the journal of the AMERICAN COLLEGE OF DENTISTS

OCTOBER 1977 VOLUME 44 NUMBER 4

Beware Nutritional Quackery

Factors in Fee Structuring

Leadership in Dentistry

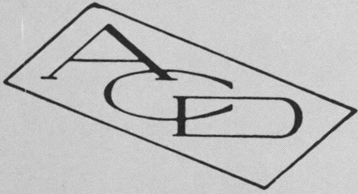
Community Dentistry

Continuing Dental Education

MEMBER PUBLICATION
AMERICAN ASSOCIATION OF DENTAL EDITORS

THE JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS
is published quarterly — In January, April, July, and October — at
Crescent & Mulberry Streets, Harrisburg, Pennsylvania 17104
Second class postage paid at Washington, D.C. and additional points.

Send Change of Address and Form 3579 to the American College of Dentists,
7316 Wisconsin Avenue, Bethesda, Maryland 20014.



NEWS AND COMMENT

SECTION NEWS

New England Section

The annual spring meeting of the New England Section of the American College of Dentists was held on Sunday, May 22, 1977 at Anthony's Cummaquid Inn at Cape Cod in conjunction with the Massachusetts Dental Society's May meeting at nearby Hyannis.

Attending the dinner were 25 members and their wives. Among the Fellows present were the following officers of the Massachusetts Dental Society: David Farrell, president; Joe Kelly, immediate past president; William McKenna, secretary and Leonard Tocci, assistant treasurer.

The meeting was conducted by chairman Lloyd Miller. John M. Horack, Jr. of Boston was elected vice chairman.

A desktop barometer suitably inscribed was given to Dr. Miller in appreciation of his service as chairman and a digital clock radio was presented to Orin Greenberg in thanks for his years of service as secretary-treasurer.

Florida Section

Charles W. Fain, a past chairman of the Florida Section was the speaker at the Commencement and Honors Convocation for the second graduating class of the College of Dentistry, University of Florida. His subject was the "The Pursuit of Excellence."

At the recent meeting of the Florida Section in Hollywood, Florida, the following officers were elected: Chris C. Scures, chairman; Ernest Cervis, vice chairman; Les Bell, secretary-treasurer.

The Section presented Dean Don Allen a check for $500 for use by the School of Dentistry in its Project Outreach Program. This is a program for providing dental care to rural areas.

Carolinas Section

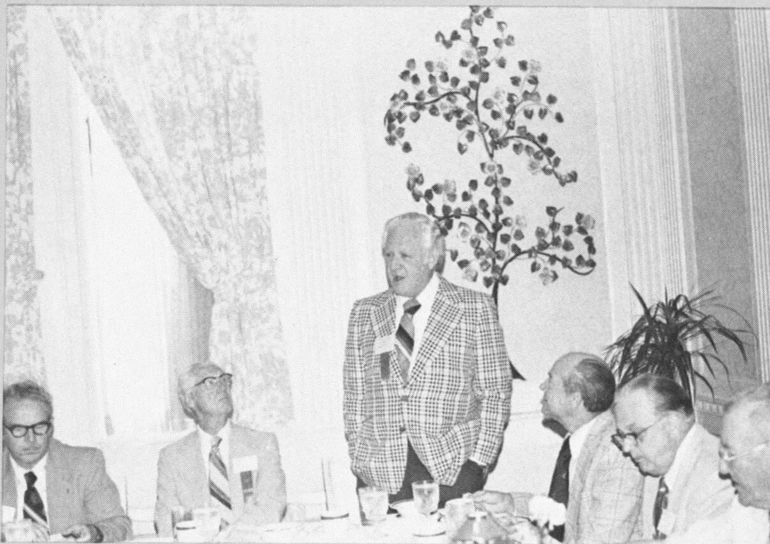
At the North Carolina Dental Society's annual meeting in Pinehurst, on May 15th, the Carolinas Sections had its annual luncheon meeting.

The two Dental Schools within our Section received donations of $500 each, to be used as emergency loan funds for dental students. These loans, as repaid, become self-perpetuating.

Robert J. Shankle, in the absence of Dean Ray White, accepted the contribution for the University of North Carolina Dental School; Dean Arthur L. Haisten accepted for the College of Dental Medicine, Medical University of South Carolina.

Frank P. Bowyer, president elect of the ADA was also present as a special guest and was called on for appropriate remarks.

The Section had a very successful Mini-Self-Assessment Examination with the enthusiastic response of the participating dentists beyond expectations.



Frank P. Bowyer, president elect of the American Dental Association and past president of the College, speaking to the Carolinas Sections at its annual meeting in Pinehurst, N. C. in May.

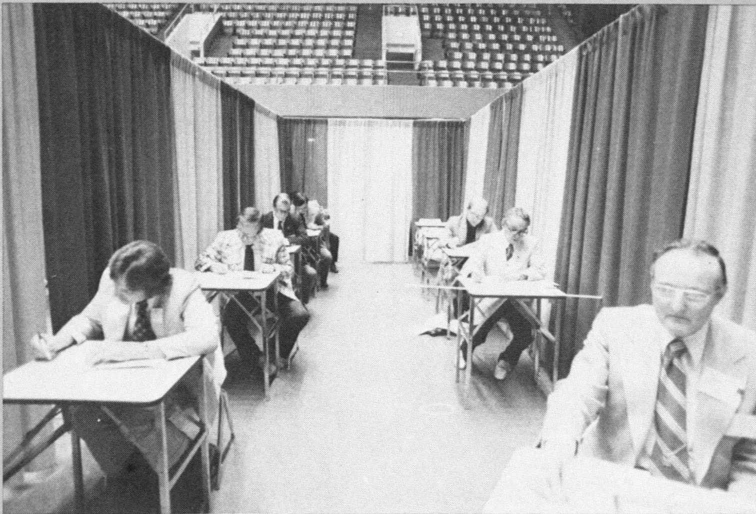
Iowa Section

The Iowa Section met in Des Moines in May, in conjunction with the annual meeting of the Iowa Dental Association. For the second year, the mini SACED test was conducted with a total of 79 taking the test this year. The responses to the evaluation questionnaire were very gratifying.

Officers for the coming year are Harold W. Sidwell of Villisco, chairman; Morris B. Katzoff of Cedar Rapids, vice chairman and chairman-elect. W. Philip Phair was reelected secretary-treasurer.

The meeting speaker was Nelson S. Logan, Ph.D., assistant dean of the University of Iowa Dental School, who reported preliminary data from research he is conducting on dental manpower in Iowa. He and co-workers are developing a new and more precise method of measuring the supply and demand in all communities in the state. His presentation was enthusiastically received.

Plans are underway for our Rechartering Ceremony which will be under the joint chairmanship of R. Earl Feldman of Ames, Iowa and James H. Sommers of Des Moines. !t is expected to take place sometime this fall in Iowa City.

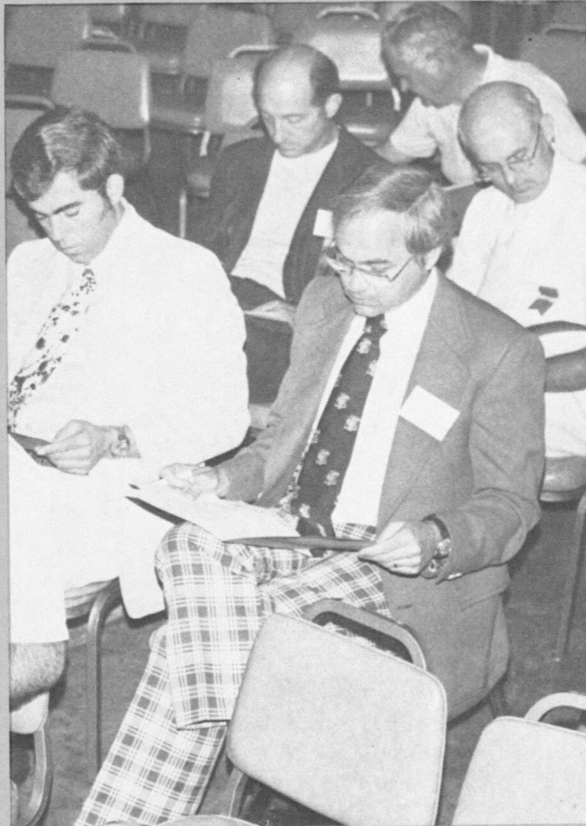


The Mini SACED test was given at the Iowa Dental Association meeting in May. 79 dentists took the test.

Maryland Section

The Maryland Section held its semi-annual meeting at the Annapolis Hilton Hotel on Wednesday, June 22, 1977.

At this meeting, the Section voted to contribute $500 to the Dental School of the University of Maryland, to be placed in the Memorial Student Loan Fund. This donation was made in honor of Dr. J. Ben Robinson who was the first Secretary of the Maryland Section and a former President of the College. Dr. Robinson died on June 15, 1977.



A few of the 143 dentists who took the Mini Self Assessment and Continuing Education examination during the annual meeting of the North Carolina Dental Society at Pinehurst in May.

the JOURNAL of the AMERICAN COLLEGE of DENTISTS

A QUARTERLY PRESENTING IDEAS IN DENTISTRY

ROBERT I. KAPLAN, *Editor*
One South Forge Lane
Cherry Hill, New Jersey 08002

ROBERT J. NELSEN, *Business Manager*
Journal of the American College of Dentists
7316 Wisconsin Ave.
Bethesda, Maryland 20014

October 1977

Volume 44—Number 4

Editorial Board—ARNOL R. NEELY, *Chairman*
WILLIAM C. DRAFFIN   BALFOUR D. MATTOX

THE JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS is published quarterly—in January, April, July, and October—by the American College of Dentists, Inc., McFarland Co., Harrisburg, Pennsylvania • Subscription $10.00 a year; single copies $3.00 • Second class postage paid at Harrisburg, Pa. and additional points •

Copyright 1977 by the American College of Dentists, Inc.

All expressions of opinion and statements of supposed fact are published on the authority of the writer over whose signature they appear and are not to be regarded as expressing the views of the American College of Dentists, unless such statements or opinions have been adopted by the American College of Dentists, Inc.

Correspondence relating to the JOURNAL should be addressed to the Editor, One South Forge Lane, Cherry Hill, New Jersey 08002. Changes of address and subscription requests should be addressed to the Business Manager, JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS, 7316 Wisconsin Avenue, Bethesda, Maryland 20014. Reprint requests should be directed to the author.

The JOURNAL is a publication member of the American Association of Dental Editors.

For bibliographic references the JOURNAL title is abbreviated J Am Col Dent and should be followed by the volume number, page, month, and year. The reference for this issue is J Am Col Den 44:193-256, October 1977.

CONTENTS

NEWS AND COMMENT 193

THE ACD FOUNDATION 199

BEWARE NUTRITIONAL QUACKERY
William T. Jarvis, Ph. D. 200

ECONOMIC AND PHILOSOPHICAL FACTORS IN FEE STRUCTURING
Robert J. Nelsen, D.D.S. 215

SOME PERSPECTIVES ON LEADERSHIP IN DENTISTRY
Paul S. Casamassimo, D.D.S., M.S. 219

CORRELATION OF COMMUNITY DENTISTRY WITH THE TEACHING OF THE BIOLOGICAL AND CLINICAL SCIENCES OF DENTISTRY
Emerson Robinson, D.D.S., M.P.H. 227

A RATIONALE FOR COMMUNITY BASED OFF-CAMPUS ROTATION
Claude W. Drake, D.D.S., M.P.H., M.S., and William R. Posnick, D.D.S., M.P.H. 231

QUALITY AND PERCEIVED USEFULNESS AND UTILIZATION OF CONTINUING DENTAL EDUCATION
Philip Weinstein, Ph.D., Peter Milgrom, D.D.S., Peter Ratener, M.S., William Read, Ph.D., Kenneth Morrison, D.D.S., M.S. 238

READER COMMENT 252

ANNUAL INDEX 255

Support The American College Of Dentists Foundation

The American College of Dentists Foundation was incorporated in 1972 for the purpose of initiating and funding carefully selected programs of significant professional and societal impact. The first program to be implemented is the highly successful Mini Self-Assessment and Continuing Education or Mini SACED program. Forty-three Sections in cooperation with their respective dental associations have presented this program at state or large regional meetings. Twelve Sections have sponsored the test for the second time.

It is the policy of the Foundation to expend only the interest income from the invested principal sum. For this reason it is imperative that we place major emphasis on increasing the principal amount of the fund if the tremendous potential of the Foundation is to be realized. It is obvious that as the principal amount grows the additional interest income will make it possible to fund other worthwhile programs and to address issues of vital concern to our professional welfare.

There are several sources of support through which the fund accumulation can accrue. First, individual Fellows of the College can follow the example of many of our colleagues who have contributed generously through annual pledges since 1972.

Secondly, Sections can emulate the following Sections which have contributed substantially:

3/18/74	Michigan	$ 100.00
5/13/75	Michigan	100.00
1/ 7/76	Tri-State	1000.00
5/ 5/76	Southern California	1200.00
5/28/76	Texas	500.00
6/ 1/76	Washington, D.C.	200.00
11/24/76	Washington, D.C.	500.00
11/24/76	New York	500.00
2/24/76	Illinois	1000.00
6/11/76	Washington, D.C.	250.00

Thirdly, it has been traditional to memorialize deceased Fellows by presenting a book to the library of the school from which they graduated. Last year it was decided to make a cash gift, in lieu of the book, to the Foundation. In this connection, Fellows are encouraged to send a check as a memorial to Fellows, professional colleagues,

(Continued on page 214)

Beware Nutritional Quackery

WILLIAM T. JARVIS, Ph.D.

Why are so many dentists turning to strange sources of nutrition information and disseminating these concepts to the public? How can the validity of scientific claims concerning nutrition be assessed? And, what responsibility does the dental profession have in this problem?

It will not come as news to anyone that there is a revolution taking place in health care in America. The revolution's ideology is one of a shifting emphasis from therapeutics to disease prevention, and a view of the patient as a total being—not simply a psyche, cardiac muscle, or oral cavity, depending on one's medical specialty.

These ideas are not new or unique, although there are some individuals who are following the old adage, "If you see a movement coming, get out in front and appear to be leading." Such people try to sound as if they invented these concepts, thus enhancing their personal image in the eyes of the public and their peers.

