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**AMERICAN
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OF DENTISTS**

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Expanded Duty Dental Assistants

Peer Review

Dental Profession and the Public

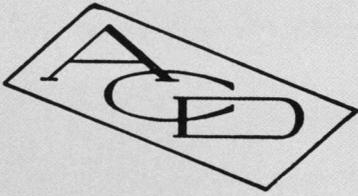
Clinical Performance Evaluation



**MEMBER PUBLICATION
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NEWS AND COMMENT

ACTIONS OF THE BOARD OF REGENTS

Meeting in Bethesda, Maryland, in April, the Board of Regents took the following actions:

- Voted to establish policy governing the use of the official seal and logo of the College.
- Approved a prototype of bylaws for Section chartering.
- Heard a report that the total number of Fellows of the College now stands at 4565.
- Accepted the report of the Committee on Conduct describing a proposed two-year educational program to gain adherence to the Code of Conduct by Fellows and Sections.
- Accepted the report of the Credentials Committee on candidates for election to Fellowship in the College.
- Accepted the report of the Financial Advisory committee regarding the status of College financial investments.
- Heard reports of the Commissions on Delivery of Service, Research, Communications and Educations, and discussed methods and techniques for implementation of the suggestions presented.
- Set up a pre-planning committee to plan activities in studying methods of delivery of dental service in conjunction with the Commission on Delivery of Service.
- Discussed and made some changes in the Convocation format.

EARLY NOMINATIONS REQUESTED

Each year the central office of the College is swamped with nominations that come in just before the February 1 deadline. This places a heavy burden upon the Credentials Committee which must consider each nomination with great care. Executive Director Robert J. Nelsen requests that nominations for Fellowship be submitted as early as possible.

SECTION NEWS

District of Columbia Section

The Washington, D.C. Section of the American College of Dentists met in January at the Holiday Inn in Chevy Chase, Maryland. The following new officers were installed:

Israel Shulman, Chairman

Joseph R. Salcetti, Vice Chairman

Charles Murto, Secretary-Treasurer

James Jackson, Member of the Executive Council

Following the business meeting, Dr. Alvin Morris, the Executive Director of the Association for Academic Health Centers, gave a most interesting presentation. His topic was "Everything You Always Knew About Dentistry But Were Afraid To Admit." He discussed the increased involvement of auxiliaries, third party plans, and national health insurance.

The American College of Dentists Biennial Breakfast on April 4 was one of the most successful ever. Over 300 were in attendance including President James Vernetti, all of the officers, and most of the regents. Former Congressman Brooks Hays of Arkansas delivered a provocative and amusing talk on "the Professional Leader's Role in a Crisis Period." Entertainment was provided by the USAF Ceremonial Band and the colors were presented by the Joint Armed Forces Color Guard.

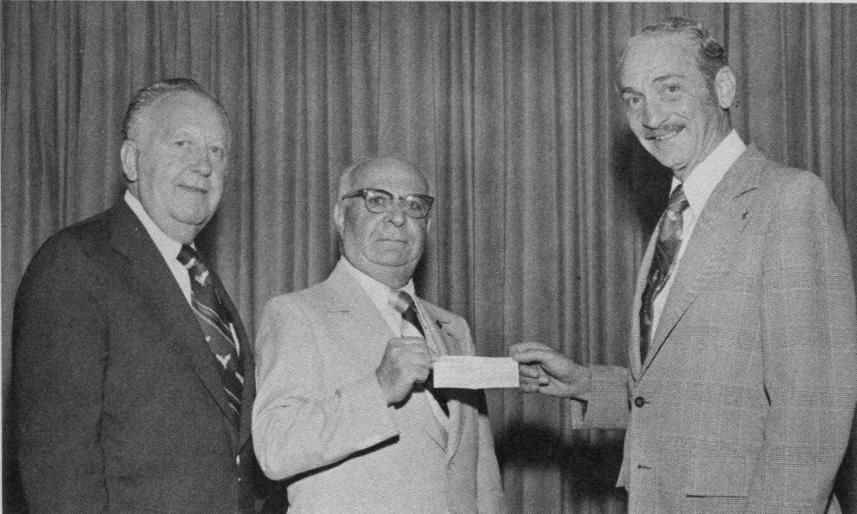


President James Vernetti, Israel Shulman, chairman of the Washington, D.C. Section of the American College of Dentists, and treasurer, Henry Heim.

Southern California Section

At a breakfast meeting in April, president James P. Vernetti spoke to the Southern California Section concerning the present activities of the College.

A feature of the meeting was the presentation of a check for \$1200 by the Section to the American College of Dentists Foundation.



Left to right: Edwin W. Halvorson, chairman of the Southern California Section, Leon Ashjian, regent of the 7th Regency District, and James P. Vernetti, president of the College.

New York Section

The March meeting of the New York section was held on Tuesday, March 9, 1976, under the chairmanship of Charles Hillyer.

Despite the inclement weather, 30 members heard Mr. Frank Lockwood, an investment counselor and member of the Bond Club of New York, present a technical appraisal of the Securities Market-place. Mr. Lockwood stressed the importance of preserving one's capital and compared the relative potentials of investing in high yield bonds with common stocks.

At this meeting, the newly elected officers were presented. They are: Barry Symons, chairman; Andrew Cannistraci, vice chairman; Irving Naidorf, secretary-treasurer; Charles Hillyer, past chairman and Henry Nahoum, historian.

New Jersey Section

The New Jersey Section met in April at the Ramada Inn, Clark, New Jersey, with 31 Fellows in attendance.

A moment of silence was observed for the death of Craft Hopper of Ridgewood.

Officers elected for 1976-77 are:

Chairman: Jacob H. Oxman

Vice-Chairman: David Alterman

Secretary-Treasurer: Ralph Terrace

Dr. Oxman announced the meeting dates for the next year: October 28, 1976; January 20, 1977; and April 21, 1977. All three meetings will be held at the Ramada Inn, Clark, New Jersey.

Dr. Oxman introduced the speaker of the evening: Mr. Dennis Young, the new executive director of the New Jersey Dental Association. Mr. Young stated that he and his 14-member staff are now dealing with 60 pieces of legislation relating to our ability to practice dentistry in the State of New Jersey. He explained what the NJDA means to the rank and file of New Jersey dentists and briefly talked about Peer Review and the Dental Practice Act. After Mr. Young's presentation, there was a question and answer period.

Texas Section

The Texas Section of the American College of Dentists met in April at the Galvez Hotel, Galveston, Texas, the day prior to the opening of the Annual Session of the Texas Dental Association.

H.M. Sorrels, president, presided over the luncheon and afternoon program, which was attended by 114 members and wives. Earle Williams, immediate past president of the American College of Dentists, gave the invocation and also spoke on the program. James P. Verneti, current president of the American College of Dentists, and new resident of Texas, filled in admirably for our luncheon speaker. He was presented a silver gavel "as a token of the esteem in which he is held by the Texas Section of the American College of Dentists."

The program included Dr. William J. Fromme, the astronauts' dentist and recent inductee into the American College of Dentists; Mr. Eric Bishop, assistant executive director of the American Dental Association; and Dr. Duane Larson from Shriners Burn Institute.

(Continued on page 198)

the JOURNAL of the AMERICAN COLLEGE of DENTISTS

A QUARTERLY PRESENTING IDEAS IN DENTISTRY

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meeting announcement. . . .

ALTERNATIVES IN THE DELIVERY OF ORAL HEALTH CARE III — THE ORIGINS OF TREATMENT DEMANDS

The third in a series of programs by the American College of Dentists presenting an over-view of factors affecting the Alternatives in the Delivery of Oral Health Care will be presented at the annual meeting in Las Vegas on Saturday morning, November 13, 1976.

The demands for oral health care are generated by three factors. These will be discussed by the following panel:

THE NATURE OF THE DISORDER

Dean Richard E. Bradley
School of Dentistry, University of Nebraska
Lincoln, Nebraska

THE TYPE OF PATIENT

William B. Nienaber
General Practitioner
Minneapolis, Minnesota

THE INFLUENCE OF THIRD PARTIES

Lloyd J. Phillips
President, American Fund for Dental Health
Trustee, American Dental Association
Indianapolis, Indiana

Whether or not the care delivered is optimal or compromised depends upon the relationships of these three factors to the delivery system. The pattern and the extent of influence which each factor contributes varies immensely.

However exhibited, these influences must be understood and brought into a compatible relationship before the professional can consider the alternatives of care and select that treatment which is suitable for the purpose intended.

This program will be concerned with a characterization of each of these factors by the three panelists. An open discussion by the panelists responding to questions from the floor will follow the formal presentations.

The meeting is open to everyone.

Expanded Duty Dental Assistants

CHESTER W. DOUGLASS, D.D.S., Ph.D.
SAUNDRA MOORE, R.D.H.

The purpose of this study was to determine the effect of introducing expanded duty dental assistants (EDDAs) into a solo private practice. The office, located in the University of North Carolina Dental Research Center, was equipped according to modern dental office design and contained three operatories. Four local private practitioners practiced dentistry in the setting as nearly as possible to the way they practiced in their own private office. Several different analyses of the UNC laboratory model of private practice show that the setting reflects the major characteristics of private practice when compared with other private practices.

The findings show that patient and doctor acceptance were very positive. Productivity rose only 12 percent with the addition of one EDDA. After the practice was then organized according to efficient management principles for EDDA utilization, the revenue increased 30 percent over the baseline. With two EDDAs, revenue increased to over 40 percent. However, the net income decreased slightly when the second EDDA was added to the practice. The quality of the EDDAs' restorations was equal to dentists' and the kinds of services offered by the practice changed with an increase in preventive dentistry, crown and bridge, and endodontics. During the experimental phases the net income of the dentists rose approximately \$6,300. With the use of EDDAs, it is possible for the role and the service capabilities of the dentist to expand. Such a development would allow the dentist to become the team leader of a dental practice that would be delivering a more comprehensive scope of services to more people. However, efficient management principles must be implemented in the practice in order to successfully use expanded function auxiliaries.

in Solo Private Practice

ROY L. LINDAHL, D.D.S., M.S.
DENNIS B. GILLINGS, Ph.D.

Private practitioners throughout the United States are asking what the advantages and disadvantages might be to themselves, their patients, and their practices if they were to employ expanded duty auxiliaries. Conclusions from many studies have been published concerning the usefulness of expanded function auxiliaries in a clinic,¹ academic,² military,^{3,4} or public health⁵⁻⁸ setting. However, the statistics produced are of limited value to the solo, fee-for-service, private practitioner, who can see differences in care delivered in these larger, publicly funded settings as compared to that provided in a private dental office. Such observations indicate a need for reliable, scientific data concerning both the utilization of expanded duty auxiliaries and the effects that this type of new dental personnel would have on a solo private practice.

There are several studies of expanded duty auxiliaries in private practice currently in progress in the United States today. Studies currently being performed by the University of Pacific in San Francisco⁹ and the USPHS Division of Dental Health in Cleveland, Tennessee will allow some interesting comparisons in regard to quality and quantity of services delivered, practice income and reactions to the team concept on the part of the providers. The present study will be most useful when compared to the findings of these other studies in private practice settings.

Ms. Moore and Doctors Douglass, Lindahl and Gillings are with the University of North Carolina at Chapel Hill, Schools of Dentistry and Public Health. Dr. Douglass is associate professor of Dental Ecology; Ms. Moore is a research assistant of the Dental Research Center; Dr. Lindahl is professor of pedodontics; and Dr. Gillings is assistant professor of biostatistics.

