# FACTORS ASSOCIATED WITH PREVENTIVE DENTAL PRACTICE

NATIONAL OPINION RESEARCH CENTER
University of Chicago

Clyde W. Hart, Director
Herbert Goldstein, Business Manager

Report No. 69

March, 1959

NATIONAL OPINION RESEARCH CENTER
University of Chicago

***

Responsible for this project:

| | |
|---|---|
| Beatrice R. Treiman | Patricia Collette |
| Analysis and Report | Study Design and Direction |

with the assistance of:

| | |
|---|---|
| Shirley A. Star | Analysis and Report |
| Jacob J. Feldman | Sample Design and Analysis |
| Selma F. Monsky | Field Staff Direction |

Consultants for the Dental and Public Health Professions

| | |
|---|---|
| J. Roy Blaney, D.D.S. | Director, Evanston Dental Caries Study |
| Albert Dahlberg, D.D.S. | Research Associate, Zoller Memorial Dental Clinic and Department of Anthropology, University of Chicago |
| Jack Elinson, Ph.D. | Associate Professor, School of Public Health and Administrative Medicine, Columbia University |
| Frank J. Orland, D.D.S. | Director, Zoller Memorial Dental Clinic, University of Chicago |

## Acknowledgments

We would like to express our sincere appreciation to Dr. O. W. Brandhorst and his associates of the American College of Dentists and to Dr. Frank J. Orland of the Zoller Memorial Dental Clinic of the University of Chicago for their constant support and encouragement of this study.

We are also indebted to Dr. Harold Hillenbrand, B. Duane Moen and their colleagues of the American Dental Association and Miss Margaret Swanson, Executive Secretary of the American Dental Hygienists Association, for their helpful advice and suggestions, particularly in the formative stages of the research.

The original prospectus for this study was worked out by Jack Elinson, then a member of the staff of National Opinion Research Center. When he was appointed to the faculty of the School of Public Health and Administrative Medicine, Columbia University, responsibility for study design and direction fell, in August 1956, on other shoulders, but he has maintained an active interest in the study and has served throughout as a special consultant. We are grateful to all of our consultants for their wholehearted cooperation. They have provided us with extremely helpful suggestions based upon a careful critical review of a preliminary draft of the report.

This study was made possible by grants from the American College of Dentists, the Zoller Memorial Dental Clinic of the University of Chicago, and the National Institute of Dental Research of the U.S. Department of Health, Education, and Welfare.

TABLE OF CONTENTS

# CHAPTER I

# INTRODUCTION: BACKGROUND AND HIGHLIGHTS OF THE STUDY

## Background of the Study

In August, 1955, the American College of Dentists retained National Opinion Research Center to prepare a final prospectus for a systematic, empirical study of the use of preventive measures in dental care. This prospectus, when developed, was submitted to the National Institute of Dental Research of the United States Public Health Service, and in June, 1956 was approved for a grant of funds. The American College of Dentists and the Walter G. Zoller Memorial Dental Clinic of the University of Chicago also gave the study supplementary financial support to take care of certain costs not recoverable under the Public Health Service grant.

The chief consideration which led to the study was the widely shared belief that a more extensive and systematic use of preventive dental measures is crucial if the level of dental health in this country is to be materially improved. In other words, it was believed that dental pathology could in substantial measure be limited or reduced by more general use of preventive measures that are now known to be efficacious. With this as a premise, stimulating the application of such measures becomes an important desideratum, but the success of efforts to encourage dentists and members of the public generally to use these measures is obviously dependent upon an understanding of the factors, social and environmental, which facilitate or inhibit their use. It was considerations of this sort which led the College to initiate this study. Some years earlier -- in September, 1952, in fact -- the Committee on Preventive Service of the College had noted that:

> "Even though great interest has been demonstrated in certain preventive dental procedures, there are many questions which need to be studied.... The Committee feels that...a study of the blocks which may keep a person from the attainment of optimum (dental) health should be presented.... It seems extremely important in all phases of dentistry to know more about the magnitude of the many blocks which prevent certain dentists from practicing preventive dental procedures and the blocks which keep people from obtaining the scientific knowledge and the practices of proper oral health habits."

As the foregoing statement indicates, the research that was needed really required two related studies: a study of the use made by dentists of preventive measures in the course of their actual practice, and a study of the use made of such measures by individuals in the course of their own dental self-care. In both of these studies, attention would not be limited to merely descriptive information but would be directed especially toward the underlying factors that may account for differences in the extent to which they are used. Obviously, these factors may be either positive or negative in their effects; that is, they may either facilitate or impede the employment of preventive measures.

The research, as finally designed and carried out, however, was limited to the first of these two studies. There were two chief reasons for this limitation: first, it seemed reasonable to suppose that the general dental practitioner is in a most strategic position with respect to influencing preventive practice within the profession and also by individuals in their own oral health habits; second, it was believed that the results of the study among dentists would provide highly useful guidance for a subsequent study of individual and family practices.

The findings presented in the following chapters are, therefore, based on data provided by dentists. The population of dentists studied included those who --

(1) were listed in the American Dental Directory for 1957;

(2) were actively engaged in the practice of dentistry, i.e., "work at the chair"; and

(3) were predominantly engaged in practice with private patients.

The data for the study were drawn from a probability sample of this population of dentists.[1] The sampling ratio used yielded a sample of approximately one per cent of the total number of dentists included in the population of dentists as defined above. Since the study was based upon data collected from a sample of dentists, the resulting estimates may at times differ somewhat from those which would have resulted from a census of all dentists in the defined population. But the percentage results pertaining to all categories

---

[1] For a full statement of the sampling procedure used in the study, see Appendix A.

of dentists generally will not vary by more than six percentage points from the results that would have been obtained had the total population of dentists in active private practice been interviewed. Of course, the percentage results given for sub-groups of the sample are subject to a potential error due to sampling which increases as the size of sub-group decreases.

The data were collected during the summer of 1957 through personal interviews with the dentists comprising the sample. All together, 758 dentists actively engaged in private practice in 201 localities in continental United States were interviewed. Personal interviews were also conducted in course with dental hygienists who were found to be associated in practice with dentists included in the sample; there were 59 hygienists associated with 56 such dentists (some dentists employed more than one hygienist).

Slightly more than two-thirds of the sample dentists were practising in urban localities: 43 per cent in large metropolitan areas (population of one million or more), and 25 per cent in the smaller metropolitan areas; the remaining 32 per cent of the sample dentists were situated in basically more rural areas: 18 per cent in urban counties outside of metropolitan areas, and 14 per cent in rural counties.

Regionally, the distribution of dentists in the sample corresponds within a small range of percentage points with the distribution of all dentists in the total population of dentists: 34 per cent are located in the eastern states, 31 per cent in the central states, 20 per cent in the southern states, and 15 per cent in the western states.

The largest proportion of sample dentists (45 per cent) were less than forty-five years old; 36 per cent were between the ages of forty-five and fifty-nine; 19 per cent were sixty years of age or older.

The median net income of the sample dentists derived from their dental practice for the year prior to the interview was $11,750. Less than eight per cent of those who reported their incomes (92 per cent) earned less than $5,000; the rest were almost equally divided among the income categories of $5,000-$10,000; $10,000-$15,000; and $15,000 and over (28, 34, and 30 per cent, respectively).

The interview schedule administered to these sample dentists was developed in close consultation with the special advisers set up for this

particular research undertaking.[2] The schedule first elicited certain types of background information useful for analytical purposes: the socio-economic characteristics of the dentists; the location and organization of their practices; their training, work experience, and professional activities; and their estimates of the age and income level of their patients. Mainly, however, the interview dealt with the detailed nature of each dentist's own practice and particularly with his attitudes toward, actual utilization of, and reasons for limited or non-use of, the following measures suggested by the American College of Dentists:

use of recall system

giving of prophylaxes

use of periodic radiographic surveys

teaching of correct methods of tooth-brushing

dietary control recommendations

filling of primary teeth

topical application of fluoride

concern with oral habits

biopsies of abnormal soft tissues

treatment of fractured incisors

concern about tone of gingival tissues

laboratory tests for determination of caries activity

promotion of water fluoridation

participation in or consultation with community health groups

cooperation with dental health education programs.

---

[2] A copy of the interview schedule can be obtained from NORC upon request.

To complete an interview of this scope and character required an average of approximately one-and-one-half hours. Only one in every eleven interviews was completed in one hour or less, whereas only one in every six ran more than two hours. Despite the length of the interview, however, the interviewers reported a very high degree of interest and cooperation on the part of the respondents. Eighty-three per cent of the respondents were rated as "very cooperative," and an additional 11 per cent were found to be "fairly cooperative." Only a very few dentists broke off the interview once it had started.

The descriptive and analytical findings from this study are reported in the chapters which follow. The findings are grouped under four main headings: dentists' conceptions of preventive dentistry and the impediments to its practice; dentists' attitudes toward and utilization of some preventive measures; factors conducive to dentists' use of preventive measures; and the role of dental hygienists in preventive dentistry. It may be appropriate here to set forth some of the major highlights of the detailed findings:

## Some Highlights of the Study

The dental practitioner's major responsibility for the putting into practice of the precepts of preventive dentistry is a point of view dentists almost unanimously accept. In keeping with this view of their role, over four-fifths of all dentists include within their definitions of preventive dentistry techniques and procedures of primary and secondary prevention for whose execution the dental profession

is itself responsible, and a bare majority restrict their attention to such professional services. While there is a large tendency to approach the professional contribution to preventive dentistry in rather broad terms--including within it a variety of practices more directly related to the treatment and control of dental pathology than to prevention narrowly defined--professional preventive dentistry is, for a majority of dentists probably best symbolized by the twin measures of prophylaxis and patient education.

Only two-fifths of dental practitioners believe that they themselves engage in sufficient preventive practice, and less than half as many think that their fellow-dentists spend enough time at it. Lack of time, adverse patient reaction and smaller monetary returns are seen by dentists as the major obstacles to the more extensive practice of preventive dentistry. Relatively few dentists mention skepticism as to the value of preventive practice, unfamiliarity with special techniques or the nature of their particular dental practices as impediments to preventive practice. In apparent consistency with their self-criticism, almost all dentists select treatment measures as those which they find most to their liking to perform, most challenging to their skills and most lucrative; and, conversely, most dentists select preventive measures as least to their liking, least challenging and least lucrative.

Nevertheless, in actual practice, most dentists can and do employ each of the major preventive measures to some degree, with the sole exception of laboratory tests which are utilized by less than one-fourth of all dentists. Techniques and procedures of

primary prevention used routinely by a majority of dentists include: X-ray, prophylaxis, filling primary teeth, biopsy of abnormal soft tissue lesions, concern with tone of gingival tissues and patient education. Measures of primary prevention not used routinely by a majority of dentists are, in addition to laboratory tests, topical fluoride applications and recall systems.

While few dentists express skepticism of the value of preventive practice in general, their conceptions of the importance or effectiveness of specific measures of primary prevention are closely related to their routine use of such measures. Substantial majorities of all dentists indicate a belief in the importance of giving prophylaxes, patient education and taking X-rays; equally sizeable, or greater, proportions report employing these measures routinely. When dentists report not utilizing laboratory tests or not giving topical fluoride treatments, it is chiefly because they believe such measures to be ineffective or unnecessary. Importance or effectiveness is, however, of secondary consideration when dentists account for not having a recall system; more widely cited is their belief that they have insufficient time or personnel to handle it or that their patient load is ample enough without it.

Although adverse patient reaction is cited as one of the major obstacles to the more extensive practice of preventive dentistry, a majority of dental practitioners feel that their patients are in general favorably disposed toward the use of some preventive measures--prophylaxis, filling primary teeth and use

of a recall system. More dentists believe that their patients have become more favorable toward the use of X-rays (slightly over two-fifths) than feel that patient acceptance of X-rays has declined (one-fifth of all dentists).

Notwithstanding the fairly widespread use of at least some preventive measures among dentists, slightly less than one-half of the dentists with general types of practices can be said to have relatively high preventive practices. They can be distinguished from the less preventively-oriented dentists by their more regular use of preventive procedures, and particularly by their more routine utilization of recall systems, topical fluoride applications and patient education, and their more frequent use at all of laboratory tests. There is, for the most part, a more extensive belief among such dental practitioners in the importance and effectiveness of these preventive procedures.

Five major factors have been found which independently and in an interrelated fashion tend to contribute to the more extensive practice of preventive dentistry--the age of the dentist, the location of his practice (urban-rural), his attentiveness to professional activities, the type and degree of dental assistance and the income level of his patients. The image of the more preventive dental practitioner that emerges is that of a more recently and broadly trained dentist with a higher level of interest in and conviction about what he is doing, whose motivation toward high standards of practice is maintained and even strengthened by an

urban environment, close and frequent contacts with colleagues and new dental developments and a more sophisticated clientele who expects and will pay for modern dental care. He can so arrange his practice, partly through the use of auxiliary dental assistance, especially of the dental hygienist, that he need not necessarily work longer hours to achieve his goals. And it is clear that he earns more than dentists with only somewhat preventive or negligibly preventive practices.

The close relationship that exists between having assistance in the dental office and a more preventive practice is reinforced by the findings of a study of dental hygienists who are, for the most part, in the employ of urban dentists with relatively high preventive practices. By virtue of the major tasks dental hygienists perform--giving of prophylaxis, patient education and taking of X-rays--they are basic agents in the implementation of the precepts of preventive dentistry. Compared with dentists, most dental hygienists are equally, or even more, convinced that the preventive measures they perform are very important or effective in coping with dental problems, and are highly satisfied with their choice of careers.

## CHAPTER II

## PREVENTIVE DENTISTRY AND ITS IMPEDIMENTS

Pertinent to an analysis of the practice of preventive dentistry in this country is an examination of how the concept of preventive dentistry is interpreted by those individuals who, to a great extent, are essential to its implementation--the dental practitioners. How do they define "preventive dentistry"? What particular procedures used in their offices do they, the dentists, consider to be preventive? To what extent does their definition approximate that held by the active proponents of preventive dentistry? Do dentists feel that they are engaging sufficiently in preventive practices? To what do they attribute non-utilization of preventive measures? Do they regard preventive measures as preferential, challenging and financially rewarding? These are some of the questions posed and answered in this chapter.

### Dentists Define Preventive Dentistry

When asked for their own definitions of preventive dentistry, dentists think primarily in terms of measures which are matters of professional responsibility, secondarily in terms of measures which the lay public might carry out for itself: thus, 51 per cent mention only measures which are the responsibility of the dentist, 30 per cent mention both measures of this kind and measures for which the patient is responsible, and 10 per cent refer only to the responsibilities of the patient (nine per cent could not be classified). The responsibilities of the dentist are usually thought of in terms which coincide with what would be generally regarded as the area of primary prevention in dental practice, although there is some tendency to define preventive dentistry more generally to include techniques of treatment and control.[1] So, the 81 per cent of all

[1]Throughout this report, the term "preventive" measures has reference to the techniques or procedures of primary prevention (which avert the occurrence at all of dental abnormalities or pathologies): "treatment" or

dentists who spontaneously include professional measures in their first definitions of preventive dentistry may be further divided into 71 per cent who mention dental procedures classifiable as preventive (54 per cent who mention only preventive procedures and 17 per cent who mention both preventive and treatment measures) and 10 per cent who identify preventive dentistry with procedures more accurately described as treatment. (See Table 1.)

While the foregoing figures already suggest that practicing dentists widely share the concepts of preventive dentistry advanced by spokesmen for the profession, they still understate the case. For, when dentists were asked, more directly, "Which of the different procedures and measures that you use in your office would you classify as 'preventive'?", it turns out that all but one per cent of the dentists consider some part of their practice preventive, even though they may not have mentioned it spontaneously to the earlier inquiry. And, once again, the vast majority of dentists are thinking of dental practices generally classified as primary prevention: fifty-nine per cent mention only preventive measures, 37 per cent mention both preventive and treatment measures, and three per cent mention only treatment measures.

When the results of these two questions are combined it is clear that essentially all dentists (99 per cent) define preventive dentistry in terms which include preventive measures utilized in the dental office. One-half (49 per cent) of the dentists, however, conceive of preventive dentistry more broadly, including both preventive and treatment measures in their definition.

In the absence of direct inquiries about the preventive character of each practice, the degree of use of specific measures mentioned by dentist-respondents must be regarded as suggestive rather than definitive, for

---

"control" measures refer to the techniques or procedures of secondary prevention (which arrest the development of dental abnormalities or pathologies from an early to a more advanced or severe stage).

For further discussion of primary and secondary prevention, see Commission on Chronic Illness, Chronic Illness in the United States: Vol. I, Prevention of Chronic Illness (Cambridge, Mass., 1957), p. 16. Also see the report of the Committee on Preventive Service of the American College of Dentists in the Journal of the American College of Dentists, 20:3 (1953), p. 186.

A list of some measures suggested as being preventive by the American College of Dentists can be found in Chapter I, Introduction.

TABLE 1

DENTISTS' DEFINITION OF PREVENTIVE DENTISTRY

| Measures Included in Definition of Preventive Dentistry | Proportion of Dentists Mentioning Each Measure: in Defining Preventive Dentistry | in classifying Own Procedures as Preventive | in Either Context |
|---|---|---|---|
| Measures which are responsibility of patient . . . | 40 | - | 40 |
| Periodic visits to dentist . . . . . | 24 | | 24 |
| Diet . . . . . | 16 | | 16 |
| Oral hygiene, home care. | 14 | | 14 |
| Tooth-brushing . . . . . | 7 | | 7 |
| Other measures and general patient responsibility . . . . . | 2 | | 2 |
| Measures which are responsibility of dentist . . . | 81 | 99 | 99 |
| Preventive measures | | | |
| Patient education . . | 34 | 50 | 62 |
| Prophylaxis . . . . . | 14 | 58 | 60 |
| Use of topical fluoride applications . | 12 | 24 | 29 |
| Use of X-rays . . . . | 9 | 25 | 29 |
| Other techniques of primary prevention (preventing occurrence of pathology). | 32 | 38 | 56 |
| Treatment measures . . . | 27 | 40 | 51 |
| Vague, unspecified responsibility . . . . . | 8 | - | 1 |
| No measures mentioned . . | 1 | 1 | - |
| Summary: Dentists' measures described as: | | | |
| Preventive only . . . . | 54 | 59 | 48 |
| Preventive and treatment | 17 | 37 | 49 |
| Treatment only . . . . . | 10 | 3 | 2 |
| No measure described . . | 19 | 1 | 1 |
| Total per cent . . | 100 | 100 | 100 |
| Number of dentists. | 758 | 758 | 758 |

the proportion of dentists regarding each of them as preventive would unquestionably have risen sharply if they had been reminded of them. In terms of spontaneous images, however, prophylaxis and patient education are the two most immediate symbols of preventive dentistry, with three-fifths of the dentists mentioning each of them. Correspondingly, the lay contribution to preventive dentistry is associated with regular visits to dentists and attention to diet and oral hygiene.

## Dentists Report Obstacles to the Practice of Preventive Dentistry

Not only is it essential to know how dentists define preventive dentistry; it is also important to determine whether they feel that there is an adequate utilization of preventive measures by themselves and by their colleagues. If not, what reasons do dental practitioners present for not practicing enough (in their own estimation) preventive dentistry?

Dentists were asked two free-answer questions: one concerned with their own practices, "Is there anything which keeps you from as much 'preventive' practice as you would like? (What kinds of things?)," and the other referring to the "average" dental practitioner in their own locality, "Do you think that the average dental practitioner in this area spends too much or too little time on 'preventive' dental practices? (If 'too little') Why don't they spend more time on it?" The responses to these questions are incorporated in Table 2, which appears on the next page.

As can be seen in Table 2, the majority of dentists feel that they themselves do not do enough preventive dentistry and a somewhat larger majority attribute insufficient preventive practice to their colleagues. By insufficient preventive practice, they may mean any one of a number of combinations involving the number of patients given varying amounts of preventive care and the degree of preventive care given to any one patient.

A comparison of the reasons given by dentists who feel that they personally do not practice enough preventive dentistry and dentists who feel that their colleagues do not have enough preventive practice reveals that "lack of time" is mentioned prominently by both groups. Reference is made to heavy patient load, pressure of demands for other types of care, and lack of help. Almost equal proportions of the two groups spontaneously mention time as a factor (45 per cent of those dentists who feel themselves

TABLE 2

DENTISTS' VIEWS OF OBSTACLES TO THE PRACTICE OF PREVENTIVE DENTISTRY[a]

| Adequacy of Preventive Practice and Reason | Proportion of Dentists Taking Each Position in Reference to Practice of: | |
|---|---|---|
| | Self | Average Dentist |
| **All Dentists** | | |
| Does enough preventive practice | 39 | 15 |
| Don't know, no idea, no answer | 2 | 17 |
| Does not do enough preventive practice because of: | 59 | 68 |
| Lack of time | 27 | 29 |
| Adverse patient reaction | 25 | 10 |
| Lesser remuneration than other services | 15 | 33 |
| Nature of practice | 3 | 1 |
| Skepticism over its value | * | 6 |
| Unfamiliarity with its techniques | * | 3 |
| Miscellaneous reasons | * | 3 |
| Reasons not stated | - | 3 |
| Total per cent | 100 | 100 |
| Number of dentists | 758 | 758 |
| **Dentists Saying Not Enough Preventive Practice** | | |
| Lack of time | 45 | 43 |
| Adverse patient reaction | 41 | 14 |
| Lesser remuneration than other services | 26 | 48 |
| Nature of practice | 5 | 1 |
| Skepticism over its value | * | 9 |
| Unfamiliarity with its techniques | 1 | 5 |
| Miscellaneous reasons | 1 | 5 |
| Reasons not stated | - | 4 |
| Total per cent (Some give more than one reason) | 119 | 129 |
| Number of dentists believing not enough preventive practice | 451 | 512 |

*Less than 0.5 per cent.

[a]Dentists' self-reports are based on the question: "Is there anything which keeps you from as much 'preventive' practice as you would like? (What kinds of things?)" Dentists' views of the "average dentist's" practice are derived from the question: "Do you think that the average dental practitioner in this area spends too much or too little time on 'preventive' dental practices? (If 'too little') Why don't they spend more time on it?"

unable to practice sufficient preventive dentistry and 43 per cent of those referring to their colleagues' insufficient preventive practice, or 27 per cent and 29 per cent, respectively, of the total sample). And even this prominence underemphasizes the pressure of time, for when all dentists are asked specifically if they themselves can spend as much time as they would like on preventive measures, 42 per cent say "No."

Aside from lack of time, which is both widely experienced personally and equally extended to colleagues, dentists imply a different set of motives operating with respect to themselves as compared with their colleagues. Among dentists who say that they themselves do not practice enough preventive dentistry, responsibility is more frequently attributed to their patients than to the dentists' own attitudes: forty-one per cent say they are unable to practice sufficient preventive dentistry because of their patients' adverse reactions, while 26 per cent say they practice less than enough preventive dentistry because it is less remunerative than other practice. With respect to their colleagues' shortcomings, however, the reverse is true: only 14 per cent of those who regard the average dentist's preventive practice as inadequate assign the responsibility to the dentist's patients and their negative attitudes, while 48 per cent think that the average dentist is deterred from preventive practice by its unremunerative nature. Quite similarly, although skepticism with respect to preventive dentistry and unfamiliarity with its techniques are mentioned infrequently in either dase, they are disproportionately attributed to other dentists rather than to oneself.

Actually, the significance of the financial factor in deterring dental practitioners from practicing more preventive dentistry is more clearly indicated in their responses to questions which call upon them to indicate the one procedure used in their offices which contributed the smallest amount and the largest amount to their total net income for the year preceding the interview. As can be seen in Table 3, an overwhelming proportion of dentists who do indicate a procedure mention a treatment measure as contributing the largest amount to their total net income (97 per cent), while a not so large, but yet sizeable, majority report a preventive measure as the one which contributed the smallest amount to their total net income (62 per cent). In either case, there is no significant

TABLE 3

DENTISTS' RATINGS OF SPECIFIC DENTAL PROCEDURES

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure as: Best Liked to Perform | Requiring Most Skill | Contributing Most to Total Net Income | Least Liked to Perform | Requiring Least Skill | Contributing Least to Total Net Income |
|---|---|---|---|---|---|---|
| Treatment Measures | 81 | 81 | 90 | 41 | 1 | 31 |
| Preparing bridges, dentures | 33 | 38 | 43 | 3 | - | 1 |
| Extractions | 21 | 11 | 4 | 8 | 1 | 5 |
| Filling permanent teeth | 10[a] | 2 | 38 | * | * | * |
| Making inlays | 6 | 9 | 1 | 2 | - | 5 |
| Periodontal treatments | 3 | 5 | 1 | 6 | * | 6 |
| Orthodontia | 3 | * | 3 | c | - | 14 |
| Root canal treatment | 2 | 16 | b | 20 | - | b |
| Miscellaneous | 3 | - | b | 2 | - | b |
| Preventive Measures | 3 | 9 | 3 | 44 | 95 | 52 |
| Repairing fractured incisors | 1 | 5 | * | 4 | * | 10 |
| Filling primary teeth. | a | 3 | 2 | 7 | 1 | 7 |
| Taking X-rays | 1 | * | * | 2 | 14 | 3 |
| Cleaning and polishing teeth | 1 | 1 | * | 29 | 22 | 12 |
| Topical fluoride treatments | - | - | * | 2 | 58 | 20 |
| No choice, inapplicable, no answer | 16 | 10 | 7 | 15 | 4 | 17 |
| Total per cent. | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 758 | 758 | 758 | 758 | 758 |
| Summary for dentists making choice | | | | | | |
| Chose treatment measure | 97 | 90 | 97 | 49 | 1 | 38 |
| Chose preventive measure | 3 | 10 | 3 | 51 | 99 | 62 |
| Total per cent. | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 635 | 683 | 708 | 644 | 727 | 630 |

* Less than 0.5 per cent.

[a] "Filling permanent teeth" and "filling primary teeth" are combined here and are not available separately.

[b] This item was not included in list shown dentist-respondents.

[c] Included in "Miscellaneous" and not available separately.

difference between the responses of dentists in the lower income groups and those in the higher income groups. The financial reason probably plays as important a role in explaining dentists' own behavior as it does in that of their colleagues, despite the fact that it is not consciously mentioned so frequently with respect to their own motives.

Two other factors which may influence dentists in their practice of preventive dentistry--their opinion that preventive procedures are not challenging and their preference for executing treatment measures--are not mentioned specifically as reasons for not practicing enough preventive dentistry but may be adduced from their responses to other questions. The findings presented in Table 3 clearly indicate that the vast majority of dentists (who indicate a measure at all) prefer to perform procedures of the treatment type and feel that dental operations of this type require the most skill (and are, therefore, more challenging) as well as yield the greatest financial return. While the dentists who do make a choice of specific procedures are almost equally divided in their selection of preventive measures and treatment measures as the dental operation they prefer least to perform, they are virtually unanimous in indicating that they feel preventive measures present little challenge in that they require the least skill to perform.

More concretely, at one extreme, the preparation of bridges and dentures gets the highest rating: more dentists select this procedure than any other as the one they most enjoy performing, the one requiring most skill and the one making the largest single contribution to income. At the other extreme, prophylaxis and topical fluoride applications are the procedures regarded as requiring least skill, with prophylaxis most frequently mentioned as least liked and topical fluoride treatments most frequently mentioned as least profitable.

## Summary

Virtually all dentists define preventive dentistry at least in part in terms of measures performed by the dental practitioner. Forty-eight per cent conceive of the professional role solely in terms of preventive measures, thereby most closely approximating the conceptions held by the

proponents of preventive dentistry, while the other half include both preventive and treatment measures.

A majority of dentists indicate that they themselves do not engage in enough preventive practice; a slightly larger proportion feel that their colleagues do not have enough preventive practice. In both situations, the obstacles to the practice of preventive measures are lack of time, adverse patient reaction, lesser financial remuneration involved in preventive measures, skepticism concerning their value, unfamiliarity with special techniques involved, and the nature of particular dentists' practices. While almost equal proportions cite lack of time in explaining their own and their colleagues' behavior, more dentists mention adverse patient reaction in accounting for their own behavior than with reference to that of their colleagues. On the other hand, lesser financial remuneration, skepticism concerning value of preventive practice and unfamiliarity with techniques involved are more frequently cited with reference to the behavior of their fellow-practitioners.

Pertinent to a discussion of the obstacles to the practice of preventive dentistry are the findings which reveal that most dentists prefer to perform treatment procedures and find them more challenging to their skills and more rewarding financially. While dentists are far from unanimous in considering preventive measures as those they prefer least to do, they do indicate that, for the most part, they find such techniques and procedures less challenging to their skills and less profitable to perform.

## CHAPTER III

## THE NATURE AND EXTENT OF THE DENTISTS' UTILIZATION OF PREVENTIVE DENTAL PRACTICES

As seen in the preceding chapter, dentists' conception of what preventive dentistry is includes a significant number of the specific measures suggested as preventive by the proponents of preventive dentistry. Dentists feel, however, that they and their colleagues do not spend enough time on preventive practices and that preventive measures are less challenging and less financially rewarding than treatment measures. In general, they say that they prefer to perform treatment dental procedures.

Do these general attitudes toward preventive measures influence the extent to which, and the frequency with which preventive measures are used in the dental office? What specifically are dentists' evaluations of the effectiveness or importance of preventive practices? What are the dentists' images of patient reaction to the use of particular preventive measures? Why do some dentists not use some preventive measures? These are the questions that will be answered with respect to specific preventive practices in this chapter. A brief summary of answers to these questions is embodied in Tables 4-8, following the text of the chapter.

### Preventive Techniques Employed in the Dental Office

The report is concerned at this point with the individual preventive measures that are utilized in the dental office, and with reference to each one, provides data as to the proportion of dentists who use the measure and with what frequency, how important or effective dentists think the procedure is, dentists' impressions of patient reaction to the use of some preventive practices, and the reasons why some dentists do not include the preventive measure among the procedures utilized in their offices. The first techniques discussed are those which are applicable to all patients, regardless of their ages. This is followed by discussions of the preventive techniques applicable only to patients in the younger age groups, the education of patients in the dental office, and the prevention-oriented activities of dentists in the community.