Neither is the implementation of these ideas new. Public health has been practicing prevention as its main emphasis for years. Health education, a public health offspring, has promoted the so-called "whole-man concept" from its beginning. Health education is the backbone of preventive practice. Prevention and the concept of treating the whole man have long been recognized as good ideas, but not until recently has the climate existed that could draw the private sector of health care delivery into the picture. Certainly, public support of the concept that health care is a right rather than a privilege has made their implementation politically feasible, but it is really the advancements in medical science and technology that have made it possible. In September, 1973, the *Scientific American* presented an entire issue on the role of medicine in human life. Its primary message was that medical science has finally progressed to the point where having controlled the infectious diseases that once scourged mankind, and having developed the technology and skill necessary to

Presented at the ADA Convention in Las Vegas, Nevada, as part of the scientific sessions symposium, "The Truth about Nutrition and Dental Disease," November 16, 1976. *Dr. Jarvis is associate professor of Preventive and Community Dentistry, Loma Linda University School of Dentistry, Loma Linda, California 92354.*

deal with major trauma, it is now possible for it to turn to the promotion of health!

As a result, today we have a new application of epidemiology. Whereas previously epidemiology was used to study disease and its causes, now we have an "epidemiology of health" where we study health populations such as Seventh-day Adventists, Mormons, long-lived peoples in out-of-the-way places like Hunza, the Russian Caucasus, Ecuador, and so forth, in hopes of determining the "causes" of health.

Today we see an ever-increasing public interest in personal practices which promote health, such as better nutrition, regular exercise, stress-reduction, relaxation, and a cleaner environment.

Today we have a revival of the general practice of medicine so that the patient can be treated as a whole human being and not fragmented into specialties. This includes dentists' concern about their patients' total health—blood pressure screening, oral cancer alertness, nutrition counseling, etc. Also, we see a move toward having patients accept more responsibility for their own health—and that is good.

THE NEW IDEALISM

Dentistry has shown itself to be more willing to accept the ideology of the revolution than almost any other of the health fields. Whether this is due to altruism or some more practical reason such as the irreversible nature of the damage done by the major dental diseases, or the crushing effects on a dentist's ego when he sees his best restorative art work destroyed by an unappreciative patient, I do not know. At least we can be glad that the dental profession is so progressive in its thinking.

Unfortunately, dentistry's rush into the new idealism caught the visionaries slightly unprepared. There are some major problems in the application of the new idealism which are yet to be worked out. For example, there is the concept of an "epidemiology of health." Koch's postulates cannot be applied to causes of health, which is a general condition, like they can to a particular disease entity which has a specific cause. One encounters the same dilemma as the newspaper reporter who interviews centenarians on their 100th birthdays.

"What do you owe your longevity to?" he asks.

One replies, "I don't drink, smoke, chew, or run around with wild women."

The other responds, ". . . good whiskey, a fine cigar, and keeping company with lively women."

Which one is correct? There really is no way of knowing. Each is healthy and is free to give credit to whatever factors he desires.

Epidemiological investigations of the nature used when studying healthy people are limited to correlational associations which may or may not be related to cause and effect. For example, there is the story of the man sitting at a cafe in Nebraska, snapping his fingers repeatedly.

"Why are you doing that?" the waitress asked.

"To keep the wild elephants away," he replied.

"There isn't a single wild elephant within 10,000 miles of this place!" she retorted.

"Very effective, isn't it!" he exclaimed.

TREATING THE WHOLE MAN

Another problem confronting the new idealism involves the concept of "treating the whole man." This means different things to different people. At Loma Linda University, where our school motto is "to make man whole," there exists a deep concern for man's spiritual dimension as well as his physical, intellectual, and social well-being. Modern psychophysiologic theory is concerned with mind-body interactions such as the effects of anxiety on physiological processes, biofeedback, the mind as healer or slayer, and so forth. On the other hand, in some instances the so-called "holistic" approach is being used as an excuse not to establish cause/effect relationships. In these cases the only criteria of effectiveness of a treatment or preventive measure is how the patient *feels.* As important as that is from a clinical standpoint, to rely upon subjectivity alone would cause medical science to regress to the pre-experimental level of classical empiricism and witchcraft. Little wonder that all manner of folk medicine and occult practices are being reviewed and promoted in the name of "treating the whole man."

QUALITY CONTROL IN CONTINUING EDUCATION

As a result of these problems, a vacuum exists between the *ideal* and the *real* when it comes to the practical application of the new idealism. "Nature abhors a vacuum," it is said, so into it has rushed a number of assorted characters expounding their favorite philosophies. Their entry was not difficult because the gate had been left wide open; as in the field of continuing education. To our dismay, we have found that no method of quality control exists concerning what can be offered for continuing education credit. For example, following an unhappy experience with one of the nutrition zealots, a disillusioned state

dental association administrator contacted the state association president who had recommended him and asked for his criteria in so doing. Three were given: (1). He filled the room; (2). He kept their attention; (3). Everyone seemed to like him. The administrator remarked sadly, "Raquel Welch in a bikini could have met all of those—a sad commentary for a credit course offered for dental professionals."

Opponents of any kind of quality control argue that dentists should be able to hear anything and make up their own minds. They say that in time these charlatans will be revealed and will fall by the wayside. While such a view has merit in principle, in reality it is not that simple. In many cases these crusaders are dealing with isoteric material or claim to have conducted scientific investigations which the average dentist is not capable of properly evaluating. The validity of the claims often is accepted based upon the recognition being afforded the clinician by the mere fact that his course has been approved for credit.

Those of us who study the dynamics of why people come to believe what they do, know that there are many deeply-rooted factors which are involved. These promoters are very persuasive. They use the same success mechanisms that make any salesman successful, such as: personality—they sell themselves first; sincerity—they believe in their product; enthusiasm—they inspire; and, propagandism—they play upon deep-rooted prejudices, fears, hopes and ideals.

NUTRITIONAL QUACKERY

What were the crusaders saying and doing? They were mainly working in the area of nutrition although other areas were not left untouched. The things they were saying were very familiar to anyone who has done a study of food faddism and nutritional quackery. While health educators, nutritionists, and dietary counselors are continually working to teach consumers to choose foods wisely and to prepare them properly, the food faddists go far beyond that. They claim that even a diet that is well-balanced and optimal by scientific standards is inadequate. In addition, they make elaborate promises as to the benefits of their version of special nutrition. One could readily recognize the familiar exaggerations and distortions of truth.

The "garden to gut" attack begins with the claim that soil depletion is causing malnutrition. In our nutrition course at Loma Linda University we bring in a professor of agriculture from our College of Arts and Sciences who holds a Ph.D. in soil analysis, and has been involved in the "green revolution." He shows the basic fallacies of this soil depletion proposition and demonstrates that agricultural scientists in this country are very sophisticated and quite worthy of the consumer's

trust. Crop production, profit, and good nutrition are shown to be not only compatible but complementary. He explains trace elements, their sources and variability, and gives important insights into food production. A basic understanding of how plants grow, soil composition, and agricultural practices helps students not to be confused.

A second area of attack involves the myth of over-processing. Here again, gross exaggeration is employed to make mountains out of molehills. The notion is promoted that old-fashioned food was natural and wholesome while modern foods are robbed of their important nutrients. They do not seem to be aware of the fact that man has always had to process and preserve foods. Remember why "in 1492 Columbus sailed the ocean blue?" He was after spices to preserve food and, in some cases, mask the foul taste of putrifying meats. The methods used by our forefathers were limited to salting, pickling, smoking, sun drying, etc., all of which take a substantial toll of certain nutrients. In fact, modern methods of food processing retain more wholesomeness than any of the old-fashioned ones.

This is not to say that there aren't a number of junky foods available in the marketplace—a problem health educators and dentists were addressing themselves to long before it was currently fashionable—but convincing the public that ordinarily wholesome foods are "devitalized" is irresponsible nonsense. Where malnutrition does exist in this country, it is not traceable to food processing but to poverty, despair, and other psychosocial or economic factors.

DIETARY SUPPLEMENTATION

Closely associated with both soil depletion and the myth of overprocessing is the need for dietary supplementation, even though one is eating a good diet. Obviously, supplementation has a legitimate place in medical and dental practice, especially in connection with procedures which induce trauma or diagnosed deficiency states.

There are situations where it is advisable to supplement the diet of apparently healthy people. Young women often can benefit from iron supplements. I am a marathon runner and coach. Currently, I am coaching a team of college-age females, many of whom are vegetarians. It is probably justifiable to recommend iron supplementation for them because both their age and sex with their vegetarian diet make them susceptible to low iron uptake.

Another area of widespread nutrient deficiency involves fluorides. Interestingly, some of these same nutrition zealots oppose fluoridation on the notion that it "masks" the effects of sugar in the diet by reducing caries incidence despite unchanged sugar intake.

The diet crusaders try to enhance their positions by impugning those in the scientific community who resist their unfounded claims. No one has been vilified more in this manner than Frederick Stare. All he or anyone else in the scientific community has asked is that the claims be backed up with some good evidence and not simply testimonials and ad hominem arguments.

Some misrepresent the facts concerning what the scientific community believes and teaches. They employ a strategy that is called the "straw-man trick." The name comes from a primitive tribe which creates a surrogate enemy by making a man of straw. Everyone has something to attack now even though it is not real. One proponent says, "Traditional medicine says scurvy is the first and earliest sign of vitamin C deficiency state . . ." then goes on to demonstrate (inadequately, according to critics) a wound-healing experiment wherein vitamin C was purportedly efficacious. From that point he went on to extrapolate to the possible value of megadoses. The facts are that medical science does not say that scurvy is the first and earliest sign of vitamin C deficiency. Williams, in her text, *Nutrition and Diet Therapy,** states that vitamin C is important to: (1) wound healing; (2) fevers and infections; (3) periods of stress; and (4) growth periods. When confronted with these facts the author of the statement commented that by "traditional medicine" he meant "the average dentist's office." In my opinion, the choice of terms went far beyond what he meant to say. The falsity of the basic statement concerning traditional medicine's position served to validate what followed and also created the illusion that traditional medicine isn't very intelligent.

SUPERNUTRITION

The real debate does not lie in the area of the value of supplements under unusual conditions or the shortages often found in fluoride, iodine, or iron—and possibly zinc and chromium— but centers around the question, Is there such a thing as *supernutrition*? That is, can excessive doses of a nutrient produce significant health benefits? The good quality evidence for such is not only non-supportive but contraindicating. Some of the most remarkable laboratory results involving animal feeding experiments argue for undernutrition rather than supernutrition in reduced cancer incidence and increased longevity.

Another major theme of nutritional quackery is that all diseases are due to faulty diet. The role of diet in disease causation is varied, and can be placed on a continuum ranging from primary, as in the classical

**C. V. Mosby Co., St. Louis, 1969.*

deficiency diseases, to null, as in the great infectious diseases. Of course, malnutrition can increase the incidence of infectious idsease by its effect on the immune system. There is no question about that. The debate centers around the efficacy of supernutrition to protect one from disease or the value of organic foods or special dietary regimes. One sure-fire way to prove that nutrition is a null factor in classical infectious disease, for example, is to have twenty megavitaminists or proponents of some other special diet volunteer to follow their programs religiously for a given period of time and then be innoculated with the syphilis spirochete and see how many were able to resist the disease.

The areas of controversy as to the role of diet in disease do not involve the extremes of the continuum, but rather, those diseases which are arranged between, such as heart disease, cancer, diabetes, gingivitis, malocclusion, caries, etc. Diet is known to play a role in many of these. The problem is that the role varies a great deal from person to person and is generally part of a multifactorial picture in which the other factors show great individual variability as well.

The characteristic that identifies the nutritional quack is that he automatically assigns diet as the number one role in cause and/or treatment in every case. He does the same with diet that the chiropractor does with spinal manipulation, the physical culture quack does with exercise, or the mental health quack does by claiming everything is cured by positive thinking. All of these have some limited value, and are appropriate under certain circumstances. The quack, however, has predetermined that his thing is "the thing" and all that is needed is the right combination for each particular patient.

To defend his position he will characterize other health professionals as not aware of the importance of nutrition or as hostile to good nutritional practices, when, in fact, they simply are assigning a lower priority than number one. They are dealing with factors which are more directly related to cause and effect in an attempt to solve the patient's problem by the most effective means possible.

It is useful to know about these four themes of food faddism and nutritional quackery and the reasons why the exaggerations and distortions are not true. They are not, however, the criteria to be properly employed when judging these claims scientifically. The reason is that they only address themselves to "what" people believe. If we concern ourselves only with "what" people believe and insist that they line up with orthodoxy, we merely practice dogmatism. We do well to remember that it was dogmatism which did much to stifle scientific progress in medicine. It is difficult not to do so when

presenting a group of facts and debunking myths. I do not, however, simply compare claims with counter claims and choose which to believe because of the source.

HOW TO JUDGE NUTRITIONAL CLAIMS

How then, does one judge the validity of claims made in the name of nutrition science? The first step is to gather literature. It is essential that one get the claims of the proponent in writing so one can evaluate them directly. Next, determine what is unique about the proponent's claims. They are always couched in basic scientific facts and acceptable principles so that they can be difficult to separate. This is why so many propositions sound good to us at first, but fail to survive the test of time. It is the uniqueness of the claim that is important, not the rationale, basic science, or other principles which accompany it.

Once the uniqueness has been clearly determined and defined, the next question is the most essential one for clinicians to be concerned with. That is, "How does he know it works?" There is a basic principle in the real world which says, "Technology precedes science." That is to say, we use something because it works long before we understand the mechanisms of how it works. Aspirin serves as an excellent illustration. We're still not certain of the mechanism, but we do know it relieves pain, and so we use it. If we waited until we thoroughly understood it, there would have been a lot of unrelieved headaches and pains over the years unnecessarily.

The third step involves, then, the determination of the quality of the proponent's evidence that his unique thing works. This is to say that it is not "what" he believes, but "why" he believes it. This is where a knowledge of proper research methodology is essential. When attempting to differentiate between science and quackery, remember these fundamentals: Science is not an organization, place, agency, or profession, but rather, it is *methods* which have proven themselves to be reliable and valid as a means of determining what is true in the natural world and their intellectual products, which are the beliefs of science. Science is as science does. It is its methods which define it. The same thing is true of quackery, which is properly called, "the antithesis of science." Quackery is as quackery does. It is faulty methods employed by people—often well-meaning, nice, friendly, dedicated, sincere, enthusiastic, empathetic people. However, these methods are *not* reliable and valid as a means of determinging what is true in the natural world and their intellectual products.

When one is astute enough to judge the difference in methodology it becomes possible to judge the validity of the claims on the quality of

the proponent's own evidence. A review of what critics are saying can be judged as to whether they are based upon substantive reasons or simply represent prejudice or self-interest.

Sometimes the evidence offered is purely conjectural. A classic example involves the conflicting claims of Drs. Pauling and Atkins. Pauling theorizes that humans need enormous amounts of vitamin C because our ancestors were used to spectacular levels as they ingested huge amounts of vegetation. These individuals were vegetarians, he speculates, who evolved on a diet so rich in ascorbic acid that when they lost the facility for synthesizing the nutrient in their bodies they didn't miss it. He recommends that our vitamin C intake today be based upon the amount they hypothetically ate.