There is no current agreement within the dental profession regarding the specific duties that would be delegated to each type of dental auxiliary. The purpose of this study is to determine the efficiency and effectiveness of dental assistants performing specific functions under the direct supervision of the dentist. The 12 additional duties that the expanded duty dental assistants (EDDA) performed during the experimental phases of this project are:

1. expose radiographs
2. chart mouth (existing restorations)
3. instruct on oral hygiene (includes instructions on diet, general oral health and plaque control)
4. apply topical fluoride
5. polish teeth with rubber cup
6. take alginate impressions
7. take rubber base impressions for Crown and Bridge
8. place rubber dam
9. place matrix band
10. place amalgam and composite restorations
11. place and remove temporary restorations (fillings and crowns)

The two certified dental assistants in the practice took part in the UNC School of Dentistry TEAM training program during the 1971-72 academic year. This training in expanded duties took place one-half day per week for two academic semesters and was the equivalent to a one-month full-time training program.

Study Objectives

The seven major components of any care delivery are: 1) consumers, 2) providers, 3) the services rendered, 4) the organizational setting, 5) administration, 6) the physical facility, and 7) the financing system.¹¹ Hence, ideally, a research project that proposes to determine the effect of expanding the duties of dental auxiliaries should take into account the relationship of such a change to all seven aspects of the delivery system under study. During this study of expanded duty dental assistants in private practice, changes were made in the number and kind of dental assistants in the practice. The task of the research team was to measure the effect of these changes on the major components of the delivery system. In the present study the organizational setting and the facilities have remained constant. However, in addition to adding the use of EDDAs, the administrative methods and schedule of utilizing the EDDAs were

also altered in the second experimental phase.

The specific objectives relating to the other components of the delivery system were:

1. Determine the patients' acceptance of using EDDAs in a solo private practice,
2. Determine the doctors' acceptance of using EDDAs in a solo private practice,
3. Measure the differences in type, quantity, and quality of services rendered when an EDDA is introduced into a solo private practice,
4. Perform a comprehensive cost analysis on the practice and determine the financial impact of adding an EDDA to a solo private practice.

PROJECT DESIGN

A solo private office setting — the Dental Demonstration Practice (DDP) — is located in the University of North Carolina Dental Research Center, and is equipped according to modern dental office design concepts. Four North Carolina private practitioners participated in the study. Three dentists came in one day a week and the fourth came in two days a week and practiced dentistry as nearly as possible to the way they practice in their own private offices. The dentists were paid a base salary with the opportunity to realize additional income on a commission basis after the expenses of the practice has been met. The fee schedule for the practice was based on average North Carolina private practice fees.¹²

The facilities for the experimental practice include a waiting room, consultation room, x-ray room, dark room, small laboratory area, and a three chair dental operating area. The chairs were arranged in a parallel design in one large room with open access at both the head and the foot of the chairs. This arrangement allows the dentists and auxiliaries to move from chair to chair without crossing the patient traffic flow patterns. Three operatories were used in the study because that is the most common number of chairs used in North Carolina private practices. The baseline auxiliary staff includes one receptionist, one roving assistant and one chairside assistant. Thus, the dentists were able to practice four-handed dentistry during the original baseline phase of the study. For a detailed description of the laboratory model private practice setting and the general methodological approach of the project see Douglass et al.¹⁰

Validity of Laboratory Model

It was important to investigate the validity of the "laboratory model" as being a likeness of an actual private practice. Chadwick¹³ reported a comparison study of data from the private practices of two of the dentists who participated in the project and the data from the day that they worked in the laboratory model private practice. This study indicated:

1. There was no difference in type and mix of services between the laboratory baseline practice and the dentists' own private practices;
2. The number of patients treated per hour by the dentists in their own private practices was almost identical to the number of patients treated per hour in the laboratory private practice;
3. The age, sex, and race of the laboratory practice patients were reasonably similar to these same characteristics of the actual private practice patients; and
4. The dentists generally produced similar amounts of dollars per hour in both settings, although both dentists were able to earn slightly more per hour in their own private practices.

A second comparison was made between the profile of services delivered at the laboratory private practice and the profile of services in three other private practices from which data were obtained.* Considering the type of services that were provided, no significant differences could be demonstrated between the services provided at the surrogate private practice and the three anonymous private practices. Also, the times spent performing each of the basic types of services were similar. A third comparison showed that during the baseline phase the UNC practice grossed \$66,000 compared to \$61,669 which is the reported mean gross income of North Carolina private practitioners.¹⁴

Fourth, several comparisons were made between data from the UNC practice and data predicted by a computer simulation of private practice. Kilpatrick et al,¹⁵ working in the University of Florida Health Systems Research Division, has developed a simulation model of a private dental practice which will predict productivity from a description of the characteristics of that

* The Consolidated Dental Services Corporation (CODESCO), which performed most of the clinical data processing services for this study, provided data from three other solo private practices that each had similar characteristics to the UNC Dental Demonstration Practice.

practice. The simulation model predicted that the total income per year would be about \$69,000. The UNC baseline practice earned \$66,000. It was also predicted that 2,422 patient visits would be made, while 2,496 visits were made in the laboratory model private practice. The actual figures were very close to the predicted ones and tend to cross validate both methods of private practice research. The overall conclusion that can be drawn from the four validation studies just described is that a laboratory model of private practice can be established which reflects the major characteristics of an actual private practice.

The experimental design is that of a time-series design¹⁶ which consists of a periodic measurement process on some phenomenon with the introduction of an experimental change into the object of study. The results are analyzed by assessing the reasons for any discontinuities in the measurements recorded during different phases of the study. The experimental change is considered to be one plausible explanation for observed discontinuities and other competing explanations are assessed as to their plausibility. This design affords good control internal validity.

Three experimental phases and a second baseline phase have been completed since the end of the original baseline phase. The sequence of the research is shown in Fig. 1.

During the first experimental phase, one expanded duty dental assistant (EDDA) was added to the practice. The dentists were given only a two-hour explanation concerning the functions that EDDAs could perform and how they were trained. The dentists were told they could utilize the EDDAs and operatories in any way they wished. At the beginning of the second experimental phase a one-day structured continuing education course on expanded duty auxiliary utilization and management was conducted which included the dentists and all office personnel. The continuing education course centered on the application of six basic

FIGURE 1

Phase	Duration	Experimental Variable
1. Baseline Phase #1 (B-I)	... Four months ...	—
2. Experimental Phase #1 (E-I)	... Four months ...	One EDDA
3. Experimental Phase #2 (E-II)	... Four months ...	One EDDA following a one-day continuing education course
4. Baseline Phase #2 (B-II)	... Three months ...	—
5. Experimental Phase #3 (E-III)	... Four months ...	Two EDDAs

principles of management. These principles are 1) appropriate task delegation, 2) the supervision of clinical performance, 3) personnel management, 4) business management, 5) patient scheduling and 6) office and equipment design. The methods used in instruction included audio visual motion pictures, small group discussion, short lecture, and clinical demonstrations. In this way, the dentists were given specific instructions on how to use the EDDA more efficiently.

Of the six principles of delegation covered in the management training course, patient scheduling was emphasized. A major change in the practice was made by identifying one of the three operatories to be used primarily by the EDDA. Patients were scheduled for varying amounts of time (depending on intended treatment) with the doctor alone, the EDDA alone, or both at the same time. Most of the patients who saw the EDDA needed single unit, routine restorations. The appointment book was changed so that patients were scheduled for multiples of 15-minute time periods for each of the three chairs throughout the day. In this manner, appointment scheduling was planned in order to allow as much simultaneous patient care as possible. However, when total attention was needed for one patient, e.g., for extensive crown and bridge services, only one appointment would be made for as long as two hours. Hence, the scheduling system was flexible so as to yield maximum utilization of all three chairs and the doctor's and EDDA's time, while still allowing appointment times long enough to meet each patient's individual needs.

The experimental manipulation for the second experimental phase, therefore, was the use of improved practice management procedures. It was hypothesized that increases in productivity could occur directly from the use of the EDDA, or from improved office management procedures. The sequence of phases used in this study was designed in order to differentiate between the effects of these two factors on subsequent increases in productivity.

Immediately after experimental phase two, the third experimental phase which utilized two EDDAs was started but lasted only for one month due to the questionable legal status of the project in the state of North Carolina. At that time all expanded duties were stopped and the second baseline phase was carried out for the next three-month period. After the legal questions were resolved, the last phase using two EDDAs continued and lasted the full four-month time period as originally planned.

PROJECT RESULTS

Productivity

Table I shows that productivity, per seven-hour work day as measured by revenue or gross income. These income figures assume 100 percent collections and a working schedule of seven hours per day, 22 working days per month, and 24 vacation days per year, for a total of 240 working days per year. Productivity, which was \$275/day for baseline No. 1, experienced an increase of only 12 percent with the addition of one EDDA during the first experimental phase (Table I). However, after the dentists attended the EDDA utilization continuing education course, the productivity increased 30 percent over the baseline during the second experimental phase. With two EDDAs, productivity increased to 41 percent over baseline. It is felt that these findings are conservative compared to what might happen if the same dentists worked with the same EDDA five days a week as they would in their own private practice.

The productivity for the second baseline phase was higher than had been expected. During this phase, productivity dropped only five percent from the previous experimental phase. Because the second baseline phase began earlier than had been planned, the appointment book was scheduled for the next six weeks in expectation of two EDDAs being available to the practice. When the second experimental phase was stopped suddenly, the practice had already been committed to this patient load. Consequently, the dentists treated all of these patients by extending themselves and working harder. Interviews with the dentists during the second baseline phase show that they would have been unable to maintain this working pace for any extended length of time. In addition, it was expected that practice efficiencies learned during the second experimental phase would carry over into the second baseline phase. Not only did

TABLE I

PRODUCTIVITY BY PHASE AND TIME PERIOD

	B-I	E-I	E-II	B-II	E-III
Per day	\$275	\$307	\$357	\$339	\$388
(per cent increase)		(12)	(30)	(25)	(41)
Per year	\$66,000	\$73,680	\$85,680	\$81,360	\$93,120

management improvements carry over, but the two EDDAs themselves participated in the second baseline phase as regular dental assistants. Thus, personnel coordination and working routines were maintained. The continuation of the phase II practice administration changes during the second baseline is reflected in Tables II and III which show that the kinds of services provided during the second baseline are more similar to the experimental phases of the study than the first baseline. It is reasonable, then, to conclude from the second baseline phase that for a limited period of time a dentist can work to 125 percent of previous capacity. Also, greater efficiency learned in the second experimental phase and the use of the EDDAs as dental assistants account for some of the unexpected increase in productivity during this second baseline phase.

During the original baseline an average of 10.4 patients were treated per day, 10.7 patients were treated when one EDDA was added, and 13.8 were treated when the practice was organized to fit the concepts learned through the continuing education experience. In the second baseline, with no EDDAs in the practice, patient visits continued to increase to 13.9 patients per day. During the third experimental phase with two EDDAs, 14.6 patients were treated per day. This pattern of patient visits does not closely follow the increases in services mentioned above. An increase in the number of services provided without an equally proportional increase in patient visits has been documented previously by Redig et al⁹ in the only other published study of this kind. It would seem, then, that the productivity of a practice is best measured by the amount of services rendered and not the number of patients seen.

Kinds of Services

One of the most interesting results of the project concerns the effect of the EDDA on the actual amount of services that were delivered by the practice each day. When an EDDA was added to the practice certain services exhibited some changes while others did not, thus changing the overall nature of the practice. Potentially one of the most significant impacts an EDDA can make on a practice is in the area of prevention. Of the five preventive services offered in the laboratory private practice, the EDDAs were permitted to perform four — rubber cup polishing, applying topical fluoride treatments, medications, presenting general oral hygiene instructions, and teaching flossing and brushing techniques.

During the first baseline phase an average of two services in the prevention category were delivered each day by the dentist. The addition of an EDDA more than doubled the amount of preventive services offered to patients as can be seen in Table II. An inspection of Table II also shows that the amount of services provided in several other categories were also affected. As a general trend across the three experimental phases, four types of services increases — restorative dentistry, prevention, crown and bridge, and endodontics. From the first baseline to the second experimental phase, prevention increased from an average of 2.0 to 6.1 services per day, crown and bridge increased from 3.4 to 17.8 services per day, restorative increased from 32.5 to 41.4 services per day, and endodontics increased from 0.3 to 1.2 services per day. The change in endodontics occurred when one practitioner began to perform a few endodontic procedures during time made available by the EDDA.