## Preventive Techniques Applicable to Patients of All Ages

### Use of X-rays

Among diagnostic procedures, X-rays are rated as one of the most important, if not the most important, diagnostic aid by just over three-quarters (77 per cent) of the dentists who do use X-rays. Another 14 per cent believe them to be important, but no more so than several other diagnostic aids. Dentists who routinely use X-rays are somewhat more inclined to think their use important than do dentists who do not use them routinely.

In actual practice, the use of X-rays is all but universal. Ninety-nine per cent of all dentists report that they use X-rays; about two-thirds (63 per cent) indicate that they are used "with almost every examination." The remainder use them with varying degrees of frequency. Virtually all (94 per cent) of those dentists who use X-rays take them in their own offices. Full-mouth X-rays are taken with less frequency and less set regularity than are bite-wing X-rays.[1] Slightly over one-third (35 per cent) of dentists have full-mouth surveys made at intervals of longer than eighteen months; two-fifths have them made with "no set frequency." Bite-wing X-rays are taken with some set frequency by seven out of ten dentists; 31 per cent have them taken every six months.

The chief advantages of using regular X-ray surveys, as indicated by the dentists who use them, are the aid they give in locating pathology not visible to the naked eye (mentioned by 50 per cent) and in detecting pathology at an early stage (mentioned by 38 per cent).[2] Few dentists (one per cent) say there are no advantages at all connected with the regular use of X-rays. In view of the almost universal use of X-rays and the importance attached to their use, it is not surprising to find that three-fifths (61 per cent) of all dentists see no disadvantages at all in the regular use of X-rays.[3] The two major disadvantages cited are the cost of X-rays to the patient and the exposure of patients to radiation, each reported by 15 per cent of the dentists. On the other hand, the danger of exposure to radiation as a disadvantage is specifically denied by some dentists (seven per cent). Other disadvantages mentioned much less frequently are that X-rays are unreliable or unnecessary, and that patients react adversely to them for reasons other than cost.

---

[1] See Table A-4, Appendix B.

[2] See Table A-5, Appendix B.

[3] See Table A-6, Appendix B.

Any examination of dentists' attitudes toward the use of X-rays and their impressions of their patients' attitudes on the same subject must be made in light of the several years of controversy on the subject which has been covered in the public press and professional journals. This controversy reached its peak during the six months prior to the interviewing for this study in the early summer of 1957; statements and reports, pro and con, by prominent and responsible individuals and groups, professional and governmental, were given intensive coverage by the popular press and professional publications. Of special interest, then, is any change reported in the attitudes of dentists toward the use of X-rays during the last few years. Three-fourths of the dentists report no change in their own attitude. Dentists now holding a more favorable attitude toward the use of X-rays (18 per cent) ascribe this change primarily to the fortunate experiences they have had with them; those who report a less favorable attitude now (six per cent) attribute it chiefly to their greater concern with or awareness of the dangers of radiation and to a much less extent to their belief that X-rays are unnecessary.

Dentists feel that patients' attitudes toward the use of X-rays are more variable than their own. Approximately one-third (32 per cent) of the dentists feel that there has been no change in the attitudes of their patients toward the use of X-rays. The 44 per cent who are of the opinion that their patients are now more favorably inclined toward having X-rays taken believe this change has come about primarily because of the educational efforts of the medical and dental professions as well as the efforts of interested groups outside the profession. In addition, they feel that the general public, and patients in particular, have become more accustomed to the use of X-rays and have become more aware of the importance of their use. Belief that patients' attitudes have become less favorable is reported by 21 per cent of dentists, most of whom attribute it to patients' fear of exposure to radiation. A larger proportion of dentists who use X-rays routinely than of those who use X-rays but not routinely feels there is a less favorable patient attitude now toward the use of X-rays (26 per cent as compared with 14 per cent).

Giving of Prophylaxes

Almost nine-tenths (88 per cent) of all dentists feel that, among the things they can do for the mouth health of their patients, giving

prophylaxes is "very important." An additional eight per cent believe it to be "somewhat important." It is not surprising, then, to find that a preponderant majority of dentists (85 per cent) include it as "a routine part of their treatment or recommendations for treatment for each patient." An additional 11 per cent clean and polish teeth, although not routinely. This service is performed by a majority (89 per cent) of dentists themselves, who spend anywhere from five to 25 per cent of their time at it during an average week.

Four-fifths (81 per cent) of dentists feel that their patients are favorably disposed toward having their teeth cleaned and polished, even when no other dental treatment is indicated. The opinion is expressed more frequently by dentists who clean and polish teeth routinely than by dentists who do not give prophylaxes routinely. Only one per cent of all dentists feel that their patients would react unfavorably to such a suggestion.

Use of Recall or Reminder System

A recall or reminder system which brings all or just some of their patients in for regular dental care is maintained by three-fourths (76 per cent) of dentists. Among dentists having such a system, slightly more than one-half (52 per cent) report that the system effectively brings in more than three-fourths of the patients covered.[4] Whether the recall system covers all patients or just some patients appears to bear little relationship to its effectiveness in bringing recalled patients in for dental care.

Dental practitioners who have a recall system believe that it is advantageous both to the dentist and the patient.[5] Among dentists mentioning advantages to the patient, a majority (65 per cent) feel that the patient benefits from a recall system mainly by obtaining preventive dental care. Half as many (31 per cent) mention that the patient saves money thereby through the elimination of more extensive and complicated work. Looked at from the dentist's standpoint, a recall system is believed to permit the dentist to maintain a higher standard of work (35 per cent) as well as to build up his practice (32 per cent). Other advantages of such a system to the dentist, as seen by those dentists who have one, are that

[4]See Table A-7, Appendix B.

[5]See Table A-8, Appendix B.

it enables him to maintain a more balanced and efficient schedule and permits him to engage in easier, less complicated work.

Dentists who do not currently have a recall or reminder system (24 per cent of the total sample) most frequently give as their reason for not having one the fact that they have an ample workload without it (mentioned by 38 per cent). This reason is more likely to be cited by dentists who have never had a recall system (43 per cent as compared with 30 per cent of those who formerly had one), while dentists who once had a recall system are more inclined to say that the system is ineffective (49 per cent as compared to 12 per cent of those dentists who have never had a recall system).[6] Dentists who once had a recall system are also more likely to cite adverse patient reaction as a factor than are those dentists who have never had one (20 per cent as compared with eight per cent). To a lesser extent, both groups refer to the expense involved in processing such a system and the nature of their practices. Relatively few dentists (nine per cent of those who have never had a recall system and three per cent of those who formerly had one) report that they feel it is not the responsibility of the dentist to perform this service.

Almost two-thirds (65 per cent) of the dentists interviewed feel their patients would react favorably when urged to see a dentist at regular intervals even if they have no dental problems. As is to be expected, more dentists with a recall system (75 per cent) hold this opinion than is the case with dentists who do not have one (30 per cent).

## Biopsies of Abnormal Soft Tissues

Most of the dentists interviewed (89 per cent), have, sometime or other during the course of their years in practice, seen a soft tissue lesion which made them suspect the presence of mouth cancer. Of these dentists, one-half (51 per cent) say that they refer patients with such lesions to other medical and dental facilities (medical or dental specialists, general practitioners, hospitals or clinics) as their usual procedure and that biopsies are made for these patients. Thirteen per cent "treat" the condition themselves or make a biopsy. An additional seven per cent indicate that their normal procedure is either to make the biopsy themselves or have it made at some other medical or dental facility. Thus, a large majority

[6] See Table A-9, Appendix B.

(71 per cent) of those dentists who have had patients with soft tissue lesions report that their customary procedure in dealing with such a situation is either to make the biopsy themselves or refer the patients to other individuals or facilities for biopsy or to do both. The other 29 per cent of the dentists who have had patients with soft tissue lesions mention referrals to other medical or dental practitioners or facilities, but do not specifically indicate that biopsies were recommended or made. Since it seems likely that dentists' referral of patients with suspect lesions to others for further diagnosis would entail biopsies even when dentists did not explicitly mention them, it is more accurate to say that at least 71 per cent of those dentists who have seen an abnormal soft tissue lesion have biopsies made as their routine procedure. It is more likely that the proportion of dentists who made biopsies or have biopsies made closely approaches the 89 per cent who have had occasion to recognize suspect lesions.

Concern with Tone of Gingival Tissue

The condition of the gums and supporting structure (including the supporting soft tissues) appears to be the major item, aside from cavities, that dentists are interested in when they conduct oral examinations. According to responses to a free-answer question concerning their major foci of attention while conducting oral examinations, approximately two-thirds (65 per cent) of all dentists regard the condition of the gums and the supporting soft tissues as a major concern. Although 35 per cent did not mention this item in response to the question, it cannot be assumed that these dentists are, therefore, not concerned with the tone of the gingival tissues. Had they been asked specifically if they included attention to the tone of gingival tissues in oral examinations, it is quite likely that the total proportion responding in the affirmative would be a good deal larger than 65 per cent.

Use of Laboratory Tests to Determine Caries Activity

Laboratory tests to determine caries activity are deemed to be of relatively less importance than other techniques used in diagnosis and treatment planning. Only 22 per cent report making any use of them and, at that, infrequently. Only one dentist in the entire sample employs this

measure routinely with almost all examinations; the remainder utilize tests with some or very few examinations. Even among those dentists who do make some use of laboratory tests, only a fifth think of them as quite important, while almost two-fifths say they are relatively unimportant. The most frequently used of the tests are the lactobacillus count and the acid determination test. By and large, the analysis of such tests is done by outside laboratories. Only one-sixth (sixteen per cent) of those dentists who make use of these tests also perform the analysis.

Among the large proportion of dentists who do not use laboratory tests (78 per cent), the reason most frequently given for not doing so is that the tests are unreliable or unnecessary (mentioned by 44 per cent). It is cited almost three times as often as are the two next most frequently mentioned reasons: lack of equipment, facilities, or personnel (16 per cent), and lack of special knowledge (15 per cent). About one-seventh of these dentists say that they do not have the time to spend on tests. The expense to the patient (mentioned by nine per cent) and the nature of the dentist's practice or of his patients (noted by eight and five per cent) are still more minor considerations.

### Preventive Techniques Applicable Only to Certain Age Groups

Two preventive techniques, filling primary teeth and giving or recommending topical fluoride applications, are practiced exclusively among younger patients and the data concerning them were derived from dentists who report having some patients under six years of age (682 out of the total sample of 758).

### Filling Primary Teeth

Most dental practitioners treating children (93 per cent) report that filling the tooth is their usual procedure when they discover a cavity in a temporary tooth. Less than one per cent pull the tooth. The remaining dentists usually base their procedure on several factors, the particular tooth involved, the age of the child, the extent of the decay, or refer the young patient to another dentist. Over three-fourths (78 per cent) of the dentists whose usual procedure is to fill the temporary tooth do so to save the tooth or the dentition;[7] seventeen per cent say they are interested in maintaining

[7] See Table A-10, Appendix B.

the child's chewing apparatus. To a lesser extent, they routinely fill temporary teeth in order to prevent pain and discomfort (15 per cent) and the spread of decay (11 per cent).

Three-fourths (76 per cent) of the dentists who have patients under six years of age feel that most parents approve of having cavities in temporary teeth filled. Slightly less than one-third (31 per cent) specifically attribute this favorable parent attitude to dentists' efforts to explain the need for it. Only 13 per cent believe that most parents do or would react unfavorably to having primary teeth filled.

Giving or Recommending Topical Fluoride Applications

Dentists express no marked consensus regarding the effectiveness of topical fluoride applications, as compared to other means, in combating decay. Slightly more than one-fourth (27 per cent) of those dentists who have patients under six years of age believe them to be more effective, while 38 per cent feel they are less effective. Almost one-fifth (19 per cent) maintain a neutral position, holding them to be about as effective as any other means in combating decay.

Despite the absence of widespread approval of the procedure, almost two-thirds (64 per cent) of the dentists with patients under six years of age give or recommend topical fluoride treatments. Nine out of ten dentists in this subgroup give the treatments themselves. Among dentists who give or recommend such treatments, over one-third (36 per cent) do so on their own initiative, either as a matter of course or by suggesting their use to parents. In contrast, parents are credited with taking the initiative by almost one-half (45 per cent) of these dentists. There is no significant difference in evaluation of the treatment's effectiveness between those dentists who assume the initiative and those who give treatments only at the parents' request.

Slightly more than one-third (36 per cent) of the dentists who have patients under six years of age neither give nor recommend topical fluoride treatments. A small proportion (four per cent) imply that because such treatments are available through other agencies, such as schools, clinics, etc., it is not feasible or necessary that they do so. An additional 23 per cent feel that the fluoridation of water in the locality in which they

practice provides ample protection in this respect and, consequently, renders action on their part unnecessary. Aside from these reasons, which do not in themselves imply a rejection of the procedure, the one outstanding explanation offered for not using this procedure is that topical fluoride treatments, compared with other means of combating decay, are ineffective (cited by 57 per cent of the dentists who do not give or recommend the treatments). There is no significant difference in this respect between dentists who have never given such treatments and those who have formerly given them. The cost of the treatment to the patient (mentioned by 12 per cent) is of minor consideration in the dentists' decision to give or not give topical fluoride applications. A small proportion mention being influenced by factors such as the difficulty of giving the treatments, their own unfamiliarity with the technique (10 per cent), and the demands on their time to give other kinds of care that are more necessary or more urgent (four per cent). Another eight per cent feel that the nature of their practice relieves them of the need to use this procedure. Only two per cent (or less than one per cent of the total sample) do not give or recommend topical fluoride treatments because they feel they constitute a danger to the patient.

## Education of the Individual in the Dental Office (Concern with Oral Habits, Dietary Control Recommendations, Teaching Correct Methods of Brushing Teeth)

The importance of giving patients advice on the care and health of the mouth is clearly recognized by an overwhelming majority of dentists. More than eight out of ten dentists (85 per cent) consider it "very important," and of these, 30 per cent rate it so high because of its "preventive" aspect. Belief in the close relationship of patient education to the success of other types of treatment accounts for its importance in the eyes of slightly more than one-fifth of all dentists (22 per cent). One out of seven dentists feels that, since the patient would not get this information except from the dentist, it is the dentist's obligation to give this type of advice.

This widespread recognition of the vital importance of patient education is accompanied by a high level of performance in the same field. Almost all dentists, voluntarily or at the request of the patient, give

advice on the care and health of the mouth. Ninety-six per cent of all dentists report that their patients ask for such advice; fifty-five per cent indicate that this happens "often," while the remainder say that the patients do so "occasionally" or "not very often." No matter what the frequency with which such advice is requested, virtually all dentists report that they personally give information and recommendations on request.

When patients do not ask for advice or instructions, all but three per cent of all dentists take the initiative themselves and volunteer it. Although a majority (61 per cent) indicate that they voluntarily give educational information to their patients, they do not specify whether they do so for all or for just some of their patients. One-fifth (21 per cent) mention specifically that they give advice to just some of their patients who do not request it; about one-seventh (15 per cent) say it is given to all patients who do not ask for it. Dentists who take such initiative in offering advice usually include information as to the correct method of brushing teeth (81 per cent) and other recommendations concerning mouth hygiene (by 25 per cent). Advice to "cut down or eliminate sweets" is offered by about one-fourth (24 per cent) of these dentists and other dietary recommendations are made by one-half of them (49 per cent). Aside from these major types of advice or instruction, dentists mention, with much less frequency, suggestions pertaining to other preventive measures such as regular visits to the dentist and advice regarding the general health of the patient.

When the data regarding frequency with which patients request information or advice and frequency with which dentists voluntarily give advice to patients who do not ask for it are combined, it is found that 99 per cent of all dentists engage in patient education. The almost three-fifths (59 per cent) who are here regarded as doing so routinely include: all dentists who report volunteering advice to all patients not requesting it, regardless of the frequency with which their other patients do ask for advice; and all dentists who indicate that their patients often ask for advice, except those who also report never voluntarily offering advice. The two-fifths considered to give patient education, but not routinely, include: dentists who report never volunteering advice regardless of how often patients request it; and dentists who indicate their patients ask for advice occasionally or not very often and who report volunteering advice to some patients who

do not request it. Only one per cent of all dentists indicate that their patients never ask for information or advice and that they themselves never volunteer it when it is not requested.

## Educational Activities of the Dentists in the Community

The participation of dentists in activities such as water fluoridation movements, community dental health programs and community health groups is considered by some advocates of preventive dentistry to be an integral part of the practice of preventive dentistry. Although a preponderant majority of dentists (89 per cent) feel that it is the "job of the dental profession to educate the general public regarding oral health and preventive dentistry," in actuality dentists engage in such activity outside of their offices only to a limited extent. The extent to which they do so is examined next.

### Participation in Water Fluoridation Movements

Dentists report greater participation in movements to fluoridate public water supplies than in any other type of community activity investigated. Two-thirds of all dentists (67 per cent) feel, in general, "very favorable" toward water fluoridation. Another 20 per cent are favorably disposed, while only a minority (13 per cent) report that they hold a "neutral" or "unfavorable" attitude toward the movement. These attitudes correlate with dentists' reported activities for water fluoridation.

About one-third of American dentists (31 per cent) practice in localities in which there is now natural or artificial fluoridation of the water or both. In localities with artificial fluoridation, seven dentists out of ten credit the dental profession with having initiated the fluoridation movement. Almost two-fifths (37 per cent) of dentists who practice in such localities (and were in practice at the time of the fluoridation movement), report that they worked <u>for</u> fluoridation. Their efforts were primarily along the lines of trying to influence city officials and opinion leaders (15 per cent), the general public (12 per cent), and their patients (nine per cent). Secondarily, 12 per cent mention concurring in professional approval or signing petitions, and a few dentists (two per cent)

report personal participation in the organization of the fluoridation movement in their community. In localities where fluoridation was already in effect when this study was made, 48 per cent of those dentists with a "very favorable" attitude toward fluoridation, and 31 per cent with a "favorable" attitude report having worked for fluoridation.

In localities without fluoridation in June, 1957, 72 per cent of the dentists report movements under way to fluoridate the water. Among dentists practicing in localities with water fluoridation movements, 36 per cent report that they have worked or are working to further fluoridation. Here again, their efforts are mainly along the lines of influencing the general public (17 per cent), city officials and opinion leaders (16 per cent), and their own patients (11 per cent). Like their colleagues who practice in localities whose water is already fluoridated, a relatively small proportion (eight per cent) report concurring in professional approval. In localities without fluoridation, 62 per cent of the dentists with a "very favorable" attitude toward fluoridation, 37 per cent of those who were just "favorable," and 18 per cent of those with "neutral" attitude worked, or are working, for fluoridation.

School Dental Health Programs

Most dentists (81 per cent) practice in localities in which schools have dental health programs which are not serviced by staff dentists and/or dental hygienists. Only one-third (32 per cent) of these dentists, however, participate in a school dental health program, chiefly by giving examinations to school children (20 per cent) and by engaging in educational efforts--demonstrations and lectures--which are directed at both children and parents (six per cent). Other activities mentioned by dentists, but with much less frequency, include: doing clinical work on underprivileged or indigent children, instructing teachers and nurses, signing cards for private patients, and acting in an advisory capacity for the dental health program.

Among dentists who practice in localities with school dental health programs which are not serviced by staff dentists and/or dental hygienists, one-half do not participate in such programs and never have, while 18 per cent do not now do so, but once did.

Nineteen per cent of the dentists practice in localities that do not have a school dental health program or localities in which the programs provide for the services of staff dentists and/or dental hygienists.

Participation in or Consultation with Community Health Groups

Only a small proportion (15 per cent) of all dentists belongs to or works with any community health group, other than the work associated with school programs. Dentists who do engage in this type of activity are most likely to belong to or work with groups that are adjuncts of hospitals or clinics (32 per cent), local or state health organizations, like the Better Health Group (25 per cent), and the major voluntary health organizations, like the American Cancer Society (17 per cent). Mentioned less frequently is work with governmental agencies of all levels, from municipal to national (totaling 22 per cent).

## The Saliency of Preventive Dentistry

Some notion of the saliency of preventive dentistry in the thought and action of dentists would ideally be obtained from an examination of their approaches to routine and problem cases encountered in their practices. Based on the assumption that dentists would react to hypothetical situations in terms of their usual dental practice as well as their notions of what such practice should be, several questions were asked which called upon dentists to apply their concepts of dental practice to specific situations.

### Case of First Dental Visit of a Four-Year Old Child

Dentists who reported having patients under six years of age (90 per cent of total sample) were asked what their procedure would be if a mother brought in a four-year old child for his first real appointment with a dentist. Would they do anything special on the first visit? What would they do in addition to getting acquainted with the child? Three-fifths of these dentists feel that they should do more than just get acquainted with the child, that they should perform some dental service. Virtually all of them regard the first visit as the opportunity to initiate the use of dental operations that are basically preventive.[8] The preventive measures mentioned are for the most part those which are suggested as important to

[8]See Table A-11, Appendix B.

the practice of preventive dentistry: thorough examination of the mouth, cleaning and polishing teeth, use of X-rays and other tests, patient and/or parent education, and giving of fluoride or silver nitrate treatments. The small proportion who mention treatment measures, or measures of secondary prevention, refer mainly to the extraction of teeth and other types of emergency care.

A majority of dentists believe, and probably would act upon the belief, that preventive dental care should begin at a very early age and with the very first visit to the dentist. The two-fifths who do not react in this fashion include: twenty-nine per cent who would restrict the first visit to the mechanics of getting acquainted; five per cent who would vary procedure with the individual child involved; and another five per cent who would treat children no differently than they do adults.

Case of Sixteen-Year Old Boy with Rampant Caries

In another hypothetical case, all dentists (total sample of 758) were asked what their procedure would be or what recommendations they would make with reference to a sixteen-year old boy, without dental care for a long time, who was found to have rampant caries. Given the acute condition described, it is not surprising to find an overwhelming majority of dentists (77 per cent) mention a treatment measure--repair or restoration of the teeth other than the making of dentures and bridges.[9] What is highly significant is the degree to which they mention various measures of primary prevention even in this acute treatment situation: patient and/or parent education (54 per cent); use of X-rays (30 per cent); use of recall system (22 per cent); use of tests, family history and diet analysis (22 per cent); and giving of prophylaxis (18 per cent). Most dentists (81 per cent) mention some preventive measure or measures as being applicable to the case at hand; 72 per cent cite them in connection with treatment measures, while nine per cent approach the problem solely in terms of preventive measures. An additional nine per cent recommend only treatment measures. The frequency with which preventive procedures are incorporated in dentists' proposed treatment or recommendations for this case suggests that a basically preventive approach to the practice of dentistry exists among most dentists.

---

[9] See Table A-12, Appendix B.

Case of Negligent Parent with Child Requiring Dental Care

Still another hypothetical situation poses the problem of the negligent parent who is reluctant to spend money for the extensive dental care needed by her child but is willing to spend an equivalent sum for home furnishings. All dentists were asked how they would handle such a situation--make a vigorous attempt or try fairly hard to convince the parent to have the work done or simply make recommendations and leave the decision to the parent. Four-fifths of the dentists admitted having encountered such a situation in their own practice, 17 per cent often, and 63 per cent occasionally. Regardless of the frequency with which they actually have had to cope with such a situation, a majority of dentists (36 per cent who would make a vigorous attempt and 22 per cent who would try fairly hard) indicate that they would make some decided effort to convince the parent of the child's need for dental care, primarily because of their concern for the child's dental health and general welfare, and their belief that it is the duty of the dentist to make this effort.[10] The two-fifths (41 per cent) who would recommend treatments but not try to persuade the parent would do so mainly because they feel such persuasion not only would be ineffectual but is not rightly a responsibility of the dentist.

By their reaction to this hypothetical situation, a majority of dentists indicate an acceptance of the importance of the dentist's role in the educative aspects of preventive dentistry as well as their concern with the provision of necessary dental care to youngsters.

Dentists' reaction to these hypothetical cases indicate that a majority of dentists manifest a basically preventive approach to the practice of dentistry that is more than just theoretical, since it is reasonable to assume that, with reference to the hypothetical, they are applying what is their normal approach to the routine and problem cases encountered in their own practice.

---

[10] See Table A-13, Appendix B.

## Summary

Most dentists not only can but do to some degree use each of the major measures considered to be preventive, except for laboratory tests, the use of which is reported by only 22 per cent of dentists. The degree to which they are used routinely, however, varies considerably, from 85 per cent who routinely clean and polish teeth down to the one dentist who says he routinely uses laboratory tests to determine caries activity. The preventive measures which majorities of dentists use routinely are: X-ray; prophylaxes; filling primary teeth; biopsies of abnormal soft tissue lesions; concern with tone of gingival tissues; and patient education. In some cases, the proportion, while substantial, is nowhere near what would be considered optimum.

The only measures not used routinely by majorities of dentists are laboratory tests, topical fluoride applications, and the recall system. There is a close relationship between dentists' conceptions of the importance or effectiveness of preventive measures and their routine utilization of such procedures. The two measures which are rated as less important or less effective than others, laboratory tests and topical fluoride treatments, are the two measures used least frequently and least routinely. Dentists who do not use laboratory tests and those who do not give fluoride treatments are most inclined to give as their reason for not doing so their belief that such measures are ineffective and unnecessary. Despite the fact that a majority of those dentists who use a recall system feel that it benefits the patient by making possible preventive dental care, less than a majority employ their recall systems routinely. Dentists without a recall system do not have one mainly because they feel they already have enough patients, and secondarily, because they think recall is ineffective.

Dentists' image of their patients' reactions to the use of preventive measures is one of a generally favorable disposition toward measures like cleaning and polishing teeth, filling primary teeth, and the recall system. While no impression of such consistent patient reaction is indicated with respect to the use of X-rays, more dentists feel that their patients have become more favorably disposed toward their use than feel their patients' acceptance of X-rays has declined.

Dentists are definitely more prone to participate in prevention-oriented activities in their own offices than in similar activities in their communities. While slightly more than one-third of all dentists have taken part or are now taking part in water fluoridation movements, relatively few participate, actively or as consultants, in school dental health programs or in community health groups.

Given dentists' image of preventive dentistry and the relatively widespread use of at least some preventive measures in actual practice, it is not surprising to find that preventive dentistry constitutes a prominent factor, whether consciously so or not, in the approach of dentists to routine and problem cases. In three hypothetical cases presented to them, even in an acute treatment situation, dentists included a wide range of specific preventive measures in their proposed handling of each case.

TABLE 4

THE EXTENT TO WHICH AND FREQUENCY WITH WHICH DENTISTS UTILIZE PREVENTIVE MEASURES IN THEIR PRACTICES

| Extent and Frequency of Use of Preventive Measures | Proportion of Dentists Reporting Each Degree of Utilization of: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | X-rays | Prophylaxes | The Recall System | Laboratory Tests | Filling of Primary Teeth | Topical Fluoride Applications | The Biopsies of Abnormal Soft Tissues | Attention to Tone of Gingival Tissues | Patient Education[d] |
| All Dentists | | | | | | | | | |
| Can use | | | | | | | | | |
| And use routinely[a] | 63 | 85 | 46 | * | 74 | 20 | 63 | 65 | 59 |
| And use, not routinely[b] | 36 | 11 | 30 | 22 | - | 37 | - | - | 40 |
| But do not use[c] | 1 | 4 | 24 | 78 | 16 | 33 | 26 | 35 | 1 |
| Cannot use | - | - | - | - | 10 | 10 | 11 | - | - |
| Total per cent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 758 | 758 | 758 | 758 | 758 | 758 | 758 | 758 |

*Less than 0.5 per cent.

[a]Means that procedure is used with most or all examinations or is mentioned by dentists as being their usual or normal procedure.

[b]Means dentists use procedure with varying degrees of frequency, but not routinely.

[c]Normally this category includes only those dentists who specifically mention not using a measure, but in the case of "Concern with...Gingival Tissues" and "Biopsies...," it refers also to those dentists who make no mention whatever of the measure.

[d]Percentages for this measure are based upon a combination of data which indicate the frequency with which patients request information and dentists voluntarily give advice to patients who do not ask for it.

Dentists who use measure routinely include: all dentists who report volunteering advice to all patients not requesting it, regardless of frequency with which other patients do ask for advice; and all dentists who indicate that their patients often ask for advice, except those who report never voluntarily offering advice. Dentists who use measure, but not routinely, include: dentists who report never volunteering advice but having patients who request it with varying degrees of frequency; and dentists who indicate their patients ask for advice occasionally or not very often and who report that they volunteer advice to some patients.

TABLE 4--Continued

| Extent and Frequency of Use of Preventive Measures | Proportion of Dentists Reporting Each Degree of Utilization of: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | X-rays | Prophlaxes | The Recall System | Laboratory Tests | Filling of Primary Teeth | Topical Fluoride Applications | The Biopsies of Abnormal Soft Tissues | Attention to Tone of Gingival Tissues | Patient Education[d] |
| Dentists Who Can Use | | | | | | | | | |
| Use | | | | | | | | | |
| Routinely . . . . . | 63 | 85 | 46 | * | 82 | 23 | 71 | 65 | 59 |
| Not routinely . . . . . | 36 | 11 | 30 | 22 | - | 41 | - | - | 40 |
| Do not use . . . . . | 1 | 4 | 24 | 78 | 18 | 36 | 29 | 35 | 1 |
| Total per cent . . . . | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists . . | 758 | 758 | 758 | 758 | 682 | 682 | 677 | 758 | 758 |
| Dentists Who Do Use | | | | | | | | | |
| Routinely . . . . . | 63 | 89 | 61 | * | 100 | 36 | 100 | 100 | 60 |
| Not routinely . . . . . | 37 | 11 | 39 | 100 | - | 64 | - | - | 40 |
| Total per cent . . . . | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists . . | 753 | 724 | 579 | 169 | 561 | 435 | 482 | 491 | 752 |

TABLE 5

DENTISTS' PARTICIPATION IN PREVENTIVE ACTIVITIES IN THE COMMUNITY

| Participation in Preventive Activities in Community | Proportion of Dentists by Degree of Participation | | | |
|---|---|---|---|---|
| | Water Fluoridation Movements | | School Dental Health Program | Community Health Groups |
| | Where Water Is Already Fluoridated | Where Water Is Not Fluoridated | | |
| All Dentists | | | | |
| Can (or could) participate . . . | 79 | 72 | 81 | 100 |
| And participate (participated) | 37 | 36 | 26 | 15 |
| But do (did) not participate . | 42 | 36 | 55 | 85 |
| Cannot (could not participate) . | 21 | 28 | 19 | - |
| Not in practice at time . . . | 11 | 2 | - | - |
| No movement . . . . . | 10[a] | 26 | - | - |
| Total per cent . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . | 234 | 524 | 758 | 758 |
| Dentists Who Can (or Could) Participate | | | | |
| Participate (participated) . . . | 47 | 50 | 32 | 15 |
| Do (did) not participate . . . . | 53 | 50 | 68 | 85 |
| Total per cent . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . | 186 | 375 | 614 | 758 |

[a]These are dentists in localities with only naturally fluoridated water supplies who were not asked questions regarding artificial fluoridation movements in their localities.

