The Dentist's Role and Patients' Expectations

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TODAY, an important part of dentistry's own mandate is care of the entire oral cavity and concern with all disorders of the mouth and their systemic relationships. Mandate is the profession's definition of the dentist's role and is meant to guide the proper conduct, thinking, and belief of everyone toward the occupation. Society's expectations, including legal definitions of the dentist's role, can be termed "license." Both "license" and "mandate" affect dental practice. These concepts follow those developed by Hughes in his study of professional occupations (*1*). A major concern of dentistry is bringing dental practices that are limited to the traditional restorative care of teeth and gums into line with the mandate of care of all disorders of the oral cavity and their systemic relationships.

The purpose of this paper is twofold: (*a*) to describe the development of mandate for dentistry as a profession and (*b*) to employ two indicators for license. One indicator consists of responses to survey questions on public expectations for the role of the general practitioner in dentistry. The other indicator is a content analysis of State laws as a measurement of legal permission.

Dental practice in the United States has consisted largely of alleviating pain by removing diseased teeth and in providing restorations or prostheses for the teeth (*2*). In Wardwell's term

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(*3*) dentists have been among the "limited practitioners" who perform health services not offered by others and whose professions have developed outside the discipline of medicine. Among the limited practitioners, dentists have the most extensive formal training and the most exacting requirements for licensure.

Formal dental education was begun in the middle of the 19th century by men who sincerely believed that considerations of the whole oral cavity and its systemic relationship to total health of the body were essential components of the curriculum. To some extent, it is an historical accident that dentistry was not taught as a medical specialty within the context of the medical school (*4*). Perhaps it is because dentistry grew separately from the mainstream of biomedical research, as well as because of the nature of dental disease itself, that dental curriculums were concentrated more on restorative procedures. Today, dental educators are attempting to bring curriculums back into balance so that soft tissues and systemic relationships receive a more equal, if not dominating, portion of the dental student's training (*5*).

Evidence of a changing role and the ideological positions taken toward that change is provided in current discussions over what the dentist's professional degree should be called. A few schools like Harvard and Tufts have long granted the D.M.D. (doctor of dental medicine) degree. But the large majority of schools have always granted the traditional D.D.S. (doctor of dental surgery). In the words of a contemporary dental editor, however (*6*):

> It would appear that the D.D.S. degree is no longer descriptive of the functions of dentistry nor of its inherent relationship with medicine so far, at least, as concerns the oral cavity and its relation to some systemic conditions. Dentistry is concededly a specialized field of medicine. The days when it was confined to the removal of troublesome carious teeth have long gone by.

The University of Pennsylvania in Philadelphia recently switched to the D.M.D. degree, consciously emphasizing the new role concept. Other established schools are likely to follow, and the new schools are likely to grant the title that portrays dentistry as a medical specialty.

Several recent sociological surveys also have shed light on the dentist's role. The bulk of the data suggest that the traditional definition of what or how the dentist should practice has changed little over the years. For example, in 1957 a national sample of dentists was queried by the National Opinion Research Center on the extent to which they incorporated preventive procedures into their dental practices. Such procedures were assumed to be expansions of the traditional restorative techniques (*7*). Sixty percent of dentists reported that they were not carrying out as much preventive practice as they would like. With multiple responses, about 45 percent cited lack of time, 42 percent specified excessive cost to the patient, and 24 percent specified adverse patient reaction. Becker and Geer (*8*) alluded to these same factors for lack of prevention in medical practices. There also have been empirical data on practices of the population that support the finding of a limited amount of preventive practive (*9, 10*).

Data on Minnesota and Chicago dentists (*11*), surveyed concerning their adoption of relatively new oral cancer detection techniques, reinforced the findings, which suggest a difference between felt responsibility and actual performance of care. Detecting oral cancer necessarily involves the dentist with examination of soft tissue and in a life-death situation analogous to that of his physician counterpart. Studies show that the dentist seems to realize his responsibility on the cognitive level, but on the behavioral level he has not taken cytological smears at a rate that could be expected (*11–14*).