The income of the practice as measured by gross revenue per seven-hour day produced for each type of service shows a similar pattern of effects from the addition of the EDDA as shown in Table III. Restorative dentistry increased somewhat after showing an initial drop in the first experimental phase. The amount of preventive services increased markedly, rising from \$10.80/day to \$28.20/day. Crown and bridge and diagnostic services also show a marked increase in average dollars per day. Hence, both the total amount of services provided and the number of services per hour

TABLE II
SERVICES PER DAY* BY PHASE AND TYPE OF SERVICE

	B-I DDS	E-I Total	E-II Total	B-II DDS	E-III Total
Diagnosis	10.1	10.1	14.1	10.1	9.6
Extractions	1.4	1.4	1.7	2.1	1.5
Endodontics	0.1	0.3	1.2	1.0	0.9
Consultation	0.2	0.8	0.4	0.6	0.3
Crown and Bridge	3.4	13.4	17.8	13.4	17.6
Removable Prosthetics	0.1	0.8	0.2	0.1	0.5
Pedodontics	0.0	0.0	0.0	0.0	0.0
Prevention	2.0	5.0	6.1	5.9	5.7
Restorative	32.5	40.1	41.4	47.8	52.1

*The services per seven-hour day are the number of clinical procedures performed per day in each of the nine service categories.

have been affected by the addition of an EDDA. The EDDA provided the practice with the general capability to provide diagnostic, crown and bridge, preventive, and restorative services which is reflected in an increased hourly capacity for providing these services.

TABLE III

GROSS REVENUE PER DAY BY PHASE AND TYPE OF SERVICE

	B-I	E-I	E-II	B-II	E-III
Diagnosis	30.80	28.20	42.10	22.30	27.70
Extractions	8.50	7.50	8.80	12.70	9.50
Endodontics	0	1.10	8.90	13.70	13.90
Consultation	0	.60	0	.20	.10
Crown and Bridge	117.20	122.00	150.70	145.40	167.30
Removable Prosthetics	13.70	39.20	8.40	9.90	17.70
Pedodontics	0	0	.90	0	.20
Prevention	10.80	23.60	28.20	23.80	28.90
Restorative	94.1	84.9	109.10	111.10	122.20

The tendency in these figures is very interesting. These results suggest that there is a possible effect due to expanded duty auxiliaries beyond a simple increase in the productivity of the practice. In fact, the types of dental services that are provided might be changed. The EDDA has been able to slightly lessen the proportion of time that the dentist spends in diagnosis, she has been able to increase the total amount and per hour productivity of restorative and crown and bridge procedures, and she has more than doubled the time devoted to prevention in the practice. The dentist seems to be shifting the kinds of services he provides by performing more crown and bridge procedures and he now has the opportunity to perform some specialty types of services such as endodontics.

Quality of Services

The clinical quality of the EDDAs' work was evaluated by a panel of judges. The expectation, based on findings of many studies over the past ten years¹⁻⁹ was that there would be no significant difference between the restorations placed by EDDAs and those placed by the dentists. Three dentists who are well known in the state of North Carolina were asked to participate in the clinical quality evaluations. One examiner is the Chairman of the Operative Dentistry Department at UNC, and the other two are

private practitioners with experience on the State Board of Dental Examiners. The Ryge¹⁸ evaluation protocol was used. Three days were needed for examiner training and calibration in order to ensure that all three examiners would use the same criteria when grading. The actual evaluations took place over another three-day period during which a total of 291 restorations were examined and judged for quality. The restorations were a mixed sampling of anterior and posterior restorations, placed during the baseline and experimental phases, and produced by both dentists and EDDAs. The examiners did not know which restorations were placed by the EDDAs and which were placed by the dentists. The sample size was determined so that a 10 percent difference in the dentists' versus the EDDAs' restorations would be detected as statistically significant.

TABLE IV
NUMBER (AND PERCENT) OF RESTORATIONS
BY PHASE, TYPE, AND QUALITY*

	Quality Score				
	A	B	C	D	
Baseline Phase					
(Dentists)					
Composite	25(25)	19(19)	3(3)	2(2)	49(49)
Amalgam	10(10)	32(32)	8(8)	0(0)	50(51)
	35(35)	52(52)	11(11)	2(2)	99(100)
Experimental Phases					
(Dentists)					
Composite	14(15)	20(21)	7(7)	3(3)	44(46)
Amalgam	14(15)	35(37)	0(0)	2(2)	51(54)
	28(30)	55(58)	7(7)	5(5)	95(100)
Experimental Phases					
(EDDAs)					
Composite	17(18)	20(21)	4(4)	0(0)	41(43)
Amalgam	15(15)	33(34)	8(8)	0(0)	56(57)
	32(33)	53(55)	12(12)	0(0)	97(100)

*Definition of Quality Grading System

A—Meets all standards

C—Replace for prevention

B—Observe at next visit

D—Replace immediately

The final results show that of all the restorations placed by the dentists, 87 percent were judged satisfactory and 13 percent unsatisfactory, compared with 88 percent and 12 percent for the EDDAs. The results for the two provider groups are almost identical, and one must conclude that there is no difference between the quality of restorations placed by the EDDAs and the dentists. It is interesting to note, however, from inspection of Table IV, that the EDDAs never placed a restoration that was judged to be a "D — replace immediately." At the other end of the scale both EDDAs and dentists placed about the same proportion of "A — meets all standards" restorations.

Change in Dentist's Income

Practice expenses include both fixed and variable expenses. The major fixed expense such as staff salaries, rent, and utilities, were constant for every phase at \$18,060 per year. Variable costs, which included a second dental assistant and the EDDA's salary, dental supplies, laboratory costs, and office supplies, started at a rate of \$21,372 and rose to \$42,673 with the use of two EDDAs. The dentist had a net income for the first baseline of \$26,568. When one EDDA was added to the practice the net income dropped to \$17,037. Then, after the continuing education experience in management principles the dentist's net income rose to \$32,867. These results suggest that it is possible for the dentists to lose net income if he does not utilize this new type of auxiliary effectively. However, the income data also show that the dentist can gain net income quite substantially (about \$6,300 in this study) if he learns to work efficiently as a "team" with expanded duty auxiliaries.

It can also be seen in Table V that there was no increase in the dentist's net income after he learned to work effectively with one EDDA in his three chair practice. These figures indicate that the most effective use of personnel and facilities occurred during the second experimental phase when only one EDDA was used under carefully organized practice management procedures. It is still true, however, since gross productivity rose to over \$90,000, the use of the second EDDA enabled the practice to provide more dentistry for more people, which is a significant benefit to the people living in that community.

Patient Acceptance

Patient acceptance was determined by measuring the patients' reactions, if any, when an EDDA was introduced into the practice.

TABLE V
INCOME AND EXPENSES BY PHASE

	B-I	E-I	E-II	B-II	E-III
<i>Gross Income</i> (12 months)	\$66,000	\$73,680	\$85,680	\$81,360	\$93,120
<i>Expenses*</i> (12 months)					
**Fixed	18,060	18,060	18,060	18,060	18,060
***Auxiliaries	6,000	14,000	14,000	6,000	16,000
	(DA)	(DA + EDDA)	(DA + EDDA)	(DA)	(2 EDDAs)
****Variable	15,372	24,583	20,753	24,509	26,613
TOTAL EXPENSES	\$39,432	\$56,643	\$52,813	\$48,569	\$60,673
NET INCOME (12 months)	\$26,568	\$17,037	\$32,867	\$32,791	\$32,447

**Expenses were standardized (similar to the income figures) to a seven hour work day and 240 working days per year.*

***Fixed expenses include rent, utilities, and permanent office staff.*

****Dental Assistant (DA) salary is \$6,000; Expanded Duty Dental Assistant (EDDA) salary is \$8,000.*

*****Variable expenses include dental supplies, laboratory expenses, office supplies, and miscellaneous expenses.*

A sample of active patients was asked to complete a two page patient attitude survey in the waiting room of the dental practice as they were leaving from their third or some subsequent visit. Hence, these patients had experience with the EDDA that included both diagnosis and treatment. Of the 51 patients that were asked to respond to the questionnaire, no patient refused to do so. In addition, records were kept of the patients' behavior in terms of keeping appointments and paying their bills — two of the most important measures of satisfaction with private dental care.

Findings based on these observations of behavior and written responses have shown that patients react favorably to having the expanded duty dental assistant help treat them. Neither appointment behavior nor payment behavior changed significantly. Specific items to which patients were asked to respond include their assessment of the personal attention they received, the quality of care, and their willingness to go to a dentist who practices with expanded duty auxiliary personnel. The responses to all of these questions were uniformly positive. A few patients did not even perceive that the dental assistant was performing expanded functions, although they had been informed of the experimental nature of the practice when accepted as patients.

Dentists' Reaction

The dentist is the major deciding factor in the success of this health care innovation. Expanded duties in a dental practice will have an effect not only on the productivity and types of services rendered, but also on the morale of all team members as well. The four dentists in this study all have a favorable general attitude toward their experience in this project with expanded duty assistants. When asked if they would now be willing to have an EDDA join their own private practice three of the four dentists said yes. The fourth dentist felt that his patients would want him to perform the duties that were being delegated to the EDDAs. All of the dentists agree that patient scheduling and organizing the flow of the work throughout the day is the key to making an expanded duty practice function effectively. The three dentists who were most positive particularly liked the opportunity to provide a variety of other types of dental services. The reactions of the dentists also tend to verify that the patients accepted the EDDA with no problems.

Several of the dentists were concerned at the beginning of the

project that the addition of an EDDA to the practice would force the dentist to work harder than when practicing alone. This concern never became a problem. In fact, the dentists reported that their working day was somewhat easier when they practiced with EDDAs than when they practiced without them. Additionally, the dentists tended to feel that their own professional image in front of the patients might actually have been enhanced — being characterized as modern and up-to-date.

DISCUSSION

Increased in Practice Productivity

The addition of one EDDA to a solo private practice can increase the production of services and hence revenue to the point that the practice begins to realize some economic gains. In this study the maximum net profit of the practice increased by \$6,300 (in the second experiment with one EDDA) which represents nearly a 25 percent increase in net income. However, it has been shown by the first experimental phase that production of services and gross income can rise and still result in a loss of net income for the dentist if efficient management principles are not followed. Hence, it is imperative that the dentist become aware of and be willing to apply the managerial concepts and procedures which facilitate the most efficient use of an EDDA. The dentist must also be willing to delegate the expanded functions to the EDDA. Although this condition for success might seem obvious, it can not be assumed that delegation will occur. Dentists have been taught that filling teeth and taking impressions is central to dentistry. Now calling these procedures "technical, to be delegated to auxiliaries," runs counter to the well-learned, traditional definition of the functions of a dentist. Because of these factors, resistance was exhibited at certain times by the participating dentists even during this research project, when the moment came to let the EDDA place restorations and take rubber base impressions. *It can not be assumed, therefore, that the employment of EDDAs in private practices will have positive results unless the dentist is committed to the concept of team dentistry and has been willing to learn and apply the managerial principles of delegation.*

Several findings suggest that one EDDA worked better than two. In total dollars produced per day by the practice, the increase from the first baseline to experimental phase No. 2 was 26.6 percent, but the use of a second EDDA in experimental phase No. 3 brought only another 11.2 percent increase in productivity. More

importantly, the dentists' net income decreased with the addition of the second EDDA. During the third experimental phase the dentist was not able to keep the two EDDAs performing expanded duties enough hours per day to realize any substantial gains in productivity. The one EDDA performed expanded duties 2.07 hours per day in the first experimental phase and 2.41 hours per day in the second experimental phase. However, the two EDDAs together only performed expanded duties 2.73 hours per day during the third experimental phase. These findings support similar findings reported recently by Redig et al.⁹ in which two solo practices each using one full time EDDA both produced more restorations per day than a third solo practice using two full-time EDDAs. The findings of these first two studies of expanded duty auxiliaries in a private practice setting do not corroborate previous findings from public health, military, and academic settings in which three of four EDDAs per dentist was judged to be best for optimal efficiency. It would seem that more information is needed from private practice settings, concerning the optimal or most efficient mix of dentists and expanded duty auxiliaries before state boards and educational institutions begin to set policies concerning the introduction of such a new type of auxiliary into private dental practices. From the analysis of findings on this study it would seem that the use of two expanded function assistants is not as cost effective as the use of one such auxiliary in a solo private practice. Several circumstances could have some bearing on this finding. First, the number of chairs was not increased during this study. It could be that a second EDDA could have had a greater impact on productivity if there had been a fourth chair in the practice. Second, the management training, which occurred before the second experimental phase, was given with only one EDDA in mind. When a second EDDA was utilized no additional attempt was made to reorganize the method of scheduling patients specifically for two EDDAs. *Based on these findings, it would seem that a dentist in solo private practice would be advised not to employ two EDDAs at the outset due to the substantial financial risk involved.*

A major finding of the study is the significant impact that management training in the continuing education program had on the increase in productivity and the subsequent effect on the net profit of the practice. It would seem that if a state is considering a change in its dental practice act to allow the delegation of expanded functions to auxiliaries, serious efforts should be made

to make special management training short courses available. The effective use of extended function auxiliaries could make the difference not only between economic gain or loss, but also between the dentists being comfortable and satisfied with team dentistry or being faced with a considerable amount of practice inefficiency and personal frustration.