TABLE 6

DENTISTS' EVALUATION OF IMPORTANCE OR EFFECTIVENESS OF SOME PREVENTIVE MEASURES

| Dentists' Evaluation of Measure Indicated | Proportion of Dentists Reporting Evaluation Indicated among: | | | | |
|---|---|---|---|---|---|
| | All Dentists | Dentists Who Can Use Measure Indicated and: | | Dentists Who Do Use Measure Indicated: | |
| | | Do Use | Do Not Use | Routinely | Not Routinely |
| Giving of Prophylaxes | | | | | |
| Very important | 88 | 89 | 73 | 90 | 77 |
| Somewhat important | 8 | 8 | 18 | 7 | 16 |
| Not very important | 4 | 3 | 3 | 3 | 7 |
| No answer | * | * | 6 | * | - |
| Total per cent | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 724 | 34 | 643 | 81 |
| Patient Education | | | | | |
| Very important | 85 | 85 | a | 92 | 78 |
| Somewhat important | 10 | 10 | | 7 | 15 |
| Not very important | 5 | 5 | | 1 | 7 |
| Total per cent | 100 | 100 | - | 100 | 100 |
| Number of dentists | 758 | 752 | 6 | 448 | 304 |
| Giving Topical Fluoride Applications | | | | | |
| More effective than other means | 24 | 35 | 13 | 39 | 33 |
| About the same as other means | 17 | 20 | 16 | 15 | 23 |
| Less effective than other means | 35 | 30 | 53 | 27 | 32 |
| No comparison, no answer | 14 | 15 | 18 | 19 | 12 |
| Not asked, not applicable | 10 | - | - | - | - |
| Total per cent | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 435 | 247 | 156 | 279 |
| Use of X-rays (as diagnostic aid) | | | | | |
| Most important | 47 | 48 | a | 52 | 40 |
| One of most important | 29 | 29 | | 31 | 25 |
| One of several important | 14 | 14 | | 11 | 19 |
| Relatively less important | 2 | 2 | | 1 | 5 |
| No rating, no answer | 7 | 7 | | 5 | 11 |
| Not asked, not applicable | 1 | - | | - | - |
| Total per cent | 100 | 100 | - | 100 | 100 |
| Number of dentists | 758 | 753 | 5 | 477 | 276 |
| Use of Laboratory Tests | | | | | |
| Quite important | b | b | b | a | 21 |
| Less important | | | | | 25 |
| Relatively unimportant | | | | | 38 |
| No rating, no answer | | | | | 16 |
| Total per cent | | | | - | 100 |
| Number of dentists | | | | 1 | 168 |

*Less than 0.5 per cent.

[a]Number of respondents too small to be percentaged.

[b]Asked only of those dentists who do use laboratory tests.

TABLE 7

REASONS GIVEN BY DENTISTS FOR NOT USING CERTAIN PREVENTIVE MEASURES

| Reason Given for Not Using Preventive Measure | Proportion of Dentists Giving Reason Indicated with Reference to: Use of Recall System | Use of Laboratory Tests | Giving Topical Fluoride Applications |
|---|---|---|---|
| All Dentists | | | |
| Cannot use measure | - | - | 10 |
| Can use measure | 100 | 100 | 90 |
| Use | 76 | 22 | 57 |
| Do not use | 24 | 78 | 33 |
| Reasons given for not using measure | | | |
| Belief in its ineffectiveness, unreliability, needlessness | 4 | 34 | 26 |
| Lack of time (enough patients) | 9 | 11 | 1 |
| Lack of equipment, facilities, personnel | 4 | 13 | - |
| Lack of special knowledge | 3 | 12 | - |
| Nature of practice or patients | 3 | 10 | 2 |
| Cost to patient | - | 7 | 4 |
| Adverse patient reaction (for other reasons than cost) | 3 | - | - |
| Rejection as dentist's responsibility | 2 | - | - |
| Total per cent | 100 | 100 | 100 |
| Number of dentists | 758 | 758 | 758 |
| Dentists Who Can but Do Not Use Measure | | | |
| Reasons given for not using measure | | | |
| Belief in its ineffectiveness, unreliability, needlessness | 25 | 44 | 80 |
| Lack of time (enough patients) | 38 | 14 | 4 |
| Lack of equipment, facilities, personnel | 17 | 16 | - |
| Lack of special knowledge | - | 15 | 10 |
| Nature of practice or patients | 14 | 13 | 8 |
| Cost to patient | - | 9 | 12 |
| Adverse patient reaction (for other reasons than cost) | 12 | - | - |
| Rejection as dentist's responsibility | 7 | - | - |
| Total per cent (Some mention more than one) | 113 | 111 | 114 |
| Number of dentists | 179 | 588 | 247 |

TABLE 8

DENTISTS' IMAGE OF PATIENT REACTION TO SOME PREVENTIVE MEASURES

| Dentists' Report of Patient Reaction to Use of Measure Indicated | Proportion of Dentists Reporting Indicated Patient Reaction among: | | | | |
|---|---|---|---|---|---|
| | All Dentists | Dentists Who Can Use Measure Indicated and: | | Dentists Who Do Use Measure Indicated: | |
| | | Do Use | Do Not Use | Routinely | Not Routinely |
| Giving of Prophylaxes | | | | | |
| Favorable | 81 | 83 | 43 | 84 | 69 |
| Neutral | 9 | 9 | 9 | 9 | 11 |
| Unfavorable | 1 | 1 | - | 1 | 5 |
| No general reaction | 5 | 6 | 30 | 5 | 14 |
| No answer | 4 | 1 | 18 | 1 | 1 |
| Total per cent | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 724 | 34 | 643 | 81 |
| Use of Recall System | | | | | |
| Favorable | 64 | 75 | 30 | 80 | 67 |
| Neutral | 5 | 4 | 10 | 4 | 3 |
| Unfavorable | 6 | 3 | 17 | 3 | 5 |
| No general reaction | 13 | 13 | 14 | 9 | 20 |
| No answer | 10 | 5 | 29 | 4 | 5 |
| Not asked, not applicable | 2 | - | - | - | - |
| Total per cent | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 758 | 579 | 167 | 353 | 226 |
| Filling of Primary Teeth | | | | | |
| Favorable | 69 | 80 | 60 | 80 | - |
| Unfavorable | 12 | 12 | 19 | 12 | - |
| No general reaction | 8 | 8 | 17 | 8 | - |
| No answer | 1 | * | 4 | * | - |
| Not asked, not applicable | 10 | - | - | - | - |
| Total per cent | 100 | 100 | 100 | 100 | - |
| Number of dentists | 758 | 561 | 121 | 561 | 0 |
| Use of X-rays | | | | | |
| More favorable now than few years ago | 44 | 44 | a | 43 | 46 |
| No change | 31 | 32 | | 28 | 37 |
| Less favorable now than few years ago | 21 | 21 | | 26 | 14 |
| No answer | 3 | 3 | | 3 | 3 |
| Not asked, not applicable | 1 | - | | - | - |
| Total per cent | 100 | 100 | - | 100 | 100 |
| Number of dentists | 758 | 753 | 5 | 477 | 276 |

*Less than 0.5 per cent.

[a]Number of respondents too small to be percentaged.

## CHAPTER IV

## LEVELS OF PREVENTIVE PRACTICE AMONG DENTISTS

In the preceding chapter, the practice of preventive dentistry was approached in terms of some specific preventive measures and the extent to which they are utilized by dentists. This chapter focuses attention upon the dentists themselves and the degree to which they engage in preventive practice, in order to indicate those factors which are most conducive to the practice of preventive dentistry.

### Construction of an Index of Preventive Practice

In order to examine the degree to which dentists employ preventive procedures and the factors which influence their practices, a summary measure called "The Index of Preventive Practice" was constructed. This index is based on five of the twelve preventive activities (nine office procedures and three activities at the community level) and is scored by assigning one point for each of the following:

> the cleaning and polishing of teeth routinely;
> the use of X-rays with almost all examinations;
> the use of a recall system covering all patients;
> the giving or recommending of topical fluoride treatments on the initiative of the dentist;
> and any use of laboratory tests to determine caries activity.

The practices excluded from the index had to be dropped because they were influenced by too many extraneous factors to be good indicators of dentists' disposition to incorporate preventive procedures into their dental practices. Thus, for three of them--participation in water fluoridation movements, participation in school dental health programs and filling of primary teeth--sizeable minorities of dentists would have been scored downward simply because their practices or communities afforded them no opportunity to engage in these activities.[1] Participation in community health groups is so

---

[1] At first sight, it may appear that the use of topical fluoride applications should be excluded on the same grounds, that the many dentists in localities with fluoridated water would be precluded from employing this practice. In fact, however, the proportions of dentists who report giving or recommending topical fluoride applications as well as the proportions who give them on the dentist's initiative vary only slightly between fluoridated and non-fluoridated localities. (See Table A-14 in Appendix B.)

infrequent that it would contribute little to the Index in any case, and, like the other community items, appeared to be influenced by many extra-dental considerations. The two more central professional preventive practices of attention to the tone of gingival tissue and obtaining biopsies of abnormal soft tissue lesions could not be used because only minimum estimates of the extent of these practices had been obtained: as mentioned earlier, there is every reason to suppose that many dentists who failed to report these practices specifically nevertheless carry them out and would, again, be unfairly downgraded in their Preventive Practice scores, if these items were used. Finally, patient education proved to be too loose a concept, varying from the most casual remark to the most careful presentation, to be a trustworthy indicator of genuine differences in dentists' practices.

The five items which remain were tested for internal consistency by the Guttman scaling techniques and proved in fact to form a Guttman scale. Since the Guttman technique is essentially a test of whether the results obtained for the items concerned can be regarded as functions of a single common variable underlying all the items, this outcome establishes that each of the five items represents a point somewhere along a single continuum. Because of this requirement of Guttman scaling, each dentist's score on the Index of Preventive Practice represents not merely how many of the five particular practices included he utilized, but his relative position along an underlying continuum of degree of preventive practice, as well.[2] Once this scale was established, further analysis revealed that the use of each of the seven practices which had already been eliminated from the Index on logical grounds is, in general, positively correlated with the degree of preventive practice (see Table 21 and Appendix Table A-45a) but each of them proved, as predicted, to be too much influenced by other sorts of variables to fit into the scale patterning of the five core items.

Before the results obtained with the Index of Preventive Practice can be presented, one further technical point must be noted. It became apparent that it would be necessary to exclude from the analysis those dentists with definitely limited (specialized) practices for a number of reasons. First, a limited proportion of the total population have access to such

---

[2]For further discussion of the rationale and procedures of Guttman scaling, see Samuel A. Stouffer, et. al., Measurements and Prediction, Vol. IV of Studies in Social Psychology in World War II. Princeton, N. J.: Princeton University Press, 1950.

specialists who tend to locate primarily in large cities, and, even where such specialists are accessible, they handle a comparatively small proportion of the population seeking dental care. Of the 758 sample dentists in active private practice in this country, 64 (or eight per cent) indicate that they have limited practices. (In terms of an estimated total of 78,000 dentists in active private practice in this country, this would mean only an estimated 5,000-8,000 dentists having limited practices.) Moreover, some dental specialists, like oral surgeons, orthodontists and prosthodontists, are less likely, by virtue of the nature of their practices, to utilize some of the preventive measures which make up the Index of Preventive Practice and would, if included, be unjustly graded downward. Other dental specialists, pedodontists and periodontists, are more likely to be thought of as specialists with more general practices. Since the major concern of this analysis is with the degree of preventive practice among dentists who service the vast majority of the population, those with a general practice, it was decided to confine this analytical section to the 708 dentists whose practices are of a general type, the 694 who specifically indicate that they have general practices and the 14 specialists with more general practices (pedodontists and periodontists).

The scoring of the office practices of the 708 dentists with general types of practice with reference to the five items mentioned above is summarized in Table 9 below.

TABLE 9

PERCENTAGE DISTRIBUTION OF SCORES ON INDEX OF PREVENTIVE PRACTICE

| Score: (Relative Degree of Preventive Practice) | Percentage of Dentists with General Types of Practice | Cumulative Percentage |
|---|---|---|
| 5 (Highest) . . . . . | 4 | 4 |
| 4 . . . . . | 16 | 20 |
| 3 . . . . . | 29 | 49 |
| 2 . . . . . | 25 | 74 |
| 1 . . . . . | 21 | 95 |
| 0 (Lowest) . . . . . | 5 | 100 |

On the basis of this table of scores, four categories of preventive practice in the dental office were established: dentists with highly preventive practice who perform four or five of the measures included in the index; dentists with moderately preventive practice who perform three measures; dentists with somewhat preventive practice who perform two measures; and dentists with negligibly preventive practice who perform one or none of the measures. As can be seen in Table 9, only one-fifth (20 per cent) of all dentists with general types of practice approach the highest level in practice of preventive dentistry, as defined by the index, while one-fourth (26 per cent) engage in a negligible amount of preventive dentistry. This four-fold division constitutes the basis for the subsequent analysis of factors which tend to influence the degree to which dentists engage in preventive dentistry, the results of which are discussed in the next section of this chapter.

## Factors Conducive to Preventive Practice

The division of dentists into those who are more preventive in their practices and those who are less preventive in practice raises the further question of why this is so. Are there any characteristics peculiar to the dentist's practice or to his patients that make it more conducive for him to practice preventive dentistry more extensively? Is a dentist likely to have a more preventive practice if he has assistance? If he has broader interests in the field of dentistry and makes more of an effort to keep up-to-date? If he works longer hours per week? Is he more likely to engage in preventive practices if his patients are predominantly in a higher income group or if he has a larger proportion of patients who are under six years of age? Table 10 summarizes the relationship between certain characteristics of dentists and the degree to which their practices are preventive.

TABLE 10

RELATION OF CHARACTERISTICS OF DENTISTS WITH GENERAL TYPES OF PRACTICE TO DEGREE OF PREVENTIVE PRACTICE

| Characteristics of Dentists | Proportion of Dentists in Each Preventive Practice Group with Indicated Characteristic | | | |
|---|---|---|---|---|
| | Highly Preventive (N=141=100%) | Moderately Preventive (N=207=100%) | Somewhat Preventive (N=175=100%) | Negligibly Preventive (N=185=100%) |
| Urban location . . . . . | 80 | 78 | 66 | 48 |
| Under 50 years of age . | 62 | 65 | 49 | 34 |
| Have office assistance . | 84 | 78 | 66 | 57 |
| At least moderately attentive to professional activities . . . . . | 66 | 48 | 44 | 18 |
| At least six per cent of patients under six years of age . . . . . | 58 | 51 | 45 | 39 |
| Patients predominantly in upper income group | 48 | 32 | 30 | 8 |

## The More Preventive Practice of Urban Dentists and Younger Dentists

The two most obvious differences in preventive practice occur between urban and rural dentists and between younger and older dentists. In general, dentists in urban areas are more preventive in their practice than are dentists in rural areas:[3]

| | Proportion of dentists with relatively high preventive practice[4] |
|---|---|
| Dentists in: | |
| Urban areas . . . . . | 58 |
| Rural areas . . . . . | 32 |

Younger dentists have a more preventive practice than do older dentists:

| | Proportion of dentists in each age group with relatively high preventive practice |
|---|---|
| Dentists who are: | |
| Under 40 years . . . . . | 63 |
| 40-49 years . . . . . | 56 |
| 50-64 years . . . . . | 41 |
| 65 years or older . . . . | 26 |

These two factors have, in addition, a reinforcing effect upon each other. Within each age group, urban dentists have a more preventive practice than do rural dentists. Among urban dentists as well as among rural dentists, younger dentists have a more preventive practice than older dentists, as is shown below:

| | Proportion of dentists in each age group and locality, who have relatively high preventive practice |
|---|---|
| Dentists who are: | |
| Under 40 years | |
| Urban . . . . . | 73 |
| Rural . . . . . | 40 |
| 40-49 years | |
| Urban . . . . . | 62 |
| Rural . . . . . | 42 |
| 50-64 years | |
| Urban . . . . . | 47 |
| Rural . . . . . | 28 |
| 65 years or over | |
| Urban . . . . . | 36 |
| Rural . . . . . | 14 |

[3] Text tables of this summary kind for this section of the chapter are derived from more detailed tables which can be found in Appendix B.

[4] The term relatively high preventive practice, whenever used in this chapter, includes dentists with both highly preventive and moderately preventive practices.

The dentists with the most preventive practice are younger dentists in urban areas; the dentists with the least preventive practice are older dentists in rural areas.

Why are urban dentists and younger dentists more prevention-oriented? With respect to age, younger dentists are obviously less removed in time from their training which, in more recent years, has placed greater emphasis upon those aspects of the field of dentistry which might properly be labeled primary prevention. They are, therefore, likely to have had more recent, more frequent, and more intensive contacts with the precepts of preventive dentistry in their dental training. Younger men, moreover, tend to be more receptive to new approaches to problems and to new ideas in general and have less of a background of strongly entrenched traditional procedures and approaches. Younger men tend more to keep up-to-date on the more recent developments in the field and to be interested in aspects of dentistry other than actual practice--research, etc. In addition, older dentists, especially those 65 years or older, tend to cut down on their practices, and tend less to accept the very young patients whom they find more difficult to handle. By concentrating on older patients, they are concerned less with measures of primary prevention and tend to be less motivated to be concerned about and to practice preventive dentistry.

The basic differences between urban and rural dentists as regards preventive practice suggest a somewhat similar explanation. The higher ratio of dentists to population, the greater concentration of dentists in medical and dental buildings, the location of most dental schools in large or small metropolitan areas, and the more frequent scheduling of and easier access to formal and informal meetings, clinics, or study groups provide urban dentists with more frequent and easier professional communication with other dentists and with the more recent developments in the dental field. The greater concentration of medical and dental schools and facilities in urban areas also provides urban dentists with more opportunities for activities outside their practices, for research and teaching, which, in turn, can lead to more frequent and intensive contact with the precepts of preventive dentistry. And they, in turn, can channel these ideas more readily to other dentists through personal and professional contacts.

Another avenue of explanation lies in the relatively higher economic and educational levels of urban populations, and, therefore, of patients or potential patients. These, in conjunction with the impact on urban populations of the mass media of communication--press, radio and TV--with their

greater attention to medical and dental developments, tend to produce, in general, a more sophisticated type of patient, at least at the higher income and education levels, who is more willing and able to accept and afford preventive procedures, and who might even, by virtue of his own interests and demands, expect and get more preventive practice from dentists. It has been clearly shown in other studies that the amount expended for dental care varies with income. It now appears that persons living in urban areas, with their generally higher income levels, are not merely willing and able to seek more dental care, but are, perhaps by virtue of a kind of urban sophistication, disposed to seek or obtain a better quality of care as well.

To sum up, then, the significance of dentists' age and rural-urban location for their preventive practices appears to trace back to two rather more subtle groups of influence which age and urbanization roughly represent: on the one hand, the dentist's own professional standards, his orientation toward the practice of dentistry, his desire to achieve optimum proficiency as the profession defines it, all of which are encouraged or reinforced by colleague associations, may be thought of as the dentist's internal drive toward preventive practices; and, on the other, the patients' expectations, their definitions of desirable dental care, along with the competitive problems of building a clientele, may be used to represent the external demand for or facilitation of preventive practice. The role played by such psychological influences is documented more directly in the sections which follow.

## How the Dentist's Attentiveness to Professional Activities Influences Preventive Practice

Much of the answer to preventive practice lies in the dentists themselves, in what has been termed their attentiveness to professional activities. An index of attentiveness was based upon four components:

- the extent of specialized training after graduation from dental school;
- the extent of participation in the dental field other than in actual practice--research, teaching, etc.;
- the recentness of refresher or continuation courses taken;
- and the recentness of attendance at meetings, clinics, study clubs, seminars, etc. of general or specialty dental societies or other health-related or other related organizations.

The index of attentiveness was designed to indicate the extent to which dentists keep up-to-date as well as the breadth of their activities and interests within the field of dentistry. With a range of scores possible from a low of "0" to a high of "8," those dentists who scored "0" were classified as not attentive, those with a score of "1" or "2," as slightly attentive, those with a score of "3" or "4," as moderately attentive, and those with a score of "5" or higher, as highly attentive.[5] Table 11 indicates the proportion of dentists obtaining each score on the index of attentiveness. As is clear there, relatively few dentists (11 and 13 per cent, respectively) fall at the extremes of inattention or greater attention; roughly two-fifths of all dentists with general practice are at least moderately attentive to professional developments.

TABLE 11

PERCENTAGE DISTRIBUTION OF ATTENTIVENESS SCORES MADE BY 708 DENTISTS WITH GENERAL TYPES OF PRACTICES

| Score | Percentage | Cumulative Percentage |
|---|---|---|
| 8 . . . | 1 | 1 |
| 7 . . . | 1 | 2 |
| 6 . . . | 2 | 4 |
| 5 . . . | 9 | 13 |
| 4 . . . | 6 | 19 |
| 3 . . . | 24 | 43 |
| 2 . . . | 16 | 59 |
| 1 . . . | 30 | 89 |
| 0 . . . | 11 | 100 |

[5] A high score of "2" was possible for each of the four components of the index; a score of "2" was given dentists who engaged in any work in dentistry other than practice and "0" if engaged only in practice; a score of "2" was given for any specialized training taken subsequent to graduation from dental school and "0" to dentists with no such training; dentists received a score of "2" for having taken last refresher course in 1955-1957, "1" if taken in 1945-1954, and "0" if taken in 1944 or earlier or if no such course was taken; a score of "2" was given for attendance at national or international meetings, clinics, etc. of general or specialty societies during the year prior to the interview, "1" for attendance at only local, state or regional meetings, clinics, study clubs, etc. of general or specialty societies or of other health-related or other related organizations, and a score of "0" if there was no attendance at any meetings, clinics, study clubs, etc. during the year prior to the interview.

Professional attentiveness makes for preventive dental practice to such an extent that three-quarters of the highly attentive dentists are engaged in relatively high degrees of preventive practice, while a good many more than three-quarters of the inattentive dentists have little or no preventive practice:

| Dentists who are: | Proportion of dentists with relatively high preventive practice |
|---|---|
| Highly attentive . . . . . | 75 |
| Moderately attentive . . . . . | 59 |
| Slightly attentive . . . . . | 44 |
| Not attentive .. . . . . | 15 |

In other words, dentists who keep up-to-date and who have broader interests in the field of dentistry are very likely to be highly stimulated to engage in preventive practices; dentists who are not so stimulated do not. Even among those dentists who are only slightly attentive there is a sizeable proportion of dentists with relatively high preventive practice, but if dentists are not attentive it is highly unlikely that they will have highly preventive or moderately preventive practices.

## The Role of Office Assistance in Preventive Practice

In another way, the employment of dental hygienists is at least in part an expression of the same disposition to attend to current professional developments, as is indicated by the fact that three-fifths (62 per cent) of the dentists who employ them are at least moderately attentive, in terms of the attentiveness score. It is, therefore, interesting to note that the relatively small group of dentists who employ hygienists and, to a lesser extent, dentists who have other types of assistance are more likely to have relatively high preventive practices than dentists with no assistance:

| | Proportion of dentists with relatively high preventive practice |
|---|---|
| Dentists with dental hygienists . | 74 |
| Dentists with other assistance. . . | 53 |
| Dentists with no assistance . . . | 33 |

It is hardly surprising to find that among dentists with dental hygienists there is such a large proportion of dentists with relatively high preventive practice, since the work of the dental hygienist is virtually completely preventive in nature. But, since only one dentist in ten currently employs hygienists, their influence on the degree of preventive practice is obviously limited.

Dentists' "Busyness" and Preventive Practice

Dentists, themselves, are likely to regard long hours worked under pressure as the basic condition of dental practice inhibiting increased utilization of preventive measures. Since it is so frequently contended that dentists do not have time at present and would have to work still longer hours for further utilization of preventive techniques, the question of dentists' "busyness" in relation to preventive practice deserves some extended consideration.

Certainly, dentists in general types of practice generally work hard and, often, under pressure. Over half of these dentists describe their practices as, essentially, too busy; that is, in describing their practices in the year preceding the interview, 28 per cent report practices in which they attended to everyone who came to them only by working "under pressure and too many hours," while 24 per cent say that, rather than lengthening their hours or attempting to work faster, they were so busy they could not attend to everyone who wanted their services, but turned people away. (Another 39 per cent describe their practices as presenting a "good balance between demand for care and number of hours worked," while nine per cent feel their practices were not sufficiently busy.) Quite similarly, the majority (55 per cent) report that their patients have to wait over a week for an appointment, and almost a third (30 per cent) define the wait as longer than two weeks. As might be expected, the patients of dentists who cope with the busyness of their practices by turning people away wait the longest; in fact, half these dentists (53 per cent) report that their patients wait over three weeks for appointments. Dentists who meet the demand by working longer under pressure see patients a good deal more quickly, while those with good balance or too little demand for their services seldom require much of a wait.[6]

---

[6]See Table A-18a in Appendix B.

In terms of actual hours spent in their practices, the picture is much the same. One-third (34 per cent) of these dentists with general types of practices work from 40 to 44 hours a week, while another third work longer hours--14 per cent report work weeks of 45-49 hours; and 19 per cent, 50 hours or more. The final third work less than 40 hours a week, with 19 per cent reporting 35-39 hours, and 14 per cent, less than 35 hours. Roughly half of the dentists who feel they are working too many hours under pressure report work weeks of 45 hours or longer, while less than a fifth put in less than 40 hours. Those who turn patients away work the next longest hours; and dentists who feel no pressure, the shortest hours.[7]

Granted that nine out of ten dentists are now as busy as (or even busier than) they want to be, and that two-thirds are putting in at least a full work week (40 hours or more) at their practices, the question of the relationship of these time pressures to preventive practice remains to be answered. Although the percentage of dentists doing at least some preventive practice increases consistently from the group of dentists working less than 35 hours a week to dentists working 50 or more hours a week (from 65 per cent to 82 per cent), it can be demonstrated that this relationship is more a function of the kind of dentist who works longer hours than a direct outcome of hours worked.[8]

Most pointedly, the dentists who work longer hours (45 hours or more) are, on the average, younger men; two-fifths of them are under 40 years of age; two-thirds are under 50 years. In contrast, the dentists who work "short" hours (under 40 hours a week) are older men: one-fifth are 65 years of age or older; two-thirds are 50 years of age or older.[9] The import of this difference in age lies in the substantially greater preventive practice of younger dentists which has already been presented. Once due allowance has been made for the differences in age associated with differences in working hours, there is no relationship between hours worked and preventive practice. That is, among dentists of the same age, those who work longer hours are no more and no less likely to be relatively preventive in their practice than those who work shorter hours.

---

[7] See Table A-18b in Appendix B.

[8] See Table A-18 in Appendix B.

[9] See Table A-18c in Appendix B.

In general, as shown in Table 12, each of the qualities of the dentist and his practice previously described as influencing the level of preventive practice--age, urban-rural location, professional attentiveness and employment of assistance--relates to preventive practice in the same direction and to about the same extent among either dentists working shorter hours or dentists working longer hours. At the same time, no comparably large and consistent differences in the proportions with relatively high preventive practices, as between dentists working shorter hours and dentists working longer hours, remain after the effects of any of the four key influences are controlled.

TABLE 12

RELATION OF CERTAIN CHARACTERISTICS TO HOURS WORKED BY DENTISTS WITH RELATIVELY HIGH PREVENTIVE PRACTICES[a]

| Characteristics of Dentists | Proportion of Dentists with Relatively High Preventive Practice with Each Characteristic among: | |
|---|---|---|
| | Dentists Who Work Under 45 Hours a Week | Dentists Who Work 45 Hours or More a Week |
| Age | | |
| Under 50 years | 59% | 62% |
| 50-64 years | 42% | 39% |
| 65 years or older | 27% | b |
| Location of practice | | |
| Urban | 57% | 59% |
| Rural | 28% | 41% |
| Attentiveness | | |
| At least moderately attentive. | 63% | 66% |
| Slightly or not attentive | 36% | 44% |
| Assistance | | |
| Have dental hygienist | 76% | b |
| Have other assistance | 50% | 59% |
| Have no assistance | 32% | 34% |

[a]This table is derived from a series of tables, A-18d through A-18g in Appendix B, which deal with the relationships between each of the characteristics and hours worked and level of preventive practice.

[b]Too few cases to report percentages.

So, a younger dentist is more likely than an older one to be preventive in practice, and his advantage over the older man in preventive practice is quite independent of the number of hours he works. And similarly with

urban dentists, professionally attentive dentists and dentists with assistance: their higher level of preventive practice is as marked among those who work shorter hours as among those who work longer hours.[10]

There is, then, no reason to believe that the level of preventive practice attained by an individual dentist depends on the number of hours he works, just as there is no guarantee that any increase in the hours he works will automatically lead him to a higher level of preventive practice. Obviously, the motivation of the dentist, as previously discussed, remains paramount.

Here, then, is what the dentist contributes. There is, however, another integral aspect of the situation that must be considered--the patient. To what degree and in what way does the patient influence the dentist's practice of preventive dentistry?

## The Influence of Patient Income on Preventive Practice

In an examination of the characteristics of dentists' patients which might be conducive to preventive practice, the one outstanding characteristic that emerges as a key factor is the economic level of the patient. Associated with a higher income, in general, is a higher degree of sophistication and an ability and willingness to pay for preventive dentistry, and perhaps even an anticipation of preventive practice. It must be remembered, however, that patient incomes, as reported in this study, constitute only an estimate on the part of dentists both as to the family income of the patients and the proportion of their patients having family incomes within the three prescribed ranges: less than $4,000 per year; between $4,000 and $6,000 per year; $6,000 per year or over. As rough as these estimates of patient family income

---

[10] Further analysis, not shown here, indicates that such minor differences as survive in Table 12 are attributable not to hours worked but to the remaining uncontrolled variables. For example, within the group of dentists who are relatively inattentive the somewhat greater proportion of dentists with relatively high preventive practice among those working longer hours is attributable to the fact that they are a younger group on the average than inattentive dentists working shorter hours. Sample size prevents more detailed analysis.

may be, a definite relationship exists between patients' income and the degree of preventive practice:

| | Proportion of dentists with relatively high preventive practice |
|---|---|
| Dentists whose patients are: | |
| Predominantly in high income group ($6,000 or over) . . . . . | 67 |
| Predominantly in middle income group (between $4,000 and $6,000) | 50 |
| Predominantly in low income group (less than $4,000) . . . . . | 32 |

Dentists whose patients are predominantly in the higher income group have more preventive practice than dentists whose patients are predominantly in middle or low income groups. But even among dentists with predominantly low income patients, almost one-third have a relatively high preventive practice, which would suggest that even where patients are predominantly in the low income group, dentists who are sufficiently oriented to do so, will practice a relatively high degree of preventive dentistry.