The Minnesota and Chicago studies represent only part of the research conducted between 1960 and 1964 in conjunction with an oral cytological program to promote the dentist's use of oral cancer detection techniques. Other studies done during this period also show that a very low percentage of dentists have used the cytological smear technique, even in the face of intensive campaigns to promote the dentist's use of this technique. Only 45 percent of the dentists in Minnesota requested a cytological kit. Only about 29 percent of these dentists had taken oral smears from their patients (*12*).

In another study of dentists who did not feel competent to diagnose cancerous lesions, 85 percent reported that they had not taken a single smear (*13*).

In summary, the components of role definition of a professional occupation can be identified and compared. In dentistry, these components include, among other things, the occupational definition embodied in formal training of the dental professional. Social license, embodied in current dental practice laws and also in public expectations, is

Table 1. Practitioners sought for care of various oral conditions, in percent

Condition	Dentist	Physician	Other	Would not seek care	Total
Broken tooth	99	.....		1	100
Bleeding gums	87	10	.....	3	100
Sore on gums	78	17	.....	5	100
Bad breath	42	34	1	23	100
Swelling on inside of cheek	37	58	1	4	100
Sore on inside of mouth	32	62	.....	6	100

another role determinant. How significant a factor is the public's expectations in perpetuating the traditional role model, in limiting its expansion or, perhaps, in encouraging a broader definition of the dentist's role?

In the medical profession, Koos (*15*) implies that if the metropolis is to use its medical care to the fullest extent necessary for good health, then that medical care must be of such a nature (aside from its technical aspects) that it is viewed favorably by the consumer.

In dentistry the patients' attitudes may limit dental practice to the restorative care of teeth and gums. Still, some people may perceive the dentist as a medical specialist or physician of the oral cavity.

Survey Method and Analysis

To determine the public's concept of the dentist's role, a national interview survey of 1,520 U.S. adults was conducted under the auspices of the Public Health Service's Division of Dental Health. The data were collected by the National Opinion Research Center in the fall of 1965.

A series of questions was asked concerning the dentist's role. The first question dealt with several possible conditions in the mouth and whether or not each was considered to be the responsibility of the dentist. From these questions, a scale was formulated to measure the public's expectations. A few conditions pertained to the traditional role of the dentist in the care of the teeth and gums; others dealt with a more expanded role. The respondents were asked whether they would go to the dentist or physician for any of the following conditions: (*a*) a broken tooth, (*b*) bleeding gums, (*c*) sore on gums, (*d*) bad breath, (*e*) swelling on inside of cheek, or (*f*) sore on inside of mouth. The percentage distribution of answers to those items is shown in table 1.

Almost everyone assigned to the dentist the care of a broken tooth (99 percent), bleeding gums (87 percent), and sore on gums (78 percent). But this large consensus dropped off for bad breath (42 percent), swelling on inside of cheek (37 percent), and sore on inside of mouth (32 percent). The item on bad breath did not receive a majority of responses for either the dentist or the physician, and 23 percent stated they would not seek care for this condition.

Another question directly asked: Do you feel the dentist is trained to deal with all diseases of the mouth or only diseases of the teeth and gums? In 1,520 responses, the majority selected the traditional role of dealing with only care of teeth and gums. A minority agreed to the expanded role of care of all mouth diseases. The following tabulation shows the percentages:

Role of dentist	*Percentage of responses*
Care of only teeth and gums	68
Trained to deal with all diseases of the mouth	29
Don't know	3
Total	100

These responses and those in table 1, classified into traditional and expanded role items, were combined to form an index measuring the respondents' orientation to the dentist's role. This expanded role index was devised to range from the more traditional, limited role of the dentist as caretaker of the teeth and gums (low on the scale) to acceptance of the dentist as oral physician (high on scale). A quasi-Guttman scale, a unidimensional measure, was constructed that included four items. In this type of scale, items are cumulatively ordered to measure the amount of attribute a person has. The acceptance of one item implies that a person accepts all items of lesser magnitude.