Quality of Services

The result of this study adds to the accepted body of knowledge that exists which shows that auxiliaries can be trained in a relatively short amount of time to perform many dental procedures with the equality equal to that normally found in a dentist's office. No significant difference has been found in this study between the quality of restorations placed by the EDDAs and those placed by the dentists. A second aspect of quality which raises important implications is the potential that exists with the addition of an EDDA for the change in the type of services that are delivered in a solo private practice. More preventive dentistry, fixed prosthetics, and endodontic services were offered, while time spent in diagnostic procedures and down time was reduced substantially. It appears, then, that the scope of services could be broader in a solo private practice with the addition of an EDDA. Such a development could stimulate a move toward more total patient care by the general practitioner which could help reduce the fragmentation of patient care in a complex, time consuming and expensive specialty referral system.

Acceptance

The utilization of expanded duty auxiliaries in private practice must be accepted by both the patients and providers of dental care. The results of this study show that patients reacted favorably to the inclusion of an EDDA in the dental office. An analysis of the patients in the practice suggests that the characteristics of age, sex, race and socioeconomic status are similar to the private practice patients of the dentists in the practice. Neither the behavior nor the attitudes of the patients changed after an EDDA was added to the practice.

The major unstudied factor in the process of expanding the duties of auxiliaries are the attitudes, personal characteristics, and behavior of the providers, meaning both dentists and auxiliaries. Three of the four dentists in this study now state that they would be willing to have an EDDA in their own private

practice. The fourth dentist continues to believe firmly that the act of filling teeth is dentistry, and only a dentist should perform these procedures.

Secondary analysis of the project data is currently in process. Initial results suggest the hypothesis that as the dentists' managerial style, personality characteristics, and philosophical approach to dentistry vary, there will be a concomitant variation in EDDA utilization and resulting productivity. This kind of tendency and hypothesis is supported by a study by Wade, Born, and Meskin¹⁹ who found that dentists with higher management skills held more positive and satisfied attitudes toward those practice activities that needed a high management orientation. It is important to understand, however, that the case study being reported here is not sufficient for anything more than the development of tentative hypotheses regarding personality and EDDA utilization, as they relate to practice management and productivity. However, it is reasonable to conclude from the current body of knowledge that the implementation of new types of auxiliary personnel will be successful only if dentists institute the practice management changes (as exemplified by the six principles of delegation stated earlier) that are necessary for the effective use of expanded function personnel.

Acceptance of expanded duty auxiliaries by all dentists would seem to be an unrealistic expectation. However, it might be reasonable to expect acceptance by perhaps a majority of dentists who are willing to learn the team approach to dental care and take on a broader definition of the profession of dentistry and the role of the dentist. It seems that the delegation of duties might result in a change in status for both the auxiliaries and the dentist. The effects of both of these changes could be positive. The auxiliaries could develop more professional careers as they become involved more directly in the care delivery process. The professional role of the dentist could expand so that he becomes the team leader of a dental practice that would be delivering a more comprehensive scope of health services to more people in the future. If such practices were to be developed, the health benefits to patients, the career benefits to the auxiliaries, and the professional and financial benefits to dentists could turn out to be substantial for all concerned.

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Dentistry and Peer Review: Sham, Smoke Screen or Reality

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Peer review, PSROs, tissue review committees, and similar review mechanisms are now (or soon will be) an integral part of the practice of medicine in most institutions that provide health care — and to some degree a part of private medical practices. The combined efforts by governmental/insurance company/union third parties, consumer advocates, and the inherent demands by the medical profession to provide the highest possible quality health services have resulted in a plethora of semi-related review mechanisms which ensure that services provided by physicians will at some time be reviewed by other practitioners. While the review mechanism could result in the excesses of “defensive medicine,” there are few who would argue against an effective system of peer review — provided it resulted in minimal interference in the “doctor-patient relationship.”

With all the public reports in professional journals and lay literature on peer review systems for medical practice, the notoriety of increases in medical malpractice insurance rates, and medical practice litigations, little attention has been directed to these similar problems which face other health professions — specifically the dental profession.

Such an unevenness in emphasis in medical and dental peer review should be expected considering the potentially more significant long-term consequences of inferior medical practice, the greater patient awareness of idealized medical health services (we should never underestimate the longstanding television models of Drs. Kildare, Casey and Welby), and the practicalities of review within an organized hospital setting vs the traditional private dental practice setting where individual practitioners have

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carried out their professional ministrations far from the limelight of television and their peers. It is only within the last decade that third party payment mechanisms have begun to make any significant inroads into the dental health service market place. (Less than 15 percent of total dental health care expenditures are covered by third parties, compared to 60 percent for physician services and 89 percent for hospital care.)

However, quality review by third parties is not necessarily a "true" peer review mechanism. By peer review — the review of one's work by his or her equals — we imply the review of a professional's services by his colleagues in an objective medical/dental arena — not one clouded by inferences of economic and actuarial decisions or selections of appropriate coverage for convenient groups of people.*

The combination of the late entry of prepaid arrangements into the dental field and the now visible evolution of medical peer review has provided ample opportunity for the dental profession to have established its own viable system of peer review — or at least one would so anticipate.

Traditionally the dentist's orientation to peer review could be summarized with the following vignette:²

Time: The present.

Scene: The operatory of a private dental office. The dentist has just completed examining a patient's mouth and her set of x-rays. He turns to the patient.

Dentist: I'm afraid you'll need 12 new fillings to replace some of the fillings in your mouth. You may even need some root canal treatment if some of those cavities are too deep. And several visits for periodontal treatment will also be needed.

Patient: But doctor, I just had my dental work completed by Dr. X two months ago. Is something wrong with the work he did?

Dentist: I can only tell you what I see now. It would be impossible to pass judgment on the work done by Dr. X without having seen your mouth before his treatment.

Such an orientation to peer review should have been expected when lawyers admonished dentists to the effect that "a whistle or a frown or an unguarded remark, and a fellow dentist may wind up in the courtroom. And if a colleague ever makes some unguarded remark about you... (sic)"³

Nor was the Code of Ethics of one's local dental society much help. For example, the Code of Ethics of my own local dental

*The profession would, no doubt, question whether the dentist employed by a third party is in fact a "peer."

society commented under the category, "Unjust Criticism:"

If (the dentist) finds indisputable evidence that a patient is suffering from previous faulty treatment, it is his duty to institute correct treatment at once, doing so with as little comment as possible and in such a manner as to avoid reflection on his predecessor.⁴

The Principles of Ethics of the American Dental Association, under the category, "Unjust Criticism and Expert Testimony," was even more restrictive since one was advised to preserve the integrity of the previous operator *and* the profession.⁵

While the concern rightfully was to ensure that members of the profession were not wrongfully vilified, little direction was offered to a practitioner who seriously suspected the quality of services provided by a particular dentist. Essentially, dental peer review was a "conspiracy of silence" — nobody squealed; nobody knew and nobody could sue the offending practitioner or in turn could an accusing dentist be sued for defamation of character.

In addition, since most dentists are in solo practice — thereby eliminating review by concerned parties — (approximately three percent are in some form of group practice⁶) and with most having limited hospital affiliations, there is little opportunity to institute a system comparable to the hospital tissue review committee or chart audit procedures.† However, the dental practitioner does have the professional responsibility to make some effort to ensure that there is not a continuation of what he considers to be "indisputable evidence of faulty treatment." It seemed to me that if there was this "indisputable evidence" of substandard treatment that the practitioner should at least turn to his professional societies in an effort to protect the interests of both the profession *and* the public. But did he?

PRELIMINARY STUDY

In the spring of 1972, as part of an effort to develop an understanding of profession-community relations, a study was undertaken to determine the public's utilization of dental society services. A mailed questionnaire was sent to the presidents of each of the component dental societies in a large eastern state (a state with more than 11,000 dentists in active practice⁷). The state under study was selected because more dentists were in active practice than in any other state, in addition to the relative ease of access to the information for this writer, rather than because it was representative of all states.

†It should be noted that hospital inpatient dental care is subject to review under PSRO legislation.

The questionnaire specifically identified a variety of programs that might be offered by the dental society (e.g., educational programs, news media liaison arrangements, grievance procedures) as well as permitting the respondents to include other programs that might be provided to the public by their society. In each case the respondent was asked to record the frequency with which each of the recorded services had been provided during the previous two months (a period which contained no particular holidays, vacation, or school start-up periods). Replies were received from all but one of the component societies in the state.

All but one of the reporting presidents indicated that his society did maintain a committee which considered questions of quality. The remaining president indicated that his society was in the process of establishing such a group. Two respondents indicated that, due to the size of the geographic area within the jurisdiction of the society, some of the services generally offered by a component society were provided by local dental groups. (Only one of these latter two respondents indicated specifically that a committee which considered problems of quality existed at the local level.)

The respondents indicated that during the two-month period under consideration, a total of 65 requests for services of a committee which considered problems of quality had been initiated by patients (a range of from two to 15 requests per society). During this same period of time, only one component society indicated that three requests for these same services had been initiated by dental practitioners. The remaining societies indicated that no requests had been made by practitioners. Thus, either the quality of dental services provided throughout the state by more than 11,000 practitioners consistently met desired standards or dental practitioners did not use the professional associations for the peer review process.

The idea that all dentists in the particular state provided services at some acceptable level of quality seemed quite commendable — which would seem to reflect upon a consistent high level of education, degree of state board examination and supervision, professional pride, (and cover-up?).

While only indirectly related to the general level of quality, the frequency of malpractice suits does provide some indication of the level of complaints by patients regarding the receipt of dental services. Data were, therefore, secured for the years prior to the period that was considered during the preliminary study, from the

central reporting services for companies underwriting more than 90 percent of the dental malpractice policies in the particular state. The number of claims reported and percent of policies written for dental malpractice which were involved in litigation procedures covered by policies written for the period 1964-1968 are presented in Table I.

Whereas the number of claims reported increased throughout the entire period, the percent of policies involved in litigation remained the same from 1964-66 but increased during the years 1967 and 1968.**

Therefore, while no specific indicator is available to describe the level of quality of dental services performed in a particular state, the increasing incidence of malpractice suits may afford some indication of a rising level of patient dissatisfaction with aspects of the delivery of dental treatment (which may somehow have been related to the marked increase in medical malpractice litigations). It must be emphasized, however, that these figures represented reported claims and they do not indicate the final results of the judicial process.

