The JOURNAL of the AMERICAN COLLEGE of DENTISTS

Comprehensive Health Care

Preventive Dentistry

Survey of Dental Practice

Professional Ethics

Community Dentistry

OCTOBER 1974

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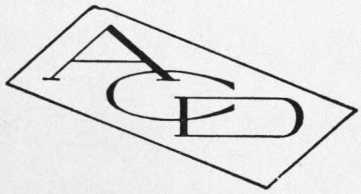

NEWS AND COMMENT

MINI-SELF-ASSESSMENT TESTS SCHEDULED FOR NEW YORK AND CHICAGO MEETINGS

Through the cooperation of the local Sections of the College, mini-self assessment tests will be conducted at the Greater New York Dental Meeting early in December and the Chicago Midwinter Meeting in February.

The tests will consist of forty questions drawn from the Self Assessment Program test books presently sponsored by the College. Participation is open to any meeting registrant and no fee will be charged.

Absolute confidentiality will be maintained. Each participant will mark his own test, and will destroy his answer sheets before leaving the room.

The Self Assessment and Continuing Education Committee hopes to demonstrate the educational benefits to be gained by self testing, and provide direction for continuing education through an assessment of one's current knowledge.

SECTION NEWS

Washington-British Columbia Section

The Washington-British Columbia Section held its annual meeting in May at the Windjammer Restaurant in Seattle. Chairman Olin Loomis presided. Sixty members and wives were present. The speaker of the evening was Dean Louis Terkla, President of the American College of Dentists. His address concerned itself with present policies of the College and with the current state of dental education, particularly in relation to the Federal Government.

The following section officers were elected: Chairman, Dr. Earl C. Maston; 1st Vice Chairman, Dr. Ted L. Harper; 2nd Vice Chairman, Dr. Lloyd W. Wolford; Secretary-Treasurere, Dr. Gordon D. Raisler.

The section is currently exploring the possibility of donation of the A.C.D. library sets to schools and libraries within the area.

NEWS OF FELLOWS

Wallace Armstrong, an Honorary Fellow and Gies Award recipient has been named a Regent's Professor of the University of Minnesota. This is the highest possible faculty title attainable, and is awarded for the scope and quality of scholarly or artistic contributions, quality of teaching and contribution to the public good.

Reginald Sullens, associate dean for Administrative Affairs of the University of Oklahoma Health Services Center has been named a director of the American Fund for Dental Health. Named trustees of AFDH are Fellows Charles L. Howell, dean of Temple University School of Dentistry; Carl A. Laughlin, a past president of the American Dental Association; Alvin L. Morris, vice president for Administration, University of Kentucky; and Walter J. Pelton of Austin, Texas.

The College marks with regret the death of Emory W. Morris, chairman of the Board of Directors of the William K. Kellogg Foundation, and a Fellow of the College since 1938. Dr. Morris was the recipient of the William J. Gies Award in 1964 and of numerous citations and awards from countries all over the world for his brilliant leadership of the philanthropic efforts of the Kellogg Foundation.

Leon H. Ashjian (left) was recently installed as president of the Los Angeles Dental Society. Shown with him are Clarence Honig, speaker of the House of Delegates of the California Dental Association; William E. Schiefer, president of the California Dental Association; Floyd E. Dewhirst, Trustee of the 13th ADA district; and Carlton H. Williams, president of the ADA who was the principal speaker.

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the JOURNAL of the AMERICAN COLLEGE of DENTISTS

A QUARTERLY PRESENTING IDEAS IN DENTISTRY

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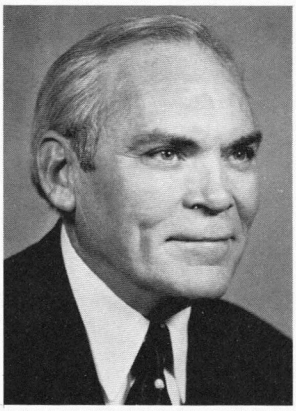
New Regents of the College

RICHARD J. REYNOLDS



Richard J. Reynolds, a general practitioner of Memphis, Tennessee, has been prominent in dental and civic affairs for many years. A graduate of the University of Tennessee College of Dentistry, his career has included service as president of the Memphis Dental Society and the Tennesses State Dental Association.

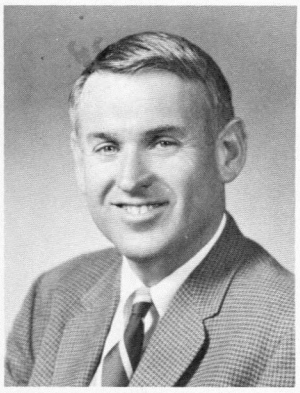
He is presently a member of the Tennessee State Board of Dentistry, and serves on the attending staff of Methodist Hospital. He holds membership in the American Prosthodontic Society, the Federation Dentaire Internationale, Omicron Kappa Upsilon Honorary Dental Society, and Psi Omega fraternity.

Dr. Reynolds is a retired captain in the U.S. Naval Reserve. He has been Secretary-Treasurer of the Tri-State Section of the American College of Dentists since 1958. An accomplished musician, he is principal clarinetist of the Memphis Symphony Orchestra, and a member of the Board of the Memphis Orchestral Society. He belongs to the Memphis Chamber of Commerce, the Memphis Rotary Club, is a member of the Board of Directors of the Shelby United Fund, and the Board of the Memphis and Mid-South Medical Council.

He is a member of the Navy League, a life member of the Miltitary Order of World Wars, and is Senior Warden of the Vestry of St. John's Episcopal Church.

Dr. Reynolds was the 1963 recipient of the Fellowship Award for Distinguished Service of the Tennessee Dental Association.

WILLIAM E. ALLEN



William E. Allen, a pedodontist and dental leader of Pasadena, California, was named to the Board of Regents at the last meeting of the College.

Dr. Allen received his dental degree at the University of the Pacific in 1948, and last year earned the Master of Liberal Arts degree from the University of Southern California.

Active in many dental organizations, he is a past president of the San Gabriel Valley Dental Society, the Southern California Dental Association, the Southern California Society of Dentistry for Children, and the American Society of Dentistry for Children. He serves on the Council on Legislation of the California Dental Association and the American Dental Association. He is a member of the House of Delegates of the ADA and has served as Reference Committee chairman. He is a former Board oDirectors member of the American Academy of Pedodontics, and belongs to the American Association of Dental Insultants.

Dr. Allen is a past president of the University Club of Pasadena, is a member of the Board of Directors of the Rotary Club of Pasadena and is chairman of the Dental Advisory Board of the Pasadena Dispensary of Huntington Memorial Hospital. He also is active in the Health Task Force of the Community Planning Council.

He is married and the father of two children. His hobbies are golf and tennis.

Editorials

Dental Fees and Inflation

With the expiration of the federal government's Economic Stabilization Program, health care costs have risen sharply. This has been attributed to the fact that wage and price controls placed on the health sector, without similar restraints in other sectors of the economy, caused a temporary fee level increase to occur in an effort by health care providers to "catch up" when controls were lifted.

ADA President Carlton H. Williams, in a message to the profession recently has asked dentists to hold the line on fees. Similar requests, in a more critical tone, have been voiced by government figures.

Casper Weinberger, Secretary of Health Education and Welfare is perhaps the most outspoken critic. He has stated on more than one occasion that the Administration may be forced by public "outrage" at rising health care costs, to exert greater supervision over the health profession. He charges that since price controls were lifted, the cost of health care has increased 50% faster than the economy as a whole. Weinberger warns that cost controls could be built into a national health insurance program.

The evidence of the past few months makes it clear, however, that rising health costs are merely one aspect of the inflationary spiral affecting all segments of the economy – labor and industry as well as the professions. It is interesting to note that no labor leaders have advocated to their members the restraint that President Williams suggests.

The rapid escalation of the cost of just about everything a dentist uses in his practice has been distressing, and the end is not yet in sight. A survey of dental dealers conducted recently shows that equipment and supplies (not including precious metals) are 8 to 10% higher in price than last year, and could increase as high as 13 to 18% by the end of the year. Precious metals are another matter. Silver alloy has tripled in price, and no one needs to be reminded of what has happened to the cost of dental gold.

Is it possible then for the dentist to hold the line alone? We hardly think so, without a little help from the rest of the economy. President Williams admits that "As the practitioner reviews his present charges he will recognize that he has the right to raise his fees to a certain extent to reflect increased practice costs that have resulted from the long period of inflation."

"Each individual dentist has a solid commitment not only to his patients and his profession, but also to his community and country. This commitment is stated in our Principles of Ethics. However, the dentist cannot be expected to stem the swelling tide of inflation single handedly."

This is a well expressed appeal to professional responsibility. But in the background stands the Administration's threat to reimpose controls if health costs escalate too fast. Thus, many dentists, who have been reluctant to raise fees, now feel that such an action is necessary, in order to avoid being caught in a bind if wages and fees are frozen again, or if national health insurance includes a cost control mechanism.

President Williams suggests that Congress devise some reasonable and equitable solutions, meanwhile asking dentists to increase productivity to avoid setting sharply higher fees. There is no assurance that these recommendations will solve the problem. Congress presently is trying to find ways of checking inflation, but there is no certainty that it can do so without the cooperation of the entire economy – and that means everyone – labor, industry, the professions and government as well.

It is plain to see that if health care providers are responsible for some of the present inflation, they are also among its victims.

R.I.K.

Comprehensive Health Care

FRED SELIGMAN, M.D., M.P.H.*
and GEORGE A. COLMER, D.D.S.†

Comprehensive health care is a concept designed to develop a setting to explore a method of health service delivery. The setting allows for the delivery of high quality care to groups of people in a practical, dignified manner at a fiscally sound cost. One of the avenues of approach is through Children and Youth (C & Y) Programs.[1,2] There are more than 67 programs functioning since 1967 following federal legislation in 1965. C & Y Programs, under the aegis of HEW are in a position to learn from each other through a standardized reporting system which ties together the many such programs which vary in size, in character and in population characteristics.[3] Sound interpretation and use of this data are invaluable in determining and facilitating improved methods of health care delivery.[4,5] The programs vary in number of children from one thousand to more than 120,000.[6] Although opinions in regards to optimum size have been set forth; optimum size is yet to be determined.[7] The C & Y Program at the University of Miami has a current enrollment of approximately 7,500 active patients. It is this Program which will be discussed in detail.

The University of Miami Comprehensive Health Care Program (CHCP) initially conceptualized that health care should be delivered in a one site, multi-disciplinary, comprehensive, non-episodic,

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preventive, ongoing manner. The efficacy of this concept can be demonstrated by, among other things, the reduction in the rate of hospitalization to about one half the national average.[8,9] It is our opinion that children can be kept well and healthy, thereby reducing human suffering, morbidity, and the cost of health care. Enrolled children at CHCP are those who come from the poorest families in the central city area of Miami. The fact that our rate of hospitalization is less than one half the national average is even more significant since risk of hospitalization increases with decreasing socio-economic levels.[10]

Consideration of health care by dollars only, days in the hospital, or disability days is only a part of the spectrum; consideration must be given to the amount of personal discomfort to the child and anxiety to the families, factors which are not easily quantified. However, because of the lack of better proxy indicators, cost figures and hospitalization rates must continue in a large part to be the basis for evaluating health care systems. Dollar costs at CHCP are less than the average national personal health cost expenditures for children under 19 years which in 1971 was $139.92 per annum, and which has since escalated significantly.[11] CHCP costs include preventive, curative and rehabilitative care, including hospitalization, prosthetic devices, and a variety of specialty and ancillary services necessary to the delivery of optimum health care to children. The watchword is that care can be preventively oriented; the emphasis is on maintaining children in a healthy state. A majority of new registrants at CHCP are newborns who are registered into the program immediately following birth. Problems are detected and treated early in life. Early case-finding and treatment allows a child to be placed in a "maintenance level" of care quickly which subsequently requires less expensive ambulatory care and fewer admissions to hospitals.