## The Age of the Patient and Preventive Practice

Since dentists who have patients under six years of age will, to some extent, automatically be practicing preventive dentistry (and utilizing particularly techniques of primary prevention), whether consciously motivated to do so or not, it is not surprising to find that dentists who have a larger proportion of patients under six years of age tend to be slightly more preventive in their practices. But the proportion of patients under six years of age is not in itself a decisive influence making for a preventive or non-preventive practice. (See Table A-21, Appendix B.)

## The Interrelatedness of Factors Conducive to Preventive Practice

These five major factors in preventive dentistry--dentist's age, location of practice, assistance, attentiveness and class-level of practice--are themselves interrelated. For instance, urban dentists are not merely more likely than rural dentists to practice preventive dentistry, they are also more likely to be attentive to professional trends, more likely to have a high-income clientele, and more likely to employ hygienists (though not other types of assistance). Or, more pointedly, every one of the other factors is related not only to greater preventive practice, but to greater

professional attentiveness as well. Thus, dentists who are relatively attentiveness as well. Thus, dentists who are relatively attentive are more likely than less attentive dentists to practice in urban areas, to be under fifty years of age, to employ assistance and, especially, hygienists, and to serve a higher-income clientele. (Details of all these relationships will be found in Tables A-22 through A-32 in Appendix B.)

Notwithstanding their interrelatedness, each of the factors considered tends to contribute toward the practice of preventive dentistry, independently of the others. In illustration, it may be seen below in Table 13 that dentists having assistance, professionally attentive dentists and dentists with the higher-income patients are considerably more likely than their opposites to practice relatively high degrees of preventive dentistry even among the already more preventively-oriented dentists in urban localities, and the same relationships obtain among rural dentists. Yet, at the same time, at any given level of assistance, attentiveness, or patient income-class, urban dentists are more likely to be preventively-oriented than rural dentists.

TABLE 13

RELATION OF CERTAIN CHARACTERISTICS TO LOCATION OF PRACTICE OF DENTISTS WITH RELATIVELY HIGH PREVENTIVE PRACTICES

| Characteristics of Dentists | Proportion of Dentists with Relatively High Preventive Practice with Each Characteristic among: | |
|---|---|---|
| | Dentists in Urban Areas | Dentists in Rural Areas |
| Assistance | | |
| Dentists with hygienists . . . . . | 77% | a |
| Dentists with other assistance . . | 64% | 35% |
| Dentists with no assistance . . . | 37% | 19% |
| Attentiveness | | |
| Dentists who are highly attentive. | 76% | a |
| Dentists who are moderately attentive . . . . . | 62% | 50% |
| Dentists who are slightly attentive . . . . . | 55% | 27% |
| Dentists who are not attentive . . | 22% | 3% |
| Patient income | | |
| Dentists with predominantly high income patients . . . . . | 72% | 41% |
| Dentists with predominantly middle income patients . . . . . | 57% | 35% |
| Dentists with predominantly low income patients . . . . . | 38% | 26% |

[a]Too few cases to report a percentage.

When the same key factors are related to dentists' age, the difference that age makes is clearly evident in Table 14 below.

TABLE 14

RELATION BETWEEN CERTAIN CHARACTERISTICS TO AGE OF DENTISTS WITH RELATIVELY HIGH PREVENTIVE PRACTICES

| Characteristics of Dentists | Proportion of Dentists with Relatively High Preventive Practice with Each Characteristic among: | |
|---|---|---|
| | Dentists Who Are Under 50 Years | Dentists Who Are 50 Years or Older |
| Assistance | | |
| Dentists with hygienists | 77% | 72% |
| Dentists with other assistance | 63% | 39% |
| Dentists with no assistance | 42% | 28% |
| Attentiveness | | |
| Dentists who are highly attentive. | 78% | 69% |
| Dentists who are moderately attentive | 65% | 51% |
| Dentists who are slightly attentive | 53% | 33% |
| Dentists who are not attentive | a | 10% |
| Patient income | | |
| Dentists with predominantly high income patients | 73% | 61% |
| Dentists with predominantly middle income patients | 62% | 33% |
| Dentists with predominantly low income patients | 43% | 21% |

[a]Too few cases to report a percentage.

The statement made earlier that younger dentists tend to have more preventive practice is clearly borne out. But it is equally evident that dentists who have hygienists, or who are highly attentive, or who have predominantly high income patients appear to have more preventive practices regardless of their age, even though those who are younger tend to be slightly more preventive than otherwise comparable dentists who are older.

To what extent do all the characteristics mentioned--location of practice, age of dentist, having assistance, being attentive, and having predominantly higher income patients--go together to reinforce the preventive practice of dentists? Because of the sample size it is not possible to show in full detail the simultaneous relationships of all of these characteristics to

preventive practice, but the same result may be approximated by classifying dentists according to the number of the characteristics setting the scene for preventive practice that they have. Specifically, this "Index of Pre-Disposing Characteristics" assigns one point for each of the following five items: age under 50 years, urban location of practice, having assistance, being at least moderately attentive to professional activities, and having predominantly high income patients. In terms of dentists' scores on this index, only six per cent of all dentists with general types of practices have all five characteristics, but among this small group over four-fifths are relatively highly preventive in practice.

TABLE 15

RELATION OF DEGREE OF PREVENTIVE PRACTICE TO CHARACTERISTICS CONDUCIVE TO PREVENTIVE PRACTICE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists Whose Score on "Index of Pre-Disposing Characteristics" Is: | | | | | |
|---|---|---|---|---|---|---|
| | Five | Four | Three | Two | One | Zero |
| Relatively high preventive practice . . . . . | 82 | 76 | 58 | 39 | 16 | 13 |
| Somewhat preventive practice . . . . . | 16 | 21 | 25 | 29 | 27 | 10 |
| Negligibly preventive practice . . . . . | 2 | 3 | 17 | 32 | 57 | 77 |
| Total per cent . . | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists. | 45 | 136 | 191 | 195 | 110 | 31 |
| Per cent of dentists . . . . . | 6 | 19 | 27 | 28 | 16 | 4 |

At the other extreme, twenty per cent lack all or all but one of the characteristics, but well over four-fifths of this extreme are not preventive in their practice. Between these two extremes, the percentage of dentists with relatively high preventive practice declines consistently. As Table 15 indicates, the elements which relate to the dentist's keeping his practice up to current standards are fairly well summed up in the five discussed here: his age, urban location, assistance, quality of professional interests, and quality of clientele.

## A COMPARISON OF DENTISTS WITH MORE AND LESS PREVENTIVE PRACTICES: THEIR PRACTICES AND THEIR ATTITUDES

This section of Chapter IV is concerned with the differences in various aspects of practice and in attitudes found among dentists with varying degrees of preventive practice.[11] Does the degree to which they practice preventive dentistry also signify basic differences in how their practice is organized, where they practice, the kind of patients they treat? Are there differences in their training, their work experience, or in their attitudes toward the dental profession? Do they differ in their concept of preventive dentistry or in their attitudes toward specific preventive procedures?

### Organization of Practice and Employment of Assistants

There is no statistically significant difference among dentists with different degrees of preventive practice as to the basic organization of their practices. The vast majority of dentists, whether more or less preventive, are in independent practice, without partners, and with no shared costs of office, assistants, etc. They do differ, however, in the kind and extent of assistance they have:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| With hygienists . . . . . | 17% | 14% | 8% | 3% |
| With other assistance . . | 66 | 64 | 58 | 54 |
| With no assistance . . . | 17 | 22 | 34 | 43 |
| | 100% | 100% | 100% | 100% |

Most dentists have some assistance, but it is the highly preventive group of dentists who have a larger proportion of all types of assistance and, most notably, of the type of assistance that is basically preventive, the dental hygienist. And dentists with less preventive practice tend to have no assistance at all.

Not only do dentists with more preventive practice tend to have assistance that is directly concerned with administering preventive techniques, but they tend to have more assistance in general. Although dentists with

[11] The percentages presented in this section of the chapter are based, except when otherwise indicated, upon the following number of dentists for each type of preventive practice: highly preventive, 141 (or 20%); moderately preventive, 207 (or 29%); somewhat preventive, 175 (or 25%); and Negligibly preventive, 185 (or 26%).

varying degrees of preventive practice differ but slightly in their proportions having one assistant, larger proportions of dentists with more preventive practices tend to have two or more assistants:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Have no office assistance | 17% | 22% | 34% | 43% |
| Have one office assistant | 50 | 51 | 43 | 45 |
| Have two or more office assistants . . . . . | 33 | 27 | 23 | 12 |
| | 100% | 100% | 100% | 100% |

Location of Practice

As might be anticipated from an earlier discussion in this chapter, the more preventive dentists are located primarily in urban areas, with a very small proportion found in the most rural areas. In contrast, the negligibly preventive dentists are fairly evenly distributed over urban and rural areas, with slightly more of them in the rural areas:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Urban Areas | | | | |
| Large metropolitan areas | 52% | 49% | 49% | 27% |
| Small metropolitan areas | 27 | 28 | 17 | 20 |
| Rural Areas | | | | |
| Urban counties . . . . . | 15 | 13 | 18 | 27 |
| Rural counties . . . . . | 6 | 10 | 16 | 26 |
| | 100% | 100% | 100% | 100% |

Most dentists, regardless of type of preventive practice, indicate that they have always had their practice in the office in which they were located at the time of the study and that their residence is in the same locality in which they practice. With respect to the type of building in which their practice is located, dentists differ only to the extent that those with more preventive practices are slightly more inclined to locate in medical centers, while a majority of dentists with least preventive practices are more likely to be found in other types of office buildings:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| "Medical center" building . | 24% | 22% | 22% | 10% |
| Other office building . . . | 37 | 42 | 41 | 59 |
| Residential building . . . | 14 | 9 | 16 | 8 |
| Dentist's home . . . . . | 13 | 15 | 9 | 9 |
| Commercial building . . . . | 5 | 6 | 6 | 4 |
| Industrial clinic . . . . . | - | * | - | - |
| Other private clinic . . . | 3 | 2 | 3 | 3 |
| Hospital . . . . . | 1 | 1 | * | - |
| No answer . . . . . | 3 | 3 | 3 | 7 |
| | 100% | 100% | 100% | 100% |

*Less than 0.5 per cent.

Negligibly preventive dentists are more likely to be found in the main business districts of the localities in which they practice:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Main business district . . | 48% | 45% | 49% | 66% |
| Neighborhood business district . . . . . | 31 | 34 | 29 | 18 |
| Residential area . . . . . | 21 | 21 | 21 | 15 |
| No answer . . . . . | - | - | 1 | 1 |
| | 100% | 100% | 100% | 100% |

This is hardly surprising since a majority of the dentists in this category practice in smaller towns.

Patients

Most dentists, regardless of the degree of preventive practice, indicate that, for the most part, they treat family groups rather than unrelated individuals. A larger proportion of dentists with more preventive practices have six per cent or more of their patients under six years of age:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Five per cent or less patients under six years . . | 43% | 49% | 54% | 61% |
| Six per cent or more patients under six years . . | 56 | 50 | 46 | 38 |
| No answer . . . . . | 1 | 1 | * | 1 |
| | 100% | 100% | 100% | 100% |

*Less than 0.5 per cent.

A larger proportion of the more preventive dentists have patients who live in the locality in which the dentist practices and particularly in the neighborhood in which his office is located:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Patients live in neighborhood around dentist's office . . | 29% | 25% | 21% | 12% |
| Patients live elsewhere inside locality in which dentist practices . . . . . | 51 | 52 | 51 | 40 |
| Patients live outside locality . . . . . | 16 | 17 | 23 | 40 |
| Equal proportions of patients live inside and outside of locality of dentist's practice . . . . . | 3 | 4 | 3 | 6 |
| Don't know, no answer . . . . | 1 | 2 | 2 | 2 |
| | 100% | 100% | 100% | 100% |

This difference between dentists who are highly preventive and those who are negligibly preventive can probably best be explained in terms of the larger proportion of the latter whose practices are in rural areas and smaller towns and who, therefore, service more patients who live beyond the town limits. It is also interesting to note, in relation to patient distance from dentist, that a smaller proportion of least preventive dentists, whose patients tend to live farther away from their offices, report that one-half or more of their patients visit a dentist regularly:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Dentists who report that one-half or more of their patients visit a dentist regularly . . . . . | 69% | 69% | 61% | 44% |

It must be remembered, however, that regularity of patient visits to a dentist is undoubtedly related to the use of a recall system and especially the extent to which it is used and its effectiveness, which in turn is incorporated in the index of preventive practice.

In connection with this discussion of dentists' patients, it might be of interest to indicate dentists' conception of why people do or do not go to the dentist as often as they should.[12] Dentists with different degrees

[12] See Table A-33, Appendix B.

of preventive practice do not differ significantly as to the major reasons for individuals not seeing a dentist as often as they should. The reasons most prominently cited for such behavior are: fear of the dentist, dentistry or of pain, with no mention of any previous experience to account for it; finances, with no mention of preference for spending money on other things; neglect, procrastination or forgetfulness; ignorance of dental needs, with lack of dental education specifically indicated; and finances, with preference for spending money on other things specified. Less prominently mentioned are the individuals' general ignorance or lack of education, their ignorance of preventive dentistry, their fear because of prior painful or unpleasant experience, and their carelessness regarding, or indifference to, their health or appearance. Only a few believe that it is the fault of the dental profession that people do not go to a dentist as often as they should.

The major reasons given by dentists, whether more or less preventive in practice, for people going to a dentist often enough are: they are educated in preventive care of teeth; they are educated regarding dental health; they are concerned with their appearnace; they know the relationship between care of teeth and general health; and they are intelligent and mature individuals.[13] Mentioned less frequently are dentists' beliefs that they are the people who have higher incomes or who fear the consequences if they do not go to the dentist. Relatively few dentists specifically mention the efforts of the dentist or the dental profession as being a factor in explaining why people go to the dentist often enough.

Most dentists, no matter how preventive their practice is, indicate that only "once in a while" do they encounter a negligent parent who prefers to purchase something for the home rather than spend the money on a child's dental care. A somewhat larger proportion of the more preventive dentists attribute this type of behavior to the parent's lack of dental or health education, while the least preventive dentists are inclined to account for it primarily in terms of the parent placing greater value on material things as opposed to the health of the child.[14] Less preventive dentists are also more inclined to attribute it to the selfishness of the parent. To a lesser extent, both the more and the less preventive dentists account for the parent's behavior in terms of his ignorance or lack of education in general.

---

[13] See Table A-34, Appendix B.

[14] See Table A-35, Appendix B.

Busyness of Dentists

According to the data presented in Table 16, a slightly larger proportion of dentists with highly preventive practice describe themselves as being very busy than is true of dentists with the least preventive practices:

TABLE 16

"BUSYNESS" OF DENTISTS WITH VARYING DEGREES OF PREVENTIVE PRACTICE

| Characteristics Relating to the "Busyness" of Dentists | Proportion of Dentists Indicating Each Characteristic among Dentists Who Are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Description of Workload | | | | |
| Met demand for care by working under pressure and more hours than wanted to | 32 | 26 | 29 | 21 |
| Too busy, had to turn away patients | 23 | 21 | 25 | 21 |
| Good balance between demand for care and hours wanted to work | 31 | 38 | 32 | 40 |
| Insufficient number of patients | 7 | 8 | 8 | 11 |
| No answer | 1 | * | 1 | 3 |
| Not asked, not applicable[a] | 6 | 7 | 5 | 4 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of Hours Worked per Week | | | | |
| Less than 35 | 13 | 13 | 11 | 19 |
| 35-39 | 20 | 19 | 15 | 20 |
| 40-44 | 29 | 33 | 35 | 37 |
| 45 or more | 37 | 35 | 38 | 23 |
| No answer | 1 | - | 1 | 1 |
| Total per cent | 100 | 100 | 100 | 100 |
| Usual Length of Patient Wait for Appointment | | | | |
| No wait | 7 | 4 | 4 | 17 |
| Up to one week | 29 | 41 | 34 | 40 |
| More than one week | 63 | 55 | 61 | 43 |
| Don't know, no answer | 1 | - | 1 | * |
| Total per cent | 100 | 100 | 100 | 100 |
| Usual Length of Patient Appointment | | | | |
| Less than 30 minutes | 5 | 5 | 4 | 4 |
| 30-44 minutes | 44 | 47 | 42 | 45 |
| 45-59 minutes | 15 | 22 | 16 | 17 |
| 60 minutes or more | 35 | 26 | 36 | 32 |
| No answer | 1 | - | 2 | 2 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

[a]Not asked if dentist not in independent practice for whole year prior to interview.

the latter group contains a slightly larger proportion of dentists who report that they maintain a good balance between people who want care and the hours they want to work and of dentists who say they do not have as many patients as they would like to have. About one-half of all dentists work between 35 and 44 hours per week, regardless of degree of preventive practice. The least preventive dentists are somewhat less likely than dentists at other lvels of preventive practice to be working 45 hours a week or more, a difference which again reflects the higher average age of dentists at the lowest preventive level. In general, patients of dentists who are at least somewhat preventive in their practice have to wait more than one week for appointments. A majority of the dentists with negligibly preventive practice report their patients wait less than a week for an appointment or have no wait at all. Roughly three-fifths of all dentists, regardless of degree of preventive practice, indicate that the usual length of patient appointment is between one-half hour and one hour. (See Table 16.)

A majority of dentists, regardless of degree of preventive practice, feel that there is the right number of dentists in their locality. A slightly larger proportion of dentists with most preventive practice feel that there are too few dentists in their locality to take care of the people's dental needs:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Right number of dentists | 54% | 53% | 52% | 59% |
| Right number of dentists but poor quality . . . | 1 | 1 | - | 1 |
| Right number to meet demand but not to meet real need . . . . . | 4 | 4 | 3 | 5 |
| Too few dentists . . . . | 30 | 25 | 28 | 20 |
| Too many dentists . . . | 7 | 10 | 11 | 11 |
| Don't know, no answer . | 4 | 7 | 6 | 4 |
| | 100% | 100% | 100% | 100% |

Professional Training and Work Experience

A majority of the dentists with more preventive practice are under fifty years of age, while a majority of those with less preventive practices are 50 years or older. It is not unexpected to find that a similar situation exists with respect to the year in which they started practice:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Under 50 years of age . . | 63% | 65% | 49% | 34% |
| Started practice after 1929 . . . . . | 69% | 76% | 60% | 41% |

Most dentists, regardless of degree of preventive practice, started out by building up their own practices, rather than working for another dentist or buying someone else's practice.

TABLE 17

PROFESSIONAL TRAINING AND MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS OF DENTISTS WITH VARYING DEGREES OF PREVENTIVE PRACTICE

| Training, Experience, Membership | Proportion of Dentists Indicating Each Item among Dentists Who Are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Academic Degrees Other than Dental Degree(s) | | | | |
| Yes . . . . . | 36 | 29 | 25 | 16 |
| No . . . . . | 64 | 71 | 75 | 84 |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Post-Graduate Training in Dental Specialty | | | | |
| Yes . . . . . | 31 | 20 | 16 | 8 |
| No . . . . . | 69 | 80 | 84 | 92 |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Recency of Last Refresher or Continuation Course | | | | |
| Had courses since graduation . . . | 77 | 66 | 59 | 42 |
| 1955-57 . . . . . | 48 | 35 | 29 | 12 |
| 1945-54 . . . . . | 19 | 25 | 20 | 20 |
| 1930-44 . . . . . | 3 | 5 | 4 | 8 |
| 1929 or earlier . . . . . | 4 | - | 1 | 1 |
| Don't know, no answer . . . . . | 3 | 1 | 5 | 1 |
| Did not have refresher or continuation course since graduation . . . | 22 | 34 | 40 | 58 |
| No answer . . . . . | 1 | - | 1 | - |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Membership in American Dental Association | | | | |
| Yes . . . . . | 96 | 96 | 94 | 91 |
| No . . . . . | 4 | 4 | 5 | 8 |
| No answer . . . . . | - | - | 1 | 1 |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Membership in a Dental Specialty Society | | | | |
| Yes . . . . . | 20 | 13 | 14 | 8 |
| No . . . . . | 77 | 84 | 82 | 88 |
| No answer . . . . . | 3 | 3 | 4 | 4 |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . . . . | 141 | 207 | 175 | 185 |

The material presented in Table 18 reveals that relatively few dentists, no matter how preventive their practice, indicate that they have done other than engage in dental practice. Dentists with highly preventive practice include a larger proportion who have also taught, done research, or engaged in administrative work in the field of dentistry. The vast majority of dentists have never been employed as dentists on a full-time basis by city, county, or state health departments, or by any of the civilian agencies of the Federal government. Service as a dentist in the Armed Forces is more frequent, but has been engaged in less by dentists with negligibly preventive practice.

Keeping Up-to-Date

Dentists report, no matter to what extent they engage in preventive practice, that the most important ways in which they keep up with new things in the field of dentistry are by attending meetings, conventions or table clinics at meetings and by reading professional journals and literature.[15] Dentists with more preventive practice are more likely than other dentists to mention the following methods of keeping up-to-date:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists engaging in: | | | | |
| Post-graduate or refresher courses, lectures, seminars, symposia . . . | 42% | 29% | 20% | 8% |
| Study groups or study clubs . . . . . | 14% | 12% | 6% | 3% |
| Learning from own practice, work . . . . . | 13% | * | - | * |

*Less than 0.5 per cent.

Less frequently mentioned, regardless of the degree of preventive practice of the dentist, are: serving on the staffs of hospitals or clinics; teaching in dental or medical schools; obtaining information from commercial sources, i.e., detail men or salesmen; and being in contact with other dentists.

In terms of things done during the year or two prior to interview, the dentists with relatively high preventive behavior indicate in general more activity than do dentists with somewhat preventive or negligibly preventive practice:

[15] See Table A-36, Appendix B.

Most dentists, whether more or less preventive in practice, have no academic degree other than the dental degree and have not had formal graduate courses or hospital training in a dental specialty since graduation from dental school. Dentists with more preventive practice have a substantially larger proportion who have other academic degrees and who have had some specialized training subsequent to the dental degree than do dentists with less preventive practice. Compared with other dentists, fewer dentists with negligibly preventive practice have taken refresher or continuation courses since graduating from dental school and have taken their last such course in 1945 or later. (See Table 17.)

While virtually all dentists belong to the American Dental Association, few dentists indicate that they are members of dental special societies. As can be seen in Table 17, more dentists with highly preventive practice belong to a specialty society than do dentists with negligibly preventive practice.

TABLE 18

PROFESSIONAL WORK EXPERIENCE OF DENTISTS WITH VARYING DEGREES OF PREVENTIVE PRACTICE

| Work Experience | Proportion of Dentists Indicating Each Item among Dentists Who Are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Worked as Dentist Other than in Practice | | | | |
| Yes | 22 | 10 | 13 | 3 |
| Teaching | 15 | 10 | 12 | 3 |
| Research | 7 | 2 | 2 | * |
| Administration | 4 | * | 2 | - |
| No | 78 | 90 | 86 | 97 |
| No answer | - | - | 1 | - |
| Total per cent | 100 | 100 | 100 | 100 |
| Worked Full-time as Dentist for Public Health Department or Federal Civilian Agency | | | | |
| Yes | 10 | 4 | 4 | 8 |
| No | 90 | 94 | 96 | 92 |
| No answer | - | 2 | - | - |
| Total per cent | 100 | 100 | 100 | 100 |
| Served as Dentist in Armed Forces | | | | |
| Yes | 47 | 51 | 43 | 33 |
| No | 52 | 48 | 55 | 65 |
| No answer | 1 | 1 | 2 | 2 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who have: | | | | |
| Attended professional meetings, informal study groups, or informal clinic sessions in past year . . . . . | 88% | 85% | 83% | 63% |
| Taken refresher course during past two years . . . . . | 48% | 35% | 30% | 12% |

Reasons for Selecting Dentistry As a Career

More preventive and less preventive dentists differ but slightly in the reasons given for selecting dentistry as a career.[16] The most frequent explanation is that they were influenced to do so by friends, relatives, or their own dentists. Mentioned less frequently are: the fact that their father or other relative was a dentist; the financial return or security in dentistry; the opportunity to work with one's hands (mechanical aspect of dentistry); an alternative to a medical career; the attractiveness of work hours involved; the independence or freedom of the dentist; and the desire to pursue a professional career. Compared with other dentists, highly preventive dentists are somewhat more inclined to mention an interest in the subject matter and an interest in serving the public as motivating factors:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who have: | | | | |
| An interest in subject matter of dentistry . . . . . | 10% | 6% | 4% | 3% |
| An interest in serving the public . . . . . | 13% | 6% | 6% | 4% |

Present Attitude Toward Dentistry

Almost equal proportions of dentists with highly preventive and negligibly preventive practices feel that dentistry constitutes the only career that could satisfy them:

---

[16] See Table A-37, Appendix B.

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who find: | | | | |
| Dentistry the only satisfying career . . . . . | 44% | 41% | 44% | 45% |
| Dentistry one of several almost equally satisfying careers . . . . . | 46 | 47 | 43 | 38 |
| Other careers more satisfying . . . . . | 10 | 12 | 13 | 16 |
| No answer . . . . . | - | - | - | 1 |
| | 100% | 100% | 100% | 100% |

Slightly more of the dentists with more preventive practice feel that dentistry is but one of several careers which they would find satisfying, while slightly more of the least preventive dentists indicate that there are other careers which would be more satisfying to them than dentistry is.

Current Income and Attitude Toward It

The median net income from dental practice for dentists with varying degrees of preventive practice for the year prior to interview was:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Median net income . . . . | $13,350 | $12,300 | $11,600 | $ 8,750 |

While the contrast in median net income between dentists who are highly preventive and those who are negligibly preventive is striking, it must be remembered that the latter group includes a much larger proportion of rural and older dentists, particularly dentists who are in semi-retirement already. Nevertheless, the increase in median net income with increased preventive practice is still impressive. These findings with respect to net income indicate that dentists who practice more preventive dentistry earn more than their colleagues who are non-preventive, although the difference in their earnings is not necessarily attributable to their style of practice.

Regardless of the degree of preventive practice, most dentists are at least fairly well satisfied with their current income. A larger proportion of the dentists with highly preventive practices are "very well satisfied":

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who are: | | | | |
| Very well satisfied . . . . . | 44% | 33% | 35% | 32% |
| Fairly well satisfied . . . . | 41 | 53 | 53 | 54 |
| Dissatisfied . . . . . | 15 | 13 | 11 | 13 |
| No answer . . . . . | - | 1 | 1 | 1 |
| | 100% | 100% | 100% | 100% |

Attitudes Toward Retirement

About one-half of the dentists, whether more or less preventive in practice, indicate an interest in continuing in practice, beyond the usual retirement age, either on a full-time or part-time basis:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who have: | | | | |
| Plans to continue practice . . | 17% | 17% | 21% | 23% |
| Plans to cut down on practice. | 30 | 33 | 25 | 28 |
| Plans to retire (complete or semi-retirement unspecified) | 21 | 18 | 19 | 17 |
| Plans to retire completely . . . | 11 | 15 | 16 | 18 |
| Indefinite plans or no plans . | 19 | 17 | 18 | 13 |
| No answer . . . . . | 2 | - | 1 | 1 |
| | 100% | 100% | 100% | 100% |

It is not surprising to find that slightly more dentists with negligibly preventive practices indicate plans to retire completely, since a larger proportion of this group is already in semi-retirement and complete retirement appears more immediate.

Conception of Role of the Dental Profession

Whether their practices are more or less preventive, the overwhelming majority of dentists indicate that the following statement comes closest to expressing their opinion of the role of the dental profession: "It's the job of the dental profession to educate the general public regarding oral health and preventive dentistry." Nevertheless, the proportion inclined to agree with the two narrower ways of defining the profession's responsibility increases consistently with decreasingly preventive orientation toward dentistry. (See Table 19.)

TABLE 19

RELATION OF PREVENTIVE PRACTICE TO DENTISTS' CONCEPTION OF ROLE OF DENTAL PROFESSION

| Role of Dental Profession | Proportion of Dentists Indicating Each Statement among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| It's the job of the dental profession to educate the general public regarding oral health and preventive dentistry . . . . . | 94 | 89 | 88 | 87 |
| The dental profession should confine its educational work to people who get dental care . . . . . | 2 | 5 | 5 | 6 |
| The dental profession should strive for the highest standards in dental treatment but it has no responsibility for getting people to go to the dentist in the first place . . | 3 | 6 | 6 | 7 |
| Don't know, no answer . . . . . | 1 | - | 1 | - |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . . . . | 141 | 207 | 175 | 185 |

Use of and Attitudes Toward Preventive Practices

When classifying procedures used in their offices as "preventive," a majority of dentists, whether more or less preventive in practice, indicate only preventive measures (techniques of primary prevention), with a somewhat larger proportion of the negligibly preventive dentists indicating measures of this type. (See Table 20.) A somewhat larger proportion of dentists with highly preventive practices, as compared with dentists with negligibly preventive practices, conceive of preventive dentistry more broadly as including both primary and secondary prevention measures. Almost equal proportions of dentists with the different types of preventive practice mention cleaning and polishing teeth and patient education most frequently as measures they consider preventive.[17] Mentioned less frequently than these two measures but more so by dentists with highly preventive practices than by those with negligibly preventive practices are use of X-rays and topical fluoride treatments:

[17] See Table A-38, Appendix B.