Conversely, Dr. Atkins of diet revolutionary fame says that our ancestors were cave men who evolved mostly on meat. He says our bodies aren't made to handle large amounts of carbohydrates. Obviously, both men cannot be correct, but neither can be proven wrong either. What is amazing is the credence that is given such claims when they are based upon pure conjecture—totally devoid of evidence.

When evidence is offered by the nutrition crusaders, most often it is anecdotal, such as the case report, testimonial evidence, etc. This type of evidence can be very convincing, especially when given eyeball to eyeball. It gets to the emotions, down deep inside where we live. Its effectiveness has been demonstrated recently during the Laetrile controversy. From the standpoint of scientific methodology, however, it is of the poorest kind. It represents the crude empiricism of the ancients and has been responsible for the perpetuation of every invalid form of healing procedure ever devised. If testimonials of patient satisfaction (even if they are authentic) are sufficient evidence for the validity of a procedure, then *everything works*! Phrenology, naturopathy, witch-doctoring, chiropractic, wearing copper bracelets, sleeping along magnetic lines, and every other system of healing has a group of people who will testify under oath that it worked for them! Perhaps someday they will all qualify for medicaid payments as politics becomes more involved in the health-care marketplace.

We also have the fallacy of extending correlational-type evidence to proof of cause and effect. Associations are made which are in reality no more valid than the observation that a high correlation exists between drownings and watermelon sales. When one is high, so is the other. The reason is not that eating watermelon causes drownings, but that they both are related to the common factor of hot weather.

Critics of the nutrition crusaders have only called for quality evidence. That means properly-designed, controlled experimental studies, or that inferences be accordingly limited when the evidence is limited. The critics also ask that the public not become the target of books and the rank and file dentist the object of commercial laboratory schemes before adequate proof of safety and effectiveness has been established. Unfortunately, the nutrition crusaders have attempted to make up for their lack of science by an increased emphasis on the art of health care delivery.

The difference between the arts and science of medical practice is that the art is the way one treats people, concerning itself with emotional factors primarily, while the science deals with how one directly treats disease. There is little doubt that we need to incorporate a good deal more art into our practices, but not at the sacrifice of science.

OTHER CRITERIA FOR RECOGNIZING QUACKERY

A secondary set of criteria which can be useful in recognizing quackery involves the manner in which the products of the methods (i.e. the beliefs) are propagated. Scientists adhere to ways and means which represent responsible behavior. The quacks do not. They rely upon the same techniques which make salesmen successful. Some of the important differences are: (1). Scientists publish for the purpose of peer review and critical examination by qualified experts within their fields. Publishing for the public before something is established scientifically, especially concerning matters likely to encourage self-diagnosis and treatment is *irresponsible and merits the label of quackery*. (2) Scientists rely upon the recognition of their peers to demonstrate the merit of their claims. Quackery, on the other hand, is self-proclaiming. It boasts of itself and its own successes. The next time you hear or read one of those wonderful-sounding case histories, note who the hero of the story is and compare that with the source of the story. As Jameson stated, "It is self-advertisement that defines quackery." (3). Scientists recognize their obligations regarding the *burden of proof* when proposing an idea and they recognize the functional role of peer criticism. As the proponent offers his theories and experimental evidence, his critics offer rival hypotheses to explain away his results. These rival hypotheses serve as hurdles for the proponent to clear. When he has successfully dispensed with them all he has established his point. His peers actually aided him with their criticisms by pointing out the weaknesses as he proceeded. Such is the nature of the arena of scientific debate.

The quack views all such criticism as persecution. He uses the so-called "they persecuted Galileo" argument. The reasoning is that since they persecuted Galileo and he was right, so they are persecuting me, therefore I am right. Quackery demonstrates a wide variety of paranoid manifestations in the arena of scientific debate such as visions of grandeur whenever they claim to have made great discoveries which are being ignored or a pathological suspicion that the "establishment" really doesn't want to cure disease and that is why their proposition is being "suppressed."

(4). Scientists write responsibly. They recognize the importance of documenting evidence since its quality is the most essential factor. Some of the abuses I have seen in my study of the works of the nutrition crusaders with regard to bibliography are: (a). no bibliography at all. Some have put forth some revolutionary ideas without a shred of documentation of evidence. I witnessed an incident where documentation for a claim concerning alleged soil depletion occurring at an alarming rate was called for. The answer was, incredibly, "I was waiting for an airplane and a guy at the airport told me!" (b). the non-supportive bibliography. While researching the question of the validity of hair-analysis as a means of assessing nutritional status I contacted a commercial laboratory which offered the service for information on its validity. Upon receiving an impressively lengthy bibliography, I began gathering and reading the studies. I found that the studies didn't support what the laboratory was doing, demonstrating that it is wrong to be impressed by a large bibliography. (c). the self-quoting bibliography, especially where it counts. A number of people have made the observation that some writers' bibliographies are loaded with their own works, so they are, in effect, quoting themselves, creating circular reasoning and evidence. What is even more important than the mere appearance of one's own works (which is legitimate under many circumstances), is what points of evidence those quotes support. Most monographs have a particular point to make, the proof of which depends upon establishing important items of evidence. Ask yourself, "On what points does proof rest and what documentation is offered for these?" I have found so-called scientific reports which were exclusively self-supporting with regard to the issues which were essential to their validity. Obviously, a certain amount of skepticism is called for when assessing purported scientific claims.

At some point it might be argued that over-promising the benefits of good nutrition or over-stating the dangers of sugar or white flour are acceptable. Some have said, "If it gets people to change their eating

habits, let's do it!" As one man put it recently, "A nation that spends what ours does on alcohol, tobacco, candy, and junk foods should think twice before criticizing people for spending a little extra on organically-grown foods, vitamin pills, wheat germ, and black strap molasses."

I would agree with that statement if that is all there were to it. However, if we examine all of the possible costs of nutritional quackery I believe you will agree that the price is too high for dentistry to pay. It harms both the patient and the profession in important ways.

THE HARM OF NUTRITIONAL QUACKERY

The patient is harmed by the excessive costs involved in purchasing unnecessary products and services pushed on them by practitioners. Also, there are numerous cases in the literature (and many which go unreported) involving toxic overdoses of supplements. While this may not happen directly in the dental office, the reinforcement of the patient's faith in vitamins and minerals by the doctor's attitudes or practices could be an important factor, especially in the face of the plethora of popular books authored by health professionals. Since little is known concerning the long-term effects of high doses of nutrients, responsible dentists will be as concerned about the effects of excesses as they are about deficiencies.

The harm that nutritional quackery poses for the profession involves one of the most essential qualities any profession possesses—credibility. How important is it to dentistry that it be believable? I believe the right to self-govern, which is unique to professionalism, bears directly upon public trust and it is to a large degree based upon credibility.

Another point to consider involves dentistry's responsibility to public welfare. At the outset I mentioned that health care in America is undergoing a revolution. As we construct a national health-delivery program, who will qualify as health-care providers? Upon what basis will some be excluded—political or scientific? Will it be persuasion or proof that serves as the criteria of acceptance? If we lower dentistry to the point where the satisfied customer is all that counts, with testimonial evidence sufficient to prove safety and effectiveness, just about every healing system around will qualify, and we will institutionalize quackery—perhaps forever.

The thing that worries me the most as I deal directly with effects of quackery on people is still another consideration. When someone in the health care community adopts a treatment procedure that is

unconventional, a need to justify that action arises. The person who lacks a legitimate scientific basis becomes alienated from his colleagues and is forced to use some classicial responses.

One such response is to say that other dentists or physicians are not as well-informed as they. Interestingly, we are told by the so-called "nutritionally-oriented" doctors that physicians and dentists don't know anything about nutrition and that's why they are being opposed. The thing I find curious about that notion is that many who say it are dentists or medical doctors themselves, or others who have little or no training in nutrition. These individuals are, in fact, not as much opposed by other doctors as they are by nutritionists, biochemists, and agricultural scientists. One wonders where they received their education in nutrition. They seem to have received it from books and magazines obtained at the health foods stores.

Another classical response proclaims that conventional medicine and dentistry is misguided or fraudulent. In any case, they all lead to what I contend is the most *pernicious* thing about nutritional quackery: the health food movement and the anti-science mentality they represent. It is what I term the "negative philosophy." Simply stated it says that "you can't trust orthodoxy." This is elaborated in numerous ways. Most important to the health foods industry is the notion that you can't trust the food supply. It is this belief that justifies their very existence. There would be no necessity for an alternative if you could trust the food supply. That belief is dependent upon others, such as: you can't trust the Food and Drug Administration because they permit a bad food supply; the United States Department of Agriculture cannot be trusted because they permit bad food to be grown; the United States Public Health Service cannot be trusted either because they aren't looking after our welfare, and besides, they put poisonous fluoride in the water, force us to be vaccinated, devitalize the milk by pasteurization, and so forth; The American Medical Association, the American Cancer Society, and the National Cancer Institute are all accused of self-interest and are suppressing cancer cures.

Of course, the question arises, if you can't trust these agencies and people, who can you trust? After all, we must all trust others to supply our food, water, medical and dental care, etc. The answer is that you can trust health foods, chiropractors, "nutritionally-oriented" physicians and dentists, Laetrile, and so forth. Now, perhaps, it may be clearer to you why the National Health Federation opposes everything orthodox, revels in errors by officialdom, and constantly prods the

public paranoia. Quackery's existence is dependent upon undermining the public's trust in conventional methods in order to provide a market for their alternatives.

Every case of serious quackery I have investigated or have obtained reports on involves victims who have *bought the lie* of the negative philosophy. An illustration of just how far some people will go once they are imbued with this negative philosophy involved a case I investigated of a 57-year-old health foods store owner who died needlessly of breast cancer while trying to prove the efficiency of "diet cure." Not only did her alienation from conventional medicine keep her from early treatment which almost certainly would have saved her life, but it wasn't until her agony was so great that she couldn't endure the pain of having anyone even touch the bed upon which she lay that she consulted an orthodox physician. This decision was made just five days before her death—nearly two years after discovering the lump in her breast. Most important, she went to her grave still believing that her choice of the grape cure, herbalism, Laetrile, and so forth, had been the right treatment for her. Her husband, who continues to operate the health foods store, still sends customers down the same therapeutic route his wife followed when his advice is sought. Both of them demonstrate the behavior of the "true believer" whose view of reality has been distorted in such a manner that even failure does not dissuade them, but rather, calls for deeper commitment.

This attitude of distrust represented by the negative philosophy is like a time bomb planted in a person's mind. As long as they are healthy it doesn't matter what they believe, but when something serious happens, their response can spell the difference between life and death. Misplaced trust in the wrong thing can make a curable disease fatal.

It is said that attitudes are "caught," not "taught." I believe we all appreciate the powerful influence physicians and dentists have on the attitudes of our patients and the public at large. As responsible professionals, none of us want to behave in a way that jeopardizes the public's welfare.

CONCLUSION

In conclusion, dentistry is to be commended for its dedication to the new idealism of promoting health and well-being from the perspective of the total man and its emphasis on prevention. However, my main message is that dedication to health by itself is not enough. The quacks are dedicated to health also—in the extreme! As we have seen, they will sometimes kill themselves by following their own treatment

regimens and go to their graves believing they have done the right thing!

The dedication to health must be exceeded by a dedication to truth, and the only route to truth in matters of health is by the means of the established methods of scientific investigation. By combining a dedication to both health and truth perhaps we will eventually attain the ideals to which we all aspire.

About the Author

William T. Jarvis received his Ph.D. in health education from the University of Oregon. He specialized in consumer health, an area which concerns itself with health misconceptions, quackery and fraud. He is an Associate Professor of Preventive Dentistry at Loma Linda University. Among the courses he teaches are nutrition, public health, biometrics, and dental ethics. He also teaches graduate research methods, often combining the related problems of quackery with what kind of evidence it takes to determine the validity of a health claim or medical theory. He has written a chapter in *The Health Robbers*, entitled, "Dubious Dentistry," which deals with quackery in dentistry.

Support the American College of Dentists Foundation
(Continued from page 199)

friends and loved ones who have passed away. The Foundation, in turn, will notify the families with an appropriate acknowledgement.

Finally, still another source of funds is providing bequests in wills or making the Foundation beneficiary of life insurance policies.

The American College of Dentists Foundation needs and deserves your support—Let us get on with the job. Give generously, yea recklessly!

Richard J. Reynolds
President, ACD Foundation

Economic and Philosophical Factors in Fee Structuring

ROBERT J. NELSEN, D.D.S.

Most any discussion of the Economic and Philosophical Factors involved in Free Structuring virtually opens a Pandora's box of arguments regarding this important but contentious aspect of professional care. In Greek legend, Zeus gave Pandora a box enclosing all human ills which were released when she opened it. However, hope was also in the box. Fortunately, she kept it and so today, in spite of pervasive evil, mankind still has hope. Any measure of the dilemmas which prevade the health care system points out the great need for hope that in time they will be resolved. So rather than discuss the multitude of evils which have been released about the philosophies and economics of fee structuring, this discussion is focused on a hope that professional concepts of health care will endure through the great arguments and confrontations about fees.

At this point, there is need to explain the concept of professionalism as it relates to establishing the fee, for it is the most valid and enduring basis for rapport between patient and doctor in our free and open society. In my view, professionalism is an attribute of quality in the relationships between two persons or between two groups. The nature of the professional relationship is the same whether it attends to the doctor and his patient or to the profession and the public.

In the professional relation, an individual having problems relating to his person which call for superior knowledge, skill and judgment which he does not have, seeks their solution by surrendering himself to care by a person who does have the required superior knowledge, skills and judgments. Most importantly, this person professes to place the interest of the supplicant before and higher than his own interest at all times. When such conditions prevail, we have a trinity of order, a predetermined scheme without confusion in which a first person surrenders his personal authority to a second who acts to the other's benefit prior to his own. The third element and most important, is the shared spiritual attitude of both which establishes the professional relationship between the doctor and *his patient,* and the patient and *his doctor.* Both are equally *in possession of* the other. In a similar

Presented at the annual meeting of the American Academy of Dental Practice Administration, Chicago, Illinois, February 18, 1977. Dr. Nelsen is Executive Director of the American College of Dentists.

context, the profession serves to advise and guide the interests of the public.

The effectiveness of the system depends upon a continuing mutual respect of patient and doctor of profession and public. It requires that all parties involved believe in the system and have faith in it. It is a two-party system in which the money value of service should be agreeable to both. However, because of his unique position of privilege and advantage, the professional has great opportunity for mischief. The mischief lies at the interface of cost/benefit. There is opportunity here for the professional to place his costs (the fee) higher than the actual benefit to the patient. Unfortunately, third-party self-interest now brings a new aberrant dimension into the fee. Their fixed cut of 8% overhead plus 2% profit, as middleman-commission merchant, imbalances the cost-benefit equation and distorts the fee.