Table 2. Distribution of responses on the expanded role index

Index	Number	Percent
Traditional role (low):		
All no responses	188	13
1 yes response	467	32
Midpoint: 2 yes responses	367	25
Expanded role (high):		
3 yes responses	268	19
4 yes responses	152	11
Total	1,442	100

Table 3. Placement of respondents on expanded role index, in percent, by education, income, age, sex, and race

Characteristic	Number of respondents	Traditional role (low)			Midpoint	Expanded role (high)		
		All no responses	1 yes response	Total	2 yes responses	3 yes responses	4 yes responses	Total
Education:								
0–8th grade	613	13	31	44	27	19	10	29
Some high school completed	409	13	31	44	27	18	11	29
Some college and graduate school completed	415	14	36	50	22	18	10	28
Income:								
Less than $2,000–$4,999	555	11	31	42	28	19	11	30
$5,000–$9,999	631	14	35	49	24	17	10	27
$10,000 or more	243	14	29	43	24	22	11	33
Age (years):								
35 or under	483	13	30	43	28	18	11	29
36–55	576	14	34	48	23	19	10	29
over 55	380	11	33	44	26	19	11	30
Sex:								
Male	692	16	36	52	24	16	8	24
Female	750	11	28	39	27	21	13	34
Race:								
Black	202	11	31	42	25	19	14	33
White	1,225	13	33	46	25	19	10	29

NOTE: Total number of respondents varies by characteristic.

Table 4. Placement of respondents on expanded role index, in percent, by size of town and geographic area

Size of town and geographic area	Number of respondents (N = 1,442)	Traditional role (low)			Midpoint	Expanded role (high)		
		All no responses	1 yes response	Total	2 yes responses	3 yes responses	4 yes responses	Total
Size of town:								
10 largest metropolitan areas	350	13	31	44	26	20	10	30
Other metropolitan areas	596	11	32	43	26	20	11	31
Counties with towns of more than 10,000	226	9	32	41	28	19	12	31
Counties with towns of less than 10,000	270	21	35	56	21	14	9	23
Geographic area:								
New England	80	14	31	45	24	24	7	31
Mid-Atlantic	271	11	30	41	24	21	14	35
East North Central	277	10	31	41	29	17	13	30
West North Central	152	12	37	49	23	22	6	28
South Atlantic	206	15	37	52	22	17	9	26
Southeast	83	6	28	34	25	27	14	41
Southwest	152	14	26	40	33	16	11	27
Mountain	48	23	40	63	19	12	6	18
Pacific	173	18	35	53	24	16	7	23

These items covered whether or not the respondents would go to the dentist in the following situations: (*a*) for sore on gums, (*b*) for swelling inside of cheek, or (*c*) for sore on inside of mouth. The fourth item was whether or not the respondents thought the dentist was trained for all diseases of the mouth. Two items in table 1 concerning a broken tooth and bleeding gums were not suitable for scaling; 99 and 87 percent of the respondents were for going to the dentist. The item on bad breath was also eliminated because 23 percent did not answer in terms of dentist or physician. Our scale had a coefficient of reproducibility of 0.93, which shows that these items are scalable according to the standards set for this scaling technique. The scale, however, was used as an index with simplified scoring; each respondent's positive responses were simply summed to place him on the five-point expanded role index.

For purposes of analysis we designated people giving three or four "yes" responses as the high or expanded role group, those with one or no "yes" responses as the low or traditional role group, and those giving two "yes" answers as a middle group.

As shown in table 2, 45 percent were in the traditional group, 30 percent in the expanded role group, and 25 percent were midpoint on the index. To determine why the expanded role group differed from the rest of the population, the traditional and expanded role groups were compared for seven demographic variables.

Explaining Orientations

Placement of responses on the expanded role index was examined by demographic variables of education, income, age, sex, race, size of town, and geographic area. Tables 3 and 4 present data showing the relationships between the number of "yes" responses and these factors. The original categories for education, income, and age were collapsed for purposes of presentation. In general, the cross-tabulations for the original categories showed little difference from those in table 3.