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who classify as preventive: | | | | |
| Use of X-rays . . . . . | 35% | 24% | 33% | 18% |
| Topical fluoride treatments . . . . . | 30% | 26% | 25% | 21% |

TABLE 20

DENTISTS' CLASSIFICATION OF MEASURES USED IN OFFICES AS PREVENTIVE

| Type of Measures Included in Classification | Proportion of Dentists Indicating Each Type Measure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Only preventive measures (primary prevention) . . . . . | 54 | 60 | 64 | 69 |
| Preventive and treatment measures (primary and secondary prevention). | 45 | 37 | 33 | 30 |
| Only treatment measures (secondary prevention) . . . . . | 1 | 3 | 2 | * |
| No measure indicated . . . . . | - | - | 1 | 1 |
| Total per cent . . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . . . . | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

In general, dentists, no matter how preventive they are in practice, regard treatment measures as requiring the most skill to perform (and thereby more challenging); they like best to perform such procedures and find them most remunerative.

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who consider preventive measures to be those which: | | | | |
| Require most skill to perform . . . . . | 79% | 85% | 79% | 85% |
| They like best to perform | 74% | 87% | 79% | 83% |
| Are most remunerative . . | 88% | 94% | 92% | 96% |

The leaning toward treatment procedures in these three respects is slightly less marked among dentists in the highly preventive group. Dentists, whether more or less preventive in practice, agree almost unanimously that preventive measures require the least skill to perform. While less unanimity is evident with respect to measures used which they indicate they prefer to do and those considered least remunerative, the difference among dentists with various types of preventive practice is negligible:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who consider preventive measures to be those which: | | | | |
| Require least skill to perform . . . . . | 95% | 95% | 92% | 96% |
| They like least to perform . . . . . | 44% | 48% | 48% | 43% |
| Are least remunerative . | 59% | 57% | 46% | 52% |

Specifically, the measures most frequently mentioned as requiring the least skill to perform are topical fluoride applications, cleaning and polishing of teeth, and taking X-rays. Dentists with more preventive practices are more inclined to mention topical fluoride treatments; dentists with less preventive practices, cleaning and polishing of teeth:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who regard as procedure requiring least skill to perform: | | | | |
| Topical fluoride treatments . . . . . | 68% | 64% | 58% | 46% |
| Cleaning and polishing teeth . . . . . | 13% | 17% | 21% | 34% |
| Taking X-rays . . . . . | 14% | 13% | 13% | 14% |

Dentists' choices of the one procedure they use which they like least to do cover a variety of preventive and treatment measures, with the two most frequently mentioned being cleaning and polishing of teeth and root canal treatments. There is no significant difference in the proportions of more preventive or less preventive dentists choosing any one measure.

With respect to the procedure used which contributed the smallest amount to the dentist's total net income during the year prior to interview, responses cover a variety of preventive and treatment measures, with cleaning and polishing, topical fluoride treatments, orthodontia, and repairing fractured incisors mentioned most frequently. In most cases, the proportions of more or less preventive dentists indicating each measure vary little if at all. Some variations, though not great, do exist for the procedures mentioned below:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who consider as procedure used by them contributing least to their total net income: | | | | |
| Giving topical fluoride treatments . . . . . | 29% | 23% | 20% | 16% |
| Orthodontic procedures . | 20% | 14% | 15% | 12% |

In general, dentists with highly preventive practice differ little if at all from dentists with negligibly preventive practice in the proportions indicating that they prefer least to execute preventive measures and that they consider preventive measures to require the least skill to perform and to be least remunerative.

## The Use of Preventive Measures

The data presented in Table 21 indicate how the categories of preventive practice, based upon the Index of Preventive Practice discussed earlier in this chapter, reflect differences in the extent to which dentists utilize preventive measures both routinely and non-routinely. For the first five measures shown, it is to be expected that the more preventive dentists differ from the less preventive ones, since these are the measures on which the Index of Preventive Practice is based.

It is apparent that dentists scoring high on the Index of Preventive Practice are also more likely to make routine use of preventive measures not incorporated into the index. They are, for example, most likely to fill primary teeth, to have biopsies of abnormal soft tissue lesions made, and to give patients dental education extensively, and the proportions making use of these additional preventive practices drop consistently from high to low preventive practice dentists.

TABLE 21

USE OF PREVENTIVE MEASURES BY DENTISTS WITH VARYING DEGREES OF PREVENTIVE PRACTICE

| Preventive Measures | Proportion of Dentists Indicating Each Measure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists (N=141=100%) | Moderately Preventive Dentists (N-207-100%) | Somewhat Preventive Dentists (N=175=100%) | Negligibly Preventive Dentists (N=185=100%) |
| Measures Included in Index to Preventive Practice | | | | |
| Cleaning and polishing of teeth routinely . . . . . | 100 | 98 | 95 | 65 |
| Use of X-rays with almost all examinations . . . . | 96 | 92 | 57 | 7 |
| Use of recall system with all patients . . . . . | 87 | 72 | 28 | 5 |
| Any use of laboratory tests | 71 | 18 | 10 | 2 |
| Giving of topical fluoride treatments on dentists' initiative . . . . . | 65 | 20 | 10 | 1 |
| Other Measures Used Routinely | | | | |
| Filling of primary teeth . | 89 | 80 | 77 | 70 |
| Biopsies of abnormal soft tissue lesions . . . . . | 78 | 65 | 61 | 54 |
| Giving of patient education | 76 | 69 | 54 | 42 |
| Attention to tone of gingival tissues . . . . . | 62 | 72 | 65 | 71 |
| Measures Used At All[a] (routinely or non-routinely) | | | | |
| Cleaning and polishing of teeth . . . . . | 100 | 100 | 100 | 99 |
| Use of X-rays . . . . . | 100 | 100 | 100 | 97 |
| Use of recall system . . . | 96 | 91 | 76 | 50 |
| Giving of topical fluoride treatments . . . . . | 85 | 61 | 51 | 48 |
| Giving of patient education | 100 | 99 | 99 | 99 |

[a]Does not include findings for filling of primary teeth, biopsies of abnormal soft tissue lesions and attention to tone of gingival tissues, since the information at hand for these measures is given only in terms of their being mentioned as the usual or normal (routine) procedure employed. That routine use is not indicated can mean that they are used either non-routinely or not at all, or that the respondents use them routinely but neglected to mention it.

To sum up, then, practices like cleaning and polishing teeth, use of X-rays in dental examinations and patient education are used at least occasionally by virtually all dentists. And, even the least preventively oriented dentists generally routinely clean and polish teeth, fill primary teeth, and are routinely concerned with the tone of gingival tissues. It is the use of topical fluoride treatments and of laboratory tests to any extent, and the regular use of all preventive practices (with the exception of attention to the tone of gingival tissues) particularly, which distinguishes the preventively oriented dentist.

## Attitudes Regarding the Effectiveness or Importance of Preventive Measures

Wherever there is widespread consensus as to the importance or effectiveness of a preventive measure, there is also widespread use of that measure, regardless of the degree of preventive practice of dentists. Where dentists differ in their conceptions of the importance or effectiveness of preventive measures, that difference is, in general, related to the degree of preventive practice engaged in by dentists.

The effectiveness of a recall system, measured in terms of the proportion of recalled patients who respond, is manifestly evident no matter how preventive the dentist is:

| | Dentists using recall system who are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Response of recalled patients: | | | | |
| Less than one-half respond . | 28% | 32% | 25% | 20% |
| One-half or more respond . . | 71 | 65 | 70 | 75 |
| Don't know, no answer . . . | 1 | 3 | 5 | 5 |
| Total per cent . . . | 100% | 100% | 100% | 100% |
| Handling of patients who do not respond: | | | | |
| Remind them again . . . . . | 66% | 54% | 40% | 37% |
| Do not remind them again . . | 27 | 37 | 50 | 56 |
| Depends upon patient . . . . | 5 | 7 | 5 | 1 |
| Inapplicable, all patients respond . . . . . | 1 | 1 | 2 | 4 |
| Don't know, no answer . . . | 1 | 1 | 3 | 2 |
| Total per cent . . . | 100% | 100% | 100% | 100% |
| Number of dentists using recall . . . | 136 | 188 | 133 | 94 |

What is significant is the handling of patients who do not respond when reminded of the need for a visit to dentist. Obviously, more preventive-oriented dentists exert greater effort to bring patients in for dental care.

Dentists who use a recall system differ little if at all, based upon the degree of preventive practice, in their estimate of the major advantages of a recall system to the patient and to the dentist.[18] They agree, as has been indicated earlier in Chapter III, that its advantages to the dentist are in enabling him to maintain a higher standard of work, build up his practice, balance out his workload and do easier, pleasanter work. The patient benefits primarily because a recall system permits him to obtain preventive dentistry, save money and be subject to less pain and discomfort. The single instance of difference in attitude among dentists with varying degrees of preventive practice occurs with reference to the belief that a recall system saves the patient money. Highly preventive dentists, compared to other dentists, are more inclined to believe this is so:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists using recall system who indicate belief that it saves the patient money . . . . . | 40% | 32% | 30% | 22% |

While there is no consensus among dentists regarding the effectiveness of topical fluoride treatments in combating decay, dentists with relatively high preventive practices are more likely to feel that fluoride applications are more effective than other means:

| | Dentists with patients under six years who are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| More effective . . . . . | 38% | 29% | 24% | 23% |
| Less effective . . . . . | 27 | 36 | 46 | 42 |
| About the same . . . . . | 21 | 19 | 16 | 20 |
| Don't know, no answer . . | 14 | 16 | 14 | 15 |
| Total per cent . . | 100% | 100% | 100% | 100% |
| Number of dentists who have patients under six years . | 135 | 194 | 157 | 162 |

[18] See Table A-45, Appendix B.

Regardless of their views as to the effectiveness of topical fluoride treatments and the degree to which they have preventive practice, a majority of dentists who give topical fluoride treatments feel that they take little time to administer in terms of the results they yield. Related perhaps to the more preventive orientation of highly preventive dentists is the fact that a larger proportion of them express this attitude:

| | Dentists who give topical fluoride treatments and are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Take a lot of time . . . . . | 10% | 15% | 22% | 19% |
| Take little time . . . . . | 80 | 69 | 64 | 61 |
| Don't know, no answer . . . | 10 | 16 | 14 | 20 |
| Total per cent . . . | 100% | 100% | 100% | 100% |
| Number of dentists who give topical fluoride treatments | 119 | 127 | 89 | 89 |

As seen in Table 21, virtually all dentists, regardless of degree of preventive practice, at least sometimes clean and polish teeth, take X-rays, and give patient education. In keeping with this unanimity, virtually all dentists, no matter how preventive their practices, also feel that preventive measures like cleaning and polishing of teeth and patient education, are important.

With respect to the use of X-rays, most dentists, regardless of the degree of preventive practice, indicate that there has been no change in their attitude toward their use during the last few years. And there are no significant differences, based upon degree of preventive practice, among dentists who indicate that their attitude has become more favorable or less favorable. Similarly, no major differences appear in the proportions giving various reasons for a change in attitude; dentists say their attitude has become more favorable primarily because of the fortunate experiences they have had in using X-rays or less favorable chiefly because of their concern with or awareness of the dangers of radiation.

## Community Activities in Connection with Preventive Dentistry

Although a preponderant majority of dentists feel that it is the role of the dental profession to educate the general public regarding dental health

and preventive dentistry, their activities in this direction are quite limited. In general, dentists with more preventive practices are slightly more active in this respect:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who: | | | | |
| Worked or are working for water fluoridation . . | 50% | 36% | 31% | 33% |
| Participate in school dental health programs. | 31% | 26% | 21% | 25% |
| Belong to or participate in community health groups . . . . . | 25% | 15% | 10% | 9% |

It is interesting to note that while participation in water fluoridation movements is not very widespread, an overwhelming majority of dentists express a favorable attitude toward fluoridation. And a larger proportion of dentists with relatively high preventive practices have a very favorable attitude:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Very favorable . . . . . | 76% | 76% | 63% | 54% |
| Favorable . . . . . | 14 | 14 | 24 | 24 |
| Neutral . . . . . | 4 | 4 | 8 | 14 |
| Unfavorable . . . . . | 4 | 1 | 2 | 3 |
| Very unfavorable . . . . . | 1 | 4 | 3 | 4 |
| Don't know, no answer . . | 1 | 1 | - | 1 |
| | 100% | 100% | 100% | 100% |

## Dentists' Image of Patient Reaction to Use of Preventive Measures

Most dentists, regardless of degree of preventive practice, feel that their patients react favorably toward having their teeth cleaned and polished even when there is no other dental care needed. A majority of dentists who have patients under six years of age feel that parents, for the most part, are (would be) in favor of having cavities in temporary teeth filled, but fewer of the least preventive dentists hold this opinion. It is interesting

to note that among dentists who feel that parents react (would react) favorably to their doing so, those with relatively high preventive practices are somewhat more inclined to attribute favorable parent reaction to efforts made by the dentist:

| Dentists who indicate parents are (would be): | Dentists who have patients under six years of age and are: Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
|---|---|---|---|---|
| Favorable after dentist explains or advises . | 41% | 39% | 30% | 20% |
| More favorable now than before . . . . . | 14 | 12 | 17 | 11 |
| Generally favorable . . | 30 | 32 | 33 | 32 |
| Total indicating favorable parent reaction. | 85% | 83% | 80% | 63% |
| Total indicating unfavorable parent reaction . . . . . | 9 | 9 | 9 | 22 |
| Total indicating no general parent reaction . . . . . | 6 | 7 | 11 | 15 |
| Don't know, no answer . | - | 1 | - | - |
| Total per cent . | 100% | 100% | 100% | 100% |
| Number of dentists with patients under six years of age . . . . . | 135 | 194 | 157 | 162 |

Compared to other dentists, negligibly preventive dentists are somewhat more inclined to feel that parents would react unfavorably to the filling of primary teeth.

Dentists vary in the degree to which they believe that their patients' attitudes toward having X-rays taken have changed during the last few years. They apparently feel there has been more change in the attitudes of patients toward the use of X-rays than in their own attitudes, and greater differences are apparent among dentists with varying degrees of preventive practice in this respect. Slightly more of the dentists with negligibly preventive practices, compared with dentists with more preventive practices, feel there has been no change in patient attitude toward the use of X-rays, and they are more

inclined to indicate a more favorable attitude among patients when they do report a change. The most preventive dentists, who use X-ray examinations more frequently and have a good deal more experience with patient reactions to X-rays, are considerably more likely to note an increase in negative reactions:

| | Dentists using X-rays who are: | | | |
|---|---|---|---|---|
| | Highly Preventive | Moderately Preventive | Somewhat Preventive | Negligibly Preventive |
| Feel patients more favorable now than before to use of X-rays . . . . . | 42% | 44% | 43% | 52% |
| Feel patients less favorable now than before to use of X-rays . . . . . | 32 | 22 | 23 | 8 |
| Feel there has been no change in patient reaction . . . . . | 25 | 28 | 33 | 37 |
| Inapplicable, not in practice long enough . . . . | 1 | 5 | 1 | 2 |
| Don't know, no answer . . . | - | 1 | - | 1 |
| Total . . . . . | 100% | 100% | 100% | 100% |
| Number of dentists using X-rays . . . | 141 | 207 | 175 | 180 |

Adequacy of Preventive Practice

Dentists with varying degrees of preventive practice display no significant differences in their evaluations of the adequacy of the preventive dentistry engaged in by themselves and by their colleagues. A majority feel there are obstacles which keep them from as much preventive practice as they would like and mention most prominently, lack of time, the less remunerative nature of preventive measures, and adverse patient reaction.

Whether more or less preventive in practice, a majority of dentists report specifically that they can spend enough time on preventive measures but feel that the average dentist spends too little time on them. As discussed more fully in Chapter II, the reasons given for their colleagues' behavior are: the unremunerative nature of preventive procedures; lack of time; and adverse patient reaction. In addition, they are more inclined to attribute to their colleagues a skepticism concerning the value of preventive measures.

## The Saliency of Preventive Dentistry

Is there any relationship between the degree of preventive practice and the saliency of preventive dentistry in the dentists' approach to dental practice? An examination of the approach to three hypothetical situations by dentists with different degrees of preventive practice should shed some light on the existence of such a relationship.

### Case of First Dental Visit of a Four-Year Old Child

A majority of dentists with relatively high preventive practice believe that such a visit should involve more than merely getting acquainted with the child; that the dentist should perform some dental service as well. Slightly less than a majority of dentists with negligibly preventive practices would handle the situation in the same manner:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who would get acquainted and also perform some dental service . . . . . | 61% | 63% | 53% | 48% |

Relatively few dentists, regardless of the degree of preventive practice they engage in, would confine their services to administering treatment measures (techniques of secondary prevention) alone. Most dentists would start right out with measures of primary prevention. Regardless of differences in degree of preventive practice, they would give the child's mouth a thorough examination and give patient and/or parent education. A larger proportion of dentists with relatively high preventive practice indicate that they would X-ray the child's teeth and give a prophylaxis:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists who would: | | | | |
| Use X-rays . . . . . | 25% | 22% | 8% | 2% |
| Clean and polish teeth . | 35% | 27% | 21% | 15% |

It must be remembered that these were responses to a free-answer question. Had dentists been asked specifically if they would use X-rays and clean and polish the child's teeth, the differences between proportions of more preventive and less preventive dentists indicating the use of each measure might not be so great.

Case of Sixteen-Year Old Boy with Rampant Caries

In a case of this type involving an acute case of rampant caries, it is not surprising to find that a sizeable majority of dentists, whether with more or less preventive practice, would utilize a combination of both preventive and treatment measures. A slightly larger proportion of dentists with relatively high preventive practice indicate that they would utilize both types of measures; more dentists with negligibly preventive practice would rely on only treatment measures.[19]

Specifically, the vast majority of dentists, whether more or less preventive in practice, would have recourse to a treatment measure--some form of repair or restoration other than a bridge or a denture--which is not unexpected, given the acute condition stipulated. Preventive measures are more likely to be mentioned by dentists with highly preventive practices:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Proportion of dentists mentioning: | | | | |
| Patient education . . . . | 63% | 55% | 53% | 49% |
| Parent education . . . . | 19% | 14% | 10% | 5% |
| Use of X-rays . . . . . | 40% | 37% | 27% | 20% |
| Determination of causes by tests, etc. . . . . | 39% | 16% | 20% | 14% |
| Use of recall system . . | 28% | 21% | 22% | 20% |

Case of Negligent Parent with Child Requiring Dental Care

In the case of the negligent parent who is reluctant to spend money for her child's dental care, dentists with relatively high preventive practices, those who are more oriented toward preventive dentistry, are much more likely to make a vigorous attempt or try fairly hard to convince the parent of the necessity for having the dental work done, while dentists with

[19] See Table A-46, Appendix B.

less preventive practices are more inclined to make recommendations but not try to convince the parent:

| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
|---|---|---|---|---|
| Make vigorous attempt . . . | 51% | 39% | 34% | 23% |
| Try fairly hard . . . . . | 21 | 24 | 19 | 23 |
| Recommend but not try to persuade . . . . . | 28 | 36 | 46 | 52 |
| Don't know, no answer . . . | - | 1 | 1 | 2 |
| | 100% | 100% | 100% | 100% |

For the most part, at least a majority of the dentists indicate an approach to routine and problem cases that is basically preventive, combining measures of primary and secondary prevention. The more preventive the dentist's practice is the more likely he is to bring techniques of primary prevention to bear on routine and problem cases. This, in turn, reflects a greater orientation on his part toward the newer approaches inherent in the precepts of preventive dentistry.

## Summary

On the basis of their scores on an index of level of preventive dental practice, the 708 dental practitioners who have general types of practices have been divided into four categories:

the highly preventive (20 per cent);
the moderately preventive (29 per cent);
the somewhat preventive (25 per cent);
and the negligibly preventive (26 per cent).

When these four groups of dentists are compared with respect to other characteristics, practices and attitudes, a number of specific, consistent differences emerge. Briefly summarized, the more preventive in practice the dentist is, the more likely he is: to employ hygienists and other assistance and more assistance in general, to practice in an urban area, to locate in a "medical center" building, to draw his patients from the locality in which his office is located, to treat children under six years of age, to have a higher income clientele, and to earn a higher income from the practice of dentistry, to have patients who visit their dentist regularly, to be under

fifty years of age, to have had more dental training, to take refresher and continuation courses, to be convinced of the importance and value to the patient of preventive dentistry, and to make more effort to assure that his patients get adequate dental care--whether by use of a reminder system for patients who do not respond to the recall, or a willingness to make a vigorous attempt to persuade patients to undertake the care he considers wise, or greater activity at the community level.

Both these and less striking differences not summarized here underscore the extent to which the practice of preventively-oriented dentistry in the dental office is a function of the outlook of the dentist. It may be recalled, moreover, that the preventively-oriented dentist approached specific dental problems with a more preventive attitude. The image of the preventive practitioner which emerges is that of a more recently and broadly trained dentist whose interest in and conviction about the importance of what he is doing is at a higher level. The dentist's own motivation toward high standards of practice is, then, maintained and, perhaps, strengthened by an urban environment, close and frequent contacts with colleagues and new dental developments, and a more sophisticated clientele who expects and will pay for modern dental care. The preventive dentist's conviction is expressed not merely in the more extensive and regular use of specific preventive measures, but in the closely-related active seeking of continuation courses and training, despite the relative recentness of his basic training, which keeps his performance at a high level. Given the motivation, stimulus and drive--as perhaps suggested by the fact that the highly preventive dentist is just as likely to judge himself critically as not practicing enough preventive dentistry as are dentists who practice little or none--the dentist who is preventively oriented finds he can so arrange his practice, partly through the use of assistance and perhaps by other means as well, that he need not necessarily work longer hours or make financial sacrifices in order to achieve his goals.

## CHAPTER V

## THE ROLE OF THE DENTAL HYGIENIST IN PREVENTIVE DENTISTRY

Since it has been demonstrated in Chapter IV that having assistance, and especially having a dental hygienist, is an important factor making for preventive practice by dentists, it is of consequence to ascertain what kinds of dentists have hygienists and just what the dental hygienist does that makes her employment so closely related to the practice of preventive dentistry.

During the study of dentists' practices, interviews were also conducted with 59 dental hygienists who had been reported as being in the employ of 56 respondent dentists (a few dentists having more than one dental hygienist).[1] Most dental hygienists work only in the dental office of the dentist who reported them as employees and work primarily only for the dentist who reported them, although some may work also for other dentists (employees or partners of respondent dentist) in that office. A small proportion also work for one or more dentists in other dental offices or for a school system.

### The Dentists Who Employ Dental Hygienists

Dentists who have dental hygienists, as can be seen in Table 22, are, in general, the younger dentists, the urban dentists, the more attentive dentists, and those who have very busy practices.

---

[1] Since 73 of the 758 dentists interviewed reported that they employed hygienists, the dental hygienists interviewed comprise about three-quarters of the hygienists employed by dentists in the sample. Even if all of these hygienists had been interviewed, their number is so small that conclusions and evaluations based upon the data derived from these interviews must be regarded as suggestive rather than conclusive. This caution is all the more necessary in view of the relatively high proportion of these dental hygienists who were not reached for interview.

TABLE 22

CHARACTERISTICS OF DENTISTS AND THE EMPLOYMENT OF DENTAL HYGIENISTS

| Characteristics | Proportion Indicating Each Characteristic among: | |
|---|---|---|
| | Dentists with Hygienists (N= 73=100%) | Dentists without Hygienists (N=685=100%) |
| In urban location . . . . . | 85 | 67 |
| Very busy practice[a] . . . . . | 74 | 45 |
| At least moderately attentive . . . . . | 66 | 39 |
| Under fifty years of age . . . . . | 62 | 51 |

[a]Includes dentists who report that they were so busy they "had to turn away some people who asked...for dental care" and those who took care of all who requested care but "felt under pressure and worked more hours than...like to."

They are, moreover, dentists who have the most lucrative practices:

| | Dentists with Hygienists | Dentists without Hygienists |
|---|---|---|
| Median net income (for year prior to interview) . . . . . | $19,600 | $11,200 |

Clearly, as is seen in Table 23, dentists who have hygienists do more preventive work more routinely. This is accomplished, in part, by the delegation of certain tasks to the dental hygienist.

Since most dentists express a preference for performing treatment measures and consider preventive measures less challenging and less remunerative than treatment measures, it can be anticipated that when dentists achieve a moderate degree of financial success, they would, for practical as well as professional reasons, delegate the performance of as many of the preventive measures as is possible to hired assistance and concentrate their own efforts on the treatment measures they consider more challenging and more remunerative. The greater financial return from treatment measures makes possible, in turn, the hiring of more assistance. On the other hand,

the hiring of a dental hygienist is, perhaps in part, an expression of the preventive orientation of the dentist who, when he achieves a certain degree of financial success, can implement his convictions and engage in preventive dentistry more routinely through the aid of the dental hygienist.

TABLE 23

RELATION OF ROUTINE USE OF PREVENTIVE MEASURES TO EMPLOYMENT OF DENTAL HYGIENIST

| Preventive Measures Used Routinely | Proportion Indicating Routine Use of Each Measure among: | |
|---|---|---|
| | Dentists with Hygienists | Dentists without Hygienists |
| Cleaning and polishing of teeth . | 99 | 83 |
| Use of X-rays . . . . . | 78 | 61 |
| Filling of primary teeth . . . . | 77 | 74 |
| Attention to tone of gingival tissues . . . . . | 75 | 64 |
| Use of recall system . . . . . | 74 | 44 |
| Giving of patient education . . . | 67 | 58 |
| Giving of topical fluoride treatments . . . . . | 30 | 20 |
| Summary: Rating on Index of Preventive Practice | | |
| Highly preventive . . . . . | 36 | 17 |
| Moderately preventive . . . . . | 38 | 27 |
| Somewhat preventive . . . . . | 19 | 26 |
| Negligibly preventive . . . . . | 7 | 30 |
| Total per cent . . . . . | 100 | 100 |
| Number of dentists . . . . | 73 | 685 |

## How the Dental Hygienist Aids in the Practice of Preventive Dentistry

How is the dental hygienist's time utilized in the dental office that makes having a dental hygienist more conducive to preventive practice? The number of days worked per average week by the dental hygienist in the office of the reporting dentist varies from one-half day to six days, with

one-half (51 per cent) of the hygienists reporting that they work more than four days per week in the office of the reporting dentist (see Table 24). Hours worked per average day range from two hours or less per day to ten hours or more. Three-fourths (73 per cent) of the hygienists indicate that they work full days (seven to eight hours) in the office of the reporting dentist, although as indicated in Table 24 only one-half work more than four days per week in that office. About one-half (49 per cent) of the hygienists report working full-time (35 hours or more per average week) in the office of the reporting dentist.

Most hygienists (86 per cent) work in dental offices in which there are also other types of assistance, primarily chairside assistants and/or secretary-receptionists. Only fourteen per cent indicate that there is no other dental help (excluding dentists) employed in the office of the reporting dentist.

TABLE 24

DENTAL HYGIENISTS' REPORTS OF TIME SPENT IN REPORTING DENTISTS' OFFICES

| Days and Hours Spent in Reporting Dentists' Offices | Proportion Reporting Each Amount of Time |
|---|---|
| Days Per Week | |
| Less than 2 days | 12 |
| 2 to 4 days | 35 |
| More than 4 days | 51 |
| Not ascertained | 2 |
| Total per cent | 100 |
| Hours Per Day | |
| Less than 7 hours | 8 |
| 7 to 8 hours | 73 |
| More than 8 hours | 17 |
| Not ascertained | 2 |
| Total per cent | 100 |
| Hours Per Week | |
| Less than 16 hours | 19 |
| 16 to 34 hours | 30 |
| 35 to 44 hours | 41 |
| More than 44 hours | 8 |
| Not ascertained | 2 |
| Total per cent | 100 |
| Number of dental hygienists | 59 |

In terms of all patients they treat, whether in the office of the reporting dentist or other dentists, the number of patients treated per day varies from less than four to more than twelve, depending upon the number of hours worked per day. The median number of patients taken care of per average day is about eight. Only 13 per cent of the dental hygienists indicate that they treat no children under six years of age in the office of the reporting dentist.

The dental hygienist spends most of her time performing tasks which are considered an integral part of preventive dentistry, i.e., cleaning and polishing teeth, instructing patients in mouth care, taking X-rays and giving topical fluoride treatments. As can be seen in Table 25, all dental hygienists report giving prophylaxes and patient education, seven-tenths take X-rays and almost one-half (48 per cent) give topical fluoride treatments. For the most part, the dentists for whom they work, concur in this estimation of the extent to which hygienists perform preventive measures. The paragraphs which follow describe more fully the hygienists' activities with respect to these preventive measures.

TABLE 25

HYGIENISTS' REPORT OF PERSONS PERFORMING VARIOUS PREVENTIVE MEASURES

| Persons Performing Preventive Measure | Proportion of Dental Hygienists Reporting Each Person(s) as Those Performing Indicated Measure | | | |
|---|---|---|---|---|
| | Giving Prophylaxis | Giving Patient Education[a] | Taking X-rays | Giving Topical Fluoride Treatments |
| Hygienists only | 51 | 10 | 7 | 41 |
| Hygienists and dentist | 49 | 82 | 51 | 7 |
| Hygienists, dentist and other office help | - | 5 | 9 | - |
| Hygienists and other office help | - | 3 | 3 | - |
| Dentists only | - | - | 18 | 24 |
| Dentists and other office help. | - | - | 9 | - |
| Other office help only | - | - | 3 | - |
| Not done at all | - | - | - | 25 |
| Not ascertained | - | - | - | 3 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of hygienists | 59 | 59 | 59 | 59 |

[a]Includes patient education given simultaneously with prophylaxis.

Cleaning and Polishing Teeth

All of the dental hygienists interviewed report giving prophylaxes as part of their duties, three-fifths (59 per cent) spending at least three-quarters of their time and most of them (84 per cent) spending at least one-half of their time per week in the reporting dentist's office at this task (see Table 26). One-half (51 per cent) of the hygienists indicate that they are the only persons who clean and polish teeth; the remainder say that both dentists and hygienists perform this function (see Table 25). In the latter situation, whether the dentist or hygienist is called upon to give the prophylaxes depends, according to the hygienists, primarily upon patient preference (52 per cent) and the time of day or week (42 per cent), and to a lesser extent upon factors such as the complexity of the work to be done or the allocation of patients by the dentist or secretary.