The fee is but a monetary expression of a perceived value and value, of course, has many ramifications. The fee or price represents the settlement for professional services rendered. That ancient exchange for service which was valued at thirty pieces of silver points out there is always a philosophy related to determining a fee - and the particular mutual values it represents to the participants in the exchange. The problem of establishing the fee is as old as man. It is a very important item within the professional's agenda of care. It can vary from the benevolent spirit of charity to the caveat emptor of trade. In professional care, the fee is the necessary but dangerous denominator in the doctor-patient relationship. It probably is the precursor of more mischief than any single factor in the system of professionalism. It is the source of much of the grief about third-party intrusions.

The costs of care include all those factors which the professional brings to the patient to provide what he needs and wants. They include the amortization of start-up costs of education to acquire superior knowledge, skill and judgments, plus the costs of continuing education, plus the cost of establishing and maintaining the physical environment in which these are applied, plus the indirect cost of availability - being there when needed.

The three elements - knowledge, skill and judgment - intrinsic to professional care are also measures of craft and commerce. The artisan has special knowledge and refined skills. So too the technician who has knowledge of electronics and makes judgments about the needs of television sets. Now, how is the professional different from these? Why does society give him unique privilege and position above the craftsman, the artisan or the technician? The answer is the purpose and manner in which he exercises his judgments. The patient

surrenders his personal self to him. He makes appropriate observations, assesses these against all other variables presenting and then determines a solution in accord with that patient's best interest. He makes a value judgment. However, because this judgment is related to another's personal well being, it becomes a moral value judgment. Most necessary and always, this judgment must be made for the patient prior to any consideration of self-interest. This does not say there should be a lack of self-interest by the professional. It is not required that a professional person unwillingly subjugate himself to the extent of personal disadvantage or harm. It is possible and proper for a professional to prosper in this system.

This exercise of moral value judgment is the core of the professional concept. When it is not present, treatment becomes craft and care becomes enterprise.

It is impossible to reduce such moral value judgments to a code, a specification, an allowance, pre-authorization, or to abandon or assign them to ancillaries or to third parties, however much these both strive for that privilege. This moral value judgmental privilege belongs entirely, and *only* to the professional. Because he is held responsible, he must be *the* authority. If he accepts responsibility without authority, he becomes a pazzo - a patsy or fool. He is accorded privilege only as he accepts responsibility.

It is incumbent upon the professional to protect this system, not for his own benefit, but for that of his patient and the public. There are those, even within the profession, who look upon health care as an industry - the patient as a consumer. This viewpoint is often coupled with a simple truth; that most persons can be taught the craftlike actions of many of the professional treatment procedurals. Such craft work can be performed quite adequately - by almost anyone. However, it is usually devoid of those moral value judgments which must override all procedurals and are essential also to treatment as it progresses. *Prudent* compromise attends all treatment by a professional - he determines the mode and extent of compromise which is a judgment whose common denominator is "What is best for this person under the circumstances and the conditions?" The craftsman also makes judgments, but uses the common denominator of expediency in the commercial atmosphere of caveat emptor. He is involved with the material affairs and not the personal well being of another. What then can be said about the Economic versus the Philosophical Factors in Fee Structuring?

First, such a consideration brings the discussion to an interface. This is the turbulent area of trouble where patient-benefit and the

professional's self-interest meet. An interface is always a harbinger of trouble. In weather situations, when a warm front meets a cold front, a storm occurs. In landing, an aircraft changes from airfoil control to ground wheel control. This transition - an interface - is the most dangerous part of flying. Throughout the body, neoplasms occur most frequently at interfaces of tissues, when one type of cell system meets another such as at the vermillion border of the lip. These are the most common sites of cancer.

In health care, the professional reaches an interface when he must reduce his care to the monetary expression of fee. He must ever be on guard, lest he be tempted to take liberties with his professional privilege. When he does, he becomes the tradesman - subject to the burdensome regulations of commerce. Then, as a merchant, there hangs from his shoulders the shroud of the demised professional emblazoned with the logo of materialism "Caveat Emptor" - "Let the buyer beware."

It is important to our very survival as a true profession that we in practice convince ourselves of the validity of the professional oncept as the best means of health care. Then, we must bring our convictions to the emerging profession, convince the student that he must subscribe to these principles if he wishes to be *of* the profession. He must be trained in knowledge, skills and judgments, but additionally, he must be educated to the acceptance of the moral responsibility attending his position of special privilege.

Finally, we must explain the full meaning of the fee to the patient. He has no knowledge of what it represents except in terms of a provider-consumer relationship. In this vein, we should not allow the union and the carrier to continue in their efforts to hammer the professional relationship of doctor and patient into a commodity box simply for the purpose of sale or barter between the contentious self-interests of labor and industry. In dealing with third-parties, the profession should not succumb to expedient self-interest as would a tradesman by compromising his professional prerogatives for an imagined gain or rationalized good.

The independence, freedom and liberty of the professional persons rests not upon his acts of treatment but upon the morality of the value judgments he makes for others in context with those acts. Such judgments are of great and good value to the well being of the patient. They must be recognized by all concerned as an integral factor in the audit of values expressed as the fee.

7316 Wisconsin Ave.
Bethesda, Maryland 20014

Some Perspectives on Leadership in Dentistry

Paul S. Casamassimo, DDS., M.S.

Leadership is as integral to American society as is freedom and self-reliance. Most Americans aspire to lead in some capacity, whether it be in employment, the community, or the family. As a society, America strives to be the leader in world affairs; as individuals, Americans strive to be first in recreation and a chosen field. Every American child is brought up to believe that he can become President of the United States.

Despite our notions about, and preoccupation with leadership, its study remains less than a science. Literature abounds with speeches, essays, and biographical sketches by and about leadership, yet the final definition of the term has not been written.[1] Attempts to define leadership have included lists of qualities associated with leadership, distillations of the best qualities of great men and women, and definitions of everyday leadership in strictly behavioral terms.

The complexity of the leadership process and its specificity to individual societies and organizations have made a widely acceptable definition impossible. The lists of qualities seem endless, and worse, often contain contradictory terms. The biographies become ludicrous as the real life behavior of great people is revealed to be less great than history would have us believe. Behavioral definitions too often lack the substance for application in other than the research laboratory.

Hobbs and Powers[1] suggest the following definition of leadership:

> "Leadership is interpersonal influence, exercised in a situation and directed through the communication process, toward the attainment of a specified goal or goals."

This definition, though vague, can be applied to a variety of situations, from the simplest human interaction to man's most

Dr. Casamassimo is assistant professor of Oral Pathology and Diagnosis, University of Iowa College of Dentistry, Iowa City, Iowa 52242

complex social activity. The definition suggests certain aspects of leadership that are applicable to a highly structured and organized activity such as dentistry. The definition includes activity, communication, and pursuit of a goal. Dentistry involves clinical, interpersonal, and organizational activities. Dentists communicate with colleagues, patients, and society in general in many ways. As a profession, dentistry has a stated purpose, expressed well by Nelsen[2] as:

> ". . . the use of superior knowledge, skill and judgment towards the benefit of another person or to society prior to any consideration of self-interest. . . ."

Few would question the application of leadership to dentistry—leadership types appear in practice, organized dentistry and education, just to mention a few areas. But does dentistry have a distinct and unified concept or definition of leadership? This paper investigates some of the meanings of leadership as expressed by authors in the dental literature over the last decade and a half. The qualities associated with leadership, the relationship between views of dental leadership and society, and implications of the literature on leadership are discussed.

LIMITATIONS OF A LITERATURE APPROACH

The mention of leadership in the literature is common, but detailed analysis of the process is difficult to find. Few papers deal directly with leadership as a specific entity in dentistry. Most of the discussion of the phenomenon is directed to its application to abstract or concrete problems, or disguised in essays on professionalism, a concept many feel is synonymous with leadership. The published research on leadership in dentistry is also limited to a very few papers, at least in the last few years.[3,4,5]

The available literature provides an insight into current uses of the terms *leader* and *leadership*—at least as expressed by authors who are dental and non-dental leaders. This type of analysis must be seen as reflective of the views of the authors and no more. A more valid picture of how dentistry views leadership requires a thorough examination of the concept from other vantage points. Unfortunately, this is difficult.

The published views of dental leaders should reflect the concepts of leadership held by the general profession since dentistry is democratic and its leadership reflects the views of the constituency. From that standpoint, the opinions expressed in editorials, essays, and other papers should give some insight into the profession's view of leadership.

QUALITIES OF THE IDEAL LEADER

Dentistry has become sophisticated enough to engage in self-evaluation and one aspect of this process is in the analysis of leadership. This analysis as portrayed in the literature is unstructured and empirically based, but provides some idea of what makes a dental leader.

The collected literature of the last fifteen years portrays a personality who blends the best qualities usually reserved for saints and heroes on the one hand, and statesmen and corporate chairmen on the other! After sifting through the exaggeration and editorial license, one settles on a character who is refreshingly idealistic and believable pragmatic.

Motley,[6] Keisel,[7] Peterson,[8] and others[9,10] describe the dental leader as one who has administrative expertise, can implement ideas and make decisions, and can plan. Yet, they also describe this person as one who can unite diverse factions in his or her sphere of activity, represent the varied opinions of the constituency without self-interest, and make unbiased decisions in the best interests of all involved. The idealized dental leader is someone who bridges the gap between pragmatism and idealism.

There are some problems with this definition. On the one hand, the leader is expected to display the idealism of a boy scout, and on the other, the decisiveness of a corporate executive. It is legitimate to ask whether idealism has a realistic place in a view of dental leadership as we understand it. To answer this question, one must consider that this dual view of the dental leader is that of dental leaders who have endured the stress and hard work of leadership roles and can still speak of leadership in both ideal and pragmatic terms. The words of tried leaders have more weight than those of someone who has not experienced the rigors of the role. The pursuit of leadership positions by the followership provides another answer to the same question. Leaders come from the ranks and if leadership meant nothing more than more work, few would try to become leaders. Leaders are seen as possessing certain intangible, idealistic qualities — at least this is what the literature suggests. Whether they do or simply believe they do is a moot point. One has to conclude that in the minds of some, the ideal dental leader is part idealist.

The idealized model of the dental leader embodies both idealistic and pragmatic qualities, but is this person more practical than idealistic? Those papers that dealt specifically with leadership were examined for mention of qualities attributed to leaders and those qualities were ranked in order of frequency of appearance.[1-29] The

following traits were the ten most often listed, with the most frequently named at the top of the list:

selflessness (I)
diplomacy (P)
communication (P)
decisionmaking (I)
dedication (I)
intelligence (P)
intuition (P)
openmindedness (I)
vision (I)
professional acumen (P)

In addition, the literature included single references to the following qualities: conviction, courage, energy, friendliness, generosity, honesty, longevity, imagination, moral vitality, risk taking, sobriety, and thick skin!

The two qualities most often associated with leadership were selflessness and diplomacy, which are ideal (I) and pragmatic (P) respectively. The list is almost equally divided between idealism and practicality with a slight edge to practicality. This may be a manifestation of the experience of the writers who know first hand the efforts of leadership. The day-to-day demands of a leadership position certainly could bias the writer to a more realistic view of leadership.

SOCIAL CONTEXT OF LEADERSHIP

A strong social orientation emerges from the literature on leadership. This orientation takes two distinct levels. First, leadership is discussed at the level of mankind and society. This higher concern reflects the time period from which the literature was sampled. Our country was abruptly and violently awakened to the needs of society in the nineteen-sixties. Troubled youth, Vietnam, and burgeoning consumerism forced introspection by society's leaders and the learned professions in particular. The dental literature supports the intimate involvement of the dental profession in this area. Fortenberry[11] speaks about community and civic responsibility as a strong component of professionalism. Dunn,[12] speaking as both a dental and governmental leader, outlines such societal problems as Watergate, unbridled technology, and moral decay and calls on the system of health professions for leadership in solving them. Other authors encourage dental leadership to combat public apathy in the community,[13] withstand the frustrations of governmental bureaucracy,[14] and bridge the generation gap.[15] There is a clear portrayal of the dentist as a leader in our society.

The second or lower level of leadership is within the arena of dental health care. The literature discusses leadership at all stages of dental health care, from education[16] through a career choice[17] and program planning[18] to the daily delivery of care by the dental professional. Weber[16] calls on dentistry to recruit potential leaders and develop them to take over the reins of the profession. Milgrom et al[17] examine trends in dentistry—all with societal implications for the delivery of care—and urge potential leaders in those directions. Sanders[18] recommends application of knowledge and skills to develop systems to meet the health care needs of society. Participation in the planning of dental health care programs at the local, state and federal levels is a recurring theme in the papers reviewed and probably relates to the growing concern by health care leaders about socialized health care and governmental intervention. Several articles see leadership as providing a bridge between the needs of society and those of the profession in this context. Finally, More[19] places leadership in the context of professionalism and the standpoint of the individual practitioner as he or she interfaces with society. The dentist has leadership responsibilities to the patient in terms of the knowledge expected of him, his role as healer, and his privileged position as autonomous provider of care.

An interesting aspect of the lower level of societal orientation is the relationship between leadership and professional self-interest. Third party payment[20] and protection of the interests of the profession[21,22] are recurring themes. The literature places the leader in the awkward position of bridging the gap between two divergent factions—in most cases government and the profession. Clearly, the model leader called for here by the literature is the cool-headed arbitrator with courage enough to stand up for the rights and views of the dental profession. What is encouraging about the view of leadership at this level is that the sense of idealism doesn't waiver from the loftiness of the ideals applied to solving society's greater problems. The level of professionalism is fairly consistent whether the problem is society's moral decay or third party payment.

Eighteen of twenty-nine papers examined treated leadership in the social context. The conclusion that must be drawn from the close association between the dental leader and society is that social concern is an integral part of the profession's view of leadership.

IMPLICATIONS OF THE LITERATURE

A favorable characterization of the dental leader as hard working, idealistic, and socially aware appears in the literature, but there are also shortcomings.

First, a dearth of research into leadership is readily apparent. The few studies done concentrate on the managerial characteristics of the dentist in private practice[4,5] and the identification of student leaders in dental school.[3] More research needs to be done in such areas as selection, development, and retention of leaders. A thorough understanding of the phenomenon requires investigation of leadership as applied to education, dental practice and organized dentistry. A large void exists in our understanding of the public's view of the dentist as leader. Most of the papers reviewed on leadership are the views of dentists and are limited to empirical observations. A valid and functionally applicable view of leadership can only come from scientific investigation.

Another problem is the lack of depth of most of the papers examined. A serious shortcoming of many of the papers is that they deal with specific problems. Few deal with leadership as a process or separate phenomenon. Except for several excellent perspectives on leadership as dental statesmanship in a particular journal, most papers applied leadership to abstract or concrete problems.