A further example of undercurrents of deteriorating relations between the dental profession and the community with regard to quality review appeared in the question and answer section of one of the larger newspapers in the state under study:

TABLE I

THE NUMBER OF CLAIMS REPORTED AND PERCENT OF DENTAL MALPRACTICE POLICIES INVOLVED IN LITIGATION IN THE STATE UNDER STUDY—1964 THROUGH 1968

	1964	1965	1966	1967	1968
Claims reported	190	194	212	247	269
Percent of policies involved in litigation	1.9	1.8	1.9	2.5	2.9

**The 1968 reporting period represented the last year for which data were available during the preliminary study period. It was stated by the reporting agency that due to the delay in the reporting of claims, no effort is made to compile figures for an insured period until at least two or three years had elapsed since the end of a particular insurance period. In addition, as a result of the delay in the reporting of claims for an insured period by as much as five years, it was reported to this writer that while 1964 through 1966 figures generally could be considered to be an accurate representation of the percent of policies involved in litigation, the 1967 and 1968 figures could represent as little as 50 percent of the final figures that would be available by 1973.

My handwritten complaint to the Tenth District Dental Society about my dentist was returned to me with the notation that handwritten letters could not be processed (they must be typed) and that ten copies of the letter are required. Are these valid requests or are they made to discourage people from registering complaints?⁸

The reply by the dental society, as stated in the newspaper, indicated that dental societies are nonprofit organizations whose members pay dues. Since typed letters are easier to read, and the society was voluntarily handling complaints about its own members, it was suggested that ten typed copies of each complaint would ease the society's burden. Surely there must have been a better way to handle such matters when the public's confidence in the programs of peer review under the auspices of medical societies had reached a point where one syndicated columnist included in daily newspapers the comment that:

... contacting the medical society (for peer review) would be like reporting a case of racial discrimination to the Ku Klux Klan.⁹

Since professions exist, as stated by the Supreme Court, "because the people believe they will be better served by licensing especially prepared experts to minister to their needs,"¹⁰ one would assume that the licensing bodies should constitute a primary organ for peer review, or at least a method to ensure removal of substandard providers from the public service arena.

Information was, therefore, requested from the Division of Professional Conduct of the State Education Department of the particular state to determine the number of dentists who had their license suspended or revoked, and the cause(s) for such actions for the ten-year period from 1965 to 1975. After a great deal of back and forth maneuvering and an apparent reluctance to divulge the information, the Division of Professional Conduct and its public relations officer ultimately informed me that not a single dentist had his license suspended or revoked during the ten-year period for "practices related to the performance of dental functions." Seventeen dentists had had their licenses suspended for a period of two months to two years (more than half for three months or less) and ten dentists had had their licenses revoked for a series of offenses ranging from immoral conduct, to fraud, to deceit, to aiding and abetting in the unlawful practice of dentistry.

Since not a single dentist had had his license suspended or revoked "for the performance of dental functions" during a ten-year period in the state with the greatest number of practicing dentists, one could be forced to the conclusion that:

1. The quality of dental services provided throughout the state by almost 15,000 dentists (considering all dentists who practiced during the ten-year period) consistently met desired standards;
2. The state board peer review mechanisms could not be carried out because of financial, personnel, or other limitations; or,
3. A "conspiracy of silence" prevails within the dental profession with regard to peer review.

CHANGE IN PRINCIPLES OF ETHICS

But the question of peer review for the dental practitioner has suddenly changed. At its annual meeting in the fall of 1974, the American Dental Association modified its Principles of Ethics whereby a dentist now is considered to be unethical if he does not report instances of continual substandard services by another dentist:

The dentist has an obligation to report to the appropriate agency of his component or constituent dental society instances of gross and continual faulty treatment by another dentist."

No doubt the practitioner's first reaction to the idea of being obligated to be an "informer" is at best squeamish and in reality downright distasteful, not to mention:

1. The economic consequences of reporting another practitioner who has been referring large numbers of patients for his services, or
2. The legal consequences of a possible defamation of character law suit should the allegations that have been made be found to be groundless or that extenuating and mitigating circumstances adequately explain the observed questionable services.

Nevertheless, the modification of the Principles of Ethics is a reality and does provide the practicing dentist with a specific process to follow in observed instances of "gross and continual faulty treatment by another dentist."

FOLLOW-UP STUDY

In an effort to determine the effect that this modification in the Principles of Ethics might have on the peer review activities in the state studied prior to the change, a short mailed questionnaire was sent (seven months after the modification) to each of the component dental societies (either to the president or the executive director) and the constituent society within the state.

Each respondent was asked whether efforts had been made to notify the membership of the change in the Principles of Ethics, what procedures had been adopted by the society to fulfill the responsibility allotted to it, and the number of "instances of gross and continual faulty treatment by another dentist" reported by practitioners during the previous six months and finally what effect did the respondent believe that this modification would have on the practice of dentistry. A response was received from each of the 11 local societies and the state body. (Some of the responses were secured by telephone follow-up.)

In response to the first question, five respondents indicated that no effort had been made to notify the membership of the change in the Principles of Ethics. The other respondents indicated that some notice had been placed in the local bulletins or the information was available from the American Dental Association.

All the respondents indicated that the established mediation or peer review committees would handle reports by practitioners regarding questionable services provided by their colleagues. However, for the six months covered in the study, *none* of the respondents reported a single instance of a report by one dentist on the services provided by another practitioner. One society did report two instances of referral to the Office of Professional Conduct of the State Education Department during this period, but did not indicate the source or reason for this referral.

Finally, in response to the question of what changes might occur as a result of the modification in the Principles of Ethics, the written responses ranged from "...it is bound to improve the practice of dentistry" and "...the quality of care" to the fear of it "turning into a 'witch hunt.'" However, the verbal responses during the follow-up telephone contacts offer more offhand, informal responses which ranged from "...you must be kidding" to "...nobody is going to talk about someone else when the other guy might get even" and "...no change at all."

In conjunction with the second survey of dental societies in the state, information was secured from various insurance sources to determine the level of malpractice litigation during the current period. Once again, it should be stated that while the frequency of malpractice suits is indirectly related to the general level of quality, it does provide some indication of the level of complaints by patients regarding the receipt of dental services.

One insurance underwriter which covers two-thirds of the practicing dentists in the state (approximately 8,000 practitioners)

indicated that one dentist in eight had an incident file; *i.e.*, the report of a case by a dentist or a patient which indicated some problem or potential problem.

It should be noted that not every one of these cases would result in litigation which eventually would be decided against the practitioner.

The dental society of the state reported, in a series of summary statements for the 1966-1974 period, on the frequency of malpractice claims against insured dentists that, while the rate of claims remains relatively stable during the latter half of the 1960s, there have been noticeable increases during the first half of the 1970s (Table II).

This increase in the claim frequency during these last few years is not specific to the state under study. For example, the Chairman of the California Dental Association Council on Insurance recently reported a four-fold increase in the claim frequency in the past six years in his state, with the average dollar amount of claims increasing 12 times and accelerating during this same period.¹³

Thus, while reported claims do not indicate the final disposition of the judicial process, the increasing incidence of malpractice litigation during the present period does point to a rising level of patient dissatisfaction with aspects of the delivery of dental treatment (or at least an increased willingness to bring forth legal action). Yet this is occurring at a time when few if any incidences of questionable services are reported by dentists to the peer review committee of local dental societies in the state under study. (It is noteworthy that when patients have been questioned by grievance committees of some local dental societies [in patient-initiated complaints] there has been a noticeable increase in statements to the effect that they had been advised by dentists who have reviewed the questionable services to seek the aid of the local dental society rather than pursuing an action through the courts.¹⁴)

CONCLUSIONS

The notoriety of PSRO legislation, the repeated front-page coverage in our daily newspapers on medical malpractice problems, the gradual increase in dental malpractice litigation, and now the modification in the Principles of Ethics of the American Dental Association seem to have had little real impact on the peer review process for the average dentist. Sequestered in a private office with little opportunity for review (except by

TABLE II

THE NUMBER OF DENTAL MALPRACTICE POLICIES WRITTEN, THE NUMBER OF CLAIMS, AND THE CLAIM FREQUENCY PER 100 INSURED DENTISTS IN THE STATE UNDER STUDY—1966 THROUGH 1974.*^{1 2}

	Number of Policies Written		Number of Claims		Claim Frequency Per 100 Insured Dentists	
	Company A	Company B	Company A	Company B	Company A	Company B
1966	4021	Not available	78	Not available	1.94	
1967	4168	"	74	"	1.78	
1968	4160	"	71	"	1.71	
1969	4072	"	63	"	1.55	
1970	2924	"	67	"	2.29	
1971	3352	approx. 8000	93	228	2.78	approx. 2.85
1972	2993	" 8000	89	266	2.97	" 3.32
1973	2777	" 8000	88	287	3.17	" 3.58
1974	2689	" 8000	56	59	2.08	" .73

**It should be noted that due to the delay in the reporting of claims for an insured period by as much as five years, only the figures for the 1966-1969 period may be considered to be a reasonably accurate representation of the final number of claims and claim frequency per 100 insured dentists. This is particularly evident for the 1974 reporting period which was completed less than six months prior to assembling the above data.*

Thus, the increase in claim frequency between 1970 and 1973—despite successively shorter periods of elapsed time—would be indicative of a far greater claim frequency in each of the successive years.

specialists who may be reluctant to initiate complaints due to the financial realities of such an action), the dental practitioner seems quite complacent to reside in the protective shadow cast by the notoriety of his medical colleagues. The occasional fusillade by a consumer advocate which attests to the high incidence of unnecessary and/or poor dentistry (e.g., Dr. Herbert Denenberg's "Shopper's Guide to Dentistry") or the ramblings of some academicians, are all too often brushed aside with the retort that each dental society maintains a grievance and/or peer review mechanism. (This is not to cast aspersions on the many practitioners who volunteer their time and effort on the grievance panels. However, for the most part, these panels serve to review the credibility of complaints from individual patients or third parties regarding fees charged for particular services, the rationale for and the quality of a particular service, but seldom, if ever, complaints by practitioners regarding the services provided by other dentists.)

One cannot categorically state from the study of this one state that peer review is nonexistent in the dental profession, or, for that matter, that dental practitioners willfully seek to cover up the substandard services provided by their colleagues. What may be inferred from the data presented is that at a time of obvious consumer awareness of problems of substandard health care, with rising incidence of malpractice litigation, the dental profession — at least in the state studied — has either been reluctant to keep its own house in order or the rising tide of dental malpractice litigation has been unfounded and only high quality dental services are provided by the dentists in this particular state for the past ten years.

One should not infer from this study that efforts have not been made within the dental profession to establish systems for measurement of the quality of dental services. Extensive work by Schonfeld,^{15,16} Schoen and Friedman,^{17,19} Soricelli,²⁰ Cons,²¹ and many other investigators have developed a sufficient methodology to guide the dental profession in systems of peer review. And finally, work by Bagramian *et al*²¹ and the reports by Denenberg²² and others more than document the poor quality of dental services currently provided by many dental practitioners.

Only by realistic and sincere peer review systems within the dental profession can we hope to continue to raise the level of quality of dental services and effectively forestall the imposition of a total system of review by governmental/insurance

company/union third parties. Peer review can become a reality, rather than retain its current "fictional status."²³

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Interface of the Dental Profession and the Public

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The following comments are personal points of view on the subject and do not reflect any position of the American College of Dentists nor does my position with that organization of itself preclude a unique credibility to my statements. I remove my hat, so to speak, offering only the personal credentials of a wide experience in dentistry.

I am proud to be here on this panel with so many distinguished people; and with hat in hand, offer comments on a very difficult assignment — “Dentistry — The Public’s Point of View.”