It is important that health care be personal and that the outmoded cold and impersonal clinic concept be modified.[12] This can be achieved if the personnel involved can be made to recognize and understand the importance of this approach. The context of the child within the family setting must be appreciated. A child is a member of a family; his problems do not exist in isolation. When families actually experience that they are seen on schedule and treated in a caring, dignified manner, they are more likely to keep their appointments and to follow through with instructions given at the clinic.

THE HEALTH CARE TEAM

The team approach is the core of the University of Miami CHCP system. The health care team is composed of a physician, nurse, and two health aides who see the same patients each time the patient visits the clinic. A child is not seen by strange physicians and strange nurses.

The maintenance of a child within the same team gives continuity of care which is impossible in any other situation. It also means that the child feels at home, responds more directly, and is not frightened by unfamiliar personnel. In this manner, a physician gets to know each patient not only by his direct contact, or from his perusal of the health record, but also from the personal experiences of others on the health team who may indeed by in a better position to know the patient best.

Within each team, the personnel function to the maximum of their capabilities so that as much as possible, no health worker performs procedures that can be accomplished by someone with lesser training or education. This is not a threat to the professional but rather allows him to expand his capabilities. The family health aide performs those functions which his training and experience allows. A professional nurse performs those tasks which his training and education equip him to do and which licensing laws allow. A physician does only those procedures that cannot be accomplished by others. The team thus operates in a manner whereby the physician can maintain ultimate responsibility for management of the patient but is relieved of duties that can be performed as well or better by other disciplines.

The basic health team described above is supported by a broad range of health workers who provide specialized skills not provided directly by the team. Each basic health team has the availability of these special services, such as dentistry, psychology, social services, nutrition, audiology, vision, speech, and hearing.

SOCIAL SERVICES

We recognize that the benefits derived in providing treatment to a family which lives in a physically or compromised environment is minimal. Social services are therefore responsible for a socio-economic intake, psycho-social evaluation and subsequent periodic evaluations of families. Additionally, social services offers consultation to the teams for children and families requiring direct counsel-

ling. The social worker provides backup to the family health aide, physician, and nurse and helps devise improved methods of family supports. Social services additionally provide direct intervention in specific cases such as battered children.

Social services additionally functions as the clinic's major link to other community agencies and resources. Roles outside of the team relationship include projects such as locating summer jobs for teenagers and supplying ongoing supportive counselling while they are working. These jobs are frequently their initial work experience. In this manner, adolescents can be helped to maintain their initial work positions. Social service personnel play a significant role in helping medical students learn about the community, the relationship of doctor and patient, and significant social and legal agencies such as juvenile courts.

THE DENTAL SECTION

The Dental section which provides important support to the basic team is wholly responsible for the oral health of the child and for the supervision and prevention of oral disease. A full range of pedodontic services is offered with the assistance and support of other services. When there is need for speech therapy, laboratory services, psychology or the help of any other discipline, it is available immediately and at the same location, saving the time of arranging appointments for consultation and the time for the family to travel and wait for reports to be mailed. This results in prompt and improved health care. It is most helpful for the dentist to have the complete patient chart at hand when treating a child. For a dentist to operate in such a multi-disciplinary setting is most satisfying because he is able to practice the very best type of dentistry that he knows without many of the frustrations involved in solo practice, which is usually divorced from other disciplines.

The dental functional area has the additional responsibility of providing education in oral health to medical students. Medical students have been receiving twelve hours of instruction concerning the mouth and its relation to total health, oral hygiene and oral pathology. The students are instructed with the major goal of raising their index of dental suspicion sufficiently so that during the course of their physical examination, a proper examination of the mouth will be performed and significant problems detected. The medical students are also exposed to a wide variety of dental pathological lesions such as inflammation, benign and malignant tumors, and oral reflections of systemic disease.

As it is not feasible to retain specialists in all fields, referrals are made to specified consultants at Jackson Memorial Hospital which is the main teaching hospital of the University of Miami Medical School. Thus, all but the most sophisticated procedures are performed at the main CHCP site which is in the University of Miami medical complex. All hospital charges – specialty consultation, hospitalization, operating room charges, etc. – are charged to CHCP. If CHCP were not charged for these items, cost accounting would be meaningless and judgments about the economic validity of the system would be impossible. It is obvious that through this type of arrangement, any required service is readily available.

PSYCHOLOGICAL SERVICE

The importance of a Psychology service located on site cannot be minimized. Many aberrant or potentially aberrant psychological situations can be discovered early by the team members and referred to the psychology section. Psychologists and psychiatrists can then work closely with the teams and supply meaningful prophylactic mental health services. The psychology department has particularly close ties with speech and hearing inasmuch as many of their clinical caseloads involve problems that can be solved by the two disciplines working in mutual support. Many children, particularly lower socio-economic level children have undetected speech and audiological defects which go untreated and which contribute to reduced school performance. Many such abnormalities can be prevented or at least beneficially modified by early diagnosis and management.

NUTRITIONAL SERVICE

A nutritional service is of utmost importance because so many people need guidance in maintaining optimum nutritional intake. Many children require dietary modification to attain optimum health. Many of our children are malnourished because of the increased carbohydrate content of their diet which is frequently evident in families of lower socio-economic levels. Additionally, some children show specific deficiencies because of particular food habits in the family usually related to cultural eating patterns. It is in such situations that nutritionists can be helpful in increasing the level of health of a child. The dental department has much dialogue with nutrition and uses the service frequently, particularly for children who show a high caries index.

NURSING SERVICE

The Nursing service is oriented toward preventing problems and maintaining health. Nurses maintain a regular recall schedule to periodically evaluate the general status of the health of the patient, both psychologically, socially and physically and be in a position to detect problems early within the family and within the child. Early referral to the physician, makes the latter's work more productive and personally rewarding. In this way a physician does not have to see a child as frequently as he might if a competent pediatric public health nurse were not available.

PROGRAM EVALUATION

A System Analysis and statistical section provides expertise in initiating procedures, monitoring efficient paper flow, and equally important, evaluates program effectiveness. When Systems analysis is employed in a health delivery organization, it does not directly deliver health care, but monitors and makes graphic the care which is being delivered. It provides program evaluation and accountability by determining the most efficient delivery methods and maximizing financial resources.

It becomes obvious that the entire thrust of such an organization is towards the establishment of a health delivery system based on the concept of a dignified, one site, multi-disciplinary, non-episodic preventive service.

The wave of the future seems to be predicated on the tenet that health care is a basic right of all peoples and requires a system of effective delivery. We have presented advantages of the concept of comprehensive health care and feel it is important that providers of health care become acquainted with and understand this method so that in the future at least one alternative to conventional practice be considered and hopefully, implemented.

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The Key to Success in Preventive Dentistry:

Motivating the Patient to Accept Responsibility for His Own Oral Health

ELLEN THORNBURG, R.D.H.
and HERSHEL D. THORNBURG, Ed.D.*

An all too common comment heard in the dental office is "All you really need to do is brush your teeth better." What does this mean to a patient? Does this comment sufficiently motivate a patient to brush so that his visits will become less frequent? Does the patient understand what is meant by brushing his teeth? How do you know the patient knows how to brush his teeth? If you give him a pamphlet on better home care, is it logical to assume he will read it, understand it, and implement it into his oral hygiene behavior?

Another comment typically heard is, "I really hate going to the dentist." How can you effectively deal with someone who has a negative attitude about being in your operatory? Is the difficulty in motivating this patient more involved than it is worth or than your time will allow you to spend? How can you move this patient's ideas of oral hygiene and occasional visits to your office from a negative to a positive tone?

Of course, the multiple questions that have been generated from these two statements are not easily answered. However, greater progress in effective patient-dentist interaction can be experienced if the right kind of components are built into a preventive dentistry program.

*Ellen Thornburg is in private practice employed with Dr. Leonard Weiner, 1602 N. Tucson Blvd. Hershel Thornburg is an Associate Professor in the Department of Educational Psychology at the University of Arizona, Tucson.

Foremost, the dentist and his auxiliary personnel must be able to give the patient rationale for maintaining good oral practices. The key to instilling preventive practices in any patient is getting the patient to *recognize his need for self-maintenance.* The goal of any type of effective home care instruction is to place the responsibility for oral health on the patient rather than upon the dentist and his team.

One of the first reassuring things we can tell a patient is that he can retain his natural teeth throughout his life time. While this fact may be obvious to us, many individuals actually believe it is inevitable that they will lose their teeth. Given this alternative fact, the patient must be given rationale and information which will motivate him to act in order to preserve his natural dentition.

We are suggesting that the patient must be acquainted with the general concepts underlying prevention, which have been identified as (a) bacterial functions, (b) systemic nutritional functions, and (c) mechanical functions.

The patient needs to understand that the nature of bacteria is to colonize in the mouth producing overgrowth and that such accumulation on the individual's hard and soft tissue areas causes waste products to be given off by these colonies. Help him understand that eventually this contributes to breakdown of the tooth and/or supporting structure. Reassure him that the goal is not to totally remove bacteria from the mouth. Rather, it is to control the rapid reproduction and formation of bacterial clumps or colonies so that the accumulated waste products cannot damage the tissues with which they come in contact. Point out to patient that bacteria colonize within a 24-30 hour time span. In order to reduce the deleterious effects of bacterial accumulation the patient may:

1. *Brush* — in order to remove bacterial accumulation from the gingival sulcus (sulcular brushing) and the alteral and occlusal surfaces of the teeth.
2. *Floss* — in order to remove bacterial overgrowth from the mesial and distal (interproximal) sulcular and lateral surfaces of the teeth.

While bacterial overgrowth is probably the primary cause of loss of the supporting structure and teeth, it should also be pointed out to the patient that systemic factors can contribute to (a) excessive overgrowth of bacteria, (b) breakdown of the supporting structures through the use of certain medications, i.e., dilantin, (c) poor or insufficient diet, and (d) general debilitating systemic diseases, i.e., diabetes. Stress for the patient who has some type of systemic or

nutritional problem the importance of an even more conscientious program of home care in order to attempt to offset some of the breakdown due to systemic factors. In cases relating to nutritional factors, an attempt can be made to have the patient alter or add to a generally poor dietary intake, even suggest evaluations by other professionals trained in the diagnosis and control of various nutritional or suspected systemic problems.

Help the patient also to be aware that general mechanical problems such as poor occlusion, improper biting habits, improperly functioning prosthetic appliances, overhanging restorations and other factors also contribute to the breakdown of the teeth and the supporting structures. An attempt to have the mechanical irritation corrected or reduced will contribute to a general healthier oral condition.

The interrelationship of bacterial accumulation, poor nutrition, and mechanical factors has been evidenced. Bacterial accumulation is high because of sugar intake; general health is low because of lack of protein; and abnormal biting patterns of the mouth are unnecessarily hard on the teeth and the supporting structure.

BARRIERS TO BE ENCOUNTERED

There are three major concerns that the dentist and his team must deal with in order to be effective in teaching patient's home care — the patient's attitude, understanding, and skill of oral-related behaviors.

A patient's attitude is the first thing encountered and the effectiveness of communication with the patient may be a crucial variable in the receptivity he has to all subsequent activities. There are several ways in which to effectively communicate with the patient, four of which we will discuss here.

First, any member of the dental team must develop rapport with the patient. It is important to get to know the patient and to find his areas of interest. One accepts the patient by listening to him, by not superimposing one's values upon him, and by finding common grounds from which to effectively communicate. The dentist must be a comfortable person so that the patient does not feel undue stress in his company. If we acquire the ability to listen to a patient without allowing his neglect, for example, to irritate us to the point that our communcation breaks down, we then, in effect, accept the patient. While the patient will view the dentist as a professional and the authority, do not place him in a condescending position; rather try in

conversation to guide and provoke the patient into concern about his condition. It is important to remember that the more that is known about the patient, the better are the chances of motivating him to bring about behavioral change.