This lack of depth is well illustrated by several areas of inadequate coverage. Only two papers[16,23] discuss training persons for leadership roles to any great extent. Most authors seem to assume that attainment of professional status confers leadership ability or that leadership is genetically determined! The lack or reference to legitimacy (sanction by a society to lead) in other than licensure terms also points to this lack of depth. The overall failure of the literature to provide a comprehensive, in depth examination of leadership relates directly to the lack of research into this area.

Finally, a wide variation in the application of the term *leader* and *leadership* to specific problems and concerns is evident from the papers examined, despite a relatively consistent model of the ideal dental leader. The reasons for this may be the complexity of the leadership process in dentistry, the lack of a working definition of the dental leader, or simply, editorial license.

More positively, the literature portrays the dental leader as able to fit into all levels of the social system effectively. Authors give the dental leader both functionally specific and functionally diffuse roles, perhaps as testimony to a belief in the inherent strength and ability of the leader within the profession and society in general. The authors view the dentist as functionally specific in that he or she fits into society in a distinct niche, with status, responsibility, and legitimacy (licensure, education). In this aspect of dental leadership, there is little disagreement among authors. On the other hand, the role of the dental leader within the sphere of dental care is not so well defined, despite

the organized and structured environment the profession provides. The dental leader's responsibilities and status depend greatly on the point of view and "camp" of the author. Educators, practitioners, and elected society leaders all view the dental leader differently, as one would imagine. There is a suggestion in this variation that the authors invite creativity and new blood to help solve some of the many problems affecting their particular areas.

SUMMARY

This paper investigates the view of leadership manifested in the literature of the last decade and a half. The literature provides an idealized dental leader who blends pragmatism and idealism and social concern into a workable personality.

The research into leadership in dentistry is limited and most of the writing on the leadership process is empirical. Despite the favorable aspects of leadership that emerge from the literature, shortcomings such as the lack of a working definition, the lack of depth of analysis, and the wide variation of applications of the term leadership do exist.

Leadership behavior exists at all levels in dentistry. More research into the phenomenon is needed before a valid picture of the leadership process in the profession can be ascertained.

LIST OF REFERENCES

1. Hobbs, D. J. and Powers, R. C.: *Leadership - What is it?. . .* Its Dimensions, Ames, Iowa: Iowa State University Cooperative Extension Service, 1969, pp. 1-6.
2. Nelsen, R. J.: The Nature of Professionalism - Its Value to Society, *Jour. Amer. Coll. Dent.* 41:37-44, 1974.
3. Mackenzie, R. S.: Predictive Validity for Dentistry of Biographic Data on Leadership, *J. Dent. Educ.* 30:376-378, December, 1966.
4. McDaniel, S. P., Pelton, W. J., and Overstreet, G. A.: Managerial Characteristics of Dentists; II. Leadership Opinion Questionnaire, *J. Dent. Educ.* 36:23-25, November, 1972.
5. McDaniel, S. P., Pelton, W. J., and Overstreet, G. A.: Managerial Characteristics of Dentists: II. Leader Behavior Description Questionnaire, *J. Dent. Educ.* 37:29-31, May, 1973.
6. Motley, W.: Dental Hygiene Leadership, *Jour. Amer. Dent. Hyg. Assn.* 43:11-16, 1st Quarter, 1969.
7. Keisel, J.: Leadership, *Jour. Dent. Asst.* 41:5, August, 1972.
8. Peterson, L. W.: On Standing Up to be Counted, *Jour. Oral Surg.* 26:631, October, 1968.
9. Brown, W. E.: Professionalism in Organized Dentistry, *J. Mich. State Dent. Assn.* 53:334, December, 1971.

10. Easlick, K. A.: Editorial: Challenging the Profession, *Jour. Pub. Heal. Dent.* 28:139, Spring, 1968.
11. Fortenberry, M. M.: Our Community Responsibility, *Jour. Amer. Coll. Dent.* 34:246-249, October, 1967.
12. Dunn, W. C.: Leadership and the Professional Ethic, *Jour. Amer. Coll. Dent.* 42:74-81, April, 1975.
13. Alstadt, W. R.: The Qualities of Leadership, *Jour. Amer. Coll. Dent.* 34:242-245, October, 1967.
14. Laird, M. R.: The Professional Man, *J.A.D.A.* 77:1052-1054, November, 1968.
15. *Smyth, D. M.: Human or Anti-human Organizations, Jour. Ont. Dent. Assn.* 44:9-10, January, 1967.
16. Weber, F. N.: Leadership Through Recruitment and Education. *Jour. Amer. Coll. Dent.* 34:250-254, October, 1967.
17. Milgrom, P., Nash, J., and Rovin, S.: Identifying Leadership Careers in the Dental Profession, *J. Dent. Educ.* 38:140-146, March, 1974.
18. Sanders, E. R.: Socially Sensitive Dentists for a Changing Society; The Approach of One Dental School, *Jour. Pub. Heal. Dent.* 28:27-31, Winter, 1968.
19. More, D. M.: I: Notes on Professionalism, *Jour. Amer. Coll. Dent.* 29:118-127, September, 1962.
20. Yuen, S. S.: Editorial: The Apathy Until It Hits the Fan Syndrome, *J. Cal. Dent. Assn.* 1:8-9, November, 1971.
21. Phillips, P. T.: NYSAP Important in These Changing Times, *N.Y. State Dent. Jour.* 36:160, March, 1970.
22. Blackerby, P. E., Jr.: Leadership and the College, *Jour. Amer. Coll. Dent.* 30:111-115, June, 1963.
23. Ast, D. B.: Training of Dentists for Leadership in the Health Field, *Ann. Dent.* 25:41-43, June, 1966.
24. Wells, H. B.: The Need for Leadership in the Field of Higher Education, *Jour. Amer. Coll. Dent.* 30:289-294, December, 1963.
25. Phillips, P. T.: Social Philosophy: Ingredient in New York Dentistry, *N.Y. Jour. Dent.* 38:441-442, December, 1968.
26. Mullen, G. E.: Professional Leadership and Responsibility, *Jour. Amer. Coll. Dent.* 38:242-244, October, 1971.
27. Bloom, R.: Letter: Unresponsive Leadership? *J.A.D.A.* 90:529, March, 1975.
28. Teuscher, G. W.: Editorial: Courage is the Name of the Game, *Jour. Dent. Child.* 35:438, November, 1968.
29. Editorial: Responsibility Rests at All Levels, *J.A.D.A.* 85:225, August, 1972.

Correlation of Community Dentistry with the Teaching of the Biological and Clinical Sciences of Dentistry

EMERSON ROBINSON, D.D.S., M.P.H.

Community dentistry is now accepted as part of the curriculum at most dental schools. This essay is by no means inclusive of the course that should be taken by dental schools in integrating, or more specifically, coordinating the teaching of community dentistry with the teaching of the biological and clinical subjects as a total approach in producing the ideal dentist, but to plant seeds in the minds of those who are willing to consider this approach in the education of dental students. The time has come when we all must realize that it is incumbent upon the profession to take the initiative in plotting its own course if it is to be led and directed by its own members. If not, then its destiny may very well be determined by those who may not serve in the best interests of the profession. It is the author's contention, as a member of the dental profession, that we must teach and practice together in such a manner that it will not only preserve our present system of dentistry, but will also serve to enhance the public's image of dentistry. After all, we are supposed to be servants of the public.

If viewed from a historical perspective, the educational process of a dentist has been primarily in the areas of the basic sciences and the clinical sciences. As our society continues to evolve, it appears that a third process will inevitably be a part of the dental education process. Now that there is a greater correlation of the biological and clinical aspects of dentistry, it is of great import that the third aspect, community dentistry, becomes an integral part of this process. With our society undergoing profound changes in all aspects, including health, if dentistry is to continue to progress and control its destiny, then the future will be greatly influenced through the social awareness that should be instilled within our students as they go through the

Dr. Robinson is associate professor in the Department of Community Dentistry, University of Michigan School of Dentistry, Ann Arbor, Michigan 48109.

educational process of becoming dentists. Another dimension that is of high consideration that generally comes in the area of community dentistry is that of practice management. Combining these two aspects of dental education and correlating them with the other two basic areas of dental education, the clinical sciences and the basic sciences, is of utmost importance and should be the main thrust toward providing a total education for present and future dentists.

Roberts[5] states that community programs are intended to develop sensitivity to the social problems that are associated with health care delivery and to develop student awareness that will be carried outside of the dental school. A combination of community-related experiences and clinical experiences enables the students to better understand the social, economic, and political-cultural factors that affect the distribution of dental disease. Once the student has this understanding, it may help broaden his outlook in establishing a private practice.

The educational background of an individual with teaching responsibility in the area of community denistry is generally that of one who has received post-doctoral education in the area of dental public health, which is that branch of dentistry concerned with the dental welfare of the community as a whole. The educational process is a conglomerate of subject matter that includes education, administration, prevention, treatment, research, etc.

Burt[2] stated that teaching community dentistry at the undergraduate level uses a somewhat different approach, has different objectives, and that the aim is not to produce public health specialists. Certainly no department of community dentistry has this as a primary goal in teaching dental students. Like all other departments in the dental school setting, providing students with the basic education and skills necessary to carry out the duties which departments of community dentistry have been charged to carry out are the primary goals. The subject areas under which these goals come are: introduction to oral health, which includes epidemiology and biostatistics, dental health behavior, ethics, jurisprudence, history, social and economic relations of the dental profession, dental economics, some behavioral science, and practice management.

Community dentistry apparently presents a threat to some, i.e., educators and practitioners as well as students, because they contend that the implications are goals of such depth as to advocate and support a system of "socialized medicine". For those who are somewhat uncertain of the meaning of this term, perhaps clarification of it will resolve in the minds of some that this is not what community

dentistry is all about. Socialized medicine, strictly defined, means health services paid from general revenue - funds of government, professional care is rendered by those employed by the government, and the hospitals and institutions are owned and operated by the government.[4] Blackerby[1] clearly did not mean this when he said and wrote, "Why not a department of social dentistry?" which was the conception of community dentistry. What he was suggesting at that time concerned placing greater emphasis on subjects of social import to the profession. He indicated that these subjects, in varying degrees, have the common denominator of social implication - of significance to society as a whole rather than to the individual patient alone. His basic premise was that there is a need for better balance between the technical and social aspects of dentistry. The profession has come a long way in developing the technical phase of dentistry, but has failed to integrate and correlate community dentistry as it approaches a state of perfection.

Community dentistry departments are placed in a very precarious position when comparisons are made with the amount of time students are exposed to the biological and clinical sciences vs. community dentistry exposure. Furthermore, it must be taken into consideration that community dentistry is not correlated with the teachings of the two other areas, but operates within the limited confines of its own environment unlike the coordination of clinical and biological sciences.

It must be recognized that the major influence on the students' attitudes do not come from one teacher or one department, but should come from the entire faculty and curriculum. In reality, the approach to this specific deficiency needing special attention in this regard is the development of a faculty appreciation of the need for some degree of sophistication in relating the various aspects of community dentistry to the successful teaching and practice of clinical dentistry. This can only be accomplished by developing an environment, whereas the integration and correlation of all of these areas are transmitted to the students through philosophies and principles practiced by its faculty members. Since the basic background of most members of community dentistry departments is the same as those in all of the other departments, i.e., most are dentists, then it appears that the other departments need the necessary exposure to become familiar with the scope, content, and meaning of the program that its department of community dentistry presents.

It is inconceivable that dentists can truly consider themselves complete professionals without acquiring the basic knowledge and

skills taught in community dentistry. Comprehending the areas taught in community dentistry makes for a well-rounded professional which gives the insight on which professional progress is based.

The key to the role of community dentistry as a part of dental education is to make the student a well-rounded professional. As Mann[3] stated, the challenges to professionalism as most of us recognize it are becoming more and more apparent. He states that perhaps these challenges, or trends, can never be reversed, but dentists everywhere, if they wish to retain the respect and esteem in which they have been held, should reaffirm their interest in people, both inside and outside of their offices. Inside, they should offer dental care of the highest quality in the most up-to-date manner. Outside, they should participate, and often lead, in the development of plans to make dental care available to all people. If dentists, as professionals, conduct themselves in this manner they will grow taller in the eyes of society, and they will feel the type of satisfaction which comes from caring for others.

In conclusion, it may very well be that the major obstacle in the level of acceptance of community dentistry in dental schools lies in the fact that those who are trained to teach in this area are not trained in a graduate program within the dental school similar to the other specialties of dentistry. The dental student who graduates today must have an advanced knowledge not only of the technical and biological skills involved in the practice of dentistry, but also of the social sciences. The increased demand for high quality service calls for a dentist who is more than familiar with the latest techniques and is as capable as possible in delivering these services. Dentistry is becoming deeply rooted in the general civilization of a period, and, like general culture, is a product of material conditions. The position of dentistry in society, the tasks assigned to it, and the conduct expected of its practitioners change from one historical period to another. These are determined primarily by the social and economic structure of society, and by the technical and scientific means available to dentistry at the time. Seen in historical perspective, it is clear that the provision of dental care is not something eternally fixed and eternally envisaged by all dentists of whatever age, but is rather a problem more or less constantly changing, whose solution is changing with it. Correlating the teaching of community dentistry with the other areas taught in dental schools may very well be the long-range solution to the constantly changing problems that the practice of dentistry faces.

(Continued on page 237)

A Rationale for Community Based Off-Campus Rotation

CLAUDE W. DRAKE, D.D.S., M.P.H., M.S.
WILLIAM R. POSNICK, D.D.S., M.P.H.

It has become generally recognized that the training of dental students need not take place exclusively within the medical center environment. There is much to be gained by broadening students' experiences through community based externships and exposing them to concepts which can be effectively taught outside a school of dentistry.

Departments of community dentistry were developed, in part, out of a belief that subjects of social import in the dental curriculum might be more effectively taught if they were organized into a departmental framework. Blackerby noted the extremely small number of hours devoted to subjects which might exert an influence on the moulding of students' attitudes and proposed that such material be given departmental status.[1] The University of Kentucky, College of Dentistry was one of the first schools to introduce a model program in the mid-1960's under the direction of Dr. Wesley Young. In an attempt to allow students to "experience the community" a field experience was developed which reinforced didactic instruction in community dentistry.[2] While dentistry has long been considered by many to be a behavioral science, this concept first gained wide acceptance as the developers of community dentistry programs began to speak out about the need for the teaching of social science to dental students.[3] Several schools received federal grants to begin such departments and their development spread. Knutson instituted a four year social science curriculum at the UCLA School of Dentistry to "broaden the base of knowledge and the social awareness of the dental student and to prepare him for his role as an informed member of the community."[4] From the pioneer work of Young and others a decade ago, many

Dr. Drake is associate professor, Department of Dental Ecology, and Dr. Posnick is assistant professor, Department of Dental Ecology and Pedodiatics, University of North Carolina School of Dentistry, Chapel Hill, North Carolina.

schools now have departments of community dentistry which are continuing to grow and contribute to the education of future dental practitioners.[5]

The purpose of this paper is to describe one component of a community dentistry program, community based off-campus rotations, and to discuss factors which must be considered in the development of such rotations.