Webster presents his definition of the public as “the people — indefinitely” — to expound on the public’s point of view of dentistry from that definition would be impossible. To circumvent that impasse, I will discuss the public’s point of view of dentistry using a few specific groups from dentistry’s public which allow a discussion of their point of view. Now mind you, I have at hand no Harris or Gallup polls from which to quote numerical or percentile distributions of opinions on dentistry. Even if there were such available, the definition of dentistry would need careful discussion. How would one describe the public opinion of dentistry? Whose experience with dentistry would count most? If 50 percent of the public sees a dentist, does the other 50 percent have no opinion of dentistry, and if they do, how was it derived? And of those who have had experience with dentistry, was it a successful and rewarding experience; was it at the hands of an orthodontist who redirected the aberrant facial growth pattern of a homely little moppet and in a relatively short time presented a beautiful young woman to her parents and the world? Such care

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certainly becomes part of the public's opinion of dentistry. Could the experience with dentistry be like that of the famous Congressman or the virile movie star who had watched nature in concert with personal apathy bring each to a toothless state and then at the hands of a skilled prosthodontist be restored to a presentable viable public figure, to say nothing of regaining their own comfort, health and important, personal self-image? I shall not cite examples of poor experiences as derived out of supervised neglect by the dentist. Each instance of experience becomes part of the public's view of dentistry.

What then *is* the public's image of dentistry? It depends upon many factors. It depends upon who is looking at what segment of the profession, and how and when he does the looking. Like any viewpoint or impression, much depends upon the locus and character of the viewer, how perceptive he is, from what position he makes his observation or forms his opinion. Also, what part of the whole profession does he see, and in what light does he view the subject? Has he preconceived ideas or notions? Does he see ghosts or gremlins or has he stars in his eyes when he looks? Furthermore, who points — who talks when he looks? Can he form his own opinions? Does he have rose-colored glasses, or blinders, or a narrow biased tunnel vision? Does he state truthfully what he sees? Is he subject to magnifications or distortions of the image? Does he look carefully; or does he stare at one small glimmering defect? Is he close to the profession or far removed? How is he interested, why is he interested, does he have an objective or self-seeking interest?

Now, what about our subject — "The Dental Profession" — like all organizations of man, it has faults. It is most at fault when, presenting itself in the noble robes of a profession, it lays claim to position and privilege but takes instead to self-advantage. This is a most hideous form of theft. To the great credit of the profession, only a very few wear its garments as a mask. However, like any blemish on a fine surface, it attracts the light and by reflecting and refracting, it draws undue attention to itself and distracts the viewer from the perfection and beauty of the whole structure.

There are those who deride the profession because it suffers a few inherent aberrations, forgetting that while less than perfect, it does have great worth.

A definition of the Public's Point of View of Dentistry is always subject to infinite qualifications which are dependent upon the qualities and locus of the viewer and the particular aspect of the

profession which is visible and being observed. What then is important in the development of the public image? Let's start at the beginning.

THE MOUTH AS AN INTEGRAL PART OF THE TOTAL PERSON

A significant factor in the image of the profession is related to the general concepts of the mouth and its importance as an integral part of the total person, his personality and his health, both physical *and* mental. I believe, as a profession, dentistry has allowed the mouth to be taken for granted. I do know that it is more important to a person's well-being than is generally recognized. Our ADA Public Education Program, I feel, should turn part of its energies and resources to establishing in the minds of the public, the importance of the mouth. This most primitive of organ systems has great influence on the general health by the state of its own health and efficiency. What is selected for food is affected by the general mouth health, the ability to chew, and, the unique pleasure feedback of the oral sensory apparatus. Oral gratification, essential to the infant, becomes a devil to the adult compulsive eater, smoker and drinker who seeks remission from uneasiness of mind or simply indulges himself in sensory pleasures by the pipe, the cigarette, the chocolate, or the glass.

The public image of the mouth should be developed by explaining its full meaning to the individual so that the profession will be better understood and appreciated. The basic image of the dental profession, its worth and its importance, rests considerably upon the general concept of the mouth as being one of the important organ systems of the body and *the* most important system for interpersonal communication. For example, the smile is considered the oldest yet the simplest universal language. Improvement in the image of dentistry will accompany knowledge about, recognition, and regard by the public of the importance of the total mouth system. So much for general concepts of the Public's Image of Dentistry which is actually, a mosaic of individual opinions, ideas and attitudes. Perhaps by examining some of these individual viewpoints, a better picture will emerge.

One of the significant changes in the Profession's Image has been brought about through the use of semantics — the science of the meaning of words. The transition of ideas and attitudes by the use or mis-use of words is as old as history. Recently, it has been effective in removing the concept of professionalism from the

system of health care. The image of professions has been depleted of such words as confidence, trust, mutual esteem and respect which were bench marks of the relationship of patient and doctor. This relationship in which a person — called a patient — having problems calling for superior knowledge, skill and judgments, which he does not have, seeks help by submitting himself to another person having such knowledge, skills and judgments. And further, this person professes to place the interest of the supplicant before and higher than his own interest. To further this desirable relationship, society has granted special privilege and esteemed position to those who proclaimed their competence and dedication to another's interests. The law devised an arrangement between society and professions that assures a reciprocal benefit. Under this system, devoid of external involvements, grew the finest health care system in the world.

INTERVENTION BY GOVERNMENT AND INDUSTRY

Significant changes occurred when external interest in health care developed. Both government and industry became entranced with the political and financial attractions of health care as a fringe benefit. In a program seemingly designed to divest this arrangement of trust, respect and accord, the patient was awarded the title of consumer, and the professional became, by involution, the provider. The jargon of commerce supervened and the sacred professional relationship was conveniently reduced to an enterprise subject to negotiation, contract, bargaining, fringe benefits, allowances, pre-authorizations, and finally, external quality control. The professional concept was erased. The public's image has now been transformed by the language of commerce into that of trade and craft. This language unfortunately has now become the rhetoric of dental journalism. The attitudes of patients are now those of consumers. The position of dentistry is that of a provider and expressions of trust, respect and esteem have been transformed into the vocabulary of the entrepreneur and the commission merchant. The morality of the original relationship has been smothered in the legalities of contracts.

This I would submit is the developing image of our profession today held by those who, being external and quite remote from the unique but necessary moral relationships of patient and doctor, seek to bring professionalism to its knees, as contractual self-interest supplants the respected moral relations of doctor and patient.

CONSUMERISM

Concomitant with the semantic transition of dentistry from a professional calling to a craft industry, there appeared the noble knight of the consumerist, the benevolent advocate and protector of those of the public willing to surrender the responsibilities attending freedom of choice for the sublime security of pampering fringe benefits. These ersatz priests of welfare write books, pamphlets and articles for the consumer, telling him how to pick a professional, in the same sense as he would choose an auto repair man. These look upon dentistry as a craft or a trade, which can be judged by the consumer. Their recommendations are devoid of the qualities of character which sustain the professional concept. The image of the profession as projected by the consumerist is one of suspicion, mistrust and challenge.

Should the profession look to the reasons for the appearance of these consumer-oriented guides for the selection of a dentist, it may very well find that some members of the profession actually have been deporting themselves in the systems of craft and trade by viewing those who came in trust simply as an opportunity for profit. A blemished image will remain until the profession purges itself of these deviates and presents a posture of true professionalism to the public. No public relation program, no amount of scented powder or whitewash will alter this poor image of the profession so long as it, the profession, tolerates the fraudulent member. The professions must have the courage to clear their own ranks by internal means, or submit to agencies of society who will. The abandonment of its ethics and its standards will deprive dentistry of its professional rank.

Because there are many factions involved in the image of dentistry, we might examine each in its own light. Among these factions and factors are those of geography and population density, age, race, and ethnic mores toward health, rural, urban, the sick, the well, the conservative, the biased, the educated and the uninformed, the private, the commercial and the public sector, the advocates of third-party programs, and on and on, we have an unlimited input to the Public Viewpoint.

Each of these has a bearing and an influence on the so-called Public View of Dentistry. Which is most important would be hard to say. Those who are articulate, who have a loud voice and access to the platform of a seeming authority to speak for the public have an apparent great influence. These are the politicians, the

bureaucrats, and the insurance industrialist and the consumerist. Because it is to their advantage that the profession appear inadequate, malfunctioning and inept in its performance, there is a constant flow of articles, reports and releases disparaging the profession. The public press prints very few statements defending the system which brought health care in this country to be the best in the world. We might ask — how come? Who is promoting what, and for what reason? At the present time, the implementation of governmental and industrial third-party programs has generated considerable turbulence as the dictates and demands of third parties intervene in traditional control by the profession of its affairs, particularly the care of patients. While the public image of dentistry may have been superficially enhanced by third-party management of the payment system, the consumer — poor fellow — still insists on being the patient and the dentist — poor soul — will insist on being the doctor. The fiducial exchange between doctor and patient is attained only in an atmosphere of trust and honor. There must always accrue evidence of the exercise of moral value judgments. The kinship of consumer-provider is a relationship of commerce. The basic nature of health care therefore cannot be subject to commercial or political overriding and remain professional.

SURVIVAL OF THE PROFESSIONAL CONCEPT

In spite of its imperfections, health care within the professional concept is the best system yet devised for both patient and doctor. It is a balanced system which becomes eccentric when self-interest intervenes on the part of the doctor, the patient, or their surrogate in the form of an apparently benevolent third party whose interest is material, not moral. The management of the role of third parties will depend upon how the profession develops a proper public view of its role. The profession can survive as a profession only if the public view recognizes the worth and validity of the professional concept. This public view cannot be altered by artificial means, by propaganda or public relations programs per se.

The professional concept must survive, not for the good of the profession, but for the well being of the public. The first order of change necessary to this survival is an internal house cleaning. Stringent self-discipline, individually and collectively, is the greatest need of the professions today. This, more than anything, will bring the most improvement in the Public's View of Dentistry.

There are other factors which influence the Public's View of Dentistry. The education of both the public and the profession have great bearing on the Public's View and Concept of Dentistry.

DENTAL HEALTH EDUCATION IN CHILDHOOD

First in this area is the health education of our youngsters in the home and in the primary schools. Certain elementary but fundamental attitudes toward self-care and personal hygiene are not now presented convincingly to the child. The education of the child in the care of his teeth should be part of a strong vital program of primary health education. The influence of personal care in mouth health is recognized, it is the obligation of the home and the school to bring the child to know of his personal responsibilities in all self-care procedures. The image of the profession will improve when it presses parents and school authorities to educate the child properly in mouth hygiene. Certainly, the costly time of the dentist and the expensive environment of the dental office is no place for training in tooth and mouth cleaning which is essentially a part of the bath.

EDUCATIONAL REORIENTATION OF THE DENTIST

The education of the dentist does influence the public's view of dentistry. The image of the dentist and his role in society is a factor of his education and training. The D.D.S. degree has suffered humiliation in the academic world. The dental specialties take additional training and many graduate schools award a Master of Science in Dentistry. The M.D. takes a year of internship and four years of residency and retains only the M.D. degree. The use of the Master of Science in Dentistry downgrades the Doctorate of Dental Surgery. The public image of the dentist suffers from such practice. The need for specialty training is acknowledged but not at the expense of the image of the original degree.

The curriculum of the dental student should include a sufficient orientation in diagnosis and clinical experience that prepares him for service to his patient. The departmentalization of the mouth in the dental school has robbed the ultimate patient of adequate primary care. Aggressive department heads have lured the brighter students to the specialties to careers in research and teaching as they filled the slots of federally-subsidized graduate-training programs. It has been said that the extensive interest in the specialties of medicine could be looked upon as a cop-out. It

is less a problem for a person to provide the limited services of a specialist than to assume responsibility for the entire patient. The aggrandizement of the specialist either in his department or in his practice has brought a new perspective to the public's view of dentistry. The over-interest in developing specialists has distorted the purpose of professional education, which is to produce people who will serve society best.