Second, in talking with a patient it will become quite obvious that there are many negative attitudes which militate against full effectiveness. An attitude might best be thought of as an emotional expression formed through the accumulation of learning and experience. Attitudes may be either positive or negative, depending upon the patient's perception of what will happen to him in the dental office.

The fact that people of all ages have negative attitudes toward a dental office is quite evident. Recent research indicates that at least 50 percent of the children who visit the dentists have learned, through fear, to have negative associations. Nearly 40 percent of the children learned their negative attitudes at home, primarily from their parents.[1] Children are not intrinsically afraid of the dentist's office nor the surroundings in the operatory. They learn from negative models or unpleasant experiences. Providing a patient, whatever age, with a pleasant experience, provides some potential for attitudinal shifts.

Fear of the unknown or actual pain activates a need within an individual at a physiological or self-preservation level. In Maslow's work we wee that an individual who has a physiological need (deficiency) is motivated to behave in whatever manner necessary to alleviate the need. Similarly, Maslow's concept of safety needs (self-preservation) refers to the desire for good health and security from harm and danger.[2] Anticipation of pain invokes a safety need whereas actual pain invokes a physiological need. If a patient feels *trapped* at the point when one of these two needs are activated, his fear becomes intense, sometimes traumatizing. It is this type of patient experience that results in reinforcing negative associations toward the dentist and his team which unfortunately cannot always be avoided.

In order to be effective with a patient, his fears must be put at ease. Since the problem seems to be cyclic, and since sometimes his fears are being reinforced, unknown to the dentist, it is not easy to do. The best way to help a patient is to suggest to him that the experience is more pleasant and rewarding than he had anticipated. This can be done by giving good rationale for what is being or has been done.

One of the ways to alleviate the patient's fears is to build his confidence in the dentist, the third point on communication which we want to discuss. A professional-patient relationship must be maintained to gain the patient's respect for the dentist's competence. We do this by not reacting negatively or becoming emotional if the patient becomes emotional with us. Rather, if the patient knows we realize his problem, and will work with him to help alleviate the problem, he is reassured. Indicate that we understand why he is in the office and point to positive patient action that could make his visits less frequent. If the patient's existing problem is put in context, he should better understand that this is not something that occurred overnight and he cannot expect that it will be corrected immediately. This also, of course, provides the opportunity to discuss underlying emotional tension, stress, malnutrition, or other emotional-physiological problems that can contribute to the patient's condition. If the patient has had treatment before in another office and it is not up to the quality one would expect, do not undermine the work of another professional. The patient benefits from learning the concept of dental care, not from learning that if his problem had been dealt with more appropriately earlier, he would not have to be here now.

A fourth point in communication is what we call avoiding jargon shock.[3] Many times the patient's fear is increased because he does not understand the terminology which is used to discuss his problem. This is often interpreted as him having something wrong that we do not want him to know about. Remember, terms like periodontal fibers, gingiva, stipling, cementum, and pulp chamber are unknown to most patients. When working with a patient make sure he understands the terms relevant to the procedures that are about to be carried on.

MOTIVATING THE PATIENT

If we are effective in communicating with the patient, to some extent, his fears will be alleviated, thus we have helped reduce his physi logical and safety needs providing the opportunity to motivate him at a higher operational level. The key to motivating patients in concepts of home care is to provide incentives for preventive-type behaviors. This task falls directly on the shoulders of the dentist and his team.

In the early teaching stages of home care concepts we will probably use simple reinforcement as a motivational strategy. If a

patient attends to the instruction, verbalizes understanding of particular rationale for a home care procedure, or properly exercises the mechanics of brushing, flossing, etc., praise for his behavior has positive results. It will give him some incentive to continue the reinforced behavior. The limitation of building behaviors around external reinforcement (dentist or auxiliary personnel) is that the patient becomes dependent on the external sources for maintenance of his behavior. Therefore, an additional motivational basis must also be considered.

TASK MOTIVATION

When we orient the patient to achieve a certain behavior, we are making him task-conscious. The key here is to give the patient good rationale for pursuing the task we want him to accomplish. If we tell the patient to brush at least every night because if he doesn't he will get decay and possibly lose his teeth, it is not likely that this will motivate him since he may expect those things to happen anyway. However, if we tell the patient that there are several reasons why a person should brush his teeth at least once a day, the result of which is the absence of decay and loss of teeth, then he is more likely to attend to what you want him to do. The key is to conceptualize the need which gives the patient a self-motivational source.[4] If we reinforce the patient for doing something well when he is in the office, this may strengthen the likelihood of his continuing this behavior but he becomes dependent upon reinforcement for such continuance. If we give him good rationale for home care in addition to situational reinforcement, he will have some personal incentive to carry out the procedures, thus, the likelihood of practicing good home care is increased.

Task motivation has the unique feature of focusing upon the competence of the individual. Individuals have an intrinsic need to cope with their environment. It is a basic motivational force. If we specify a task and provide rationale for doing the task, then we are tapping the individual's competence domain, thus, pulling out of him a strong motivational source. If we make the patient feel that all tasks which we would want him to do are within his ability to do, then he is likely to be more strongly motivated to incorporate such behaviors into his home care routine.

Task motivation has a second unique feature which will work well with adults. Social motives, the need to affiliate and be accepted by others, are a learned energy source in our society. By specifying the

task, then relating how the task can enhance one's acceptability to others, we can utilize the motivational energies of many patients. It is an area which should not be overlooked because of the value that is attached to it by people within our society.

If we identify the behavior we desire for the patient, provide rationale for exercising such behavior, and reinforce any type of patient response indicative of moving toward such behavior we should begin to see some indications of self-motivation. These may manifest themselves when the patient:

1. Gives indications of awareness of his personal need.
2. Gives indications of his attentiveness of the instructions.
3. Indicates a willingness to learn home care instruction.
4. Can verbalize some of the concepts surrounding home care in which he has been instructed.[3]

INSTRUCTING THE PATIENT

The science of instruction is relatively new compared to the science of learning. Instructional theory may be defined as *the way in which we influence a patient to learn.*[4] The premise upon which instructional theory has emerged is to incorporate known learning principles into a functional instructional strategy so that the recipient of the instruction can learn with maximum efficiency and retain his learning indefinitely. We shall illustrate functional instructional components in working with a patient.

Thus far we have discussed established rapport and effectively communicating with a patient, we shall assume that these two conditions have been met. This prepares the basis for the following steps:

1. *Explaining the patient's problem.* Here we help the patient identify what his need is and explain a plan of action that will help alleviate the deficiency. His need is a *performance need,* which is to say, that we help him see that through performance his problem can be overcome. A critical aspect of this instructional phase is the terminology we use in talking with the patient. Don't let communication break down here inasmuch as his understanding is based upon verbal interchange. Another outcome of this phase is to direct the patient toward self-awareness, that is, get the patient to see his need and acknowledge it to us. Once his awareness is evident, the stage is set for instructing the patient in the skills necessary to meet the required proficiency to overcome the need.

2. *Teach the Mechanics.* It is important to recognize that whether we are teaching a patient how to brush, floss, or use a periodontal aid, the behaviors constitute no more than a *motor chain.* A motor chain is a very low level response in a person's total response capability. It is also highly mechanistic and its maintenance is based upon habit. By theory, habit is increased by reinforcing the patient. But habit based on rationale is likely to endure longer than habit based on mechanical behavior only. For best home care results we give the rationale first then provide the teaching of the mechanics in order to bring about the desired behaviors.

For example, an important aspect of teaching a person how to brush his teeth is to diagnose the desired patient behavior and break it down for the patient in a step-like manner. Each step in the sequence constitutes a simple behavior which the patient should be able to do. As we teach each step, eventually chain them together so that the patient learns a sequence of behaviors. By showing the patient the logical relationship between each step, he sees their interrelationship and functionally the sequence becomes one behavior, i.e., brushing the teeth.

Two factors are critical here. As the patient learns each step in the motor chain, elicit patient input by having him demonstrate the behavior we have just shown. This not only gives the patient involvement, but it allows us to see if the patient is doing the step correctly and provides the opportunity to reinforce him for correct behavior. The combination of patient input-reinforcement from step to step allows us to walk through the behavioral sequence with his.

Once each step has been learned, the patient must be shown that brushing the teeth is not several cumbersome steps, but one continuous sequential motion. Therefore, demonstrate the steps with each being contiguous to each other. Ask the patient to do this as well. If the patient goes through the step-sequence correctly then reinforce him after he completes the total sequence. If he does not, return him to the point in the sequence where the patient's correct behavior broke down, do the necessary remedial teaching, and have the patient complete the sequence from that point. Do not reinforce except when the patient completes the total chain correctly. If we reinforce a chain that is not correct, the patient will interpret the reinforcement as an indication of his correctness, thus, we increase the chance of the patient learning an inappropriate behavior.

It is very important to remember that learning any particular chain of motor behaviors is secondary to conceptualizing the need. If we

teach the patient how to brush but he does not learn the rationale for so doing, in a relatively short period of time, his brushing habit will deteriorate and the next time we see him will be when he has to have some restorative procedures done. If we teach the rationale, then the patient has had his competence motive stimulated and the task of brushing will make more sense to him inasmuch as he is able to see it as a vital component of his overall home care concept.

SUMMARY

In summary, the following points should be considered:

1. The key to preventive home care is getting the patient to recognize and accept his need. This conceptualization is two-fold: (a) he must learn the general concepts underlying prevention, and (b) he must learn specific rational for home care procedures such as brushing and flossing.
2. Communication is essential for teaching preventive home care. The dentist and his team must make a special effort to learn about the patient and explain things in ways that exhibit mutual concern and interest in the patient. Inasmuch as most patients have some fears associated with the dental environment the dentist must avoid intensifying the patient's apprehensions or making the patient feel ashamed for not taking better care of himself.
3. Ways to effectively motivate the patient must be sought. As we have stated, conceptualizing is the key to motivation. In addition, the patient will respond to reinforcement and to task motivation. The dentists should elicit verbal and motor behaviors that indicate the patient has some self-interest in altering his behavior.
4. In instructing the patient, use the following sequence: (a) gain the patient's attention by focusing upon his problem; (b) explain in terms the patient understands the appropriate course of action to alleviate whatever deficiency exists; (c) structure the teaching in small sequential steps, shaping the patient's behavior toward the desired outcome; (d) allow opportunity for patient input or response to instruction; and (e) reinforce at times when the patient's behavior reflects his learning of the techniques desired for good home care behavior.

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The ADA Survey of Dental Practice

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Once every three years (since 1950) the Bureau of Economic Research and Statsitics of the American Dental Association conducts a survey of dental practice in the United States. The Survey primarily is concerned with the business aspects of dental practice. The Bureau of Economic Research and Statistics comments that the averages and percentages that are presented can be useful to 1) provide standards and information against which the individual dentist can compare his own practice, 2) recruit high caliber dental students, and 3) adjust the salary scales of employed dentists and auxiliary personnel. In addition, the Bureau notes that the data collected provide a basis for the preparation of legislative testimony, the determination of the adequacy of the supply of dental services, and determining the "will" of the profession in certain areas that may be controversial,[1,2,3] The results of the survey are published in the Journal of the American Dental Association and also are issued in booklet form under the auspices of the Association.

Since the Survey is conducted by a bureau of the Association and the results are published and distributed by the Association, one must assume that the Survey results represent one of the more authoritative statements of dental practice. If the Survey is to serve as the basis for future evaluation and planning, then the question must arise – *How valid are the findings of the survey?* It is to reply to this question, rather than the particulars of these findings, that the following discussion is presented.

The Survey of Dental Practice is a statistical survey based on data obtained by sampling from the population of practicing dentists, not

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upon an exhaustive tabulation of information about *all* dental practitioners. The most important fact to remember when reading statistical information is that the validity of the findings depends on two basic factors:

1. The method of determining the required sample size and the procedures used to collect the required sample data; and
2. The statistical techniques and procedures used to evaluate the data and report the findings.