COMMUNITY BASED PROGRAMS

The University of North Carolina School of Dentistry has a community dentistry program which is well integrated into the overall curriculum. The didactic material is not taught as a separate unit but is integrated into the core curriculum of the Department of Dental Ecology. In addition, all dental students spend at least five weeks away from the dental school at off-campus sites. Two weeks of that time is spent in community-based activities; the other three weeks in state or federal institutions designed for special population groups.

Some schools rely exclusively on institutions of this kind while others utilize private dental practice for their off-campus programs. Institutions such as hospitals for mentally or physically handicapped or Veterans' Hospitals are important in teaching management of patient populations not regularly seen within the dental school setting, but which are represented in any community. However, the exclusive use of such institutions limits the students' overall knowledge of the dynamics of a community. To limit community dentistry experiences to the private dental office also denies students the opportunity to see how these practices relate to other aspects of the community. It is important to expose future private practitioners to the health systems in which they might function and to which they should relate. Experiences should be oriented toward helping the future practitioner become integrated into a system which is multifaceted and often difficult to understand, as opposed to offering a program geared toward training a public health dentist. The overall objective of such a rotation should be to acquaint the students with how they can enhance the general health of the community. This can be accomplished, in part, through contacts with others associated with health care. In addition, the rotation should help students identify a means of achieving some measure of self actualization by satisfying their own personal needs.

For one of the community based rotations at the University of North Carolina School of Dentistry, the entire senior class is assigned to one of three designated communities in the state. Two to three students

rotate through each of these communities every week during the semester. Prior to the week of their rotation, students are required to read several journal articles and review a self-instruction slide-tape on the North Carolina Area Health Education Centers system through which the rotations are administered. At the beginning of the week, a seminar is held to discuss the objectives and the logistics of the off-campus activities. Each student is given a syllabus which explains the overall objectives, the objectives of each individual activity, and introduces them to the people with whom they will be working. When the students arrive in the community, the preceptor in charge provides specific orientation to the week's activities and serves as the local coordinator. As an example of the activities of one rotation, the students visit a neighborhood health center, private dental practice, the North Carolina State Public Health program, a center for human development, county health department, community hospital, attend local dental society meetings, and participate in emergency room coverage at the local hospital. At the completion of the rotation, a debriefing is held in the community and the students return to the dental school for a review seminar. This seminar includes approximately sixteen students who have returned from similar rotations in three different communities. This permits an interesting exchange of experiences and ideas and allows for both positive and negative feelings to be channeled in a constructive direction.

Such a rotation will help interest students in community affairs and increase the likelihood of their contributing when needed. A private practitioner is more likely to respond to requests for assistance if he understands how a particular agency or professional fits into the health care delivery system within the community. It is important for the practitioner to understand funding, the relationship of one agency with another, and the credibility of the agency requiring help. Such involvement will help the dental student appreciate his own level of knowledge and understanding versus the grass roots knowledge of the local people and their understanding of their own needs. In addition, this experience helps the student learn to work with persons who lack formal training and organizational skills. A community based rotation helps increase the student's awareness of working with others rather than working alone and helps counter some of the feelings of isolationism which the dental school can foster.

Dental education often tends to program students to the point that they become frustrated and shocked when they find that people and activities in the community are not as structured as their own lives. A community based rotation help to show dental students how they can

relate to other health professionals and community leaders. It can prepare them to fully realize their maximum potential for professional productivity and personal happiness.

On the level of self actualization, it is important to understand that the manner in which each dentist achieves personal community involvement is highly individualistic and that numerous opportunities exist for every citizen to express his own particular interests and talents. School boards, county commissions, health agencies, volunteer, civic or health related organizations are but a few of the more conventional avenues through which dentists express themselves. However, the list is limitless and the North Carolina program does not attempt to steer students in any direction.

USE OF PRECEPTORS

Preceptors for community based rotations are selected from among many disciplines and as a result, individuals who coordinate the students activities in the various health systems have widely divergent backgrounds. The goals and objectives of the program often must be explained and re-explained. Preceptors such as physicians, hospital administrators or health educators often have a traditional concept of dentists as non-participators and consider them to be uninterested in community affairs. It is sometimes difficult to convey to them the role that dentists can play in the health care system. To avoid negative reactions on the part of other health professionals, it becomes necessary to review with preceptors the training program of a modern dental school and the anticipated role of its graduates.

TIMING AND EVALUATION

The timing of community based rotations is extremely important. When scheduled too early in the curriculum, the students are generally interested but may forget much of what they learned by the time they graduate. Off-campus rotations which are scheduled too late must compete with in-house clinical commitments and the pressures of graduation. At the UNC School of Dentistry, the students have a one-week community based rotation during the spring semester of the third year and another during the fall of the fourth year. The third year program is generally more acceptable to the students because there are fewer conflicts within the dental school. All fourth year rotations are now being given more clinical emphasis and at the same time, an attempt will be made to provide additional cognitive information about community dentistry through programmed instruction.

In a long range evaluation one might determine if the dentist is a well

adjusted, contributing member of the community in which case the role of a single program would be difficult to decipher. However, behavioral objectives have been written for all activities, an example of which is shown in Figure I. The immediate short range evaluation of community based rotations has been to determine whether or not the objectives for each activity were met and if the student perceived the activity to be beneficial. For the most recent rotation described above, students were asked to rate experiences in terms of their perceived value and whether or not the stated objectives had been met. The results are shown in Table I. It can be seen that the rotation generated an overall favorable response. The most frequent complaints were that some activities could have been achieved in less than the allotted time, while the lack of clinical involvement diminished the value of some others.

FIGURE I

STATE PUBLIC HEALTH DENTAL PROGRAM

ACTIVITY

Visit public health dentist or hygienist, and observe them as they function in their respective roles.

PURPOSE

The purpose of this activity is:

1. to acquaint the student with the North Carolina preventive dental health program, funded by the legislature and implemented by the state dental public health program, and have the students learn about the:
   a. philosophy of the state dental health program
   b. scope of the program
   c. nature of the work of the dental staff (student will be able to see this person actually going about their duties).
   d. relationship of the program with local private practitioners.

OBJECTIVE

1. Following this activity, the student must be able to describe the North Carolina Preventive Dental Health Program in terms of:
   a. origin and creation of legislation funding the program
   b. administration, organization and philosophy
   c. staffing and their roles
   d. scope of the program
   e. how the program works in cooperation with organized dentistry for the improved dental health of the citizens of the state.

The community dentistry program at the University of North Carolina School of Dentistry includes off-campus rotations, some of which are community based. Despite the problems of arranging such rotations, the difficulty in sequencing them in the curriculum at the most meaningful time, and the problems associated with sound evaluation; these rotations do serve to show students functioning health care delivery systems and the interrelationships of many persons involved in health care in a given community. In addition, such rotations help to acquaint others in the community of the role which dentistry can play in today's society. As the patterns of health care change, the dentist should be prepared to take his place with all other health professionals in working toward a common goal, the improvement of the health of the community.

TABLE I
FEEDBACK ON STUDENT ACTIVITIES*
Senior Community Dentistry Rotation

ACTIVITY	RATING			OBJECTIVES MET	
	1 Of No Value	2 Of Some Value	3 Very Worth-while	Yes	No
On-site Orientation	12	63	25	93	7
Neighborhood Health Center	6	38	56	67	33
Private Practice Visitation	6	11	83	100	--
State Public Health Program	6	50	44	100	--
Center For Human Development	17	11	72	100	--
County Health Department	40	54	6	67	33
On-site Debriefing	8	54	38	50	50

*Student responses reported as percentages

REFERENCES

1. Blackerby, P. E. Why Not a Department of Social Dentistry? *J. Dent. Educ.,* 24(3): 197-200, 1960.
2. Lucas, R. J., and W. O. Young Community Laboratory Experience for Dental Students. *J. Dent. Educ.,* 31(1): 77-83, 1967.
3. Kutner, B., and P. E. Jaffe Dentistry and the Behavioral Sciences: The Convergence of Disciplines. *J. Dent. Educ.,* 27(1): 22-24, 1963.
4. Grusky, O., D. O. Sears, and J. W. Knutson Effect of A Social Science Curriculum on Attitudes of Freshman Dental Students. *J. Amer. Dent. Assoc.,* 74(4): 769-777, 1967.
5. Young, W. O., and J. D. Zwemer Objectives and Methods of Teaching Preventive Dentistry and Community Health. *J. Dent. Educ.,* 31(2): 162-167, 1967.

Correlation of Community Dentistry with the Teaching of the Biological and Clinical Sciences of Dentistry.
(Continued from page 230)

REFERENCES

1. Blackerby, P. E. Why not a department of social dentistry? J. Dent. Educ., 24:197-200, Sept. 1960.
2. Burt, B. A. The teaching of community dentistry. Brit. Dent. J., 129:204-8, Sept. 1970.
3. Mann, W. R. Professionalism today. Mich. S. Dent. A. J., 53:228, July-Aug. 1971.
4. Phillips, P. T. Health schemes, programs and systems. N.Y.S. Dent. J., 37:269-80, May 1971.
5. Roberts, R. A. community dentistry now: progress in dental school programs. J.A.D.A., 88:927-30, May 1974.

He that gives should never remember, he that receives should never forget.
Talmud

Quality and Perceived Usefulness and Utilization of Continuing Dental Education

PHILIP WEINSTEIN, Ph.D.
PETER MILGROM, D.D.S.
PETER RATENER, M.S.
WILLIAM READ, Ph.D.
KENNETH MORRISON, D.D.S., M.S.

There is concern today as to whether participation in continuing dental education (CDE) should be mandatory for relicensure or dental society membership. However, a more basic question dealing with the effectiveness of CDE still lies unanswered. Does participation in CDE make a difference in patient care? Few continuing education programs have included careful evaluation of the impact of their educational experience on the behavior of practitioners or the status of patients. However, evidence suggests that the success of continuing education in improving the quality of practice varies considerably from one aspect of practice to another.

CONTINUING MEDICAL EDUCATION

A well-designed but discouraging study by McGuire and others[1] showed that a six-month follow-up of physicians' ability to recognize normal and abnormal heart sounds was not significantly different than that of the pre-test, prior to the course. Moreover, an examination of the office medical records of course participants indicated virtually no

Presented at the Annual Meeting, International Association for Dental Research, Copenhagen, Denmark, April, 1977.

Drs. Weinstein and Read are assistant professors, Dr. Milgrom is assistant professor and chairman, and Mr. Ratener is Biostatistician; all of the Department of Community Dentistry. Dr. Morrison is professor and chairman, Department of Restorative Dentistry, University of Washington School of Dentistry, Seattle, Washington 98105.

improvement in the recording of cardiovascular findings of the physical examination. In a now classic study, Williamson and others[2] found no improvement by physicians in the screening and follow-up of abnormal laboratory findings after attending a continuing education workshop which emphasized the importance of laboratory data. Participating physicians even agreed that the conference had been a successful educational experience and that it was an effective means of dealing with a serious problem in the quality of medical care. Similarly, researchers have determined that maternal and perinatal death rates were not related to hours of continuing education in obstetrics and pediatrics.[3] Other studies cite similar findings.[4-6]

On the other hand, positive results of continuing education have been reported. Rubenstein[7] found that Stanford Medical School's "back-to-school" program, which was based on educational needs and emphasized patient care as opposed to research issues, presented lectures which influenced the performance of practitioners in abandoning outmoded laboratory tests and changing the route of administration of heparin from subcutaneous to intravenous. The Missouri Heart Association[8] effectively educated physicians in rheumatic fever prevention by training "detail men" to make brief calls on 1,006 practicing physicians. As a result of this program, the number of throat cultures processed increased dramatically in the year following the study.

Similarly, Butler and Erskine[9] used a "public health detailer" to successfully promote the use of oral exfoliative cytology for the detection of early oral cancer. In addition, Nesson[10] recently found that confronting physicians with a statistical summary of their performance resulted in some improved performance in modifying laboratory tests ordered and prescribing patterns.

CONTINUING DENTAL EDUCATION

Besides the Butler and Erskine study, no answers have been forthcoming from dentistry, as evaluation of CDE has been minimal. The traditional approach has been to measure attendance or to ask participants to complete short opinion questionnaires at the end of courses. Brief quizzes employed as a barometer of success or failure have not been of much more use. The pre- and post-testing of participants' knowledge has been a definite improvement; however, there are serious limitations in this approach.[11] Chambers' uncontrolled pilot study looking at whether or not practitioners actually adopted procedures from a course on four-handed, sit-down dentistry comes the closest to assessing the effect of continuing

education on the delivery of dental care. Results suggest that dentists modify and adapt information and procedures presented in the course, to fit their own needs and priorities.[12]

The purpose of this report, part of a larger study of dental peer review and self-assessment, is to investigate the relationship between continuing dental education and measures of patient care and oral health.

METHOD

Continuing Education. A 21-item questionnaire was mailed to 1759 full-time licensed general practitioners in Washington State. With a telephone follow-up, 1196 general practitioners returned the questionnaire, for a 68 percent response rate. No significant differences between respondents and non-respondents were found for years of experience (year of graduation) and practice location (rural/urban).

The questionnaire asked a variety of questions, including the following: the usefulness of a variety of sources for CDE (dental house supply representatives, professional journals and books, trade journals, dental society courses, university courses, study clubs, and talking shop); hours per week talking shop; number of CDE courses taken in the last twelve months (lecture/observation, seminar/discussion, courses which treat patients, study clubs); and perception of the extent CDE affects quality of dental treatment.

Quality of Care. As part of a major study of 102 practitioners comparing various quality assessment procedures, the restorative care of 65 full-time general practitioners was evaluated by peer review. These practitioners were selected from the pool of volunteers who completed questionnaires and were chosen to be representative of Washington practitioners. In this study 986 patients of the 65 volunteer general practitioners were recalled and examined clinically by three carefully chosen and trained practitioners. Only operative and crown and bridge treatment was assessed: these procedures were chosen because they are frequently done and standards are generally accepted. Only one year of treatment was reviewed to control for the effects of aging on the restorations. Previous work by Bailit and others[13] at the University of Connecticut provided the basis for the design of the evaluation criteria used in this study. Modifications were made to account for regional variations in standards and to assure that the criteria were practical and usable. The criteria were organized into

*Copies of the criteria are available from the authors.

a series of from 20 to 42 characteristics for amalgams, synthetics, foils, inlays, crowns and bridges.* An evaluation protocol was developed whereby a trained assistant read the individual criteria (e.g., "active caries at the margin?") to which the assessor responded with "yes," "no," or "not applicable." In addition the oral health status of all patients was measured by using DMFT and Vermillion and Greene's Simplified Oral Hygiene Index.[14]

The measures of oral health and two overall weighted measures of the quality of the restorative treatment were related to the responses of the 65 dentists on the CDE questionnaire. One of the overall measures was weighted to emphasize broad definitions of quality (SCORE). The remaining measure emphasized factors that could compromise the longevity of the restoration and result in clinical failure (SERVICE SCORE). These measures are specified in detail in Appendix I. Spearman rank order correlations, distribution-free test statistics for independence, were calculated to test for relationships between these dependent variables (quality) and CDE questionnaire responses.