The image of the profession will improve when the dental schools provide well-trained clinically-competent persons to serve society. That this is not now being done is supported by the recent results of the Northeast Regional Boards. In 1969, one percent failed — the failure rate has increased about one percent per year. In 1975, the failure rate was 8.2 percent. This information was given to me by a general practitioner who has been an examiner since 1958. He expressed serious concern. It should be noted that Boards of Dental Examiners are not an appendage of the profession. They represent the public. Their mission is, by law, to remove incompetents from beginning practice. Such a lack of competence in those who are released from dental schools does have serious implications for the Public's View of Dentistry. It gives opportunity for other systems of health care to be proposed.

THE ROLE OF THE AUXILIARIES

The role of the auxiliaries in the design of the Public's View of Dentistry is important to the profession. The profession of dentistry is responsible for the entire spectrum of oral health care delivery. If it has been assigned the responsibility, it must maintain its authority. If it assigns part of its responsibility, it must also relinquish proportionate authority. As long as the profession provides the shelter for its supportive groups, it must supervise control of all aspects of their activities related to health care. Independent actions by auxiliaries, if allowed to expand beyond their assignments by the profession, will develop interfaces of conflict. If the state proclaims by law that an action by an auxiliary is allowable but that the attending dentist is responsible, then the professional must maintain his complete authority over the act. The direct, active participation with voice in the affairs of the profession by its auxiliaries should be monitored very carefully lest the new language of health care deprive the patient and the public of those value judgments which are the singular responsibility of the professional. *The intervention of auxiliaries into professional affairs should be restrained to avoid the potential of*

independent alignments of ambitious auxiliaries with aggressive third-party mechanisms. The profession is the responsible agent to society for oral health care and must assure that proper use of ancillaries be made but only through and by direction of the profession. The public would take a strange view of dentistry if the profession placed itself in the custody of its auxiliaries.

There are many other factors which develop the Public's View of Dentistry — in fact, they are infinite. Perhaps we have time to consider one or two. The pluralism of our society and the manner in which our system of professions serves the needs of this pluralism is the source and secret of the strength and stability of our society. As long as there is a recognition by the public of the value to itself of the professional concept, the freedoms of our people and the professions will be assured. Whenever a factor of self-interest develops in the system, either on the part of the patient or public, the professional or profession, a turbulence will develop at the interface of exchange. Whenever the moral exchanges between society and profession are supervened by commercial or political exchanges, a potential for great harm develops.

CONCLUSION

1. The Public's Points of View of Dentistry are pluralistic because its needs are pluralistic.
2. The profession must respond to these various needs by allowing a pluralism within itself but always within the precepts of professionalism.
3. The role of third parties is allowable within the system of professionalism if self-interest does *not* command that the commercial or industrial axiom of profit be first consideration.
4. The first order of responsibility in our system of health care is always upon the professional. Society has trained him and allocated to him alone privilege and position in an exchange for professed commitments. He can neither assign nor abandon this responsibility to others.
5. The professions must be forthright in the clearance of derelicts from their ranks. Society must allow and support the professions in their programs of professional quality control. The escape of deviate professional conduct by refuge in permissive courts of law should be brought to the attention of the public.
6. For two hundred years, this system of government, founded by professionals who pledged their lives, their fortunes, and their

sacred honor, has been held together by generations of professionals. The pluralism of our society is its strength. The pluralism of its professions is essential to their effectiveness.

7. The Public's Point of View of Dentistry are pluralistic. Dentistry's responsibilities to the public are in like manner pluralistic. It is obliged to resist the tyranny of standardization and the devilry of self-interest in any form which may encroach upon the prerogatives and responsibilities assigned to it.

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Words are at once powerful and inadequate. Also they are the most insidious things of man's creation. Our use of them affects our attitudes, and we need constantly to be on guard as to the sense in which we employ them.

J. DONALD ADAMS

Retired Military Personnel — A Source of Dental Education Manpower

THOMAS W. BREHM, D.D.S.

Many dental schools are experiencing difficulty in filling faculty vacancies, even though attention has been directed toward better recruiting methodology.¹

One possible source of dental education manpower which has not been fully exploited is retired military personnel. Some schools have utilized this reservoir of talent, and have filled faculty positions ranging from dean to assistant professor, and representing all branches of the federal service. Other schools have consciously avoided former military people, and have none on their staffs.²

This article will review the retired military dentist, and explore his potential as a dental educator.

Except in the case of disability retirement, all federal service dentists must have at least 20 years of service before they are eligible for retirement. Consequently, most of these individuals are in their mid-forties before applying for teaching positions. Since the majority of dental schools have mandatory retirement at age 65, these dentists can usually devote approximately 20 years to their second career.

Almost all military dentists have actively practiced dentistry during some part of their service career. It may have been a large group type practice, or a more generalized practice in isolated stations. However, they do have experience in patient treatment, a valuable asset for any dental educator.

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The military encourages and affords its professional employees a continuous system for self-improvement. As a general rule, most military dentists have received additional training. It may be advanced training in a dental specialty which leads to a specialty board certificate, or it might involve training in administration and management. It could also include attendance at selected continuing education courses. Such training may be acquired at both military and civilian institutions and serves to continually improve the capabilities of all career officers.

A large percentage of military dentists have experienced some type of teaching activity during their service careers. Those with specialty training are involved in teaching dental interns and residents. They also conduct continuing education courses and serve as consultants for both military and civilian organizations. Even those without specialty training participate in improving the skills of recent dental graduates who spend tours of duty with them. While not dental educators in the true sense of the word, they are nevertheless familiar with various educational methodologies used in dental education.

Retired military are also adept at evaluation, counseling, and advising. The officer's efficiency report system, the evaluative mechanism for all of the federal services, calls for the same objective and subjective determinations that are necessary for student evaluation. Senior military dentists also gain much experience in counseling, and advising younger dentists toward methods of self-improvement.

The question of job stability always arises when discussing the employment of retired military dentists. There are no figures available which indicate that retired military change jobs more frequently than other faculty members.³ It might be argued that this group, because of their former nomadic existence, has a stronger desire for establishing a permanent residency.

Some administrators tend to look upon retired military as "cheap help" because of their retirement income. Salary negotiations, however, should be based on talents possessed and efforts expended. Moreover, due to this supplemental income, retired military dental educators are less likely to engage in part-time practice or other "moon lighting" activities. They are more likely then to contribute their concentrated efforts toward teaching and research.

The health status of these older teachers is often raised as a valid concern. No dental school wants to be a retirement home. It

may be assumed that most retired military are in good health or they would have received physical disability retirements. Complete physical examinations are an annual requirement in the military, the importance of preventive medicine is constantly stressed, and physical fitness is emphasized. Therefore, absenteeism for reasons of poor health should not be a major problem with retired military faculty.

Perhaps the greatest criticism directed at retired military as dental educators involves their "military mind-set." They are often accused of being too inflexible, too concerned about dress codes and hair length, too dictatorial, too arbitrary, and too old to relate to dental students and younger faculty. Unfortunately, some individuals do fit this pattern. Conversely, there are many others who possess traits developed in the military which can be utilized as valuable assets in a dental school environment. Loyalty, a sense of duty, desire to accept responsibility, punctuality, ability to take orders, self-discipline, and an appreciation for staff (committee) work can be positive characteristics that will enhance any academic environment. It might also be argued that the military teaches flexibility, since so many variables are confronted during a military career.

Is the "generation gap" a problem with retired military teachers? It may be to a small extent, but most military dentists have dealt with recent graduates during much of their service career and many of them have sons and daughters who are of high school and college age. There is no reason then to believe that retired military should have more interpersonal relation problems with students than others in their age group.

Do retired military dentists make good dental educators? This question can only be answered on an individual basis. Some generalizations have been made, but in the final analysis it is the individual person who must be examined. All retired military are not "government issue"; nor are they all cast from the same mold. Some have a great deal to contribute to dental education, and can be a valid answer to the dental teaching shortage. Others would be real misfits in a school environment. Search committees should realize this and conduct their business without preconceived prejudices. Only in this way can the best qualified person be selected from the available employment pool.

(Continued on page 197)

A Humanistic Approach to Clinical Performance Evaluation

BERNARD L. LUTZ, D.D.S., M.P.H., Ph.D.

TERRILL A. MAST, M.Ed., Ph.D.

Recent publications have indicated the scope and intensity of interest in clinical performance evaluation.¹⁻¹⁵ The authors of those articles have emphasized the need for clinical competency assessment as a means for controlling quality both in dental education and in the delivery of dental health services. Although the literature reveals a progressive improvement in the process of evaluation, the special purposes and methods of clinical performance evaluations are far from maturity.

In the following discussion, the authors propose (1) that there are two discrete and mutually exclusive purposes for clinical performance evaluation, (2) that the respective evaluation processes are not easily interchangeable, (3) that faculty who are expected to perform both functions may be forced into roles that are, to some degree, incompatible, and (4) that the process and special skills required for each type of evaluation may indicate a need for a separate strategy for each of the clinical performance evaluation systems.

TWO TYPES OF EVALUATION

A distinction has been drawn by Scriven¹⁶ between *summative* and *formative* evaluation in the area of curriculum development. The usefulness of this distinction has been applied to general educational practice by Airasian,¹⁷ Bloom,¹⁸ and more specifically, to dental education by MacKenzie.⁹ These writers have pointed out that summative and formative evaluations differ in their purpose, method and audience.

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The purpose of the summative evaluation is to measure terminal competency or whether mastery performance has been achieved. A dental student's (or dental practitioner's) performance is measured and evaluated for the purpose of making decision as to the adequacy of his or her clinical ability. This terminal competency assessment is "summative" in that it involves a summary evaluation and most often results in a grade, a promotion, certification, or licensure to practice. The audience for such an evaluation is usually an external agency. Such agencies might include other faculty members, a department, a graduate program, or a licensing agency ultimately accountable to the public. Thus, the function of terminal competency assessment or summative evaluation is to discharge a legal or professional responsibility for quality of the product of education or the quality of performance in the delivery of dental health services.

In contrast, the purpose of formative evaluation is to provide feedback information to the learner such that learning efficiency is improved.¹⁸⁻²⁰ The audience is the individual student. Evaluation as a feedback process is a well-recognized and documented component of the teaching-learning process.^{19,21,22} Without some form of continuous appraisal of learning effort, progress may be random and inefficient. Thus, formative evaluation is a process of continuous diagnosis of individual student progress. The evaluation results in a profile of student strengths and weaknesses, and generates a prescription for correction and further development.

The formative evaluation process is far more significant as a contributor to effective learning than is summative evaluation because of its frequency and the specificity of its information feedback to the individual learner.²³ Moreover, the process of evaluation for learning efficiency involves the progressive development of skills believed to be critical for professional self-evaluation and continuous learning.^{19,20,22,24,26} These skills are assumed to be prerequisite for the continued maintenance of clinical competency in the delivery of comprehensive dental health services.²⁷⁻²⁹

TWO METHODS OF EVALUATION

The separate purposes of summative and formative evaluation dictate different methods as well as different standard of precision for those methods. Grades are important to the educational institution in that they certify that a student has achieved a certain

level of competence and is prepared for instruction toward the next level of competence development. The assignment of a grade is also extremely important to the student in that it follows him throughout his academic career and may determine his admission to graduate programs. More recently, students' grades have become the subject of legal implications. For these reasons grades or summative evaluations must be the result of objective and reliable measurement systems consistently applied according to well-defined and tested standards and procedures. The same rationale applies to state and regional board examinations, national and specialty boards, departmental comprehensive examinations and any other form of summative evaluation.

The situation is quite different with formative evaluation. Education specialists often compare the teaching-learning transaction to labor-management relations in organizations. The environment may vary from highly authoritarian to participative. The evidence from organizational literature clearly indicates the advantages in productivity and satisfaction favoring the participate or human relations type of environment.

THE HUMANISTIC APPROACH

Professional schools have tended to be highly authoritarian. The faculties of many dental schools are disposed to using grades and attrition as the primary motivation for learning effort and productivity. However, if terminal competency assessment and grading produces any effect on learning, it does so by threat or fear. As dental students have shown greater maturity at an earlier age and a desire for greater independence, they tend to resist the authoritarian method of forced feeding and fear motivation.