These factors, taken together, constitute the experimental design of any survey. In reality a survey is simply an experiment whose purpose is to collect and organize information from a small portion of a population in order to estimate or infer certain properties of the population-at-large. (See Appendix A.)

The data for this nationwide survey are obtained by means of a questionnaire mailed to a group, or sample, of dentists selected from the total population of dentists in the United States. The questionnaire contains a series of basic questions which serves to determine trends in dental practice as well as a series of questions which seek information on issues of current concern.

The Survey states that to obtain a reliable statistical presentation of the data on as many states as possible, the questionnaires were mailed (in the last three surveys) to dentists according to the scheme presented in Table I.

TABLE I

The Number of Dentists in Each State by the Selection Ratio, 1965, 1968, 1971 Surveys

	Number of Dentists in Each State	
Selection of Ratio	1965 & 1968	1971
All dentists	less than 1,050	less than 1,200
Two out of three dentists	1,051 to 1,400	1,200 to 1,599
One out of two dentists	1,401 to 2,100	1,600 to 2,399
One out of three dentists	2,101 to 2,800	2,400 to 3,199
One out of four dentists	2,801 or more (1965) 2,801 to 3,500 (1968)	3,200 to 3,999
One out of five dentists	more than 3,500 (1968)	4,000 or more

In all surveys, the validity and reliability of the reports are greatly influenced by the method used to obtain the sample information. When little is known about the underlying population, a technique of complete random sampling is usually employed. However, if some knowledge is available beforehand as to the nature of the population with respect to particular characteristics, this information can be employed in the sampling process to reduce the variability of the statistical results. Such sampling schemes must be based on a truly significant identifiable characteristic(s) of the population. (See Appendix B.)

The 1965 Survey questionnaires were mailed to approximately 40 percent of the total Association membership. The 1968 and 1971 Survey questionnaires were mailed to approximately 30 percent of the total membership. The number of questionnaires mailed and the response rate for the past three Surveys are presented in Table II. As reported in Table II, the response rate varied between 20.4 percent in 1965 and 26.6 percent in 1968 – the later rate of response being the highest ever achieved by the Survey of Dental Practice. It also should

TABLE II

The Approximate Percent of the Association's Membership Receiving Questionnaires, the Number of Questionnaires Mailed and the Response Rate, 1965, 1968, 1971 Surveys.

	1965	1968	1971
Approximate percent of the Association's membership receiving questionnaires	40%	30%	30%
Number of questionnaires mailed	41,212	34,556	40,860
Number of usable questionnaires returned	8,340	9,191	8,899
Response rate	20.4%	26.6%*	21.8%
Variation in response by state	10.0-36.7%	---**	10.0-31.9%

*This rate of response is the highest achieved by the Survey since its inception.

**Not recorded in the 1968 Survey presentation.

be noted that the variation in response rate by state for the 1971 Survey was between 10.0 percent and 31.9 percent.

The basis for the use of statistical sampling lies in the assumption that the sample is representative of the entire population from which it was drawn. While the sample may (or may not) be representative of the population from which it was selected, the fact that almost 80 percent of those dentists selected for the sample in 1971 (i.e. those practitioners who received questionnaires from the A.D.A.) did not return the questionnaire, raises serious questions as to the representativeness of the respondent data.

A certain percentage of nonrespondents is always expected in any survey. However, suitable measures must be taken to determine whether the respondents and nonrespondents actually constitute two different populations with respect to dental practice, demographic and attitudinal characteristics (e.g. specialty, age, or simply an attitude of indifference to mailed questionnaires). This can be accomplished – to some degree – by a variety of follow-up procedures directed towards the group of nonrespondents (e.g. telephone and personal interviews). Without such confirming evidence, particularly where nonrespondents constitute almost 80 percent of the sample, there are doubts as to whether or not the respondents actually, represent an unbiased sample for the entire population of dentists.

In the Survey report all usable returns were used in the tabulation of information by individual states. For all other tables (nationwide and regional reports – which constituted the vast majority of all presentations) the samples were weighted so that each state was "properly" represented. The weighting was accomplished by a random withdrawal of returns for those states which were overrepresented; i.e. returns were *discarded* from states with a better return rate than average; which the Survey stated would "make the sample more representative of the general population of dentists"[5].

The number of usable questionnaires returned and the number and percent of questionnaires discarded for each of the past three Surveys are reported in Table III. As noted in Table III, this arbitrary selection of data to be used resulted in the elimination of approximately *one-half* of the usable responses received, accomplished despite the fact the overall response rates for the Surveys was only 20.4, 26.6 and 21.8 percent respectively.

The random withdrawal of approximately 50 percent of the valid respondent questionnaires not only increases the sampling error

TABLE III

The Number of Usable Questionnaires Returned and the Number and Percent of Returned Questionnaires Discarded, by the 1965, 1968, 1971 Surveys.

	1965	1968	1971
Number of usable questionnaires returned	8,349	9,191	8,899
Number of questionnaires discarded	4,322	5,168	4,308
Percent of returned questionnaires discarded	52%	56%	48%

(reducing the number of respondents)*, but presupposes that the 8,000 or 9,000 respondents to the 1965, 1968 and 1971 Surveys are a representative sub-sample (by state) of all practitioners to whom questionnaires were sent. An alternative to discarding data would be to mathematically adjust the weight of respondents by state for presentation of national and regional figures in accordance with the actual relation of dentists by individual states. While this alternative procedure itself may be questioned, it can be defended as being a valid statistical procedure frequently employed to take into account this very problem which frequently arises when sampling large, non-homogeneous populations.

However, the question does remain: Do the respondents constitute an unbiased sample? In addition to the marked deficiencies in the response rate (in some states as low as 10 percent in the 1965 and 1971 Surveys) and a later discarding of approximately 50 percent of the responses to permit a more representative distribution among the states, the Bureau reports in all three Surveys that for various reasons (including practitioner retirement and the exclusion of dentists in the armed services) the ages of respondents do not compare favorably with the ages of the general population of dentists (i.e. respondent dentists between the ages of 30 and 54 are over represented com-

*The standard error of the mean is a measure of sampling error. It is basically calculated by dividing the standard deviation of the sample by the square root of the number of replies. Therefore, the smaller the sample, the smaller will be the denominator of the fraction, with a resultant increase of the standard error.

pared to the general population of dentists).[6] No effort is made in the Survey report to weight the data to correct for the age discrepancies between respondents and the nonretired members of the general population of practitioners.*

It should be emphasized that the means reported in the Survey are actually the *sample means* and as such has a certain variability associated with them; i.e. the sample variance and the sample standard deviation. The power of a statistical approach to a problem lies in the ability to estimate the population means from the sample means. However, the price that is paid for working with only a small sample of the population; rather than with the entire population, is the degree of uncertainty about the estimates of the population mean. Thus the population mean cannot be defined exactly, but only can be stated to lie within a given interval with a given level of confidence.† (See Appendix C.)

There is little argument with the fact that actual differences in mean net income exist between various categories of dental practice, geographic locations, age of dentists, etc. as reported in the Survey.

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*The Bureau's continual emphasis on numbers rather than the representativeness of the respondents may be demonstrated further in the presentation in Table 6 of the 1971 Survey – Average income of dentists by region and state, 1970. No figures are reported for the states of Alaska and Delaware. A foot note indicates that the absence of figures for these states was due to the fact that too few replies were available for reliable statistics. However, if the response rate for each of the states is reviewed (this information is available only if one consults the different monthly issues of the *Journal of the American Dental Association* in which the results of the Survey appeared) it will be found that while the response rate for Delaware of 10.0 percent was the lowest for all states, 17 other states had a response rate equal to or less than the response rate for Alaska.[7]

†The Survey frequently neglects these considerations in its presentation and assumes that a sample mean *equals* population mean. Note the following examples.

Based upon the estaimtes of the population means (i.e. sample means), rank ordering of various sub-populations was made for several categories. In the 1968 Survey, from Table 7 – Average income of nonsalaried dentists by size of city and average income of nonsalaried dentists for five large cities – it was reported that Los Angeles, with a mean net income of $28,192, was a "close second" to Detroit, which had a mean net income of $28,516 – a difference of $324.[9] Sampling variability alone could account for such minimal differences; the two cities, there may actually be no statistical difference.

In the 1971 Survey, a similar comparison was made regarding the information about the number of part-time and full-time positions in an office. The net income of two different office configurations differed by $371. Whereas in the previous example a difference was considered when a $324 "gap" existed between the two groups, in this example the $371 difference was considered to be "insignificant" and the income was considered to be "about the same" for both configurations.[10] Suitable statistical tests could have been used which would have indicated whether in fact there was or was not a difference.

However, if as the Bureau states, that the data collected provides a basis for the preparation of legislative testimony, the determination of the adequacy of the supply of dental service as well as other significant purposes, then it behooves the Bureau to present a statistically sound document!*

Perhaps one of the major factors that may account for the low response rate may be the questionnaire itself. One notes a great similarity between the 1965, 1968 and 1971 Surveys. The questionnaires consisted of 35 (in 1965 and 1968) and 40 (in 1971) multistep fixed alternative or short fill-in questions. The questions, while covering only four pages, were at times extremely complicated and required a detailed knowledge of one's income tax return. In a number of instances questions asked the respondent to perform mathematical procedures which served to clutter the form and which could be more effectively performed by the Bureau's computer (e.g. in the 1971 Survey – item 13 minus item 14 should be entered in item 15).[15]

No opportunity is afforded in some questions to indicate a negative reply. Without such an option it is impossible to ascertain that the absence of a reply does not indicate that the question was missed (e.g. in the 1971 Survey – item 3C; name of city in which dental income was earned. The directions state to check if the name of the city is listed. No opportunity is afforded to check "none of these").[16]

In addition, the respondent is at times requested to report approximate figures for a period which is well beyond the practitioner's recall without an extensive review of his records (e.g. the number of patients and patient visits during an entire year).

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*For example: statements in the text of the 1971 Survey report that

Nationally, the 1970 mean net income for independent dentists was $30,7770. . .[11]

The 1970 mean net income of salaried dentists in the United States was $18,376. . .[12]

These descriptive data are presented in this form despite the fact that for independent dentists the standard deviation for this data was $17,541. Thus, for plus and minus one standard deviation the income for independent dentists was between $13,229 and $48,311; i.e. 68 percent of the incomes reported varied between the latter two figures.[13]

It is all but impossible to establish the similar figures for all salaried dentists since no standard deviation is presented for this category. However, using the mean net income for the category, employed by another dentist ($18,203) with a standard deviation of $14,426, the comparable figures for plus and minus one standard deviation varied between $3,777 and $32,629.[14]

Surely with such a large variation, no statement of mean net income should ever be made without accompanying it with the appropriate measure of variation.

While it is possible to continue to itemize particular problems related to the questions, their lay out and their order within the questionnaire, it is no doubt possible to mount a series of arguments to establish the need to retain each of the queries and the current format. However, since approximately 80 percent of the questionnaires are not returned to the Bureau surely some serious evaluation is necessary to determine what information is essential and what information is being requested because it would be "nice to know". Such an effort might simplify the questionnaire and possibly encourage more practitioners to respond.*

As previously noted, the Survey's presentation is in terms of a series of tables of means and medians with very infrequent presentation of the standard deviation and sampling error. Interspersed between the tables are short statements which direct the reader's attention to highlights of the particular table or figure. On occasion, the statement makes reference to previous Survey findings.

It is of particular interest to note that in the report of the 1968 Survey there is no indication of the actual number of respondents represented by the percentage breakdowns in any of the 86 tables and three figures. The 1971 Survey similarly does not report the number of respondents represented by the percentage breakdowns in any of the 115 tables and the three figures. The reader must return to the general introduction to the Survey (which is not available in each issue of the Journal of the American Dental Association as the particular section of the report is published) to learn for example that an entry in Table II – Percentage distribution of independent dentists by net income and according to type of practice, 1970 – of 1.6 percent for periodontists with a net income between $54,950 and $59,949 represented between one and two respondents[17] out of the 4,591 practitioners represented in the table.†

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*Unfortunately, relief is not on the way. The questionnaire for the 1973 Survey of Dental Practice – was only a minor modification of the previous questionnaires. While an extensive section on itemized fees has been included, the respondent is confronted by a similar aray of confusing and complicated questions with no opportunity to answer questions with the "none of the above" reply (e.g. 4C – Name of city (check if listed) –).