TABLE 1

RESULTS OF CDE QUESTIONNAIRE

1. Usefulness - learning that you have used in your practice (1=not useful, 7=extremely useful)	Statewide (N=1196)		Volunteer (N = 65)	
	$\bar{X}$	SD	$\bar{X}$	SD
University Courses	5.7	1.3	5.8	1.1
Study Clubs	5.7	1.9	5.8	1.9
Talking Shop	5.1	1.5	5.2	1.5
Dental Society Courses	5.0	1.5	4.8	1.4
Professional Journals and Books	4.2	1.4	4.3	1.4
Trade Journals	3.6	1.4	3.2	1.7
Dental Supply House Representatives	2.6	1.5	2.8	1.6
2. Hours per week talking shop	2.4	2.2	2.7	2.8
3. Number of Lecture/Seminar courses in last 12 months	6.4	6.1	7.3	6.5
Number of Study Clubs participated in last 12 months	1.0	3.4	1.4	3.7
4. How much does CDE affect quality of care in your practice? (1=very little, 7=a great deal)	5.8	1.7	6.0	1.7

RESULTS

The results of the CDE questionnaire for all 1196 practitioners and the 65 volunteers whose work was reviewed are presented in Table 1. The table indicates that the usefulness of different forms of CDE were rated in the following order, from most to least useful: University Courses, Study Clubs, Talking Shop, Dental Society Courses, Professional Journals and Books, Trade Journals, and Dental House Supply Representatives. Differences between the larger sample and the sample of 65 volunteers were not significant for these questions (and also for the other questions that will follow). Volunteers "talked shop" with colleagues an average of 2.7 hours per week; variability was large (SD = 2.8). For all participants, CDE was composed primarily of lecture and seminar courses ($\bar{X}$ = 7.3 for volunteers). The number of study clubs participated in was much lower ($\bar{X}$ = 1.4 for volunteers).

The results of the intercorrelations between CDE items is presented in Table 2. Of particular interest in this table are the correlations between number of study clubs participated in and the remaining CDE items. Those who participate in a greater number of study clubs tend to take more lecture or seminar courses and to spend more hours

TABLE 2

*INTERCORRELATIONS BETWEEN CDE ITEMS**

ITEMS	1	2	3	4	5	6	7	8	9	10
University Courses										
Study Clubs	--									
Talking Shop	.23	--								
Dental Society Courses	.64	--	.27							
Professional Journals and Books	.20	--	--	.33						
Trade Journals	.19	--	--	.30	--					
Dental Supply House Representatives	--	--	--	--	.26	.17				
Hours Talking Shop	--	--	--	--	--	--	--			
No. Lecture/Seminar Courses	--	--	--	--	--	--	--	--		
No. Study Clubs	.17	.20	.29	--	.19	.33	--	.25	.26	
Value CDE for Practice	--	--	--	.22	.21	.18	--	--	--	.19

*All results significant at at least p = .05 level.

talking shop. There is a significant, though modest, positive relationship between the perceived value of CDE for practice and participation in study clubs.

The results of the correlations between the above CDE items and measures of technical quality and the oral health status of patients are presented in Table 3. The table indicates that perceptions of usefulness of various forms of CDE were related both to technical measures of skill in providing restorative care and the two measures of the oral health of patients. The perceived usefulness of supply house representatives was inversely related to both technical measures and one measure of oral health. Those practitioners that believed the supply representatives to be more useful tended to have lower technical scores and a higher proportion of patients with active decay. The perceived usefulness of professional journals and books was similarly related to greater patient unrestored decay. Those

TABLE 3

SPEARMAN CORRELATION BETWEEN CDE ITEMS AND MEASURES OF TECHNICAL QUALITY AND THE ORAL HEALTH OF PATIENTS

ITEMS	Technical Measures		Oral Health Measures	
	SCORE	Service Score	OHI-S	D/DMF
University Courses	.216	--	--	--
Study Clubs	.255	--	--	--
Talking Shop	.219	.241	--	--
Dental Society Courses	--	--	--	--
Professional Journals and Books	--	--	--	.335
Trade Journals	-.264	--	.277	--
Supply House Representatives	-.216	-.209	--	.275
Hours Talking Shop	--	--	-.232	--
No. Lecture/Seminar Courses	--	--	--	--
No. Study Clubs	--	--	-.275	-.260
Value CDE for Practice	--	--	--	-.216

**All correlations presented here are significant at at least the .05 level.*

practitioners that believed trade journals were of greater utility also tended to have lower technical and higher OHI-S measures.

On the other hand, the perceived usefulness of university courses, study clubs, and talking shop was positively related to higher technical measures. Perceived usefulness of dental society courses was not related to any technical or oral health measure.

The actual number of courses that were reported taken and the number of hours reported talking shop were not related to technical measures of skill in providing restorative care. However, some of these items were related to oral health measures: Hours spent talking shop were associated with better (lower) OHI-S, and the number of study clubs participated in was related (positively) to both oral health measures. In addition, it was found that the perceived value of CDE for a practice was negatively correlated with amount of decay (D/DMFT) found by the assessors.

The relationship between CDE questionnaire items and the two measures of technical quality and two measures of oral health of patients was determined for 13 "inexperienced" (year of graduation $\geq$ 1965) and for 49 "experienced" (year of graduation $<$ 1965). Ten years of experience was chosen to demarcate well-established practitioners from more recent graduates. For experienced, but not for inexperienced practitioners, both the number of study clubs and their perceived usefulness were related to dependent measures at the .05 level; perceived usefulness of study clubs correlated .291 with SCORE and number of study clubs correlated .310 with OHI-S. Moreoever, for experienced practitioners perceived usefulness of trade journals was related negatively to OHI-S (rho = .256) and usefulness of supply house representatives was related negatively to D/DMFT (rho = -.298). For experienced but not for inexperienced practitioners number of hours of talking shop was significantly correlated with SERVICE SCORE (rho = .290) and OHI-S (rho = .265). The perceived usefulness of talking shop was significantly related to dependent measures for both subsets of practitioners. For experienced practitioners perceived usefulness of talking shop was significantly correlated with SCORE (rho = .294) and SERVICE SCORE (rho = .322), for inexperienced practitioners the measure was related to OHI-S (rho = -.439).

For the less experienced but not for the experienced practitioner, the perceived value of CDE for practice was correlated significantly with SCORE (rho = .570). Moreover, inexperienced practitioners'

perceptions of the usefulness of university courses was significantly correlated with SCORE (rho = .410). On the other hand, perceived usefulness of professional journals was found to be negatively related to dependent measures. Perceived usefulness of professional journals and books correlated -.439 with SCORE, -.478 with SERVICE SCORE, and -.696 for D/DMFT; perceptions of trade journals correlated -.442 with SERVICE SCORE.

DISCUSSION

The results of the CDE questionnaire suggest that Washington dentists in both of our samples believe that an active rather than a passive approach to CDE is preferable. Thus, study clubs, university courses, talking shop and dental society courses were rated as more useful than journals, books, and supply house representatives. On the other hand, the proportion of active courses (study clubs) in which practitioners participate is low when compared to the large number of lecture and seminar courses taken. These results support previous work indicating that the reasons practitioners take different CDE courses vary. One study, for example, found that some practitioners engage in CDE to become familiar with current ideas while others participate to maintain their professionalism or to follow particular interests.[15] The number of dentists who see CDE as an opportunity to improve existing skills, or even to fill deficits they perceive in their training, is unknown. These differences, however, have implications for the types of courses or other CDE mechanisms individuals prefer.

In the questionnaire, practitioners stated very strongly that post-graduate education (CDE) affects the quality of care they provide. However, there was no overall relationship between the perceived effect of CDE on the quality of practice and actual measures of technical proficiency in restorative dentistry. On the other hand, there was a relationship between the perceived effect of CDE on the quality of practice and less active unrestored decay in the mouths of regular patients.

Correlations of the actual clinical data with questionnaire responses indicate that those dentists rating university courses, study clubs and talking shop as more useful provided a higher quality of restorative treatement. Conversely, those who rated supply house representatives and trade journals as more useful had lower measures of technical and poorer patient oral health. Moreover, the number of various CDE courses taken was *not* related to technical proficiency but *was* related to some measures of patient oral health.

These results suggest that those practitioners who perceive that passive CDE mechanisms are useful do not "measure up" to practitioners who perceive the usefulness of the more active forms of CDE. Moreover, though the amount of time talking shop to colleagues and the number of various CDE courses taken in the last year was not related to the two measures of overall proficiency in restorative dentistry, some of these measures, especially the number of study clubs participated in, were related to patient oral health measures.

Though the blanket assumption that CDE will automatically improve the quality of dental care has not been supported, we have reported data that indicates that some types of CDE courses correlate with quality measures. Study clubs and similar active CDE mechanisms are perceived by practitioners as most useful and, in fact, may affect dental care and oral health. When asked to identify the course or club that provided the greatest benefit to restorative services, a variety of study clubs were mentioned most frequently.

Such mechanisms are effective because they discourage dependence on teachers and require participation and use of skills. Research in other areas suggest that adult learners tend to be problem-centered and are concerned with problem areas, not general subjects.[16,17]

Though first introduced three-quarters of a century ago to perfect gold foil techniques, dental study clubs have become recognized as an excellent method of teaching in every field of dental art and science.[18-21] The starting point in a study club has always been practitioners' mutual problems and concerns. Study clubs are formed when small and relatively homogenous groups of practitioners pool their experience and arrange educational programs for themselves. Though often limited by physical facilities, groups frequently meet in dental offices. Such programs usually place a priority on active participation of members. Members may take turns operating, demonstrating or making case presentations. Moreover, many clubs encourage constructive criticism of the work of their colleagues.

Differences between young and older practitioners may indicate that given forms of CDE may be more useful in influencing behavior of practitioners at different stages in their careers. The results are scattered and reasonable to assume practitioners that provide

restorative work rated lower than that of their peers and believe in the usefulness of passive CDE mechanisms (or perhaps view CDE as a vehicle to keep them informed of new developments), will not voluntarily participate in time consuming and costly CDE aimed at altering what they actually do.

It is important to realize that active forms of CDE are costly and need more coordination than passive forms. Effective CDE programs as opposed to isolated courses are presently the exception and not the rule. As some dental societies and state legislatures have mandated continuing dental education, greater attention must be given to its structure and organization. The American Dental Association has created a national registry for continuing education courses and the Continuing Education Section of the American Association of Dental Schools is becoming increasingly active. Many of its presentations are centered around improving the educational quality of programs. In addition, following the lead of the study club movement, university and dental societies should structure their courses in such a way as to emphasize active rather than passive participation.

However, even with more resources pumped into CDE, there is no guarantee that even the "activity" courses will be of high quality and maximal usefulness to practitioners to justify their expense. With added structure and organization will come professional accountability—which means the monitoring, evaluating and even accrediting of courses. At present, the profession may be reluctant to develop or support the development of such a ponderous system. However, if CDE is worthwhile, if some forms of CDE are more valuable than others, and if we find that those who need this form of CDE are the least receptive to it, then we may need to investigate and experiment with the development of qualitative requirements and a system to make the concept operational.

CONCLUSIONS

This is the first controlled analysis of the association between CDE and quality of treatment and patient oral health. The results are promising in that specific, age-related qualitative relationships between CDE and quality were found. If these results can be replicated by other researchers, new quantitative requirements for professional development might be developed. Active learning, in any form of education, seems to be the mode best suited to practical application.

Appendix I

CALCULATION OF QUALITY SCORES

The quality scores are various weighted averages of sets or subsets of specific criteria developed to summarize performance characteristics. The weighting, omission of items, and transformation procedure determine the interpretation of each measure. This is a mathematical description of the evaluative scores.

As the basic procedure is similar for each measure, the method will be presented here for calculation SCORE AND SERVICEABILITY SCORE. The juxtaposition will clarify similarities of method and underscore differences in perspective.

The procedure is as follows:

1. Each specific criterion is assigned a weight. The weight is used to take a weighted average to derive a subcategory score.
   For example: The following specific criteria were assigned weights of .088, .044, and 0, respectively:
   _____ Major gingival excess
   _____ Small but definite gingival excess
   _____ No gingival excess
   Suppose the dentist had 3 instances of major gingival excess, 7 instances of small but definite gingival excess, and 95 instances of no gingival excess (the latter being the preferred outcome). Then the calculation of the subcategory score would go:

$$\text{Subcategory score} = \frac{.088(3) + .044(7) + 0(95)}{3 + 7 + 95} = .0055$$

2. SUBSCORES are the sums of subcategory scores multiplied by 100 for readability. There are five kinds of subscores corresponding to the five types of restorations (criteria) in the study—amalgam subscore, inlay subscore, etc. Note that in each criterion, the total of the weights of the most unfavorable subcategory response is one, thus permitting comparison between criteria performance. A subscore is interpretable as 1000 times the ratio of observed performance and worst possible performance.

3. SCORE, and SERVICEABILITY SCORES are the weighted averages of the SUBSCORES (see above), using the number of restorations as weights.

That is, $$\frac{N_A \times \text{Amalgam Sbsc.} + \cdots + N_B \times \text{Bridge Sbsc.}}{N_A + N_S + N_I + N_C + N_B} = \text{SCORE}$$

SERVICEABILITY SCORE is similarly calculated, with a different set of weights for determining the subcategory scores.

4. To make scores more understandable, and perhaps, more intuitive, scores were transformed to correct for the expected skewness, and scaled so as to have a range of about 40 points centering somewhere around 75-80.

   The transformed scores are called Normalized SCORE, Normalized SUBSCORES, etc. The actual transformation used is: $x^1 = 95 - 3.16\sqrt{X}$. Note that a high score corresponds to favorable performance.

