.	
3:15 p.m.	Fellows Forum
Friday, October 17th _____	
7:30 a.m. - 8:30 a.m.	Breakfast
8:30 a.m. - 9:15 a.m.	Business Meeting
9:15 a.m. - 11:15 a.m.	Keynote Presentation
11:30 a.m. - 1:30 p.m.	Luncheon and performance by The Capitol Steps
3:00 p.m.	Convocation and address by Knight Kiplinger
7:00 p.m. - 8:00 p.m.	Reception
8:00 p.m.	Dinner Dance

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