†This determination is possible *only* after using Table 10 – Average income of dentists by type of practice, 1970[18] – to determine the number of periodontists by multiplying the percent of all respondents who were periodontists by the 4,591 respondent figure – since this is a nationwide table – and then multiplying the resultant figure by the 1.6 percent figure in Table II. *Surely there must be a better way to present the data, IF* such data really must be presented.

At this point in the discussion it may be of interest to restate some of the purposes of the Survey. The data should provide the practitioner a comparative guide, and for the health planner and researcher the data should provide some of the needed information with which he can perform his activities. In our opinion, the presentation adopted by the Bureau tends to fall some place between the interests and needs of the practitioner, and the health planner-researcher, but being satisfactory to neither group.

For the practitioner little effort to graphically present the material in readily understandable form is provided. The long series of compact tables with only a short explanation and limited references to changes over time only serve to confuse and repel the practitioner, and merely direct him to "see how he is doing financially" in comparison with other practitioners.

For the health planner/researcher – the information is presented too crudely, with little to no discussion of the statistical validity of the data, relations between variables, changes over time or the comparability of the information to other relevant data (e.g. the Consumer Price Index).

For these many reasons it will be suggested that two separate though related reports should be developed – one for the presentation of data for the practitioner, the second, for those more concerned with planning and research activities. The presentation of the more detailed report actually may serve as an appendix to the general presentation for practitioners.

SUGGESTIONS

How might the Survey be designed to increase the reliability of the data – given the major constraint of a limited budget? Heretofore, the Survey has been involved in an attempt to secure data by almost a census procedure. Instead of attempting to glean information from more than 30,000 or 40,000 practitioners, efforts should be directed to secure a much smaller representative, but valid sample from which data may more readily be secured in a reliable manner.

Membership in the American Dental Association is possible only by membership in a state and component society (except for members of the military and graduate students – the former of which are specifically omitted from the Survey). Given this network of existing administrative bodies it may be possible to alter the design of the Survey and possibly increase the rate of questionnaire returns.

1. The Survey should be prepared by the A.D.A. central office.

2. The practitioner to be queried should be selected by the A.D.A. central office.
3. Copies of the Survey questionnaire should be forwarded to the local societies of which the selected practitioners are members. The local societies would then distribute the questionnaire to the selected practitioners. there is a much closer working relation between the local society and the practitioner which would hopefully serve to increase the response rate.

   Needless to say, an appropriate measure for maintaining the confidentiality of the information collected will have to be taken so as not to inhibit those dentists selected from supplying accurate information.
4. The local society would be responsible for a concerted effort to reach by mail, telephone, or personal contact, the selected practitioners who failed to return the completed questionnaire. This last procedure would permit some analysis of the particular characteristics of nonrespondents.

While this approach would be unrealistic if we chose to include tens of thousands of practitioners in the sample, a considerable reduction of the sample size would result in most local dental societies being responsible for at most a few dozen practitioners. Though this approach would not guarantee the return of all questionnaires it would provide a mechanism by means of which it would be possible to achieve a very high response rate as it would now be possible to permit some direct contact with those selected members who did not respond initially – given the major limitations of a restricted budget which prohibits personal interviews.

SUMMARY

In summary, the following recommendations are suggested to improve the quality and reliability of the profile of dental practice in regard to the actual sampling procedures.

1. Refine and update the experimental design based on information about the population of dentists obtained from previous Surveys. Feedback information of this type would provide a basis for increasing the validity and reliability of the Survey.
2. Stratify the nonretired members of the Association in terms of state of residence, as well as by other known variables (e.g. age, date of graduation from dental school, specialty, etc.).

3. Randomly sample practitioners from each state and characteristic stratum.
4. Mathematically adjust the weight of the respondent data for the presentation of figures in accordance with the actual relation of dentists by state and characteristic strate – *don't discard data.*

Turning to the questionnaire itself:

1. Eliminate questions which require a complete breakdown of all financial citations – use overall figures.
2. Eliminate clutter questions which require mathematical procedures which can be more readily carried out by computers.
3. Use particular periods of reference rather than complete years (e.g. How many patients have you seen in the past week? How many hours do you work during a busy week: a slow week?).
4. Use an ordering of questions such that the more complex questions (if they must be asked), are not bunched early in the form.
5. Provide for negative answers to assure the reviewer that the question was not skipped.

Finally, the presentation of the data: *For the practitioner*

1. Eliminate the "shot-gun" approach of listing tables for all variables. Concentrate on material of particular interest to the practitioner (e.g. expenses, income, the affect of auxiliaries in a dental practice).
2. Make extensive use of graphs and simple tables – eliminate meaningless or insignificant results.
3. Use comparative graphs and tables to indicate trends over the course of several surveys.
4. Use the text to direct the practitioner's attention to those points which would be of particular interest to him.

For the planner/researcher

5. Provide a total breakdown of all relevant data with indications of the numbers of respondents for each question, the means, standard deviations, sampling errors, etc. which would provide these workers with a more accurate picture of the delivery of dental care.

While the development of these "separate" reports may entail some added expense, the added value attained would more than compensate for the costs involved.

The Survey of Dental Practice *can* provide an accurate picture of the business aspects of the practice of dentistry. However, until such time as future Surveys provide the necessary accuracy, extreme

caution should be exercised when using data derived from the Survey of Dental Practice.

Hopefully, the data analysis and presentation for the 1973 Survey will show some improvements.

Appendix A

Estimation refers to the technique of determining the value of population parameters (e.g. the mean income of all dentists) from a sample statistic (e.g. a sample mean or average) based upon observations. All estimation procedures based on sampling techniques are subject to experimental variability defined by the variance of the sample. (The standard deviation, by definition, is the square root of the variance.) At best, all that can be said about an estimated population parameter is that it lies within an interval equal to some multiple of the value of the standard deviation of the estimator at a specified level of confidence. This is based on the fact that the sampling distribution of means is normally distributed with a mean equal to the population mean and variance equal to the sample variance divided by the number of observations in the sample. A definite relationship exists between the sample size, the population standard deviation and the level of confidence. The estimated population standard deviation is inversely proportional to the sample size. For a given level of confidence, the width of the confidence interval that is expected to include the true population mean is directly proportional to the population variances or standard deviation.

Appendix B

The precision of the sample estimate of a population characteristic reflects the homogeneity of the population with respect to the given characteristic. If it is believed that the population is not homogeneous with respect to a certain characteristic, then more sophisticated techniques other than simple random sampling are in order. These procedures divide the population into several disjoint and exhaustive strate which are then individually randomly sampled in proportion to the size of each stratum to the entire population. This sampling procedure would allow for the estimation or the population characteristics, as well as for the determination any statistical differences between the strata by the use of analysis of variance techniques.

In addition to this proportional stratified sampling technique., a procedure exists which minimizes the sample variance even further.

However, the use of this technique (optimal stratified sampling) requires more knowledge about the population strata than is required for proportional stratification procedures or simple random sampling.[4]

Appendix C

The concept of a sample mean and sample standard deviation infers the existence of a distribution which characterizes the population from which the sample was observed. The form of the distribution may be known e.g. normal, exponential, etc.) and the purpose of sampling is to derive an estimate of the distribution parameters in order to completely describe the population. Once this has been done, it is then meaningful to speak of the probability that some specified population value (e.g. a gross income amount) lies between two specified values or bounds.

However, there are cases where the form of the distribution characterizing the population is not known, and perhaps cannot be determined. Subject to some fairly loose mathematical constraints, it is still possible to determine the proportion of the population included between upper and lower limits (e.g. upper and lower values for gross income) with a specified level of confidence. By specifying an upper and lower sample value (e.g. gross income) the sample size can be chosen so that it would be possible to state, with as high a degree of certainty as desired, that at least a given proportion of the population will have a gross income between the two specified sample values.

It would appear that using this form of reporting for some of the Survey results would be of greater value than simply stating the mean income and standard deviation – especially when the actual distribution of incomes is unknown. (While the Survey does report – in two of its tables – the percentage distribution of dentists by net and gross income, no indication of the level of confidence of these figures is reported.)[8]

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7. ibid. Table I. Method of sampling states and percent of questionnaires returned.
8. ibid. (p398-9) Table 3. Percentage distribution of dentists by 1970 net income, according to type of employment; Table 4. Percentage distribution of independent dentists by 1970 gross income.
9. *The 1968 Survey of Dental Practice.* op. cit. (p9)
10. *The 1971 Survey of Dental Practice,* op. cit. (p638) See Table 13 – Mean income of independent dentists by number of auxiliary personnel, 1970. Note: The mean net income for the following practice configurations:
    (2 part time positions–$24,620)
    (1 full time position–$24,249)
11. ibid. (p398)
12. ibid. (p402)
13. ibid. (p400) Table 6. Average income of dentists by region and state, 1970.
14. ibid. (p399) Table 5. Average income of dentists according to type of practice organization or employment.
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Ethics Courses in The Dental Curriculum

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Dental ethics was considered a necessary subject in the dental curriculum of the 19th century,[2] and the Council of Dental Education expects to find it in today's dental education also. The subject appears to be a delicate one, however, and the teaching of dental ethics is likely to be considered a difficult task by many educators. This characteristic of dental ethics, in addition to being a necessary part of dental education, incites some provocative questions. How is it actually taught and integrated in the curriculum? How is the subject looked upon by dental students?

The purpose of this report is to provide some answers to these questions. More specifically, this report will relate how the formal teaching of dental ethics was implemented in 1968-69 at 20 schools of dentistry in the United States, what dental students expected from prospective courses in ethics, and how the students evaluated instruction received in the subject.

Data Collection

Data on the teaching of ethics were collected in the spring of 1969 from 20 schools of dentistry in the United States. The schools were selected to include only schools with separate administrative units, mainly departments, of preventive and community dentistry. Information concerning the teaching of dental ethics at the 20 schools was obtained from (1) documents (official course catalogues, curriculum reports, and course handouts), (2) the chairmen of the departments of preventive and community dentistry, and (3) dental students.

Dental students at 17 schools also described their perceptions of instruction in the subject. (Due to pretesting procedures the students at three schools were not asked the specific questions about instruction in ethics.) The departmental chairmen provided their information in personal interviews, the students on a take-home questionnaire.

A class-stratified random sample of 40 students from each of the 17 schools was selected. This sample included 68 classes with 10 students in each. Data from eight classes could not be used, however, either because they had on-going ethics instruction at the time data collection began, or because the teaching of ethics was so diffuse that the students contradicted one another on the question of whether they had actually received instruction in the subject. Subsequently, 600 students remained in the study. Of these, 34 did not answer the questionnaire, and 88 gave answers which were incomplete. Data from 478 students (70 percent of 680 and 80 percent of 600) were used in the analysis.

Students who answered "yes" to the question: "Have you had a course in Dental Ethics yet?" were asked to evaluate that course. Those who answered "no" were asked to indicate their expectations in regard to having a course in the subject. The evaluation was made by checking seven bipolar adjectival scales below the concept "Course in Ethics." The scales, each divided into seven steps, were important-unimportant, appropriate-inappropriate, useful-useless, valuable-worthless, meaningful-meaningless, effective-ineffective, and exciting-boring.

THE TEACHING OF DENTAL ETHICS

Interview data, which were obtained from chairmen of departments of preventive and community dentistry, indicated that ethics was taught at all 20 schools. Information provided by students and documents failed, however, to support the interview data at three schools. The instruction in ethics was under the aegis of the departments of preventive and community dentistry at 15 of the 17 schools.