SCORE FORMULAE

$$(\text{subcat score})_j = \sum_{i=1}^{n_j} f_i \cdot w_i \Big/ \sum_{i=1}^{n_j} f_i$$

$$(\text{Subscore})_k = 1000 \times \sum_{j=1}^{n_k} (\text{Subcat score})_j$$

$$\text{Score} = \left[\sum_{k=1}^{5} m_k \cdot (\text{Subscore})_k \Big/ \sum_{k=1}^{5} m_k \right] \times 1000$$

Where n_j = number of specific criteria in subcategory j.

n_k = number of subcategories in restoration type k.

m_k = number of restorations of type k.

f_i = number of occurrences of specific criterion i.

w_i = weight of specific criterion i.

SERVICE SCORES are calculated in the same manner using different weights (w_i).

REFERENCES

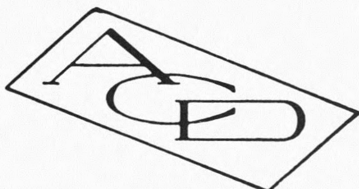
1. McGuire, C., Hurley, R. E., et al. Ausculatory skill: Gain and retention after intensive instruction. J Med Educ 39:120-128, 1964.
2. Williamson, J. W., Alexander, M., et al. Continuing education and patient care research: Physician response to screening test results JAMA, 201:118-122, 1967.
3. Lewis, C. E. and Hassanein, R. S. Continuing medical education: An epidemiologic evaluation. N Engl J Med, 282:254-259, 1970.
4. Libby, G. N. and Hepler, C. D. Situational factors and pharmaceutical knowledge. Am J Hosp Pharm, 27:375-383, 1970.
5. Gonella, J. S., Goran, M. J., et al. Evaluation of patient care: An approach. JAMA, 214:2040-2043, 1970.
6. Devitt, J. E. and Ironside, M. R. Can patient care audit change doctor performance? J Med Educ, 50:1122-1123, 1975.
7. Rubenstein, E. Continuing medical education at Stanford: The back to school program. J Med Educ, 48:911-916, 1973.
8. Missouri Heart Association. Rheumatic fever and rheumatic heart disease (a terminal report of a "detail man" project), 1970.
9. Butler, B. B. and Erskine, E. A. Public health detailing: Selling ideas to the private practitioner in his office. Paper presented at the Dental Health Section, American Public Health Association, 1969.
10. Nesson, H. R. Testing peer and utilization reviews in an ambulatory care setting (in preparation).
11. Chambers, D. W., and Hamilton, D. L. Continuing dental education: Reasonable answers to unreasonable questions. JADA, 90:116-120, January 1975.
12. Chambers, D. W. et al. An investigation of behavior change in continuing dental education. JDE, 40:546-551, 1976.
13. Bailit, H. et al. Quality of dental care: Development of standards. JADA, 89:842-852, 1974.
14. Greene, J. C. and Vermillion, J. R. The simplified oral hygiene index. JADA, 68:2-13, 1964.
15. Chambers, D. W. How can learning experiences in continuing dental education be evaluated in relation to patient benefit? J Amer Col Dent, 43:238-248, October, 1976.
16. Knowles, M. S. The Modern Practice of Adult Education. New York, Association Press, 1970.
17. Kidd, J. R. How Adults Learn. New York, Association Press, 1973.
18. Markeley, M. R. Dental study clubs and their function. J Amer Col Dent, 22:118-121, 1955.

19. Haselnus, D. F. Increasing your efficiency through study clubs. Ore St Dent J, 29:2-4, 1959.
20. Herbert, F. L. Dental study clubs—their formation, function, and advantages. J Louis Dent Assoc, 23:5-8, 1965.
21. Norton, L. A. Dental study clubs. J Kent Dent Assoc, 23:15-21, 1971.
22. Graham, James W. and De Marais, Dave R. Continuing dental education requirements for state dental relicensure and constituent society membership. JADA, 90:966-970, May, 1975.

Acknowledgement: The peer review examinations were conducted by three teams of a dentist and recorder: Joseph Burke, D.D.S., Seattle; Milton Johnson, D.M.D., Vancouver; Lawrence Owens, D.M.D., Spokane; and Mary Grande, Jane Hatley, and Christina Johnston, all of Seattle. Project personnel also include: Mildred Berto, Administrative Assistant; Anne Fields, Program Assistant; Jeanne Robertson, Office Assistant; and Jean Dennis, Scientific Programmer. In addition, the study staff has been assisted by a professional advisory committee representing the Washington State Dental Association; J. Martin Anderson, D.D.S., Kent; Johnny N. Johnson, D.D.S., Seattle; Richard Lindstrom, D.M.D., Bremerton; Joseph D. McNally, D.D.S., Tacoma; Philip Miollis, D.D.S., Longview; James K. Muller, D.D.S., Spokane; Gilbert Phelps, D.D.S., Seattle; A. Lynn Ryan, D.M.D., Vancouver; Willmar J. Smith, D.D.S., Seattle; Keith R. Timberlake, D.D.S., Seattle; Richard Tucker, D.D.S., Ferndale; George W. Wood, D.D.S., Walla Walla. This research is supported by Grant No. 1 R18 HS01645-01A1 from the National Center for Health Services Research.

It is one of the most beautiful compensations of this life that no man can sincerely try to help another without helping himself.

Ralph Waldo Emerson



READER COMMENT

Dr. Waldman's Reply to Dr. Whinery

Dr. John Whinery's letter of commentary[1] on my article, "Departments of Community Dentistry - are they a threat to the profession?"[2] raises a series of questions regarding the goals of departments of community dentistry, as well as questioning my views that, our profession must look beyond its internal differences and respond to the forces which undoubtedly will have profound affects upon our future.

My concern for the future of the dental profession is no less than that of Dr. Whinery. But my perception is that as we smugly pound our collective breasts professing the often used superlatives about our profession, we are being undermined insidiously on one side by unsupervised third parties looking for less expensive dentistry for their beneficiaries, and on the other side by clandestine groups of "dentistry providers" (denturists). In their zeal to provide for the needs of our citizenry, both may well overlook the long term consequences of the reduced quality of dental services.

The article was written, not to focus upon the departments of community dentistry; rather to lay to rest the fear of such departments. Thus we could permit all practitioners to unite—not to confront change—but to understand its need and to guide it for the good of our profession and the communities we serve.

I do not disagree with Dr. Whinery, for he too is concerned with the future of our profession. Hopefully, by continued discourse about such matters, our profession will remain vital and responsive.

1. J. Am. Coll. Dent., Vol. 44 p. 185-186, July 1977.
2. ibid; Vol. 44, p. 80-92, April, 1977.

H. Barry Waldman, D.D.S., Ph.D.
School of Dental Medicine
S.U.N.Y. at Stony Brook
Stony Brook, New York 11790

NEWS OF FELLOWS

Victor L. Steffel, professor emeritus at Ohio State University College of Dentistry, was presented with the Pilgrim Medal from Defiance College during recent commencement exercises. The honor is the highest award bestowed by the college and signifies leadership, perseverance and faith in God.

W. Arthur George, associate dean of the University of Pittsburgh, School of Dental Medicine spent three months in Egypt recently to determine the feasibility of establishing a maxillo-facial prosthodontic reconstruction program for Project Hope. Plans are now in motion to send a team to Egypt in October to begin treating patients who ha ve suffered from major diseases and traumatic injuries to the head and neck.

Thomas H. Armstrong has retired as editor of the Journal of the Tennessee Dental Association and has been named Editor Emeritus.

Alex Koper of Los Angeles has been appointed chairman of the department of continuing educations at the University of Southern California School of Dentistry.

Helyn Luechauer of Hollywood, California has been elected president of the Association of American Women Dentists and was appointed in January by Governor Brown of California to a four-year term on the State Board of Dental Examiners.

Vincent Milas of Chicago has received the Distinguished Member Award of the Illinois State Dental Society. This award was established for the purpose of paying special tribute to a member of the Society in recognition of significant civic, cultural, religious, or other worthy humanitarian services to mankind, in addition to professional achievement, and whose actions reflect favorably upon the profession of dentistry.

Frank M. McCarthy of Los Angeles was presented the Heidbrink Award of the American Dental Society of Anesthesiology at its annual meeting in Chicago. The award is given annually to a health sciences professional for work of major significance to anesthesiology in dentistry.

NEWS OF FELLOWS

Edmund F. Ackell of Los Angeles, vice president for health affairs, will become special assistant for governmental affairs to the president of the University of Southern California.

Arthur E. Aull was elected president of the Academy of Denture Prosthetics. Dr. Aull succeded Dr. Judson Hickey, Dean of University of Georgia at the May convention held in San Antonio, Texas.

John J. Lytle of Glendale has been appointed chairman of the department of oral surgery at the University of Southern California School of Dentistry.

Charles A. McCallum, dean of the University of Alabama School of Dentistry, has been named vice president for health affairs of the University of Alabama in Birmingham.

Anthony S. Mecca, professor of oral surgery at New York University, was the recipient of the 1977 Achievement Award given by the N.Y.U. Dental Alumni Association.

Mrs. Jo Clark, secretary to Robert J. Nelsen, Executive Director of the American College of Dentists has been elected president of the Bethesda chapter of the National Secretaries Association (International).

ANNUAL INDEX
Volume 44, 1977

January pages1-27
April .... pages 73-136
July .... pages 137-192
October .... pages 193-256

Alternatives in Oral Health Care III - The Origin of Treatment Demands
- The Oral Disorder — Richard E. Bradley, D.D.S. 38
- The Patient — William B. Nienaber, D.D.S. 56
- The Influence of Third Parties — Lloyd J. Phillips, D.D.S. 64

Annual Meeting Announcement .. 144

Are You Listening? — Frank F. Shuler, D.D.S. 148

A Barrier in Graduate Study — Thomas K. Barber, D.D.S. 110

Beware Nutritional Quackery — William T. Jarvis, Ph.D. 200

Book Review 135, 187

Correlation of Community Dentistry With the Teaching of the Biological and Clinical Sciences of Dentistry — Emerson Robinson, D.D.S. 227

Deceased Fellows 70

Dentistry and Health Legislation — Joseph Cabot, D.D.S. 151

Departments of Community Dentistry — Are They a Threat to the Profession? — H. Barry Waldman, D.D.S. 80

The Discovery of Dental History as the Recorder of a Usable Post — Gardner P. H. Foley 102

Economic and Philosophical Factors in Fee Structuring — Robert J. Nelsen, D.D.S. 215

Editorials
- Are We Producing Too Many Dentists? 15
- The Decline of Ethical Standards 78
- The Denturism Problem 146

Fellowships Conferred 33

Some Historical Perspectives on Dentistry, The American College of Dentists and Professionalism — Gordon H. Rovelstad, D.D.S. 93

Honors and Awards 28

Interrelationships Between the American College of Dentists and the American Dental Association — Lloyd J. Phillips, D.D.S. 157

News and Comment 1,73,173,193

Non-Grade Attributes in the Selection of Dental Students — A Pilot Study — Philip S. Horton, D.D.S., Devore E. Killip, D.D.S., Derek E. Willard, Ph.D. and Leslie H. Higa, D.D.S. 127

Perspectives on Leadership in Dentistry — Paul S. Casamassimo, D.D.S. 219

Preparation for Lifelong Learning — Bernard L. Lutz, D.D.S., and Jack D. Brooks, D.D.S. 166

President of the College 7

President's Inaugural Address ... 10

Professional Worth, The Essence of — Robert J. Nelsen, D.D.S. . 17

Quality and Perceived Usefulness and Utilization of Continuing Dental Education — Philip Weinstein, Ph.D., Peter Milgrom, D.D.S., Peter Ratener, M.S., William Read, Ph.D., Kenneth Morrison, D.D.S. 238

Rationale for Community Based Off-Campus Rotation — Claude W. Drake, D.D.S. and William R. Posnick, D.D.S. 231

Reader Comment 185,2

Regent Balfour D. Mattox 143

Regent Odin M. Langsjoen 77

Are Schools Providing Adequate Clinical Preparation of Dental Students — Rex Ingraham, D.D.S. 116

Toward an Improvement in the Quality of Life — Jeanne C. Sinkford, D.D.S. 176

INDEX OF AUTHORS

Barber, Thomas K. — A Barrier to Graduate Study 110

Bradley, Richard E. — The Origin of Treatment Demands—The Oral Disorder . 38

Cabot, Joseph — Dentistry and Health Legislation 151

Casamassimo, Paul S. — Some Perspectives on Leadership in Dentistry 219

Drake, Claude W.; Posnick, William R. — Rationale for Community Based Off-Campus Rotation 231

Foley, Gardner P. H. — The Discovery of Dental History as the Recorder of a Useable Post 102

Horton, Philip S.; Killip, Devore E.; Willard, Derek H., and Higa, Leslie H. — Non Grade Attributes in the Selection of Dental Students — A Pilot Study 127

Ingraham, Rex — Are Schools Providing Adequate Clinical Preparation of Dental Students? 116

Jarvis, William T. — Beware Nutritional Quackery 200

Kaplan, Robert I. (Editorials) — Are We Producing Too Many Dentists? 15
The Decline of Ethical Standards 78
The Denturism Problem 146

Lutz, Bernard L. and Brooks, Jack D. — Preparation for Lifelong Learning 166

Nelsen, Robert J. — The Essence of Professional Worth 17

____________ — Economic and Philosophical Factors in Fee Structuring . . . 215

Nienaber, William B. — The Origin of Treatment Demands — The Patient 65

Phillips, Lloyd J. — The Interrelationship Between the American College of Dentists and the American Dental Association 157

Phillips, Lloyd J. — The Ongoing Treatment Demands — The Influence of Third Parties 64

Robinson, Emerson — Correlation of Community Dentistry With the Teaching of the Biological and Clinical Sciences of Dentistry 227

Rovelstad, Gordon H. — Some Historical Perspectives on Dentistry, the American College of Dentists and Professionalism 93

Shuler, Frank F. — Are You Listening? 148

Sinkford, Jeanne C. — Toward an Improvement in the Quality of Life 176

Waldman, H. Barry — Departments of Community Dentistry — Are They a Threat to the Profession? 80

Weinstein, Philip; Milgrom, Peter; Ratener, Peter; Read, William and Morrison, Kenneth — Quality and Perceived Usefulness and Utilization of Continuing Dental Education 238

The 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;

(d) To encourage, stimulate and promote research;

(e) Through sound public health education, 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; and

(h) To make visible to the professional man the extent of his responsibilities to the community as well as to the field of health service and to urge his acceptance of them;

(i) In order to give encouragement to individuals to further these objectives, and to recognize meritorious achievements and potentials for contributions in dental science, art, education, literature, human relations and other areas that contribute to the human welfare and the promotion of these objectives — by conferring Fellowship in the College on such persons properly selected to receive such honor.

Revision adopted November 9, 1970.

American College of Dentists
7316 Wisconsin Avenue
Bethesda, Maryland 20014

Return Postage Guaranteed

Second Class Postage
PAID
Washington, D.C.
and Additional Mailing Points