In contrast, clinical performance evaluation for feedback suggests a participative environment or the "human relations" approach to the teacher-learning process.²⁸ The instructor is viewed as a colleague, helper, tutor, or resource person rather than an adversary. In participative learning the process is learner-centered rather than instruction or content-centered,^{28,29,30} and the environment must be designed to assist the student in becoming more independent in the skills of self-evaluation and autonomous learning.

The introduction of flexible pacing in a few dental schools,³¹⁻³³ together with possible increases in flexibility of learning method and curriculum content, transfers more responsibility for learning to the student. The student's motivation for learning effort is to

achieve mastery in less time and at less cost.^{34,35} An additional objective is to develop the intrinsic motivation of the student to replace the extrinsic motivation provided by grades or the threat of academic failure.

Concurrent with the change to increased individualization and autonomy in learning is the need for special skills and experience in self-evaluation. Such skills are assumed to be essential in order that continued clinical competency may become a lifelong possibility and a professional responsibility. In the future, an additional parameter for predicting continued professional competency may be the student's demonstrated skill in progressive self-evaluation and independent learning. Thus, the more critical characteristic of good teaching and learning is the shared progressive experience of the learner and the instructor in the diagnosis of individual learning needs, selection of the most effective learning method, and the evaluation of the progress in learning achievement. Such skills may be difficult to develop when evaluation is externally applied and where grading is believed to be an unavoidable consequence of continuous faculty supervision and performance assessment.

VALIDITY AND RELIABILITY OF EVALUATION

Any practical evaluation procedure permits only a sampling of the behaviors to be measured. From this sample an inference is made regarding the student's competence in a larger variety of stimulus situations. For example, although a student may be evaluated placing a rubber dam properly for only one pedodontic patient (validity) we infer from the single performance that he would also perform the procedure well for a wide range of pedodontic patients (reliability). Such inferences are a pragmatic necessity in most measurement processes. The selection of the sample, in this case the pedodontic patient, will in large part determine the validity of the inference. The sample selection should therefore be under the control of the evaluator to insure validity in the measurement process.

The reliability of an evaluation is a function of the consistency and objectivity in application of performance criteria to the students' performances. Extremely high reliability has been shown to be possible in evaluations which utilized a "blind" or "double-blind" technique, limited numbers of trained evaluators and well developed, proven performance criteria.^{11,36} Summative clinical evaluation processes which have carefully documented reliability

and validity are rare in either dental board examinations or departmental course or comprehensive examinations. Because of the short-range and long-range significance of summative evaluations for students, educators, and public alike, it is imperative that reliability and validity be built into summative evaluation mechanisms.

Fortunately the constraints of objective evaluation are less demanding when the information is gathered for feedback to facilitate learning. The procedures of summative evaluation described above, which may be feasible on a periodic basis, could not be applied to the daily clinical formative evaluations. Because of the frequency and specificity of formative evaluations, their independence from grades, and their progressive obsolescence as student competency improves, formative evaluations need not match the standards of objectivity required for summative evaluations. The demands for accuracy and consistency become critical especially when students view the process as threatening to their personal image, confidence, and possible acceptance into graduate programs.

The process of gathering information on student performance for purposes of feedback should not be graded and remains essentially confidential between teacher and learner. Thus, the process is nonthreatening and the absence of strict attention to validity and reliability is of less consequence.

THE INCOMPATIBILITY OF EVALUATOR ROLES

Given the different purposes, methods, and standards of summative and formative evaluation, it seems reasonable to consider whether the two functions might best be served by different faculty members. The objectivity demanded for summative evaluation may be sacrificed or reduced when the evaluator and evaluatee have a close colleageal relationship. On the other hand, the open and trusting relationship required for effective teaching and learning may be sacrificed or reduced when the instructor is forced to step into the objective evaluator role required for reliable summative evaluation. It is not unusual or unrealistic for clinical faculty to compromise a grade, consciously or unconsciously, when objectivity and grading threatens the trust and openness of their student relationships. Such relationships may be difficult to maintain when the student is evaluated and graded by the same instructor who must also help the student diagnose his learning problems, reinforce correct

behavior, and affect the prescription for improved clinical and professional competence.^{29,37}

SUMMARY

The attention given to clinical performance evaluation suggests that dental faculties are increasingly aware of the need for improved systems for assessing student performance. Assessment for communicating the quality of performance to an external agency demands a high level of accuracy and consistency. In contrast, when the purpose of assessment is communication to the learner as a means of improving learning efficiency, then the more important factor is the readiness and receptivity of the learner to use the message communicated. Thus, evaluation for learning efficiency requires a close trusting relationship with students that may be difficult to maintain in an environment where grades and grading represent a threat to the security and self-confidence of the student.

Two separate purposes for evaluation have been described. Each separate purpose dictates a distinct and mutually exclusive process. The special skills involved in each process as well as the possible conflict of faculty role in each type of evaluation suggests that careful attention is needed in order that clinical performance evaluation be both effective and efficient.

The process of labeling student performance may involve a level of skill and precision that is beyond the capacity of most dental faculty. The legal and ethical implications of student ranking and/or academic failure place the burden of accountability on a faculty which may have only limited resources to design and administrate a valid and reliable system of clinical competency assessment. The result is often a compromise of excellence and objectivity or more frequently a justified distrust of the evaluation system by the students.

CONCLUSIONS

In view of this conflict between the roles of the formative and summative evaluators, two courses of action seem appropriate. For some dental skills, "blind" or "double-blind" evaluation of products can be employed to insure objectivity in summative evaluations without threatening the student-faculty relationship. For many dental skills, however, it is either invalid or impractical to evaluate only products and not processes. Thus, for many skills which involve the application of knowledge, it might be more

appropriate to use separate faculty members in either formative or summative evaluations in order that each group might perform their functions more effectively.

The separation of roles might be accomplished by employing several part-time or full-time faculty who could be trained to perform solely as summative evaluators, either within or across departments. Such a process might also involve the employment of state or regional board members or possibly other dental educators on a periodic exchange basis. In either case the efforts to improve both formative and summative evaluation must be well coordinated and supported by a staff of skilled psychometric and psychological specialists.

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DENTAL EDUCATION MANPOWER
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(Continued from page 140)

At the business meeting, the Section voted to give plaques to each of the three dental schools in Texas for the senior dental student who has demonstrated outstanding leadership. It was also voted to send a gift of \$500.00 to the ACD Foundation, in honor of Ralph Boelsche. This is the third contribution the Section has made to this worthy cause. The Texas Foundation of Dental Health and Education was given \$100.00 to be used as a tribute to honor Fellows on their death. Each member was urged to make contributions to Project Library.

The Section elected officers for 1976-77. J. Ross Woodul was installed as president of the Section; John C. Wilson, president-elect; John Wilbanks, vice-president; and Robert E. Lamb, secretary-treasurer.

Dr. Woodul presented the past president's plaque to Dr. Sorrels, who then thanked the members for the honor of serving the Section as president.

NECROLOGY REPORT

The deaths of the following Fellows have been reported to the Central office between November 1975 and March 1976.

- | | |
|---|---|
| G. Thaddeus Gregory, Indianapolis, Indiana | Raymond F. Paul, St. Louis, Missouri |
| *Earle M. Crysler, Watertown, New York | Walter H. Swartz, Ann Arbor, Michigan |
| *Granville Sherman, Collierville, Tennessee | Albert L. Knab, Elmhurst, Illinois |
| *Edward R. Hilden, Eugene, Oregon | *Floyd H. Binkley, Hennessey, Oklahoma |
| **Ernest C. Coleman, Deland, Florida | *Anthony S. Gugino, Buffalo, New York |
| Charles E. Hebert, New Roads, Louisiana | *Max E. Ernst, St. Paul, Minnesota |
| *Arthur I. Bell, Ft. Lauderdale, Florida | Ralph H. Stern, Los Angeles, California |
| *Charles M. Silk, San Francisco, California | *Craft A. Hopper, Ridgewood, New Jersey |
| *William T. Ralph, Belhaven, North Carolina | *Ruth Martin, Santa Barbara, California |
| Arthur L. Milbourn, Dallas, Texas | John W. Sabo, Pueblo, Colorado |
| *Henry C. Petray, Oakland, California | Leo B. Lundergan, Clayton, Missouri |
| Joseph G. Stewart, Montgomery, Alabama | *Harold W. Oppice, Omaha, Nebraska |
| William M. Tweed, Tucson, Arizona | Lewis I. Townsend, Atlanta, Georgia |
| Robert F. Rudisill, Latham, New York | *Dwight R. Kinsley, Bay Village, Ohio |
| S.L. Drummond-Jackson, London, England | Herbert W. Grinnell, New York, New York |
| **Lloyd E. Blauch, Washington, D.C. | Otto J. Dick, St. Louis, Missouri |
| George E. Carbonelli, Utica, New York | *LeRoy P. Hartley, Dallas, Texas |
| William J. Takacs, San Antonio, Texas | Errol W. Willett, Largo, Florida |
| Robert L. Twible, Toronto, Canada | |
| *Russell A. Dixon, Silver Spring, Maryland | |
| Wilvor C. Waller, Pittsburgh, Pennsylvania | |
| David L. Ford, Columbus, Ohio | |
| *Roscoe M. Justice, Ashland, Kentucky | |

*Life Members

**Honorary Fellows

NEWS OF FELLOWS

Past president **J. Ben Robinson** was honored recently at a recognition program at Morgantown, West Virginia by the alumni societies of West Virginia University School of Dentistry and the University of Maryland Dental School for his long service and outstanding contributions to dentistry and dental education. A bronze bust of Dr. Robinson was presented to West Virginia University School of Dentistry in his honor.

Edward A. Lusterman of Rockville Center and **George W. Ferguson** of Buffalo are the first recipients of the newly established Distinguished Service Award of the Dental Society of the State of New York.

Elmer C. Prall of Mount Vernon, Iowa has retired from the city council after serving for 42 years, the longest continuous service of any elected city official in the state. He continues in active dental practice.

Richard D. Hardin of North Little Rock, Arkansas was honored by the Arkansas State Dental Association through the establishment of the Dr. Richard D. Hardin Award for the best professional. The award was made recently to a graduating senior at the commencement exercises of the School of Dental Hygiene of the University of Arkansas.

Robert A. Goepp of Chicago has been elected a member of the National Council on Radiation Protection and Measurements.

Sidney Sorrin, professor emeritus of periodontia and oral medicine at the New York University College of Dentistry was honored recently. He received the Dr. Harry Strusser Award for outstanding contributions in the field of public health, and addressed the graduating class of dentistry at commencement exercises.

Louis G. Terkla of Portland, Oregon, past president of the College, was the Keynote speaker at the dedication ceremony of the new school of Dentistry of the University of Alabama in Birmingham.

Henry J. Heim, treasurer of the College, was the recipient of the John Carrol Medal of Merit, Georgetown University's most prestigious award, at its recent commencement exercises. He was cited for "dedication and services to God, community and Alma Mater" and "in recognition of his achievements, his respected personal life, and his unflinching loyalty."

Frank B. Trice of Houston, was recently presented the first Outstanding Alumnus Award of the University of Texas Dental Branch at Houston.

Charles A. McCallum, dean of the School of Dentistry at the University of Alabama in Birmingham, has been elected to the Board of the Council on Postsecondary Accreditation.

Marvin E. Revzin, dean of the School of Dentistry at the University of Missouri at Kansas City, delivered the Lister Hill Lecture at the special honors convocation of the University of Alabama in Birmingham.

Clifton O. Dummett, University of Southern California professor of dentistry, has been named recipient of the 1976 Alfred C. Fones Award which is presented each year by the Connecticut State Dental Association to a person who has made outstanding contributions to humanity.

Joel F. Goodwin of Dallas, received the Distinguished Alumnus Award from the Baylor Dental Alumni Association at its annual meeting in Galveston in May.

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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