Dental ethics was generally introduced to senior students (at 11 schools). Seven school claimed to present their first year students with dental ethics, but the students at three of these schools were unable to identify any course or course unit in ethics during their first year of study. The three schools with this contradictory

information were supposed to teach ethics in general orientation courses. But one school taught ethics to sophomores, and one to junior students.

Three of the four schools, with instruction in dental ethics to freshman students, returned to the subject during the senior year. Otherwise, the subject appeared only once during the four years of dental study.

Lecturing was the modal method for presenting the subject. One department of community dentistry used material for programmed self-instruction. One lecture course particularly emphasized its use of case reports to illustrate certain ethical problems.

Three schools taught dental ethics as a separate course, but it was more common to find ethics taught together with jurisprudence or together with subjects such as practice management, dental history, and "social and economic relations in dentistry."

The median number of hours devoted to dental ethics was nine at the 17 schools where the subject could be identified. The minimum number of hours was two, maximum 24. The school, which had allocated 24 hours to dental ethics, had scheduled 16 hours for its freshmen and 8 hours for its seniors.

More detailed information was obtained about 13 courses. Three of these included instruction on "ethical procedures and disciplines expected of dental students." The most commonly mentioned aspects were usually related to rules of conduct of dentists in relation to their patients and to their professional colleagues. Moral obligations to the community and to the society in general were also mentioned in some course descriptions.

STUDENT EXPECTATIONS

The relevance of ethics as a part of dental education was not questioned by the 352 students who had not received instruction in the subject: Three percent rated a prospective course in the subject as irrelevant and six percent were netural. The modal student (44%) rated a prospective course in ethics as very relevant, and all 46 classes (at 15 schools) had mean ratings above neutral.

No significant differences were observed among the classes, the schools, the regions, or among the four class levels. Private and public schools did not differ significantly, but a statistically significant interaction was observed between class level and type of school. The practical implication of these shifts was rather minimal, however.

The students expected the subject to be relevant in all types of schools and at all levels.* Figure 1.

The expectations on a prospective course in ethics was significantly greater ($p<.01$; t-tests, sum of difference scores) than for a prospective course in public health, epidemiology, statistics, and dental history (largest difference). No significant differences were observed between an anticipated course in ethics on the one hand and anticipated courses in jurisprudence and human behavior on the other. The relation to human behavior had to be qualified, however, since the insignificant overall difference was violated by significant differences on the freshman ($df = 81$; $p<.05$) and senior ($df = 22$; $p<.01$) levels. The freshman and senior students considered ethics as more relevant than human behavior, while the opposite seemed to obtain for the two intermediate levels.

COURSE EVALUATIONS

Sixty-five percent of the 126 students, who had experienced courses in dental ethics, were favorable to these courses; 26 percent of the students were unfavorable; eight percent were indifferent or ambivalent. The 126 dental students were found in 14 classes at 10 schools.

The 14 class means ranged from 1.36 to 6.16 on overall favorableness (sum of all seven scales, alpha coefficient .97). Two classes had mean ratings around neutral, three on the negative side, and nine on the positive side. The difference among the 14 classes on overall favorableness was highly significant statistically ($F = 9.03$; $df = 13, 112$; $p<.005$).

The difference also pertained to individual scales, even if the classes were distributed variably on the different scales. For instance, five of the 14 classes rated their instruction in ethics as positive on the scales of exciting-effective, while 10 classes were positive to their instruction on the scales of important-appropriate.

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*Statistical analyses were carried out by means of two-way analyses of variance, fixed factors, unbalanced designs, least-squares solution.[10] Class level was tested against (1) school, (2) school type: (a) public, private, (b) public, private denominational, private nondenominational, and (3) region: east, south, central, west. The only significant variance ratios were those of interaction between class level and school ($F=1.65$; $df=22, 249$; $p<.05$), and class level and type of school (public, private: $F=3.03$; $df=2, 309$: $p<.05$; public, private denom., private nondenom.: $F=3.13$; $df=4, 276$; $p<.05$). Relevance was defined as the sum score of the five scales of important, appropriate, useful, meaningful and valuable, alpha coefficient .93.

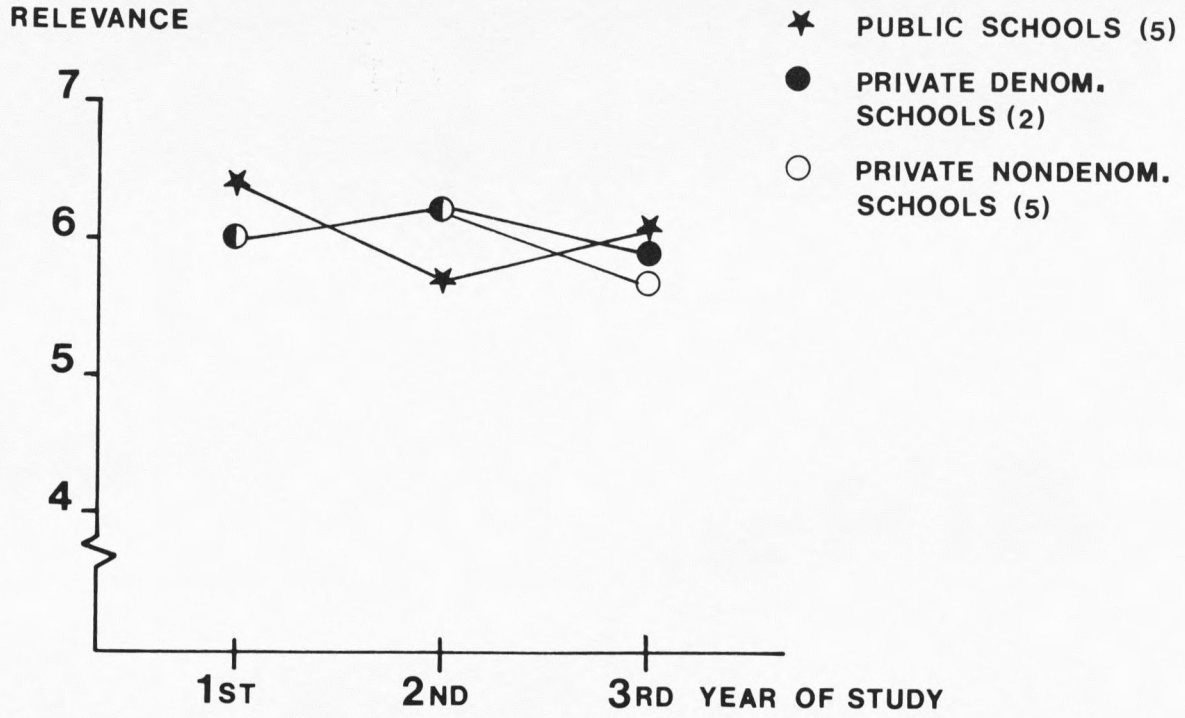

FIGURE 1. Expected relevance among dental students at 12 schools in regard to a course in ethics by class level and type of school, spring 1969.

The small number of classes available made it impossible to carry out any elaborate statistical analysis of student evaluations in relation to sequencing and repetition, hours of instruction, integration with other subjects, region, class size, or type of school. Simple cross tabulations suggested, however, that type of school (private vs public) was associated with course evaluation. The private schools (three in this group) had an average rating of neutral while the seven public schools had an average rating of one score above neutral. The private schools were associated with a larger number of course hours, but no association was observed between course evaluation and the number of hours when controlling for type of school.

The four lowest class means all belonged to one denominational school. Two students from this university added unsolicited negative critique of their course in ethics, which they classified as theology and unrelated to dentistry.

Students who had received instruction in ethics and also in other subjects described their instruction in ethics more favorably than their instruction in epidemiology, dental history, and statistics (largest difference), but less favorably than their instruction in jurisprudence. No significant difference was observed between ethics and human behavior. The relationship to public health had to be qualified by year of study: Ethics was preferred over public health among juniors and seniors, while the opposite was true for freshmen and sophomores.

RELATION BETWEEN EXPECTATIONS AND EXPERIENCES

A "patch-up" comparison of mean scores of students who had received instruction in ethics in dental school with mean scores of students who rated a prospective course in the subject suggested that the instruction was disappointing to many students, and the disappointment seemed to be related just as much to the relevance of the subject (important, appropriate) as to the manner in which the course was presented (effective, exciting). Figure 2.

DISCUSSION

Parrish has claimed that "dental teachers must recognize their responsibility to develop each student's ethical and professional qualities as fully as possible."[4] If they have accepted this responsibility, they do not seem to be very successful.[3,4] The question of

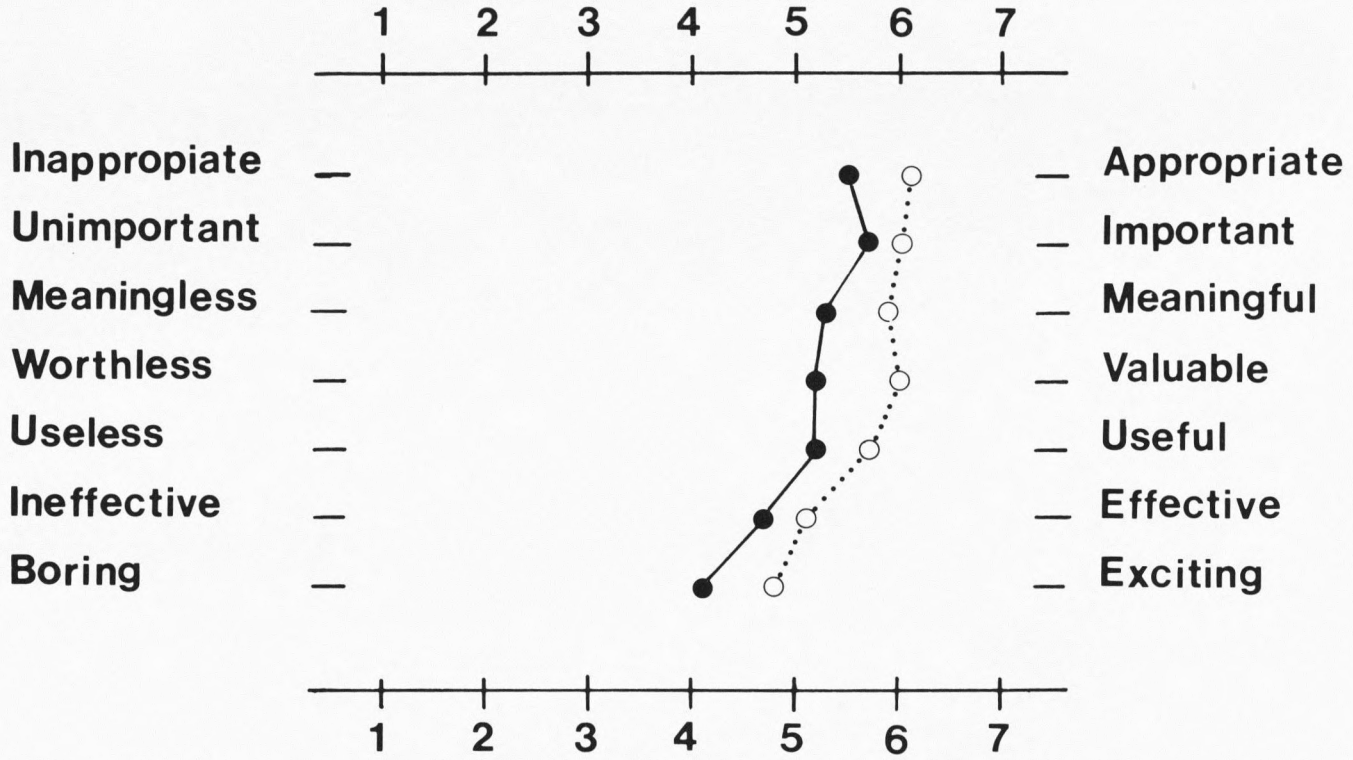

FIGURE 2. Mean expectation scores (133 juniors and seniors, broken lines) and mean experience scores (107 juniors and seniors, continuous lines) in regard to courses in ethics, spring 1969.
(The graphical comparison is made for the last class levels since few students from the first two years had experienced courses or course units in the subject. The profiles were still about the same using information from all levels.)

what a course in ethics could accomplish must be posed. According to Veatch & Gaylin[9] and Closer,[1] the objective of such a course is not to make the student more "moral." The objective should rather be to alert the students intellectually to ethical dilemmas in the practice of their professional responsibilities. "In short," Closer says, "the teaching of medical ethics will not produce quick diagnosis, ready remedies, and catechismic responses. But it should increase awareness, sensitivity, and intelligence with respect to ethical issues within medicine. It is no 'Merck's Manual,' but it is moral maturity."[1]

The courses in ethics in 1968-69 at 13 of the 17 schools with such courses seemed to concentrate on lecturing on "rules of conduct for dentists." No course was described as giving the students an opportunity to discuss and intellectually penetrate ethical dilemmas in the practice of dentistry. The majority of courses appeared to be rather moralistic in the presecription of "right action." This observation might explain the disappointment in regard to relevance, which was suggested by the comparison of students who had experienced courses in ethics with students anticipating instruction in the subject (Figure 2).