In brief, table 3 shows that distributions along the index vary little by income, education, age, or race. Sex was one of the independent variables that showed differences along the index. Thirty-four percent of the women and only 24 percent of the men had a high score. At the other end of the continuum, 52 percent of the men had a low score compared with 39 percent of the women.

Ratings on the expanded role index by size of town and geographic area of respondents' residence are shown in table 4. People in rural areas, compared with those in the big cities, were more likely to have the traditional viewpoint and less the expanded role concept. Of those living in counties with towns smaller than 10,000 population, 56 percent were traditionally oriented, 23 percent were in the expanded role group, and 21 percent were in the middle group.

As for geographic areas, people in the West (combining the Mountain and Pacific regions) were relatively more traditional than those in the East (combining the New England, Mid-Atlantic, East North Central, and Southeast regions). Conversely, the East had more expanded role expectation responses than the West.

In addition to broad social characteristics, another variable, preventive dental orientation, was examined for its relationship to the expanded role index. It derived from recency of the respondent's last dental visit and his reasons for going—either to prevent disease or to stop symptoms (*16*). People who ranked high on this preventive orientation variable represented the type that dentists often refer to as dentally educated; that is, people who accept the dentist's view of proper patient behavior (*16*). People who ranked low were the dentally uneducated, with low dental I.Q.'s. We hypothesized that people in step with the norms of the professional dental culture concerning frequency of dental care and prevention would also tend to define the dentist's role in an expanded fashion.

This was not true. Persons classified as high in preventive care were no more likely to give the expanded role definition than people classified as low in preventive care. "Good" dental patients are not necessarily modern ones with expanded concepts of the dentist's role.

To summarize our analysis, about 45 percent of U.S. adults had a traditional view of the dentist's role. Less than a third had adopted the expanded view currently being presented in the dental schools and journals. About 25 percent of the views were in between the two extremes. Not much light was shed on what is behind this variation in role expectations, however. The demographic variables that usually discriminate dental health attitudes and behavior did not seem to operate, aside from sex, size of town of residence, and geographic area, which differentiated to a modest extent. Further, accepting one norm of the official dental culture, such as having a habit of preventive dental visits, does not entail accepting

the new definitions of the dentist's expanded role.

With so little difference between people who hold traditional and expanded views of the dentist, it is worth speculating about the effects on role definition of changes now underway in American dentistry. Over the past decade, the Public Health Service and dental schools have attempted to make salient the dentist's responsibility in oral cancer detection. Oral cancer accounts for about 5 percent of all cancer. It attacks the soft tissues, has obvious systemic consequences, and has one of the lowest rates of cure. With development of the oral cytological smear as a diagnostic tool, dentists can perform simple smears where they might be reluctant to do a biopsy. The national and local dental journals over the past several years have published enthusiastic endorsements to increase dentists' activity in oral cancer detection. At least part of their motivation has been to make dentistry "medical" by concerning it with a systemic life-and-death problem.

In oral cancer detection, we were able to examine a possible definition of a dynamic role. Do people accept the dentist's role in cancer detection? What consequences will acceptance have for an expanded role definition? The following tabulation shows the percentages of responses to the question: Do you feel it is the dentist's job to examine his patient for cancer of the mouth?

Responses	*Percent*
Yes	45
No	48
Don't know	7
Total	100

The population of 1,520 adults was nearly split in half on the question. There was a direct relationship between how people defined the dentist's role and how they felt about his looking for cancer (table 5). Only one-third of those on the lowest rung of the expanded role index thought the dentist should examine for oral cancer, while two-thirds of those highest on the index thought so. This relationship was expected. More interesting to this discussion was the relatively large proportion (one in three) who seemed to act inconsistently by wanting the dentist to examine for oral cancer but held a very conservative view of the dentist's role. This inconsistency may be a source of change that will swing more adults toward an expanded role definition.

Evidence from two studies of behavior support this finding from our opinion survey data. Castigliano (*17*) reported from his study of hospital cancer patients that a significant proportion of these patients had consulted the dentist before they consulted the physician about an oral condition. Certain types of cancer patients did so more frequently than others. He also reported on a study by Martin that the highest percentage of patients (65 percent in 594 cases) who consulted the dentist before the physician had gum cancer. In the Castigliano study of 530, about 49 percent consulted the dentist. The highest percentage of patients who consulted the dentist first in the Castigliano study had cancer in the maxillary antrum.