TABLE 26

DENTAL HYGIENISTS' REPORTS OF TIME SPENT PER WEEK ON VARIOUS FUNCTIONS (OF TOTAL TIME SPENT PER WEEK IN REPORTING DENTIST'S OFFICE)

| Proportion of Time Spent Per Week at Functions (Of Total Time Spent per Week in Reporting Dentist's Office) | Proportion of Dental Hygienists Reporting Each Proportion of Time Spent at Performing Indicated Function | | | | | | |
|---|---|---|---|---|---|---|---|
| | Giving Prophylaxis | Giving Additional Patient Education[a] | Taking X-rays | Giving Topical Fluoride Treatments | Doing Secretarial Work (Including Recall) | Assisting at Chair | Doing Laboratory Work |
| None | - | 42 | 29 | 53 | 51 | 71 | 89 |
| Less than 5% | - | 15 | 36 | 22 | 12 | 9 | - |
| 5-9% | b 9 | 15 | 20 | 10 | 7 | 3 | 5 |
| 10-14% | | 12 | 10 | 3 | 8 | 3 | 2 |
| 15-19% | | 5 | - | - | 5 | 2 | - |
| 20-24% | | 7 | 3 | - | 2 | 2 | 2 |
| 25-49% | 3 | | - | - | 7 | 6 | - |
| 50-74% | 25 | 2 | - | - | 3 | - | - |
| 75% and over | 59 | | - | - | | - | - |
| Performs, but amount of time not ascertained | 4 | 2 | 2 | 12 | 5 | 4 | 2 |
| Total per cent | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dental hygienists | 59 | 59 | 59 | 59 | 59 | 59 | 59 |
| Mean proportion of time spent at function (of total time spent per week in reporting dentist's office) | 73 | 6 | 4 | 2 | 9 | 5 | 1 |

[a]Does not include patient education given simultaneously with prophylaxis.

[b]Data available only for interval bracketed.

The number of prophylaxes given per week by the hygienists varies from less than five (reported by only three per cent) to sixty or more (reported by two per cent), depending upon the amount of time spent in the dental office for which they are reporting and the amount of time it takes to give the prophylaxes. The time taken to clean and polish teeth varies from less than one-half hour to an hour or more; slightly more than two-fifths (43 per cent) of the dental hygienists report that they take between three-quarters of an hour and one hour to give a prophylaxis.

Giving Patient Education

All dental hygienists report instructing patients on matters of diet, tooth brushing and other oral habits, either while cleaning and polishing teeth or at some other time. Slightly more than two-fifths (42 per cent) indicate that they instruct patients only during the time they are giving prophylaxes (see Table 26). Of those who do spend additional time on patient education, over one-half spend less than ten per cent of their time and over ninety per cent spend less than a quarter of their time per week in the reporting dentist's office on additional patient education. One-tenth of the hygienists report that only the hygienist gives instructions of this type in the office, while 87 per cent indicate that the dentist also participates (see Table 25). Infrequent mention is also made of instruction by chairside assistants and secretary-receptionists.

Slightly more than one-third of the hygienists report that they give this type of instruction to no one special kind of patient. Hygienists who do mention particular types of patients specify most frequently children, "those who need it" and new patients. The method of instruction most frequently reported (by seven-tenths of the hygienists) is that of demonstration or demonstration with models. Less frequently mentioned are the passing out of literature and pamphlets and the giving of verbal instructions.

Taking X-rays

Somewhat less prominent than either giving prophylaxes or instructing patients in mouth care, among the duties of the dental hygienist, is the taking of X-rays. Seven-tenths of the hygienists report that they take X-rays in the office of the dentist reporting them as employees (see Table 25). Seven per cent report that only the hygienist takes X-rays in their office

and 63 per cent indicate that they share this function with other individuals in the office (dentists and other types of help). Where the hygienist shares this operation with others in the office, the allocation of work depends upon: busyness of office (31 per cent), time of day or day of week (21 per cent), other type of work to be done for patient (21 per cent), kind of X-ray (17 per cent), and the nature of the patient (five per cent).

Among hygienists who take X-rays, four-fifths spend less than 10 per cent of the time they spend per week in the reporting dentist's office doing so (see Table 26). Hygienists report that they more frequently take bite-wing X-rays than full-mouth X-rays. In fact, slightly more than one-third (36 per cent) of the hygienists who do take X-rays report that they take no full-mouth X-rays, as compared with the two per cent taking no bite-wing X-rays.

Giving Topical Fluoride Treatments

One-fourth of the dental hygienists indicate that topical fluoride treatments are not given in the office of the dentist for which they are reporting, primarily because they are located in places with fluoridated public water supplies or because the results derived from such treatments are not worth the cost. Other reasons for not using topical fluoride treatments but mentioned less frequently are: the treatment is inconsistent with the type of practice in the office; the treatment is considered to be ineffective; and public agencies make such treatments available.

Almost one-half of the hygienists (48 per cent) report that they give topical fluoride treatments, 41 per cent saying that they alone perform this task, while seven per cent indicate that they share the work with a dentist (see Table 25). About one-fourth (24 per cent) of the hygienists report that only the dentist gives topical fluoride treatments. The smaller proportion of dental hygienists who engage in this type of activity, as compared with the performance of other preventive measures already discussed, can be explained, in part, by the fact that fifteen per cent of the hygienists interviewed work in states in which the dental hygienist is not legally permitted to give fluoride applications.

By and large, the hygienists who do give fluoride applications spend a small proportion of their total time spent per week in the office of the reporting dentist at this particular operation. About one-half (47 per cent)

of the hygienists who give fluoride applications spend less than five per cent of their time at it, and over 90 per cent spend less than 10 per cent of their time at this function (see Table 26).

Some system for getting patients back to the office in a series of fluoride treatments is reported by 54 per cent of the hygienists who give fluoride applications, while 21 per cent indicate that they have no recall or reminder system for this purpose:

| | |
|---|---|
| Have recall or reminder system . . . . . | 54% |
| Have no recall or reminder system . . . | 21 |
| Give only one treatment, not a series . | 4 |
| No answer . . . . . | 21 |
| Total per cent . . . . . | 100% |
| Number of hygienists giving fluoride applications . . . . . | 28 |

Other Tasks of Dental Hygienists

Although the four operations just discussed--giving prophylaxes, taking X-rays, instructing patients in dental care, and giving topical fluoride applications--comprise the major tasks of the dental hygienist, about one-half (49 per cent) of the dental hygienists interviewed say that they spend some time in the reporting dentist's office in work of a secretarial or receptionist nature. To the extent that this type of work involves, in part, the handling of a recall system, it constitutes another means whereby the dental hygienist participates in preventive practice. Of those who spend some time at secretarial-receptionist duties, two-fifths spend less than 10 per cent, another two-fifths, about 10 to 19 per cent, and one-fifth at least 20 per cent of their weekly time in the reporting dentist's office on such work (see Table 26).

In addition, 29 per cent of the hygienists indicate that they spend some time as a chairside assistant and still fewer, 11 per cent, report that some portion of the time they spend in the reporting dentist's office is spent doing laboratory work.

The weekly work load of the typical dental hygienist is allocated, then, in the following manner: 73 per cent of her time is spent giving prophylaxes, nine per cent doing secretarial-receptionist work, six per cent giving additional patient education (besides what is given simultaneously with prophylaxis), five per cent assisting the dentist at the chair, four

per cent taking X-rays, two per cent giving topical fluoride applications, and one per cent doing laboratory work (see Table 26).

It is interesting to note that when asked which one thing among all the tasks they perform they enjoy doing most, one-fifth (19 per cent) of the hygienists reply that they like all of them and can make no choice, while three-fifths (61 per cent) mention giving prophylaxis and scaling, the measure they in fact spend most of their time performing. Much less frequently mentioned are: taking or developing X-rays, patient education, laboratory work and chairside assistance. With respect to the one thing they like least to do, one-fifth (19 per cent) of the hygienists mention secretarial work, and much smaller proportions mention a variety of operations such as taking X-rays, examining teeth, various aspects of prophylaxis, topical fluoride applications, laboratory work, handling recall system, and acting as chairside assistant. One-third (34 per cent) of the dental hygienists indicate that there is no one operation for which they have any pronounced dislike--they like them all.

## Orientation of Dental Hygienists Toward Preventive Dentistry

Clearly, what the dental hygienists do in the dental office is basically preventive in nature. But what are their attitudes with respect to the effectiveness or importance of the preventive measures with which they are so closely connected?

### Cleaning and Polishing Teeth

Among the things they can do for the mouth health of the patients, all but two hygienists consider the cleaning and polishing of teeth to be "very important," and the two hygienists note this procedure as "somewhat important." Compared to dentists, dental hygienists are almost unanimous in considering this measure "very important."

| | Hygienists | Dentists |
|---|---|---|
| Very important . . . . . | 97 | 88 |
| Somewhat important . . . . . | 3 | 8 |
| Not very important . . . . . | - | 4 |
| Not ascertained . . . . . | - | * |
| Total per cent . . . | 100 | 100 |
| Number . . . . . | 59 | 758 |

*Less than 0.5 per cent.

One-half (49 per cent) of the hygienists who rate this measure as "very important" do so because they feel it is a factor in preventing gum trouble. One-fifth refer to its role in facilitating good mouth examinations. Other reasons mentioned, but less frequently, for its importance are related to its role as a preventive measure: general oral preventive measure (15 per cent); general dental health measure (12 per cent); factor in prevention of decay or cavities (nine per cent); factor in preventing systemic difficulties (nine per cent); and factor in patient education (seven per cent).

Patient Education

About equal proportions of dental hygienists and of dentists (81 per cent and 85 per cent respectively), feel that it is "very important" for them to instruct patients and give them advice on matters of mouth health. An additional 14 per cent of the hygienists feel that it is "somewhat important." Only one hygienist indicates that it is "not very important" that she do so. Hygienists who feel that it is a "very important" function mention most frequently (by 49 per cent) their conviction that it constitutes an integral part of other treatment and ensures its success. Fifteen per cent refer to the fact that it saves the patient pain and inconvenience and induces good oral hygiene, while 12 per cent feel that it is important because it is an obligation of the profession to perform this function. Those hygienists who rate patient education as only "somewhat important" do so primarily because they feel that the other uses of their time are equally important or more important.

Giving of Topical Fluoride Treatments and the Fluoridation of Public Water Supplies

Dental hygienists, like dentists, reveal no consensus with respect to the effectiveness of topical fluoride applications as compared to other means of combating decay:

| | Hygienists | Dentists |
|---|---|---|
| More effective . . . . . | 34 | 24 |
| Less effective . . . . . | 36 | 35 |
| About the same . . . . . | 20 | 17 |
| Don't know, no answer, not applicable . . . . . | 10 | 24 |
| Total per cent . . . | 100 | 100 |
| Number . . . . . | 59 | 758 |

Hygienists are apparently somewhat more convinced of the effectiveness of topical fluoride treatments than are dentists, although as many hygienists feel they are less effective as feel they are more effective than other means in combating decay.

With respect to the fluoridation of public water supplies, however, a widespread favorable disposition is very evident among hygienists just as among dentists. Slightly more than two-thirds (68 per cent) of hygienists report a "very favorable" attitude (compared to 67 per cent of dentists), and one-fifth (19 per cent) say they are "favorable" (compared to 20 per cent of dentists). Eight per cent hold a "neutral" position and five per cent indicate an "unfavorable" attitude.

Those who are favorably disposed toward water fluoridation base their attitude upon the manifest effectiveness of fluoridation as indicated by the reported results of research and experiment or by their own experience with or observation of the effects of fluoridation, the belief that it is a more fundamental approach to the problem of decay or the feeling that it is generally beneficial and available at low cost to all. Hygienists who indicate an unfavorable attitude refer to the possibility of mottling of the teeth, the inconclusiveness of results, and the limitation of benefits to children. Hygienists with a neutral attitude refer primarily to the inconclusiveness of evidence as to its effectiveness.

Use of X-rays

A majority of the hygienists who take X-rays (52 per cent) indicate that there has been no change in their attitude toward taking X-rays during the last few years. One-fourth (24 per cent) report their attitude as "more favorable" now, and 14 per cent as "less favorable." One-tenth have just begun their careers as hygienists and therefore can make no comparison. Those who indicate a change to a more favorable position account for it primarily in terms of fortunate experiences with the use of X-rays and the patients' increased satisfaction as a result of their use. Where a less favorable attitude is indicated, hygienists attribute it primarily to greater concern with or awareness of the dangers of radiation.

In connection with attitudes toward the use of X-rays, it is interesting to note that, like dentists, hygienists feel that there has been

more change in the attitudes of patients during the last few years in this respect, but hygienists are more inclined to believe that patients have become less favorably disposed to having X-rays taken. One-fourth of the hygienists who take X-rays (24 per cent) have the impression that there has been no change in patient attitude, but two-fifths feel that patients are less favorably disposed toward having X-rays taken (compared to one-fifth of dentists who express the opinion that patients now have a more negative attitude). One-fifth (21 per cent) believe there has been a change to more favorable attitude on the part of patients (compared to 44 per cent of dentists who hold similar opinion). The more favorable patient attitudes are attributed primarily to educational work by the dental profession and to a lesser extent to patient experience with X-rays and educational activities in general. They feel that the less favorable patient attitude can be accounted for in terms of the patients' fear of radiation dangers.

In general, hygienists, like dentists, manifest widespread approval and recognition of the importance of giving prophylaxes, instructing patients in care of the mouth and fluoridation of public water supplies. There is more diversity of opinion concerning the effectiveness of topical fluoride applications and approval of the use of X-rays. With respect to the performance of preventive measures, hygienists, unlike dentists, reveal no widespread dislike for any one function they perform, and certainly not for preventive measures in general. A majority specifically indicate that the operations they like best to do are prophylaxis and scaling.

## The Recruitment, Training and Work Experience, and Job Satisfaction of Dental Hygienists

### The Recruitment of Dental Hygienists

Two-thirds of the dental hygienists interviewed (65 per cent) are 34 years old or younger; 14 per cent are between 35 and 44 years and 18 per cent, 45 years old or older. In keeping with the general youthfulness of practicing dental hygienists, three-fifths completed their schooling and entered professional practice in the last decade. Slightly more than two-thirds (68 per cent) first heard of the dental hygienist profession while in the dental office, either as a patient (41 per cent) or as an employee

(27 per cent). Twelve per cent heard about this type of work first from a friend or relative who was a dental hygienist and an equal proportion became acquainted with it while in nursing school, in the employ of a dental school, or from a member of the medical profession. To a much lesser extent others first learned of its existence from vocational counsellors or the professional associations of dental assistants or dental hygienists.

Three-quarters of the dental hygienists interviewed (77 per cent) report that they decided to enter the field during their high school (35 per cent) or college years (42 per cent). Twelve per cent were between the ages of 23 and 30 when they reached this decision while seven per cent were 30 years old or older. Only four per cent indicate that their decision was made while they were younger than 14 years of age. There is no one predominant reason offered by hygienists to account for their choice of careers. The most frequently mentioned consideration, suggested by 19 per cent of the hygienists, is the pay and financial security associated with the profession. Slightly smaller proportions refer to the openings for employment (17 per cent), the regular hours involved, or the ability to choose hours of work (15 per cent) and the influence of some one individual (12 per cent). Mentioned less frequently are: the type of work involved, the humanitarian aspect of the work (service to the people), the individual's preference for working with people, the prestige or status of the work, and the opportunity it afforded to obtain a college education.

## The Training of Dental Hygienists

The vast majority (80 per cent) of dental hygienists received their training for their job in a dental hygienist school; the remainder report having been trained in a dental office. This agrees, in general, with the information provided by hygienists as to where they received their training in the performance of such specific measures as giving prophyaxes and taking X-rays. With respect to topical fluoride applications, one-half of the hygienists who give them say they received their training in a dental hygienist's school. Two-fifths (39 per cent) report getting their training in the dentist's office, while seven per cent indicate that training for this measure was received in a state health department or from a school dentist.

About one-third of the hygienists who went to dental hygienist schools (32 per cent) had a one-year course in the field, slightly more than one-half (53 per cent) completed a two-year course, and one-tenth finished a four-year course.

The vast majority (85 per cent) of dental hygienists have no other academic degree. Fifteen per cent report having a B.S. or B.A. degree.

Degree of Professional Attentiveness

Slightly more than one-third (36 per cent) of the hygienists, as compared with almost two-thirds of dentists, indicate that they have taken refresher or continuation courses in their field. One-half (49 per cent) report not having taken such courses, and an additional 15 per cent say they have not, having just graduated from hygienists' school.

Seven-tenths of the hygienists belong to a professional organization (compared with the over nine-tenths of the dentists) and almost four-fifths (78 per cent), regardless of membership, have attended conferences or conventions sponsored by professional organizations.

While a somewhat small proportion of hygienists do make the effort to keep up-to-date through refresher or continuation courses, a larger proportion manifest an interest in professional activities through membership in professional organizations and attendance at professional conferences and conventions. Although hygienists are much less likely than dentists to take refresher or continuation courses in their field and are somewhat less likely to belong to professional organizations, they are as likely to attend meetings and conferences sponsored by professional organizations.

The Work Experience of Dental Hygienists

Seventeen per cent of the hygienists have worked only as a dental hygienist. Slightly more than one-third have worked, either before or after becoming a dental hygienist, as a dental assistant. Others include in their work history doing office work (27 per cent) or sales work (22 per cent). Also mentioned as occupations held are: technicians, nurses, miscellaneous work in the medical field, factory work, and service occupations.

Seven-tenths (69 per cent) of the hygienists are licensed to practice only in the state in which they were practicing at the time of the interview. One-fourth are also licensed to practice in an additional state, while six per cent are licensed to practice in from two to four additional states.

Seven-tenths (71 per cent) of the dental hygienists report that they have never worked as a demtal hygienist in other than a dental office.

Small proportions indicate having worked as dental hygienists in school systems and hospitals, doing clinical work. Mention is also made by small numbers of doing educational work in the schools and administrative work in hospitals, fluoride demonstration work with the United States Public Health Services, and clinical work in the armed forces and dental schools.

## The Dental Hygienists' Attitudes Toward Their Work

Almost two-thirds (63 per cent) of the dental hygienists express satisfaction with their work, 27 per cent saying it is the only career that could satisfy them, and 36 per cent reporting it as the only career except for marriage that could satisfy them. Only one hygienist feels that other careers would be more satisfying to her. The remainder feel that other careers could be equally satisfying to them. Hygienists who could find equal satisfaction in other careers mention most frequently as alternative careers nursing (30 per cent) and other work in medicine or dentistry (30 per cent). Work in other health related fields, in teaching, and in social or recreational work are each mentioned by fifteen per cent. One-fourth mention other types of professional work.

Satisfaction with their work is also indicated by the generally favorable, positive recommendations they give to young women inquiring for advice about becoming a dental hygienist. Stress is laid upon the pay, convenient hours of work, unlimited opportunities for work, pleasantness of the work situation, and serving people. Only a minority mention negative aspects of the job, such as the demands of the work, the limitation of job opportunities due to licensing, the poor financial prospects, and the difficult relations with patients and fellow workers.

## Summary

The fifty-nine dental hygienists interviewed are, for the most part, in the employ of preventive-oriented urban dentists with relatively high preventive practices.

Whether by design or otherwise, the dental hygienists are basic agents in the instrumentation of the precepts of preventive dentistry. All hygienists give prophylaxes and patient education; a majority also take X-rays. To a limited extent, they also give topical fluoride applications, their activities in this area depending upon whether the dentists employing

them give such treatments and whether the hygienist is legally permitted to give fluoride applications in the state in which she works. To a lesser extent the hygienist also functions as a secretary-receptionist in some dental offices and, thereby, helps to operate a recall system. Relatively few hygienists assist the dentist at the chair or in the laboratory. The major portion of their time, however, is spent in giving prophylaxes.

For the most part, dental hygienists like doing the work normally assigned to them; a majority specifically express their preference for giving prophylaxes. The only task for which any sizeable number indicate a dislike is that involving secretarial or receptionist work.

Not only do the hygienists like their work, but they think it is important. Virtually all hygienists feel that giving prophylaxes and instructing patients on matters of mouth care are very important. While a substantial majority favor water fluoridation, they manifest less agreement regarding the effectiveness of topical fluoride treatments as a means of combating decay.

Most practicing dental hygienists are young women, the majority being under 35 years of age. They evidently first heard of the profession in a dental or medical environment, as dental patients, as employees in dental or medical fields, or from dental hygienists. Their actual decisions to become dental hygienists were based primarily upon the desirable working conditions and the opportunities for employment. Interest in dental hygienist work is indicated by the fact that virtually all the hygienists interviewed report having been asked by young women for advice on becoming dental hygienists.

The professional training of most hygienists interviewed was received in dental hygienist schools which offer one-, two-, or four-year courses. For a majority of hygienists, formal training consisted of a two-year course in a dental hygienist school. About three-fourths graduated from school in 1940 or later. The vast majority of hygienists have no academic degree (college or graduate) other than that signifying completion of their hygienist course. Only a small proportion of the hygienists report having received their training in a dental office.

About one-third of the hygienists have made some effort to keep up-to-date by taking refresher or continuation courses. A substantial majority,

however, do belong to professional organizations and attend conventions and conferences of such organizations.

Most hygienists work as a dental hygienist only in a dental office. Small proportions indicate having worked in this capacity for school systems, hospitals, dental schools, and the armed forces.

About two-thirds report satisfaction with their careers. This general attitude of satisfaction with their careers as hygienists is also reflected in a general liking for the type of work they do and the favorable picture of the hygienist's job which they give to young women manifesting an interest in the field.

Compared with dentists, most dental hygienists are equally, or even more, convinced of the importance or effectiveness of the preventive measures they perform in coping with dental problems and are highly satisfied with their choice of careers.

# CHAPTER VI

## CONCLUSIONS

It is encouraging to discover that most dentists are aware of the precepts of preventive dentistry and the role of the dentist in putting them into practice in the dental office. Whether their conceptions of preventive dentistry be expressed solely in terms of techniques of primary prevention--thereby approximating the concept advanced by the spokesmen of the profession--or more broadly by incorporating techniques of both primary and secondary prevention, preventive dentistry, to them, is symbolized by two techniques of primary prevention, prophylaxis and patient education.

This awareness of the nature of preventive dentistry is accompanied to a large extent by both explicit acknowledgment of the importance of certain preventive measures and their general usage--cleaning and polishing of teeth, use of X-rays and giving of patient education. Lack of agreement as to the effectiveness of giving topical fluoride treatments is reflected in its less widespread use and more general consensus on the relative unimportance of laboratory tests is accompanied by infrequent use of this measure among dentists.

Techniques of primary prevention used extensively and regularly include these measures: prophylaxis, X-rays, filling primary teeth, biopsies of abnormal soft tissue lesions, attention to tone of gingival tissues, and patient education. For each of these, regular use is reported by a majority of dentists, despite their large preference for the performance of techniques of secondary prevention and their general conviction that such treatment measures are more challenging to their skills and more financially rewarding. Less extensive and non-routine utilization is made of recall systems, topical fluoride treatments and laboratory tests.

Although there is a general impression of fairly widespread use of at least some preventive measures among dentists, further analysis reveals that slightly less than one-half of all dentists with general types of practice can be said to reach a relatively high level of preventive practice. Their practices are distinguished from those of the less preventively-oriented dentists by their more routine, extensive and regular, utilization

of recall systems, topical fluoride applications and patient education, and by their more frequent use of laboratory tests. This is, for the most part, accompanied by a more extensive belief among such dentists in the importance or effectiveness of such measures. And this situation exists despite the fact that the more preventive dentists are no less likely to indicate a preference for performing treatment measures and are just as likely to consider preventive procedures as less challenging to their skills and least lucrative.

The analyses of components relating to preventive practice--dentist's age (and thereby the recency of his training), an urban location, the type and amount of assistance employed, the quality of his professional interests and the quality of his patients--suggest that the crucial factor involved is the dentist himself. To put the matter positively, that more recent programs of dental education appear to produce well-qualified and highly motivated dentists as compared with earlier dental school curricula which older dentists encountered is suggested by the higher levels of preventive practice and of professional interest which prevail among younger dentists; the urban environment appears to foster professional interests, to provide colleague inter-stimulation and easier and more regular access to new developments in dentistry, and so to keep alive the sense of professional challenge and the striving to meet highest standards of dental practice; at the same time, the urban environment also provides the possibility of treating a more sophisticated, wealthier clientele, whose economic means and standards of adequate dental care both facilitate preventive practice; and, finally, the employment of assistance or, particularly, of dental hygienists is at once a direct path to increased preventive practice and an expression of the dentist's own highly positive orientation toward preventive practice. What underlies these discrete elements is the orientation of the dentist himself, his convictions as to the importance of and need for preventive dentistry and his active efforts to implement these convictions. There is every reason to believe that if a dentist is sufficiently convinced of the importance of and the need for the practice of preventive dentistry to exert himself to put these convictions into practice, his practice will be more preventive no matter what his age or where he is located and regardless of the type of patient he serves. To a large extent, these factors appear to facilitate or militate against preventive practice just because they are indirect indicators of dentists' orientations toward practice, although they may have some independent effects as well.

With reference to preventive activities at the community level, most dentists agree that it is the role of the dental profession to educate the general public in preventive dentistry and matters of oral health, but only a limited proportion of dentists participate in water fluoridation movements, school dental health programs or community health groups. And it is the dentist with the more preventive practice who is inclined to engage in such activities.

The majority of dentists are apparently convinced that there are major obstacles to any practice of preventive dentistry, as well as its more extensive application--lack of time, adverse patient reaction and the more remunerative nature of other kinds of dental services. Dentists who do not utilize certain preventive measures--recall system, topical fluoride applications, laboratory tests--include the above mentioned reasons and indicate as well a belief that these procedures are ineffective, unreliable or unnecessary. Assertions regarding the less remunerative character of preventive practice should be weighed in light of the evidence which suggests that preventive practice need not necessarily involve financial sacrifice. And dentists' insistence on the inhibiting influence of "time," that preventive practice or more extensive preventive practice would require longer working hours, should be dispelled by the findings which reveal that hours worked is not a decisive factor in accounting for the practice of preventive dentistry or its absence. With respect to the final major presumed deterrent, only a study of patients' attitudes toward preventive measures could yield clear-cut evidence of their reactions to the use of preventive measures. What is available from this study--dentists' impressions of patient reaction and practitioners' conceptions of the effectiveness, reliability or need for certain preventive measures, as well as their beliefs regarding the significance of "remuneration" and "time"--all relate to their general attitudes toward professional standards, interests and activities. In fact, all of the data presented in this study underscore the significant relationship between the attitudes of dentists toward preventive dentistry and their level of practice. Therefore, any efforts that result in a more widespread conviction among dentists as to the desirability of and need for more extensive participation in the practice of preventive dentistry, a conviction strong enough to impel them to implement it in positive preventive activities, would almost certainly also result in a general rise in the level of preventive practice among the dentists of this country.

# APPENDIX A

## THE SAMPLE DENTISTS

APPENDIX A

## THE SAMPLE DENTISTS

The results presented in this report are based on interviews with 758 dentists who together constitute a representative one per cent sample of all dentists in the United States actively engaged in the private practice of dentistry. The sample used does not include, and is in no way representative of, the thinking of the relatively small numbers of dentists who were 1) not listed in the American Dental Directory for 1957; or 2) entirely engaged in teaching, research and administration with no private dental practice; or 3) practicing dentistry primarily or exclusively in institutional settings.

### Method of Sampling

The design employed to sample American dentists is essentially an adaptation of the general-purpose area-probability sample regularly used by the National Opinion Research Center. This basic NORC sample consists of sixty-eight primary sampling units--either Standard Metropolitan Areas, as defined by the U.S. Census, or non-metropolitan counties--which constitute a stratified random sample of the thirty-six major groupings into which the some 3,100 counties of the United States may be divided on the basis of their social and economic characteristics.[1] Adaptation of the general-purpose sample involved a series of steps outlined below:

1. The number of dentists practicing in each of the thirty-six major strata into which the NORC sample divides the country was determined.[2]

2. One-ninetieth of the total number of dentists in a given stratum was designated as the sample size for that stratum. (One-ninetieth rather than 1/100 was used in order to provide for losses due to ineligibility, etc.)

---

[1] The procedures used in selecting these primary sampling units are reported in detail in O.W. Anderson and J.J. Feldman, Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey. New York: McGraw-Hill Book Co., Inc., 1956.

[2] The data used were derived from American Dental Association, Bureau of Economic Research and Statistics, Distribution of dentists in the United States by state, region district and county. Chicago, 1956.

3. The sample for a particular stratum was wholly allocated to the primary sampling unit or units representing that stratum in the NORC general sample[3] except when the number of dentists to be included in the sample for the stratum exceeded the total number of dentists in the pre-selected primary sampling units representing that stratum. This situation could develop in strata composed of counties with predominantly rural population (where each primary sampling unit selected was generally intended to represent considerably more than ninety counties) and required the selection of additional primary sampling units--not usually included in the NORC sample--to complete the representation of the stratum in the dentists' sample.[4]

---

[3]Where one stratum was represented by more than one primary sampling unit, the sample was divided equally among the primary sampling units, since they had originally been selected with a probability proportionate to their population size and it had been determined that within strata the number of dentists practicing in a particular primary sampling unit was approximately proportionate to its population.

[4]Selection of these supplementary sampling units departed from strictly random sampling procedure because of the exhorbitant costs which would have been involved in having to send an interviewer as far as five hundred miles to interview as few as two or three dentists, as random selection might dictate. Instead, supplementary sampling units were selected from among only those counties in the same stratum as the primary sampling unit being supplemented which were within a radius of about sixty miles from any one of the basic sixty-eight primary sampling units or of a limited number of additional localities where NORC had field workers available. At the same time, an effort was made to select supplementary sampling units as distant as possible from metropolitan areas in order to compensate in part for the urbanization bias introduced by the initial distance restriction.

Fifteen such counties were selected. Since inadequate primary sampling units were supplemented in all cases by counties having similar social and economic characteristics and located at some distance from a metropolitan area, it seems likely that the departure from strictly random procedure produced at most a negligible sample bias. In any event, only seven per cent of the eligible dentists in the final sample was drawn from supplementary sampling units, so any bias introduced by the supplementation procedure could not have an appreciable effect on overall results. Such bias as there may be would, of course, more markedly affect results restricted to dentists practicing in rural areas.

Alternatively, it would have been possible not to supplement the sample but to correct for the underrepresentation of certain strata by weighting procedures. The large increase in sampling variance which weighting would have introduced was considered less desirable than the possible small bias introduced by the procedure actually followed.