No course in dental ethics invited the students to penetrate ethical issues either intellectually or emotionally. All courses were taught to impart "knowledge." Even the course which emphasized the inclusion of case studies presented these in lecture form. This situation was in line with an observation from the fall of 1968 which revealed that only seven of 59 teachers in preventive and community dentistry accepted the idea of activiating and actively involving the students in the teaching of ethics.[7] The majority of the same educators (58%) recommended the monologue of lecturing; some were obviously preaching during the same year.

Three of the 20 schools seemed to have done what five percent of the previous educators suggested: eliminated the subject as an identifiable unit. But instruction in the subject was most probably provided outside the official curriculum, and although such a policy might be workable, it is difficult to document, and likely to be poorly implemented. For instance, in a detailed survey of one school's overall teaching of preventive and community dentistry subjects, involving interviews with 99 teachers representing all courses and 86 students representing all class levels, it was found that the "hidden" instruction in ethics covered one hour of general medical ethics and three and a half hours of dental ethics. This

instruction was provided in an uncoordinated way by nine departments during four years of study. The students considered this unofficial instruction in ethics as most shallow and unsystematic. According to the students, only one teacher (a medical professor in general anatomy) was giving the subject any serious attention.[5]

Consequently, formal and in the curriculum identified instruction in ethics seems to be justified. Perhaps an arrangement such as the one which has been implemented at the Columbia University Medical School, with 10 lectures during the second year, discussion seminars, clinical case conferences and workshops during the third year, and seminars plus elective internship in ethics during the fourth year, could be attempted.[9] Another possibility could perhaps be found in the production of scenarios for role playing which could be used by several schools. The role playing method at least has the capability of actively involving the students in the ethical issue under discussion. Small group discussions could also be centered around books such as those by "Paul Revere"[6] and Sherlock & Morris.[8] But most important, as elucidated in this study, each school ought to institute a continuing feedback system of these courses in order to avoid the perpetuation of unacceptable instruction in the subject. As observed, the four most unfavorable class ratings all came from one single school, which presented an alienating course in ethics to its first year students. In addition, an early and better introduction to the instruction in ethics seems to be warranted in order to avoid unrealistic expectations and frustrating experiences.

ACKNOWLEDGEMENTS

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Guidelines for Professional Ethics*

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The need for professionals in American society is a top priority for the survival and improvement of the quality of our life. A professional is a person who not only possesses superior knowledge and skill, but seeks to apply this expertise for the welfare of the individual who needs his service. A real professional is not primarily concerned with personal advantage. I am pleased with the interest expressed by the American College of Dentists to achieve the highest professional conduct. The work of Dr. Robert J. Nelsen in this regard is to be commended. Dr. Nelsen has distinguished himself in a number of endeavors as a practicing dentist and researcher, and he presently is making a significant contribution to the improvement of the profession of dentistry.

The exposure of large scale corruption in our government has focused attention on a major problem deeply embedded in America's life style. The awareness of a lack of ethical discernment in high places calls for a reappraisal of our country's moral values. It has been alarming to witness many apparently successful, well educated, hard working, bright, and cleancut men – young and old – caught in the flagrant violation of the law. They were either unable or unwilling to make individual moral judgments that would oppose prevailing policy.

Two decades ago, Rollo May in a book entitled *MAN'S SEARCH FOR HIMSELF* diagnosed the root of our malady as a loss of our center of values. Although a psychiatrist, his analysis was written with prophetic insight. His description of modern man as one who has lost his values and experiences estrangement from his own authentic existence is even truer today. Politicians who are in the public eye manifest the symptoms of anxiety, estrangement, and

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emptiness that we all experience to some degree. Recently I heard a commentator observe that the home life of a number of political families was ending in divorce. He concluded with the quip that, "politics makes estranged bedfellows."

It is this estrangement from basic human values that threatens professionalism. The divorcing of personal decisions from moral values fractures one's existence and results in the exploitation of others instead of genuine care and service. Success for a professional is not defined by wealth, prestige, or even expertise but is defined in terms of the ability to apply technology with integrity. The hallmark of a true professional is integrity. Human existence is fundamentally a striving for wholeness, for reunion, for peace with ourselves, others, and God.

Recently one of my colleagues told me about an experiment in which a certain sound was projected over an incubator while eggs were hatching. Another group of eggs hatched in silence. After the chicks had hatched, both groups were mixed and then the same sound was replayed. Those chicks that had felt the vibration in the egg began to move toward the sound while the others did not. In a sense we are all listening for that sound that will lead us to wholeness, peace, and reunification. Our experience is more often like that of a newborn infant who on being forced into the world is held by the heels and slapped on the bottom. We do not experience the world as friendly and we seek to return to security and comfort. You may have heard the recent put down of Don Rickles, the master of comic ridicule, who was a recent honoree at the Friars Club. The comment was made that Don was such an ugly baby that the doctor held him up and slapped him in the face. This well expresses the recurring experience of modern man. His quest for wholeness and reunification is met with a slap in the face by a highly technological society that drives him toward isolation and depersonalization.

Alvin Toffler in his book *FUTURE SHOCK* has analyzed significant social forces that cause depersonalization. One major cause is the concept of the modular man. Urbanization, technology, and the acceleration of change in our society prompt us to form associations that are temporary and uninvolved. We cannot afford to become entangled with the whole person, so we plug into a module of another personality. We relate to another person simply for the service that we need. For example, when we go to a shoe salesman, we are not concerned that his wife is an alcoholic or that his father recently died. When a patient goes to the dentist he may not care that the dentist has a toothache or is being sued for a divorce. The

dentist may not be concerned that his patient is facing bankruptcy, until it is time for him to pay his bill. We plug into another personality for a specific service and stay detached from the whole person. This makes it possible to cope with the many rapid contacts of modern society. But, at the same time this lack of involvement leaves one feeling empty. Many highly successful professionals experience most keenly this existential vacuum.

Leo Tolstoy, the great nineteenth century Russian novelist, portrays the mood of contemporary man in a short story entitled *THE DEATH OF IVAN ILYCH,* which my students continue to find quite relevant. Ivan was a professional, a lawyer whose career was marked by competence and success. He dealt objectively and efficiently with his clients and took care not to become personally involved with their problems. This same attitude characterized his relations at home with his wife and children. He was polite and correct, but distant. Just as Ivan achieved a respectable position with the comfort and security of a successful man, he had what initially appeared to be a minor accident. The accident, however, resulted in a serious infection that the doctors were unable to cure. Ivan lay on his death bed in excruciating pain – physical and existential – and grappled with the question of what had been the purpose and meaning of his life.

Ivan felt the hand of Death upon him attempting to force him into a forbidding black sack. As he struggled deliriously his hand touched something soft and warm. Opening his eyes, Ivan saw his young son standing beside the bed with tears of compassion flowing down his cheeks. In that brief but intense personal encounter, Ivan discovered that love was the goal of human existence. Ivan then sought to embrace death as that means of freeing his family of the burden of his agony. To his surprise as Ivan felt Death push him into the black sack, he saw light at the other end. He was being reborn by the power of love.

Tolstoy's short story is a brilliant and powerful affirmation of love as the fulfillment of human existence, but he does not attempt a definition of love. We as professionals, however, need some useful definition that will provide guidelines for ethical decision making. Paul Tillich, known as the father of contemporary theology, has provided this definition in his book *LOVE, POWER, AND JUSTICE.* "Love cannot be described as the union of the strange but as the reunion of the estranged." Love is the overcoming of the estrangement that we experience from birth. It is the power to reunite ourselves with reality and regain the wholeness of life.

Love, as the drive toward the reunion of the separated, finds its expression at four basic levels. The first level is *epithymia* (desire), which is the desire for sensual fulfillment. Man, as well as all living beings, seeks to reunite himself with that from which he is separated but to which he belongs. *Epithymia* is manifest in the desire for the fulfillment of basic biological needs, such as food, growth, sex, and group participation. The satisfaction of these desires is accompanied by a sense of pleasure; the failure to satisfy them is painful. The primary drive, however, is not the pain-pleasure principle as is often thought. The basic drive is the desire for reunion.

The second level of love is *eros*, which strives for union with the source and bearer of values. There is *epithymia* in every *eros*, but *eros* transcends *epithymia*. Since *eros* is the desire for truth and beauty, it provides the motivation for the rise of culture. As a concern for truth and the knowledge of what is real, *eros* produces science, technology, and philosophy. As a drive for beauty *eros* inspires art, ritual, and esthetics. Certainly a professional experiences the desire to know the latest technological advances and a concern to apply them skillfully. This is *eros* at work.

Philia includes the personal dimension of love. It is the personal pole of which *eros* is the impersonal. *Philia* is the drive toward friendship based on the sharing of values; therefore *eros* and *philia* are interdependent. When truth and beauty are shared *philia* is present. In a meeting of professional associates and colleagues *philia* is present in the sharing of mutual goals and experiences.

The supreme form of love is *agape*, the depth of love i.e. "love in relation to the ground of being." *Agape* does not reject the first three levels of love but rather incorporates them into itself. *Agape* strives to unite with another in order to enhance his growth and welfare. *Agape* may at times appear to sacrifice for the benefit of another but in reality *agape* is driving to actualize its dynamic nature. When the professional seeks to apply his knowledge and skill for his patient's welfare, without concern for personal prestige or monetary advantage, then *agape* is being actualized in that unique encounter. The true professional is committed primarily to his patient's well being and will not exploit his patient's need or disadvantage for personal gain. This challenge may not be compromised by pressures of the market place without the professional forfeiting his position of responsibility. Where *agape* is most fully expressed we recognize our lives together are at their best.

Eric Fromm, the well known psychiatrist, has suggested that there are four basic elements common to all forms of love. These are *care*,

responsibility, respect, and *knowledge.* Since "love is the active concern for the life and growth of that which we love," a professional will *care* for his patients. Responsibility is often thought of in terms of the fulfillment of duty, but in its true sense *responsibility* is a voluntary response to the needs of another human being. Professionals must be free to make that response with integrity. *Respect* implies the absence of exploitation and the concern that another fully develop his own uniqueness. Respect is extended to rich and poor alike. *Knowledge* is characterized by that awareness of another that seeks to penetrate beneath the superficial "game" level of an encounter to establish a genuine personal rapport.

Recently a group of Japanese college students asked Arnold Toynbee that perennial human question: "What is the meaning of life?" Toynbee, a British octogenarian who has spent his life in the study of history and culture, gave a brilliant and succinct answer. I want to conclude by giving you his answer.

But first since all answers on life's meaning are precarious and short answers are especially so, I would like to share this anecdote.