Evidence of change and variety in definition of the dentist's role can be found in several places. In a content analysis of laws in 50 States, the District of Columbia, and Puerto Rico (*18*), we classified 29 laws as defining the role of the dentist in traditional terms. The traditional group of laws define dental practice as care of the human teeth and jaws and adjacent tissues. Laws of 23 remaining States give evidence of a more expanded role concept. Here the dentist's role is described in part as diagnosis and treatment, or both, of either all diseases or all disorders of the oral cavity or human mouth. In addition, State laws with the expanded role concept are more likely to give the dentist the right to use drugs, medicines, or anesthetics than are laws using the more traditional terms. About 78 percent of laws with expanded concepts gave the dentist this right

Table 5. Responses to oral cancer question compared with position on expanded role index

Index position	Number of respondents (N = 1,442)	Should dentist examine for oral cancer? (percent)			
		Yes	No	Don't know	Total
Traditional (low) 0	188	33	62	5	100
1	467	39	55	6	100
↓ 2	367	41	52	7	100
3	268	58	35	7	100
Expanded (high) 4	152	67	26	7	100

as compared with 48 percent with the more traditional terminology.

Apparently the dentist rarely has been charged with overstepping the legal bounds of his profession. Carnahan (*19*) and Sarner (*20*), in studies of court cases, indicate that charges against the dentist were mainly for matters involving what was considered locally as violations of normal standards of dental care, such as pulling the wrong tooth, mismanagement of anesthetics, or giving the patient the wrong prescription. Carnahan (*19*) reported that a similar situation exists for court cases involving the physician. There was no evidence of legal conflicts between the physician and dentist in an effort to separate their respective functions, nor of the dental patient charging the dentist with overstepping his bounds.

Discussion

Because these data do not show cause and effect relationships, it is difficult to explain reasons for the differences between definitions of role. An example is the observation that women more than men tend to hold an expanded view of the dentist's role. Research designed to probe into the dynamics of the patient-dentist relationships is needed, such as the channels of information available to both the consumer and the provider of services. Perhaps women communicate more frequently and more in depth with dentists because they visit the dental office not only for treatment of self but also of their children. If so, they might be more likely to accept new views on dental health practice.

Education of patients by the dentist and the dentist's perception of the patient's response and ability to handle the psychological factors involved might help to determine the dentist's role. Other determinants might be found through examination of regional and local variations in the dental culture, as well as similar variations in physician-dentist relationships.

In a majority of States, the role of the dentist is legally defined as care of the teeth and gums. Public expectation is generally in keeping with this traditional role. Dental practice tends to follow this pattern.

Legal definitions reflecting both the professional prescriptions across the country and those of the legislators and citizenry tended to exhibit more of the expanded role definition than did patients' expectations. Formal training reflects more of the expanded role concept than do either the societal or legal definitions of the dentist's role.

The current dental situation appears as an interesting instance of the evolution of the specific terms of license and mandate by one professional occupation in a complex society. Study of that evolution should profit a general theory of occupational organization in such a society.

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An index of the dentist's expanded role has been constructed from a public opinion survey for the Public Health Service's Division of Dental Health. The position that a respondent occupies on this index seems to be somewhat related to sex, size of town of residence, and geographic area, but not to age, race, education, income, or preventive orientation toward dental health. It is not known why rural residents were more traditional in viewpoint than urban residents, why the West was more traditionally oriented than the East, or why women were somewhat more willing to hold an expanded view of the dentists' role than men.

These findings indicate that the public's definition of the dentist's role is more likely to be traditional than expanded. About one-third of the sample held expectations toward the expanded role definition. In the specific instance of cancer detection, one-third of those with a traditional concept accepted this particular expanded role component. Consequently, a change in role definition may be indicated within the ranks of the more traditionally oriented.