4. Within each primary sampling unit, the sample was allocated among specific localities as follows:

   a. The largest locality (or several localities in the case of very large metropolitan areas) was assigned the same proportion of the sample as the proportion of the primary sampling units' dentists who practiced in that locality.

   b. The remainder of the sample for the primary sampling unit was divided equally among a number of localities--cities, towns and rural areas--selected randomly from among the stratified random sample of localities used by NORC in its general population samples.[5] The number of localities used was restricted to the point where a sample of at least three or four dentists could be assigned to each locality in the sample, except in rural districts which had only one or two dentists, where a larger number of localities had to be used.

5. Within each of the sample localities, the actual dentists to be included in the sample were drawn in a systematic random fashion from the dentists listed by the American Dental Directory (1957) for that locality. That is, the ratio of the number of dentists listed in the directory for a given locality to the number of dentists designated in the sample for that locality was taken as its sampling interval, "I." From a random start, every "Ith" dentist listed for the locality was systematically selected. For all practical purposes, this procedure resulted in a simple random sample of the dentists in the locality since the list was merely alphabetically ordered.[6]

## Size and Character of the Sample

The sampling process described above yielded a sample of 1,020 dentists, of whom 146 were found to be either deceased or ineligible for interview.[7] The final sample of eligible dentists totaled 874, located in 205

---

[5] Just as with primary sampling units, these localities had originally been selected with a probability proportionate to population size, a procedure which requires the equal sample size (with variable sampling ratio) employed.

[6] In Chicago and in three boroughs of New York City (Manhattan, Bronx, Brooklyn), a sample of about eight times the desired size was originally drawn. The dentists selected were then grouped in rather loose geographic clusters of about four. One-eighth of these clusters were then selected randomly in a manner to ensure geographic scatter of the clusters. This procedure was adopted in order to limit the amount of travel between interviews. The clusters were probably spatially large and heterogeneous enough to have produced only negligible increase in sampling variance.

[7] A small percentage of the dentists were dropped because of ineligibility after an initial check with the directory; the remainder were eliminated on the basis of information obtained from the interviewers in the field.

sample localities. Interviews were completed for 758 dentists, or 87 per cent of the designated eligible dentists. (See Table A-1.) Losses occurred primarily among dentists in the East and in large metropolitan areas.

TABLE A-1

DISTRIBUTION OF SAMPLE DENTISTS, BY TYPE OF PRIMARY SAMPLING UNIT AND GEOGRAPHIC REGION

| Type of Primary Sampling Unit and Geographic Region | Proportion of: | | Total Sample Dentists |
|---|---|---|---|
| | Interviewed Dentists | Non-interviewed Dentists | |
| Type of Primary Sampling Unit | | | |
| Large metropolitan areas | 43 | 61 | 46 |
| Small metropolitan areas | 25 | 28 | 25 |
| Urban counties | 18 | 5 | 16 |
| Rural counties | 14 | 6 | 13 |
| Total per cent | 100 | 100 | 100 |
| Number of dentists | 758 | 116 | 874 |
| Geographic Region | | | |
| East | 34 | 41 | 35 |
| Central | 31 | 31 | 31 |
| South | 20 | 14 | 19 |
| West | 15 | 14 | 15 |
| Total per cent | 100 | 100 | 100 |
| Number of dentists | 758 | 116 | 874 |

Of the 116 eligible dentists who were not interviewed, nine per cent refused to be interviewed or else initially agreed but subsequently broke off the interview. As can be seen in Table A-2, the remainder of the non-respondents were dentists who were sick, were on vacation or out of town, had moved out of the sample areas into non-sample areas, or were inaccessible at the address or in the locality listed in the directory.

TABLE A-2

NUMBER AND PER CENT OF ELIGIBLE DENTISTS FOR WHOM INTERVIEWS WERE NOT COMPLETED BY REASON FOR NON-INTERVIEW

| Reasons Given for Non-Interview | Number | Per cent |
|---|---|---|
| Sample dentists interviewed | 758 | 87 |
| Sample dentists not interviewed | 116 | 13 |
| Refusal or break-off | 81 | 9 |
| No trace | 20 | 3 |
| Sick, on vacation, out of town temporarily | 11 | 1 |
| Moved out of sample area | 4 | * |
| Total | 874 | 100 |

*Less than 0.5 per cent.

Almost eighty per cent of the dentists interviewed reported their age as being in the range of 30-59 years, with 43 per cent indicating an age within the 30-44 years group. In comparison, 33 per cent of the dentists who were not interviewed fall in the 30-59 years age group, with seven per cent in the 30-44 years group. While only five per cent of the dentists interviewed are 70 years or over, there are ten per cent of the non-respondent dentists in the same age group.

Ninety-two per cent of the interviewed dentists indicate that they are members of the American Dental Association; an identical percentage reported having a general type practice. Among the dentists who were not interviewed, 90 per cent have a general practice and 69 per cent are members of the American Dental Association. (See Table A-3.)

TABLE A-3

COMPARISON OF CHARACTERISTICS OF ELIGIBLE DENTISTS, INTERVIEWED AND NON-INTERVIEWED [a]

| Characteristics of Dentists | Proportion of Interviewed Dentists | Proportion of Non-interviewed Dentists |
|---|---|---|
| Age | | |
| 29 years or less | 2 | 3 |
| 30-44 years | 43 | 7 |
| 45-59 years | 36 | 26 |
| 60-69 years | 14 | 10 |
| 70 years or more | 5 | 10 |
| No answer, not known | * | 44 |
| Total per cent | 100 | 100 |
| Number of dentists | 758 | 116 |
| Kind of Practice | | |
| General | 92 | 90 |
| Limited or specialized | 8 | 3 |
| No answer, not known | - | 7 |
| Total per cent | 100 | 100 |
| Number of dentists | 758 | 116 |
| Membership in A.D.A. | | |
| Member | 92 | 69 |
| Non-member | 8 | 31 |
| Total per cent | 100 | 100 |
| Number of dentists | 758 | 116 |

*Less than 0.5 per cent.

[a]Information for the non-interviewed dentists was obtained from the American Dental Directory (1957). Data regarding age was available for only 56 per cent, and regarding kind of practice, for 93 per cent.

Losses were sustained, for the most part, among older dentists and among dentists who are not members of the American Dental Association, both of which groups tend to be less prevention-oriented in their dental practice behavior. The sample of 758 interviewed dentists, therefore, may have a slight bias in the direction of over-representing dentists who are prevention-oriented, although disproportionate loss of sample dentists in the more urban areas would operate in the opposite direction and tend to compensate. In any event, in view of the relatively high completion rate, any bias which may exist cannot be marked.

# APPENDIX B

## TABLES

TABLE A-4

FREQUENCY WITH WHICH DENTISTS TAKE FULL-MOUTH X-RAY SURVEY AND BITE-WING X-RAYS

| Frequency with which X-Rays Reported Taken | Proportion of Dentists Using X-Rays Reporting Each Frequency for: | |
|---|---|---|
| | Full-Mouth X-Ray Surveys | Bite-Wing X-Rays |
| Every six months . . | 2 | 31 |
| Once a year . . . . | 15 | 28 |
| Every 18 months . . | 6 | 5 |
| Longer than 18 month interval . . . . . | 35 | 6 |
| No set frequency . . | 39 | 23 |
| See patients only once . . . . . | 2 | 1 |
| Don't know, no answer . . . . . | 1 | 1 |
| Not taken at all . . | * | 5 |
| Total per cent | 100 | 100 |
| Number of dentists . . . | 753 | 753 |

*Less than 0.5 per cent.

TABLE A-5

DENTISTS' VIEWS OF ADVANTAGES OF REGULAR X-RAY SURVEYS

| Advantages of X-Rays Reported by Dentists | Proportion of Dentists Using X-Rays Who Mention Advantage Indicated |
|---|---|
| Dentists who report no advantages at all | 1 |
| Dentists who don't know or give no answer | 1 |
| Dentists who mention advantages | 98 |
| Aid in detecting pathology not visible to naked eye | 50 |
| Aid in detecting pathology at an early stage | 38 |
| Aid in detecting pathology, other type | 20 |
| Permanent record of patients' dental history | 17 |
| Unspecified aid in diagnosis or examination | 12 |
| Check on previous dental work | 9 |
| Benefit to patient | 2 |
| Miscellaneous advantages mentioned | * |
| Total per cent | 100 |
| Number of dentists | 753 |

*Less than 0.5 per cent.

TABLE A-6

DENTISTS' VIEWS OF DISADVANTAGES OF

REGULAR X-RAY SURVEYS

| Disadvantages of X-Rays Reported by Dentists | Proportion of Dentists Using X-Rays Who Mention Disadvantage Indicated |
|---|---|
| Dentists who report no disadvantages at all . . . . . | 61 |
| Dentists who don't know or give no answer . . . . . | 1 |
| Dentists who mention disadvantages . . . . . | 38 |
| Cost to patient . . . . . | 15 |
| Exposure to radiation . . | 15 |
| Unjustified fear of exposure to radiation . . | 7 |
| Unreliability . . . . . | 2 |
| Adverse patient reaction for reasons other than cost . . . . . | 2 |
| Needlessness . . . . . | 1 |
| Miscellaneous disadvantages mentioned . . . . | 1 |
| Total per cent . . | 100 |
| Number of dentists | 753 |

TABLE A-7

EFFECTIVENESS OF RECALL SYSTEM IN TERMS OF PROPORTION OF RECALLED PATIENTS RESPONDING TO RECALL SYSTEM

| Proportion of Recalled Patients Reported Responding to Recall System | Proportion of Dentists Reporting Patient Response Indicated among Dentists Who Use Recall System | | All Dentists with a Recall System |
|---|---|---|---|
| | Routinely (with All Patients) | Not Routinely (with Some Patients) | |
| 1- 25% . . . | 10 | 11 | 10 |
| 26- 50% . . . | 18 | 13 | 16 |
| 51- 75% . . . | 21 | 14 | 19 |
| 76-100% . . . | 49 | 57 | 52 |
| Don't know, no answer . | 2 | 5 | 3 |
| Total per cent . | 100 | 100 | 100 |
| Number of dentists | 353 | 226 | 579 |

TABLE A-8

DENTISTS' VIEWS OF ADVANTAGES TO DENTIST AND PATIENT

OF HAVING A RECALL SYSTEM

| Advantages of Recall System Mentioned by Dentists | Proportion of Dentists Mentioning Advantage Indicated among Dentists Who Have a Recall System | All Dentists |
|---|---|---|
| Advantages to Dentist | | |
| Permits higher standard of work | 35 | 26 |
| Builds up practice | 32 | 25 |
| Evens out, balances workload | 25 | 19 |
| Permits easier, pleasanter work | 18 | 14 |
| Miscellaneous advantages mentioned | 16 | 12 |
| Don't know, no answer | 7 | 5 |
| Not applicable, not asked | - | 24 |
| Total per cent (Some mention more than one) | 133 | 125 |
| Number of dentists | 579 | 758 |
| Advantages to Patient | | |
| Obtains preventive dentistry | 65 | 50 |
| Saves patient money | 31 | 23 |
| Saves patient pain and discomfort | 9 | 7 |
| Miscellaneous advantages mentioned | 24 | 18 |
| Don't know, no answer | 8 | 6 |
| Not applicable, not asked | - | 24 |
| Total per cent (Some mention more than one) | 137 | 128 |
| Number of dentists | 579 | 758 |

TABLE A-9

REASONS GIVEN BY DENTISTS FOR NOT HAVING A RECALL SYSTEM

| Reasons Given for Not Having a Recall System | Proportion of Dentists Giving Reason Indicated among: | | All Dentists with No Recall System |
|---|---|---|---|
| | Dentists Who Never Had Recall System | Dentists Who Formerly Had Recall System | |
| Ample workload without system . . . . . | 43 | 30 | 38 |
| Ineffectiveness of system . . . . . | 12 | 49 | 25 |
| Expense of system or lack of personnel. | 18 | 15 | 17 |
| Nature of practice . . . . . | 17 | 8 | 14 |
| Adverse patient reaction . . . . . | 8 | 20 | 12 |
| Rejection as dentists' responsibility . | 9 | 3 | 7 |
| Miscellaneous reasons given . . . . . | 5 | 7 | 5 |
| No answer . . . . . | 8 | - | 7 |
| Total per cent (Some gave more than one reason) . . . . . | 120 | 132 | 125 |
| Number of dentists . . . . . | 118 | 61 | 179 |

TABLE A-10

REASONS GIVEN BY DENTISTS FOR FILLING TOOTH AS CUSTOMARY PROCEDURE IN TREATING CAVITIES IN PRIMARY TEETH[a]

| Reasons Given by Dentists for Filling Primary Teeth | Proportion of Dentists Mentioning Reason Indicated |
|---|---|
| All Dentists | |
| Have no patients under six years of age | 10 |
| Have patients under six years of age | 90 |
| Do not fill primary teeth as customary procedure | 16 |
| Do fill primary teeth as customary procedure. | 74 |
| Reasons for doing so: | |
| Save tooth or dentition | 58 |
| Maintain chewing apparatus | 12 |
| Prevent pain or discomfort | 10 |
| Stop decay process | 8 |
| Maintain good oral or general health | 3 |
| Educate patients | 1 |
| Help appearance of patient | 1 |
| Miscellaneous reasons given | * |
| Don't know, vague answer, no answer | 10 |
| Total per cent | 100 |
| Number of dentists | 758 |
| Dentists Who Fill Primary Teeth as Customary Procedure | |
| Reasons for doing so: | |
| Save tooth or dentition | 78 |
| Maintain chewing apparatus | 17 |
| Prevent pain or discomfort | 15 |
| Stop decay process | 11 |
| Maintain good oral or general health | 4 |
| Educate patients | 2 |
| Help appearance of patient | 1 |
| Miscellaneous reasons given | * |
| Don't know, vague answers, no answer | 13 |
| Total per cent (Some give more than one reason) | 141 |
| Number of dentists | 561 |

*Less than 0.5 per cent.

[a]Based on question asked only of dentists with patients under six years of age.

TABLE A-11

PROCEDURES RECOMMENDED BY DENTISTS IN HANDLING FIRST REAL APPOINTMENT OF FOUR-YEAR OLD CHILD[a]

| Procedures Reported by Dentists | Proportion of Dentists Reporting Procedure Indicated | |
|---|---|---|
| All Dentists | | |
| Have no patients under six years of age | 10 | |
| Have patients under six years of age | 90 | |
| No answer | | 1 |
| Vary procedures with individual child | | 5 |
| Use same procedures as with adults | | 4 |
| Just get acquainted | | 26 |
| Get acquainted and perform some service | | 54 |
| Preventive measures: | | |
| Examine mouth, chart mouth, take history | | 25 |
| Clean and polish teeth | | 23 |
| Take X-ray, use other tests | | 14 |
| Educate patient and/or parent | | 10 |
| Give fluoride or silver nitrate treatments | | * |
| Treatment measures[b] | | 10 |
| Miscellaneous procedures mentioned | | 2 |
| Total per cent | 100 | |
| Number of dentists | 758 | |
| Dentists Who Have Patients Under Six Years of Age | | |
| No answer | | 1 |
| Vary procedures | | 5 |
| Use same procedures as with adults | | 5 |
| Just get acquainted | | 29 |
| Get acquainted and perform some service | | 60 |
| Preventive measures: | | |
| Examine mouth, chart mouth, take history | | 28 |
| Clean and polish teeth | | 26 |
| Take X-rays, use other tests | | 16 |
| Educate patient and/or parent | | 11 |
| Give fluoride or silver nitrate treatments | | 1 |
| Treatment measures[b] | | 11 |
| Miscellaneous procedures mentioned | | 2 |
| Total per cent | 100 | |
| Number of dentists | 682 | |

*Less than 0.5 per cent.

[a]Based on question asked only of dentists with patients under six years of age.

[b]Includes "filling of teeth" which is not available separately from extractions or other emergency care.

TABLE A-12

DENTISTS' RECOMMENDATIONS OF MEASURES TO BE USED IN CASE OF 16-YEAR OLD BOY WITH RAMPANT CARIES

| Measures Recommended by Dentists | Proportion of Dentists Who Mention Measure Indicated |
|---|---|
| Preventive Measures | |
| Patient education | 54 |
| Use of X-rays | 30 |
| Use of recall system | 22 |
| Use of tests, diet analysis, family history | 22 |
| Giving prophylaxis | 18 |
| Parent education | 12 |
| Treatment Measures | |
| Repair and restoration other than dentures | 77 |
| Extractions | 24 |
| Dentures and bridges | 11 |
| Temporary measures | 4 |
| Miscellaneous measures recommended | 10 |
| No answer in terms of usual practice: depends on condition of teeth, patient, etc. | 9 |
| Don't know, no answer | 1 |
| Total per cent (Some mention more than one measure) | 294 |
| Number of dentists | 758 |
| Summary: | |
| Dentists recommend-- | |
| only preventive measures | 9 |
| both preventive and treatment measures | 72 |
| only treatment measures | 9 |
| no specific measures | 9 |
| no measures at all | 1 |
| Total per cent | 100 |
| Number of dentists | 758 |

TABLE A-13

REASONS GIVEN BY DENTISTS FOR MAKING VIGOROUS ATTEMPTS OR TRYING FAIRLY HARD TO CONVINCE NEGLIGENT PARENT TO HAVE DENTAL CARE FOR CHILD

| Reasons Given for Dentists' Efforts | Proportion of Dentists Giving Reason Indicated among Dentists Who Would: | |
|---|---|---|
| | Make Vigorous Attempt | Try Fairly Hard |
| Promote child's health, happiness and appearance | 61 | 54 |
| Fulfill obligation of dentist | 26 | 25 |
| Counteract influence of mother | 15 | - |
| Prevent worse trouble in future | 12 | 2 |
| Avoid adverse patient reaction | - | 11 |
| Save patient money | 2 | 1 |
| Avoid interference in patient's finances | - | 1 |
| Miscellaneous reasons given | 3 | 9 |
| Don't know, no answer | 6 | 11 |
| Total per cent (Some give more than one reason) | 125 | 114 |
| Number of dentists | 272 | 167 |

TABLE A-14

RELATION OF USE OF TOPICAL FLUORIDE TREATMENTS TO LOCATION OF DENTISTS IN AREAS WITH OR WITHOUT FLUORIDATED WATER

| Use of Topical Fluoride Treatments | All dentists | Proportion of Dentists Indicating Each Degree of Use among: | |
|---|---|---|---|
| | | Dentists in localities with fluoridated water | Dentists in localities with non-fluoridated water |
| Can give or recommend topical fluoride treatments | | | |
| And do give or recommend them . . . . | 57 | 50 | 61 |
| On dentist's initiative (matter of course or on dentist's suggestion) | 20 | 17 | 22 |
| At parents' request, or other cases. | 37 | 33 | 39 |
| But do not give or recommend them . . | 33 | 39 | 29 |
| Cannot give topical fluoride treatments | | | |
| Inapplicable (no patients under six years of age) . . . . . | 10 | 11 | 10 |
| Total per cent . . . . . | 100 | 100 | 100 |
| Number of dentists . . . . . | 758 | 233 | 525 |

TABLE A-15

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | |
|---|---|---|
| | Dentists in Urban Areas | Dentists in Rural Areas |
| Highly preventive practice . . . | 24 | 12 |
| Moderately preventive practice . | 34 | 20 |
| Somethwat preventive practice . | 24 | 26 |
| Negligibly preventive practice . | | 42 |
| Total per cent . . . . . | 100 | 100 |
| Number of dentists . . . | 478 | 230 |

TABLE A-16

RELATION OF PREVENTIVE PRACTICE TO AGE OF DENTIST

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists Who Are: | | | |
|---|---|---|---|---|
| | Under 40 Years | 40-49 Years | 50-64 Years | 65 Years or Over |
| Highly preventive practice . . | 24 | 24 | 18 | 8 |
| Moderately preventive practice . | 39 | 32 | 23 | 18 |
| Somewhat preventive practice . . | 20 | 27 | 29 | 18 |
| Negligibly preventive practice . | 17 | 17 | 30 | 56 |
| Total per cent ..... | 100 | 100 | 100 | 100 |
| Number of dentists . . . | 218 | 152 | 258 | 78 |

TABLE A-17

RELATION OF PREVENTIVE PRACTICE TO HAVING OFFICE ASSISTANCE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | |
|---|---|---|---|
| | Dentists with Hygienists | Dentists with Other Assistance | Dentists with No Assistance |
| Highly preventive practice . . | 36 | 22 | 11 |
| Moderately preventive practice | 38 | 31 | 22 |
| Somewhat preventive practice . | 19 | 24 | 28 |
| Negligibly preventive practice | 7 | 24 | 39 |
| Total per cent . . . . | 100 | 100 | 100 |
| Number of dentists . . | 73 | 428 | 207 |

TABLE A-18

RELATION OF PREVENTIVE PRACTICE TO HOURS WORKED PER WEEK

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists Who Report Hours Worked Per Week As: | | | | |
|---|---|---|---|---|---|
| | Less than 35 | 35-39 | 40-44 | 45-49 | 50 or More |
| Highly preventive practice . | 18 | 21 | 17 | 20 | 24 |
| Moderately preventive practice . . . . . | 27 | 30 | 29 | 37 | 27 |
| Somewhat preventive practice | 20 | 21 | 25 | 24 | 31 |
| Negligibly preventive practice . . . . . | 35 | 28 | 29 | 19 | 18 |
| Total per cent . . . | 100 | 100 | 100 | 100 | 100 |
| Number of dentists . | 100 | 131 | 238 | 99 | 136 |

TABLE A-18a

RELATION OF LENGTH OF PATIENT WAIT FOR APPOINTMENT TO DENTISTS' DESCRIPTIONS OF THEIR OWN WORKLOAD DURING YEAR PRIOR TO INTERVIEW[a]

| Length of Patient Wait for Appointment | Proportion of Dentists Reporting Length of Patient Wait Indicated among Dentists Who Say They: | | | |
|---|---|---|---|---|
| | Were Able to Take Care of Everyone Who Asked but Worked under Pressure and Too Many Hours | Were So Busy, Had to Turn Away Some People | Had a good Balance between Demand for Care and Number of Hours Worked | Did Not Have As Many Patients As Would Like |
| No wait . . . . . | 3 | - | 9 | 36 |
| Up to one week . . . . . | 29 | 11 | 49 | 58 |
| Up to two weeks . . . . . | 33 | 16 | 31 | 6 |
| Up to three weeks . . . . . | 17 | 20 | 5 | - |
| Over three weeks . . . . . | 16 | 53 | 6 | - |
| Don't know, no answer . . . . | 2 | - | * | - |
| Total per cent . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . | 187 | 157 | 254 | 62 |

*Less than 0.5 per cent.

[a]Asked only of dentists who were in independent (non-salaried) active practice during the entire twelve months prior to interview.

TABLE A-18b

RELATION OF HOURS WORKED TO DENTISTS' DESCRIPTIONS OF THEIR OWN WORKLOAD DURING YEAR PRIOR TO INTERVIEW[a]

| Hours Worked per Average Week | Proportion of Dentists Reporting Work Hours Indicated Among Dentists Who Say They: | | | |
|---|---|---|---|---|
| | Were Able to Take Care of Everyone Who Asked but Worked Under Pressure and Too Many Hours | Were So Busy, Had to Turn Away Some People | Had a Good Balance Between Demand for Care and Number of Hours Worked | Did Not Have As Many Patients As Would Like |
| Less than 35 . . . . . | 5 | 7 | 22 | 21 |
| 35-39 . . . . . | 13 | 21 | 22 | 19 |
| 40-44 . . . . . | 33 | 35 | 37 | 34 |
| 45-49 . . . . . | 21 | 10 | 11 | 10 |
| 50 or more . . . . . | 28 | 26 | 8 | 15 |
| No answer . . . . . | * | 1 | * | 1 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists . . . . | 187 | 157 | 254 | 62 |

*Less than 0.5 per cent.

[a]Asked only of dentists who were in independent (non-salaried) active practice during the entire twelve months prior to interview.

TABLE A-18c

RELATION OF AGE OF DENTISTS TO HOURS WORKED PER AVERAGE WEEK

| Age of Dentists | Proportion Indicating Each Age Group among Dentists Whose Work Week Is: | | | |
|---|---|---|---|---|
| | Under 35 Hours | 35-39 Hours | 40-44 Hours | 45 Hours or More |
| Under 40 years .. | 17 | 24 | 33 | 39 |
| 40-49 years . . . | 9 | 20 | 20 | 29 |
| 50-64 years . . . | 48 | 42 | 37 | 28 |
| 65 years or older | 26 | 14 | 10 | 4 |
| No answer . . . . | - | - | * | - |
| Total per cent . . | 100 | 100 | 100 | 100 |
| Number of dentists | 100 | 131 | 238 | 235 |

*Less than 0.5 per cent.

TABLE A-18d

RELATION OF PREVENTIVE PRACTICE TO AGE OF DENTISTS AND HOURS WORKED PER WEEK

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists under 50 Years Whose Work Week Is: | | Dentists 50-64 Years Whose Work Week Is: | | Dentists 65 Years or Older Whose Work Week Is: | |
| | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More |
| Highly preventive practice . . . | 21 | 27 | 19 | 15 | 9 | - |
| Moderately preventive practice . | 38 | 35 | 23 | 24 | 18 | a |
| Somewhat preventive practice . . | 23 | 22 | 25 | 40 | 16 | a |
| Negligibly preventive practice . | 18 | 16 | 33 | 21 | 57 | a |
| Total per cent . . . . . | 100 | 100 | 100 | 100 | 100 | |
| Number of dentists . . . | 209 | 159 | 191 | 67 | 67 | 9 |

[a]Too few cases to report percentages.

TABLE A-18e

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE AND HOURS WORKER PER WEEK

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | |
|---|---|---|---|---|
| | Urban Dentists Whose Work Week Is: | | Rural Dentists Whose Work Week Is: | |
| | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More |
| Highly preventive practice . . | 23 | 26 | 11 | 15 |
| Moderately preventive practice | 34 | 33 | 17 | 26 |
| Somewhat preventive practice . | 23 | 26 | 22 | 33 |
| Negligibly preventive practice | 20 | 15 | 50 | 26 |
| Total per cent . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . | 313 | 162 | 156 | 73 |

TABLE A-18f

RELATION OF PREVENTIVE PRACTICE TO ATTENTIVENESS OF DENTISTS AND HOURS WORKED PER WEEK

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dentists Who Are Highly Attentive and Whose Work Week Is: | | Dentists Who Are Moderately Attentive and Whose Work Week Is: | | Dentists Who Are Slightly Attentive and Whose Work Week Is: | | Dentists Who Are Not Attentive and Whose Work Week Is: | |
| | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More |
| Highly preventive practice . . | 48 | 38 | 22 | 30 | 12 | 16 | 5 | a |
| Moderately preventive practice | 34 | 27 | 33 | 36 | 29 | 33 | 9 | a |
| Somewhat preventive practice . | 14 | 30 | 29 | 25 | 23 | 29 | 19 | a |
| Negligibly preventive practice | 4 | 5 | 16 | 9 | 36 | 22 | 67 | a |
| Total per cent . . . . | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Number of dentists . . | 56 | 37 | 141 | 67 | 214 | 110 | 58 | 21 |

[a]Too few cases to report percentages.

TABLE A-18g

RELATION OF PREVENTIVE PRACTICE TO OFFICE ASSISTANCE AND HOURS WORKED PER WEEK

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists with Hygienists Whose Work Week Is: | | Dentists with Other Assistance Whose Work Week Is: | | Dentists with No Assistance Whose Work Week Is: | |
| | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More | Less Than 45 Hours | 45 Hours or More |
| Highly preventive practice . . . . | 40 | a | 19 | 26 | 10 | 13 |
| Moderately preventive practice . . | 36 | a | 31 | 33 | 22 | 21 |
| Somewhat preventive practice . . . | 16 | a | 22 | 26 | 26 | 35 |
| Negligibly preventive practice . . | 8 | a | 28 | 15 | 42 | 31 |
| Total per cent . . . . . | 100 | | 100 | 100 | 100 | 100 |
| Number of dentists . . . . . | 50 | 23 | 274 | 151 | 145 | 61 |

[a]Too few cases to report percentages.