There was a successful American business man who seriously and honestly asked himself what was the purpose of it all. Increasingly anxious over this persistent question, he sold his business and began a quest for the meaning of life. After several years of travels through many strange and exotic lands, he learned of an incredibly wise and venerable guru who lived in the Himalaya mountains in an almost inaccessible cave. Driven by his quest for the meaning of life, the man endured heat, snow, flood, hunger, and fatigue, until he at last dragged himself to the door of the guru's cave. Seeing the extreme sacrifices of the man, the guru asked, "What can I do for you, my son?"

"I want to know the meaning of life," the man replied in exhaustion.

Thoughtfully and confidently the guru stated, "Life, my son, is a river without end."

"A river without end?" said the man in startled surprise. "After coming all this way to find you, all you have to tell me is that life is a river without end?"

"You mean it isn't?" asked the guru.[6]

Toynbee's answer to the Japanese students provides the guidelines for the professional stance. "I would say that man should live for loving, for understanding, and for creating."

Extramural Programs in Community Dentistry*

CLIFTON O. DUMMETT, D.D.S.**

INTRODUCTION

During the past two decades there have been an increasing number of criticisms of the methods and systems in the delivery of health protection in the United States. Inequities in care delivery, and inadequacies of services utilization became targets for indictment. Disadvantaged citizens suffered with indigence, insufficiency, and indignity, and through it all, traditional constraints in the medical profession prevailed.

There was little change and less challenge in the practices and principles of the providers of health services, and not until dissatisfactions appeared among many of the blue and white collar sectors of the population did some symbolic arrangement of the health professions occur. Practices were then questioned, and policies earnestly attacked.

Defensively, those responsible for the education and production of health personnel began the tedious process of introspection which finally culminated, first in the acknowledgment that much was wrong, and then in the determination to implement immediate and sweeping changes. Health educational institutions which in the past have been concerned mainly with imparting knowledge about technics of management of specific diseases, have now found it necessary to espouse scholarship, to develop new plans in pedagogy, and to improve what is being done to increase the number and productivity of health personnel. Like medical and nursing institutions, dental schools have been affected and are now thoroughly involved with auxiliary utilization, extension of technician duties, teamwork, research, community and preventive dentistry, continuing

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education, curriculum condensation, minority recruitment, and several other innovations which only a decade ago, would have been unwelcome.

TREND TO EXTRAMURALISM

One of the innovations of the departments of community dentistry in a number of American dental schools has been the moving of dental students out of the school clinics, and into previously isolated, neglected, urban and rural areas. Such a practice cannot help but extend the horizons of a profession, whose members had come to regard as inviolable, the singular and unilateral custom of ambulatory patients coming to private offices at regularly appointed hours, in order that dentists might effectuate clinical services under conditions of time and location most convenient for them. Schools will have to be on the alert to avoid the hyprocrisy of camouflaging self-interest under the guise of humanitarianism. In addition, the mere substitution of extramural laissez faire for intramural discipline would not be a praiseworthy eventuality. Dental schools must insist upon their students fulfilling clinical requirements, but not at the expense of exploitng clinic patients who, in the main, come from the underprivileged elements of our society. Extramural programs must provide students with the opportunity to acquire an appreciation for the wholeness of the individual as a dental care concept, together with an understanding of the community of which the individual is a part.

THE MEED PROGRAM

In 1969, an extramural program for the senior students of the School of Dentistry at the University of Southern California was devised with the above-named objectives in mind. The program was identified as MEED (Multiphasic Experiences in Extramural Dentistry), and it used a series of outlets for student assignment in a class of 120 persons. The outlets comprised:

1. The *Dental Ambassadors Mobile Dental Clinic* first initiated by Dr. John Ronnau, a former professor or oral surgery at USC who used his own plane and facilities to journey to work on under-privileged persons in rural Mexico. This program is now under the direction of Dr. Charles Goldstein. Generally speaking it is a student-administered activity. These 15 or 20 students presently engaged in this program spend week-ends rendering

dental care to migrant workers in rural California. The services consist of emergency care, placing of sedative dressings, uncomplicated restorations, prophylaxes and preventive dental health education. The students accomplish all of these procedures under the supervision of licensed dentists who assign credits for the work done.

2. *The Max Schoen Clinic* which is an example of successful private dental group practice. This activity serves as an extramural outlet for 18 students.
3. *The Don G. MacQueen Dental Clinic of California,* services the culinary workers. This long-standing, well established clinic promotes a high quality of dental services. 8 to 10 students are furnished extramural experiences at this center.
4. *The Robert L. Taylor Dental Clinics* are the PTA clinics for children up to 14 years of age. This center accommodates 8 students giving them an appreciation of some of the rewards, and many of the problems in delivering dental services to youngsters 14 years and under.
5. *The Charles S. Jones Dental Clinic* supplies dental care to the Retail Clerks Fund Benefit Workers Union Local 770. An additional 15 students assigned to this clinic observe and learn about the administrative problems in the delivery of care to this sector of the population.
6. *Veterans Administration Hospital.* These institutions represent one of the most productive avenues for fully integrated extramural experience. Specifically designated teaching hospitals are associated with medical and dental schools, and are therefore in the best positions to stimulate appreciation of the reciprocal relations of education, service, and research functions. 10 to 15 students are accommodated in this encounter.
7. *Non-Federated Hospitals.* Three hospitals differently oriented in size, organization, and specialty were selected for visitation. The Los Angeles County University of Southern California General Hospital enables students to appreciate some of the problems and difficulties of handling an unparalleled demand for inpatient and outpatient care. This experience for about ten students is in addition to those assignments which are already a part of their oral surgical experiences. Rancho Los Amigos is a county hospital of 1200 beds, devoted to the care of the physically handicapped, while El Cerrito hospital is a well-organized, 280 bed institution devoted to rehabilitative, general medical

and surgical patients. Each of these two latter hospitals accommodates 5 students.

8. *Private Office Apprenticeship.* The Department of Community Dentistry has been fortunate enough to enlist the aid of some fifteen local dental practitioners who indicated a strong interest in serving as preceptors, and having students spend some time in their offices. Among the things which the students are encouraged to observe are the general atmosphere in which clinicians effect their professional services, their relations with patients, the attitudes of auxiliary personnel, the quality of services rendered, office management and patient records, oral diagnosis and treatment planning, practice management techniques including remuneration for services rendered, handling of difficult patients, and clinicians' philosophies about the best ways to reduce the accumulation of dental diseases in the American population. Private practitioners are urged to include other topics which they deem important. The main point is to expose students to the many methods of rendering professional services to the American people, while at the same time acknowledging the key role of the private practice of dentistry. Evaluation forms are supplied to both practitioner and apprentice so as to provide an opportunity for each to make pertinent recorded observations which in turn serve as bases for later classroom discussion and faculty seminars. These apprenticeship arrangements accommodate fifteen students and have proven to be one of the most successful and rewarding facets of the MEED program.
9. *County of Los Angeles Health Department.* This extramural experience for about twelve students acquaints them with the programs and functions of an institution dedicated to the people's health through inspection and review of the environment. The Bureau of Public Health Dentistry, Department of Health Services furnishes information about the practical programs of oral disease prevention, including the use of fluorides and dental health education.

In addition students visit the El Monte, Hollywood-Wilshire and East Los Angeles Health Centers which serve as Neighborhood Health Center outlets. These centers represent one of the best potentials for medico-dento-social teaching about the delivery of care inasmuch as they can sensitize dental students and auxiliaries about the interrelationships or oral and general health. The provision of a limited

number of job opportunities for community residents, and the probability of recruitment of young people for training as dental auxiliaries are additional experiences to be gained at Neighborhood Health Centers.

The keys to these intellectual experiences in health care delivery are organization and supervision. Most students have indicated some satisfaction with their assignments, and have become convinced of dentistry's responsibility to care for the nation's oral ills. Moreover, they now see the need to use as many systems as feasible in accomplishing this goal. Some students concluded that private solo practice continued to be the choice method of delivery of dental services, even though they questioned many procedures they saw in private offices visited. Others implied that because dental disease is so widespread, it is impossible to take care of the dental ills of the entire nation. As a result, a system of priorities would have to be developed and first on their list of priorities would be those persons ready, willing and able to pay for services rendered.

A few students held that the experiences were a complete waste of their time, which could be better utilized in fulfilling their restorative requirements. Other students insisted that they wanted to participate in all or most of the different assignments in order to evaluate more completely the relative merits and liabilities of these extramural experiences.

It should be emphasized that in addition to those mentioned, there are a number of other outlets which can and should be employed whenever conditions warrant. Included among these would be the University's Student Health Center and its Center for Urban Affairs, OEO Neighborhood Health Centers, Free Clinics, Children's Hospitals, Oncology clinics, Nursing homes, domiciliaries, physical and mental rehabilitation centers, welfare clinics, and specialized health centers. In every one of these instances, these are experiences from which dental students can gain much insight about human beings and their regard for the importance of health services. There is the need to understand the persons to whom dentists minister, as well as the necessity to cooperate with other providers of health services. These are all undeniable objectives to which present-day dentistry must be fully committed. The attainment of these objectives will help to impress upon the American people the fact that dental care is a health service about which they must become better informed, and which they must seek, if they are to achieve the high standards of health and happiness to which they are entitled.

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NEWS OF FELLOWS *(Continued from page 214)*

Hugo M. Kulstad, pedodontist and past president of the Los Angeles Dental Society, the Southern California Dental Association, the American Society of Dentistry for Children, the International College of Dentists, and former vice president of the American Dental Association has received some singular honors within recent months. The Kern County Dental Society presented him with a plaque in recognition of "devoted services in promoting dentistry locally, nationally and internationally." The California Dental Association dedicated its 1974 meeting to Dr. Kulstade, "a great dentist, a fine professional and a warm compassionate human being," in honor of his years of service. Shortly thereafter, the Hevada Dental Association dedicated its 56th annual session to Hugo and Mildred Kulstad and presented them with honorary memberships, in tribute to their many years of service to the profession. Mrs. Kulstad is a charter member and past president of the Women's Auxiliary to the ADA.

Mildred and Hugo Kulstad receiving a plaque from Nevada Dental Association President Robert Morrison (second from right). Also present to honor the Kulstads were ADA President-elect L. M. Kennedy and 14th ADA District Trustee Eugene Savoie.

Book Review

The First Fifty Year History of the International Association for Dental Research. Frank J. Orland, (Ed.), ix + 417 pages, Chicago, The University of Chicago, 1973.

The beginning of a society devoted to dental research was the idea of the famous Dr. William J. Gies of Columbia University, a non-dentist whose report in 1926 established one of the foundations of modern dentistry, namely, that dental schools should no longer be proprietary but affiliated with institutions of higher learning. As early as 1917 he proposed that a publication recording the efforts of dentists doing research be established; and thus, two years later the *Journal of Dental Research* was started. In addition, he also conceived the idea that there should be an organization where men could meet and exchange and develop their ideas on research in dentistry – thus in 1920, twenty-two men gathered at Columbia University and launched the International Association for Dental Research.

Dr. Frank J. Orland of the University of Chicago, as Chairman of the History Committee of the I.A.D.R. was the prime mover, editor and organizer of this outstanding biography of that association. As a dental historian of note, his book is excellently organized in an historical perspective; it begins with contributions by noted historians of science and medicine tracing the changes in the scientific climate over the past half-century. The bulk of the volume contains the histories of the various sections and divisions of the organization; another section deals with biographies of the past presidents and many former leaders in the profession.

The author has done a heroic piece of recording dental history by amassing information from almost lost sources. The book reflects the author's flair for including some anecdotes making for interesting reading and for including photographs of the greatest names in dentistry.

Dr. Orland makes it emphatic that this organization serves a vital need in the community of the dental profession. He exhorts future generations to write companion pieces to this one to the end that the growth of dental research and the men responsible will be recognized. In so doing, they will also be making a major contribution to the history of dentistry.

Milton B. Asbell

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;

(c) To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

(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.

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