TABLE A-19

RELATION OF PREVENTIVE PRACTICE TO ATTENTIVENESS

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists Who Are: | | | |
|---|---|---|---|---|
| | Highly Attentive | Moderately Attentive | Slightly Attentive | Not Attentive |
| Highly preventive practice . . | 44 | 25 | 14 | 5 |
| Moderately preventive practice | 31 | 34 | 30 | 10 |
| Somewhat preventive practice . | 21 | 27 | 25 | 21 |
| Negligibly preventive practice | 4 | 14 | 31 | 64 |
| Total per cent . . . . | 100 | 100 | 100 | 100 |
| Number of dentists . . | 94 | 209 | 325 | 80 |

TABLE A-20

RELATION OF PREVENTIVE PRACTICE TO PATIENT INCOME

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists Who Have: | | |
|---|---|---|---|
| | Predominantly High Income Patients | Predominantly Middle Income Patients | Predominantly Low Income Patients |
| Highly preventive practice . . | 34 | 19 | 9 |
| Moderately preventive practice | 33 | 31 | 23 |
| Somewhat preventive practice . | 25 | 24 | 24 |
| Negligibly preventive practice | 8 | 26 | 44 |
| Total per cent .... . . | 100 | 100 | 100 |
| Number of dentists . . | 190 | 302 | 167 |

TABLE A-21

RELATION OF PREVENTIVE PRACTICE TO PROPORTION OF PATIENTS UNDER SIX YEARS OF AGE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among Dentists with Proportion of Patients Under Six Years of: | |
|---|---|---|
| | 5% or Less | 6% or More |
| Highly preventive practice | 17 | 24 |
| Moderately preventive practice . . . . . | 27 | 31 |
| Somewhat preventive practice . . . . . | 26 | 24 |
| Negligibly preventive practice . . . . . | 30 | 21 |
| Total per cent . . | 100 | 100 |
| Number of dentists. | 366 | 333 |

TABLE A-22

RELATION OF OTHER FACTORS CONDUCIVE TO PREVENTIVE PRACTICE TO AGE OF DENTISTS

| Characteristics Conducive to Preventive Practice | Proportion of Dentists with Each Characteristic among: | |
|---|---|---|
| | Dentists under 50 Years | Dentists 50 Years and Over |
| Locality of Practice | | |
| Urban . . . . . | 69 | 66 |
| Rural . . . . . | 31 | 34 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 370 | 336 |
| Assistance | | |
| Dentists with hygienists. | 12 | 8 |
| Dentists with other assistance . . . . . | 67 | 54 |
| Dentists with no assistance . . . . . | 21 | 38 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 370 | 336 |
| Patients' Income | | |
| Dentists with predominantly | | |
| High income patients | 28 | 30 |
| Middle income patients . . . . . | 50 | 41 |
| Low income patients.. | 22 | 29 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 350 | 308 |
| Attentiveness | | |
| Dentists who are | | |
| Highly attentive . . | 15 | 11 |
| Moderately attentive. | 33 | 26 |
| Slightly attentive . | 47 | 44 |
| Not attentive . . . . | 5 | 19 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 370 | 336 |

TABLE A-23

RELATION OF OTHER FACTORS CONDUCIVE TO PREVENTIVE PRACTICE TO LOCATION OF DENTISTS' PRACTICE

| Characteristics Conducive to Preventive Practice | Proportion of Dentists with Each Characteristic among: | |
|---|---|---|
| | Urban Dentists | Rural Dentists |
| Assistance | | |
| Dentists with hygienists | 13 | 5 |
| Dentists with other assistance . . . . . | 55 | 72 |
| Dentists with no assistance . . . . . | 32 | 23 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 478 | 230 |
| Patients' Income | | |
| Dentists with predominantly | | |
| High income patients | 37 | 13 |
| Middle income patients . . . . . | 46 | 46 |
| Low income patients. | 17 | 41 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 445 | 214 |
| Attentiveness | | |
| Dentists who are | | |
| Highly attentive . . | 17 | 7 |
| Moderately attentive | 31 | 26 |
| Slightly attentive . | 42 | 54 |
| Not attentive . . . | 10 | 13 |
| Total per cent . . | 100 | 100 |
| Number of dentists | 478 | 230 |

TABLE A-24

RELATION OF PATIENTS' INCOME AND DENTISTS' ATTENTIVENESS TO DENTISTS' HAVING ASSISTANCE

| Characteristics Conducive to Preventive Practice | Proportion of Dentists with Each Degree of Characteristic among: | | |
|---|---|---|---|
| | Dentists with Hygienists | Dentists with Other Assistance | Dentists with No Assistance |
| Patients' Income | | | |
| Dentists with predominantly | | | |
| High income patients . . | 50 | 29 | 20 |
| Middle income patients . | 41 | 47 | 45 |
| Low income patients . . . | 9 | 24 | 35 |
| Total per cent . . | 100 | 100 | 100 |
| Number of dentists | 70 | 404 | 185 |
| Attentiveness | | | |
| Dentists who are | | | |
| Highly attentive . . . . | 29 | 14 | 7 |
| Moderately attentive . . | 33 | 32 | 23 |
| Slightly attentive . . . | 37 | 45 | 50 |
| Not attentive . . . . . | 1 | 9 | 20 |
| Total per cent . . | 100 | 100 | 100 |
| Number of dentists | 73 | 428 | 207 |

TABLE A-25

RELATION OF DENTISTS' ATTENTIVENESS TO PATIENTS' INCOME

| Degrees of Attentiveness | Proportion of Dentists with Each Degree of Attentiveness among Dentists with Predominantly: | | |
|---|---|---|---|
| | High Income Patients | Middle Income Patients | Low Income Patients |
| Highly attentive . . . . . | 23 | 12 | 4 |
| Moderately attentive . . . . . | 31 | 33 | 19 |
| Slightly attentive . . . . . | 41 | 44 | 59 |
| Not attentive . . . . . | 5 | 11 | 18 |
| Total per cent . . . . | 100 | 100 | 100 |
| Number of dentists . . | 190 | 302 | 167 |

TABLE A-26

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE AND AGE OF DENTISTS

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dentists in Urban Areas Whose Age Is: | | | | Dentists in Rural Areas Whose Age Is: | | | |
| | Less Than 40 | 40-49 | 50-64 | 65 or Over | Less Than 40 | 40-49 | 50-64 | 65 or Over |
| Highly preventive practice . | 28 | 25 | 22 | 10 | 14 | 21 | 9 | 6 |
| Moderately preventive practice .. | 45 | 37 | 25 | 26 | 26 | 21 | 19 | 3 |
| Somewhat preventive practice . | 15 | 26 | 31 | 19 | 31 | 30 | 23 | 17 |
| Negligibly preventive practice . | 12 | 12 | 22 | 45 | 29 | 28 | 49 | 69 |
| Total per cent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 146 | 109 | 179 | 42 | 72 | 43 | 79 | 36 |

TABLE A-27

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE AND ASSISTANCE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists in Urban Areas Who Have: | | | Dentists in Rural Areas Who Have: | | |
| | Hygienists | Other Assistance | No Assistance | Hygienists | Other Assistance | No Assistance |
| Highly preventive practice . . . | 40 | 27 | 11 | a | 13 | 9 |
| Moderately preventive practice . . . . . | 37 | 37 | 26 | a | 22 | 10 |
| Somewhat preventive practice . . . . . | 20 | 22 | 31 | a | 27 | 21 |
| Negligibly preventive practice . . . . . | 3 | 14 | 32 | a | 38 | 60 |
| Total per cent | 100 | 100 | 100 | | 100 | 100 |
| Number of dentists | 62 | 261 | 155 | 11 | 167 | 52 |

[a]Too few cases to report percentages.

TABLE A-28

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE AND ATTENTIVENESS

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dentists in Urban Areas Who Are: | | | | Dentists in Rural Areas Who Are: | | | |
| | Highly Attentive | Moderately Attentive | Slightly Attentive | Not Attentive | Highly Attentive | Moderately Attentive | Slightly Attentive | Not Attentive |
| Highly preventive practice | 43 | 26 | 19 | 6 | a | 22 | 6 | 3 |
| Moderately preventive practice . . . . . | 33 | 36 | 36 | 16 | a | 28 | 21 | - |
| Somewhat preventive practice . . . . . | 22 | 27 | 24 | 23 | a | 28 | 26 | 19 |
| Negligibly preventive practice . . . . . | 2 | 11 | 21 | 55 | a | 22 | 47 | 78 |
| Total per cent . . | 100 | 100 | 100 | 100 | | 100 | 100 | 100 |
| Number of dentists. | 79 | 149 | 201 | 49 | 15 | 60 | 124 | 31 |

[a]Too few cases to report percentages.

TABLE A-29

RELATION OF PREVENTIVE PRACTICE TO LOCATION OF PRACTICE AND PATIENT INCOME

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists in Urban Areas Who Have Predominantly: | | | Dentists in Rural Areas Who Have Predominantly: | | |
| | High Income Patients | Middle Income Patients | Low Income Patients | High Income Patients | Middle Income Patients | Low Income Patients |
| Highly preventive practice | 36 | 22 | 9 | 26 | 11 | 9 |
| Moderately preventive practice | 36 | 35 | 29 | 15 | 24 | 17 |
| Somewhat preventive practice | 24 | 23 | 22 | 29 | 25 | 26 |
| Negligibly preventive practice | 4 | 20 | 40 | 30 | 40 | 48 |
| Total per cent | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists | 163 | 204 | 78 | 27 | 98 | 89 |

TABLE A-30

RELATION OF PREVENTIVE PRACTICE TO AGE OF DENTISTS AND ASSISTANCE

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists Under 50 Years of Age Who Have: | | | Dentists 50 Years or Over Who Have: | | |
| | Hygienists | Other Assistance | No Assistance | Hygienists | Other Assistance | No Assistance |
| Highly preventive practice . . . | 32 | 27 | 9 | 43 | 14 | 12 |
| Moderately preventive practice | 45 | 36 | 33 | 29 | 25 | 16 |
| Somewhat preventive practice . | 16 | 20 | 34 | 21 | 29 | 24 |
| Negligibly preventive practice | 7 | 17 | 24 | 7 | 32 | 48 |
| Total per cent | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists . | 44 | 249 | 77 | 28 | 179 | 129 |

TABLE A-31

RELATION OF PREVENTIVE PRACTICE TO AGE OF DENTIST AND ATTENTIVENESS

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dentists Under 50 Years Who Are: | | | | Dentists 50 Years or Over Who Are: | | | |
| | Highly Attentive | Moderately Attentive | Slightly Attentive | Not Attentive | Highly Attentive | Moderately Attentive | Slightly Attentive | Not Attentive |
| Highly preventive practice . | 46 | 28 | 15 | a | 40 | 21 | 11 | 5 |
| Moderately preventive practice . . . . . | 32 | 37 | 38 | a | 29 | 30 | 22 | 5 |
| Somewhat preventive practice | 18 | 24 | 25 | a | 26 | 31 | 25 | 22 |
| Negligibly preventive practice . . . . . | 4 | 11 | 22 | a | 5 | 18 | 42 | 68 |
| Total per cent . . . | 100 | 100 | 100 | | 100 | 100 | 100 | 100 |
| Number of dentists . | 56 | 121 | 175 | 18 | 38 | 87 | 149 | 62 |

[a]Too few cases to report percentages.

TABLE A-32

RELATION OF PREVENTIVE PRACTICE TO AGE OF DENTIST AND PATIENT INCOME

| Degree of Preventive Practice | Proportion of Dentists with Each Degree of Preventive Practice among: | | | | | |
|---|---|---|---|---|---|---|
| | Dentists Under 50 Years Who Have Predominantly: | | | Dentists 50 Years or Over Who Have Predominantly: | | |
| | High Income Patients | Middle Income Patients | Low Income Patients | High Income Patients | Middle Income Patients | Low Income Patients |
| Highly preventive practice . | 33 | 25 | 14 | 35 | 10 | 4 |
| Moderately preventive practice . . . . . | 40 | 37 | 29 | 26 | 23 | 17 |
| Somewhat preventive practice | 23 | 20 | 26 | 28 | 29 | 23 |
| Negligibly preventive practice . . . . . | 4 | 18 | 31 | 11 | 38 | 56 |
| Total per cent . . . | 100 | 100 | 100 | 100 | 100 | 100 |
| Number of dentists . | 97 | 175 | 78 | 93 | 126 | 89 |

TABLE A-33

DENTISTS' REASONS WHY PEOPLE DO NOT GO TO DENTIST OFTEN ENOUGH

| Reasons Why People Do Not Go to Dentist | Proportion of Dentists Giving Each Reason among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| General ignorance, lack of education . . . . . | 8 | 6 | 5 | 7 |
| Ignorance of dental needs . . | 24 | 28 | 25 | 24 |
| Ignorance of preventive dentistry . . . . . | 6 | 10 | 6 | 12 |
| Unpleasant, painful experiences with dentist or dentistry . . . . . | 14 | 13 | 8 | 8 |
| Fear of dentist or dentistry or pain (with no mention of previous experience) . . . | 51 | 45 | 55 | 48 |
| Finances (prefer to spend money on other things) . . . | 18 | 17 | 17 | 22 |
| Finances (no conflicting values mentioned) . . . . . | 41 | 45 | 43 | 42 |
| Neglect, procrastination, forgetfulness . . . . . | 40 | 43 | 38 | 42 |
| Carlessness or indifference to health or appearance . . | 2 | 9 | 8 | 11 |
| Fault of dental profession . . | 4 | 6 | 2 | 2 |
| Miscellaneous reasons . . . . | 5 | 2 | 1 | 1 |
| Don't know, no answer . . . . | - | - | 1 | * |
| Total per cent (some give more than one reason) . . . . . | 213 | 224 | 209 | 219 |
| Number of dentists . . | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

TABLE A-34

DENTISTS' REASONS WHY PEOPLE GO TO DENTIST OFTEN ENOUGH

| Reasons Why People Go to Dentist | Proportion of Dentists Giving Each Reason among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Esthetic reasons, appearance . | 32 | 36 | 31 | 34 |
| Awareness of relation of teeth to general health . . | 31 | 25 | 25 | 25 |
| Education in dental needs .... | 29 | 32 | 35 | 25 |
| Education in preventive care . | 35 | 41 | 34 | 40 |
| Intelligence, maturity . . . . | 23 | 18 | 24 | 23 |
| Economic reasons . . . . . | 11 | 16 | 12 | 11 |
| Fear of consequences if do not go . . . . . | 14 | 10 | 13 | 9 |
| Efforts of dentist or dental profession . . . . . | 10 | 8 | 4 | 3 |
| Miscellaneous reasons . . . . | 4 | 4 | 1 | 3 |
| Don't know, no answer . . . . | 1 | * | 1 | * |
| Total per cent (some give more than one reason) . . . . . | 190 | 190 | 180 | 173 |
| Number of dentists . . | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

TABLE A-35

DENTISTS' EXPLANATIONS FOR BEHAVIOR OF NEGLIGENT PARENT

| Explanations for Behavior of Negligent Parent | Proportion of Dentists Giving Each Explanation among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Materialism . . . . . | 37 | 29 | 35 | 44 |
| Selfishness . . . . . | 17 | 23 | 25 | 23 |
| False sense of values (kind unspecified) . . . . . | 6 | 5 | 6 | 4 |
| Lack of dental or health education . . . . . | 55 | 44 | 39 | 40 |
| Ignorance, lack of education in general . . . . . | 20 | 21 | 19 | 19 |
| Finances . . . . . | 4 | 8 | 5 | 3 |
| Indifference to appearance . | - | 1 | - | - |
| Miscellaneous explanations . | 2 | 2 | 3 | 1 |
| Don't know, no answer . . . . | 4 | 6 | 9 | 4 |
| Total per cent (some give more than one explanation) . . . | 145 | 139 | 141 | 138 |
| Number of dentists . . | 141 | 207 | 175 | 185 |

TABLE A-36

DENTISTS' REPORT OF WAYS IN WHICH THEY KEEP UP WITH NEW DEVELOPMENTS IN DENTISTRY

| Ways of Keeping Up with New Developments | Proportion of Dentists Reporting Each Method among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Attendance at meetings, conventions | 74 | 81 | 80 | 73 |
| Attendance at post-graduate or refresher courses, lectures | 42 | 29 | 20 | 8 |
| Attendance at study groups | 14 | 12 | 6 | 3 |
| Reading of professional literature | 72 | 73 | 75 | 83 |
| Staff position of hospital or clinic | 3 | 2 | 1 | * |
| Teaching in dental or medical schools | 2 | 2 | 4 | 1 |
| Commercial sources | 5 | 6 | 6 | 9 |
| Informal contacts with other dentists | 6 | 8 | 4 | 4 |
| Learning from own practice | 13 | * | - | * |
| Miscellaneous ways | - | 8 | 8 | 7 |
| Don't know, no answer | - | - | 1 | 1 |
| Total per cent (some mention more than one) | 231 | 221 | 205 | 189 |
| Number of dentists | 141 | 207 | 175 | 185 |

TABLE A-37

DENTISTS' REASONS FOR SELECTING DENTISTRY AS A CAREER

| Reasons Given for Selecting Dentistry as a Career | Proportion of Dentists Giving Each Reason among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Father or other relative a dentist . . . . . | 13 | 16 | 16 | 10 |
| Influence of friends, relatives, own dentist . . . . | 39 | 40 | 38 | 44 |
| Financial return or security. | 15 | 8 | 12 | 14 |
| Attractive work hours . . . . | 9 | 4 | 1 | 9 |
| Independence or freedom of dentist . . . . . | 9 | 6 | 6 | 7 |
| Technical aspects (not mechanical) a subject matter | 10 | 6 | 4 | 3 |
| Opportunity to serve public . | 13 | 6 | 6 | 4 |
| Alternative to medical career . . . . . | 13 | 16 | 22 | 13 |
| Opportunity to work with one's hands . . . . . | 16 | 9 | 9 | 14 |
| Desire to pursue a profession | 7 | 4 | 4 | 8 |
| Miscellaneous reasons . . . . | 7 | 1 | 2 | 4 |
| Don't know, no answer . . . . | 10 | 17 | 14 | 13 |
| Total per cent (some give more than one reason) . . . . . | 161 | 133 | 134 | 143 |
| Number of dentists . . | 141 | 207 | 175 | 185 |

TABLE A-38

DENTISTS' CLASSIFICATION OF MEASURES USED IN OFFICE AS PREVENTIVE

| Measures Mentioned as Preventive | Proportion of Dentists Indicating Each Measure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Preventive Measures (Techniques of primary prevention) | | | | |
| Cleaning and polishing teeth | 60 | 61 | 61 | 62 |
| Patient education | 50 | 53 | 49 | 52 |
| Use of X-rays | 35 | 24 | 33 | 18 |
| Use of topical fluoride treatments | 30 | 26 | 25 | 21 |
| Use of recall system | 17 | 13 | 14 | 9 |
| Treatment Measures | | | | |
| Filling teeth | 27 | 33 | 27 | 27 |
| Other repair and restoration | 8 | 8 | 6 | 4 |
| Prosthodontia | 5 | 8 | 5 | 5 |
| Orthodontia | 13 | 8 | 10 | 7 |
| Miscellaneous Measures | 19 | 16 | 13 | 15 |
| Everything done is preventive | 10 | 6 | 6 | 5 |
| Nothing done is preventive | - | - | 1 | 1 |
| Total per cent (Some give more than one) | 274 | 256 | 250 | 226 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary Dentists Mentioning: | | | | |
| Preventive only | 54 | 60 | 64 | 69 |
| Preventive and treatment | 45 | 37 | 33 | 30 |
| Treatment only | 1 | 3 | 2 | * |
| No measure described | - | - | 1 | 1 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |

*Less than 0.5 per cent.

TABLE A-39

DENTISTS' REPORT OF ONE PROCEDURE THEY LIKE BEST TO PERFORM

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | 74 | 87 | 79 | 83 |
| Preparing bridges, dentures | 29 | 38 | 36 | 32 |
| Extractions | 18 | 19 | 21 | 29 |
| Filling teeth | 7 | 13 | 7 | 12 |
| Making inlays | 3 | 7 | 7 | 6 |
| Periodontal treatments | 8 | 2 | 2 | * |
| Orthodontia | 2 | 1 | 1 | - |
| Root canal treatment | 4 | 3 | 2 | 2 |
| Miscellaneous | 3 | 4 | 3 | 2 |
| Preventive Measures | 2 | 2 | 5 | 2 |
| Repairing fractured incisors | 1 | 1 | 1 | 1 |
| Taking X-rays | - | * | 2 | - |
| Cleaning and polishing teeth | 1 | * | 2 | 1 |
| No choice, no answer | 24 | 11 | 16 | 15 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice: | | | | |
| Chose treatment measure | 98 | 98 | 94 | 97 |
| Chose preventive measure | 2 | 2 | 6 | 3 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 107 | 184 | 147 | 157 |

*Less than 0.5 per cent.

TABLE A-40

DENTISTS' REPORT OF ONE PROCEDURE REQUIRING MOST SKILL TO PERFORM

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | 79 | 85 | 79 | 85 |
| Preparing bridges, dentures | 36 | 45 | 43 | 33 |
| Extractions | 7 | 8 | 10 | 17 |
| Filling permanent teeth | 1 | 3 | 1 | 3 |
| Making inlays | 8 | 10 | 7 | 10 |
| Periodontal treatments | 7 | 6 | 4 | 6 |
| Root canal treatment | 20 | 13 | 14 | 16 |
| Preventive Measures | 8 | 8 | 7 | 10 |
| Repairing fractured incisors | 4 | 4 | 5 | 7 |
| Filling primary teeth | 3 | 2 | 1 | 3 |
| Taking X-rays | - | 1 | - | - |
| Cleaning and polishing teeth | 1 | 1 | 1 | * |
| No choice, no answer | 13 | 7 | 14 | 5 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice: | | | | |
| Chose treatment measure | 91 | 91 | 93 | 89 |
| Chose preventive measure | 9 | 9 | 7 | 11 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 123 | 193 | 151 | 176 |

*Less than 0.5 per cent.

TABLE A-41

DENTISTS' REPORT OF ONE PROCEDURE CONTRIBUTING MOST TO TOTAL NET INCOME

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | 88 | 94 | 92 | 96 |
| Preparing bridges, dentures | 41 | 39 | 46 | 58 |
| Extractions | 2 | 2 | 3 | 4 |
| Filling permanent teeth | 41 | 50 | 42 | 32 |
| Making inlays | 2 | 1 | 1 | - |
| Periodontal treatments | 1 | - | * | 1 |
| Orthodontia | 1 | 2 | - | 1 |
| Preventive Measures | 5 | 2 | 3 | 1 |
| Repairing fractured incisors | 1 | - - | - - | - |
| Filling primary teeth | 3 | 1 | 2 | * |
| Taking X-rays | - | - | - | 1 |
| Cleaning and polishing teeth | 1 | 1 | * | - |
| Topical fluoride treatments | - | - | 1 | * |
| No choice, inapplicable, no answer | 7 | 4 | 5 | 3 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice: | | | | |
| Chose treatment measure | 95 | 98 | 97 | 98 |
| Chose preventive measure | 5 | 2 | 3 | 2 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 131 | 199 | 166 | 179 |

TABLE A-42

DENTISTS' REPORT OF ONE PROCEDURE THEY LIKE LEAST TO PERFORM

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | 40 | 42 | 40 | 45 |
| Preparing bridges, dentures | 2 | 3 | 2 | 3 |
| Extractions | 6 | 11 | 6 | 8 |
| Filling permanent teeth | - | * | - | - |
| Making inlays | 3 | 2 | 2 | 3 |
| Periodontal treatments | 9 | 7 | 6 | 6 |
| Root canal treatment | 20 | 17 | 23 | 23 |
| Miscellaneous | * | 2 | 1 | 2 |
| Preventive Measures | 44 | 48 | 48 | 43 |
| Repairing fractured incisors | 5 | 5 | 2 | 5 |
| Filling primary teeth | 4 | 6 | 8 | 9 |
| Taking X-rays | 2 | 2 | 3 | 1 |
| Cleaning and polishing teeth | 29 | 32 | 33 | 27 |
| Topical fluoride treatments | 4 | 3 | 2 | 1 |
| No choice, no answer | 16 | 10 | 12 | 12 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice: | | | | |
| Chose treatment measure | 48 | 47 | 46 | 48 |
| Chose preventive measure | 52 | 53 | 54 | 52 |
| Total per cent. | 100 | 100 | 100 | 100 |
| Number of dentists | 119 | 186 | 154 | 163 |

*Less than 0.5 per cent.

TABLE A-43

DENTISTS' REPORT OF ONE PROCEDURE REQUIRING LEAST SKILL TO PERFORM

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | - | 2 | 2 | 1 |
| Preparing bridges, dentures | - | - | - | - |
| Extractions | - | 2 | * | 1 |
| Filling permanent teeth | - | - | 1 | - |
| Making inlays | - | - | - | - |
| Periodontal treatments. | - | - | 1 | * |
| Root canal treatment | - | - | - | - |
| Preventive Measures | 95 | 95 | 92 | 96 |
| Repairing fractured incisors | - | 1 | - | - |
| Filling primary teeth | - | * | - | 2 |
| Taking X-rays | 14 | 13 | 13 | 14 |
| Cleaning and polishing teeth | 13 | 17 | 21 | 34 |
| Topical fluoride treatments | 68 | 64 | 58 | 46 |
| No choice, no answer | 5 | 3 | 6 | 3 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice | | | | |
| Chose treatment measure | - | 2 | 2 | 2 |
| Chose preventive measure | 100 | 98 | 98 | 98 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 134 | 201 | 165 | 179 |

*Less than 0.5 perccent.

TABLE A-44

DENTISTS' REPORT OF ONE PROCEDURE CONTRIBUTING LEAST TO TOTAL NET INCOME

| Type of Procedure Chosen | Proportion of Dentists Choosing Each Procedure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | 31 | 33 | 38 | 31 |
| Preparing bridges, dentures | 1 | 1 | 1 | 2 |
| Extractions | 3 | 6 | 7 | 4 |
| Filling permanent teeth | 1 | - | 1 | * |
| Making inlays | 4 | 6 | 6 | 5 |
| Periodontal treatments. | 2 | 6 | 8 | 8 |
| Orthodontia | 20 | 14 | 15 | 12 |
| Preventive Measures | 59 | 57 | 46 | 52 |
| Repairing fractured incisors | 13 | 11 | 8 | 9 |
| Filling primary teeth | 6 | 8 | 6 | 9 |
| Taking X-rays | 1 | 2 | 3 | 4 |
| Cleaning and polishing teeth | 10 | 13 | 9 | 14 |
| Topical fluoride treatments | 29 | 23 | 20 | 16 |
| No choice, inapplicable, no answer | 10 | 10 | 16 | 17 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 141 | 207 | 175 | 185 |
| Summary for Dentists Making Choice | | | | |
| Chose treatment measure | 34 | 37 | 45 | 38 |
| Chose preventive measure | 66 | 63 | 55 | 62 |
| Total per cent | 100 | 100 | 100 | 100 |
| Number of dentists | 127 | 186 | 147 | 154 |

*Less than 0.5 per cent.

TABLE A-45

DENTISTS' REPORT OF ADVANTAGES OF USE OF RECALL SYSTEM

| Advantages of Recall System | Proportion of Dentists Using Recall System Who Mention Each Advantage among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Advantages to Dentist | | | | |
| Builds up practice . . | 38 | 25 | 30 | 26 |
| Permits higher standard of work . . . . | 37 | 33 | 33 | 30 |
| Balances work load . . | 25 | 28 | 23 | 27 |
| Makes for easier, pleasanter work . . | 14 | 20 | 20 | 19 |
| Miscellaneous advantages to dentist . . | 15 | 16 | 16 | 15 |
| Don't know, no answer. | 5 | 6 | 10 | 8 |
| Total per cent (Some give more than one) . . . . | 134 | 128 | 132 | 125 |
| Number of dentists with recall system | 136 | 188 | 133 | 94 |
| Advantages to Patient | | | | |
| Obtains preventive dentistry . . . . . | 65 | 68 | 69 | 63 |
| Saves money . . . . . | 40 | 32 | 30 | 22 |
| Suffers less pain and discomfort . . . . . | 12 | 11 | 6 | 6 |
| Miscellaneous advantages to patient . . | 24 | 22 | 24 | 26 |
| Don't know, no answer. | 6 | 5 | 6 | 12 |
| Total per cent (Some give more than one) . . . . | 147 | 138 | 135 | 129 |
| Number of dentists with recall system | 136 | 188 | 133 | 94 |

TABLE A-45a

DENTISTS' REPORT OF ACTIVITIES IN CONNECTION WITH PREVENTIVE DENTISTRY AT THE COMMUNITY LEVEL

| Activities at Community Level | Proportion of Dentists Indicating Each Type of Activity among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Water Fluoridation Movements | | | | |
| Can (or could) participate . | 83 | 71 | 75 | 68 |
| And work (worked) for fluoridation . . . . . | 50 | 36 | 31 | 33 |
| But do (did) not work for fluoridation . . . . . | 33 | 35 | 44 | 35 |
| Cannot (could not) participate[a] . . . . . | 17 | 29 | 25 | 32 |
| Total per cent . . . | 100 | 100 | 100 | 100 |
| School Dental Health Programs | | | | |
| Can participate . . . . . | 87 | 82 | 81 | 73 |
| And do participate . . . . | 31 | 26 | 21 | 25 |
| But do not participate . . | 55 | 54 | 60 | 48 |
| No answer . . . . . | 1 | 2 | - | - |
| Cannot participate . . . . . | 13 | 18 | 19 | 27 |
| No school program . . . . | 9 | 17 | 16 | 25 |
| Dentist or hygienist on school staff . . . . . | 4 | 1 | 3 | 2 |
| Total per cent . . . | 100 | 100 | 100 | 100 |
| Community Health Groups | | | | |
| Do belong or participate . . | 25 | 15 | 10 | 9 |
| Do not belong or participate | 73 | 82 | 87 | 91 |
| No answer . . . . . | 2 | 3 | 3 | - |
| Total per cent . . . | 100 | 100 | 100 | 100 |
| Number of dentists . | 141 | 207 | 175 | 185 |

[a]Includes dentists who are located in communities with no fluoridation movements, dentists who report only natural fluoridation of water in their communities and dentists who report they were not in practice at the time of the movement.

TABLE A-46

DENTISTS' REPORT OF TREATMENT OF SIXTEEN YEAR OLD BOY WITH CARE OF RAMPANT CARIES

| Type of Measure Mentioned | Proportion of Dentists Mentioning Each Measure among: | | | |
|---|---|---|---|---|
| | Highly Preventive Dentists | Moderately Preventive Dentists | Somewhat Preventive Dentists | Negligibly Preventive Dentists |
| Treatment Measures | | | | |
| Repair and restoration other than dentures. | 80 | 80 | 76 | 77 |
| Extractions . . . . . | 18 | 22 | 24 | 32 |
| Prepare dentures, bridges . . . . . | 9 | 12 | 10 | 12 |
| Temporary measures . . | 5 | 2 | 2 | 4 |
| Miscellaneous treatment measures . . . | 11 | 12 | 6 | 9 |
| Preventive Measures | | | | |
| Patient education . . | 63 | 55 | 53 | 49 |
| Parent education . . | 19 | 14 | 10 | 5 |
| Use of X-rays . . . . | 40 | 37 | 27 | 20 |
| Determination of causes by tests, etc. | 39 | 16 | 20 | 14 |
| Use of recall system . | 28 | 21 | 22 | 20 |
| Cleaning and polishing teeth . . . . . | 23 | 16 | 15 | 17 |
| No specific measures mentioned . . . . . | 3 | 8 | 13 | 12 |
| Don't know, no answer . | 2 | 1 | 1 | - |
| Total per cent (Some give more than one) . . . | 340 | 296 | 279 | 271 |
| Number of dentists . . . | 141 | 207 | 175 | 185 |
| Summary: Dentists Mention | | | | |
| Preventive measures only . . . . . | 10 | 7 | 8 | 4 |
| Preventive and treatment measures . . . | 80 | 75 | 70 | 66 |
| Treatment measures only . . . . . | 5 | 10 | 8 | 18 |
| No specific measures . | 3 | 7 | 13 | 12 |
| Don't know, no answer. | 2 | 1 | 1 | - |
| Total per cent . | 100 | 100 | 100 | 100 |
| Number of dentists . . . | 141 | 207 | 175 | 185 |