

JULY 1966

*the Journal*  
*of the*  
*American College*  
*of Dentists*

Expanding the Duties of Auxiliaries

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The Changing Future of Dentistry

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Prepaid Dental Care for Students

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Health Program Trends

# *the Journal of the American College of Dentists*

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A QUARTERLY PRESENTING IDEAS IN DENTISTRY

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JULY 1966

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# Editorials

## Incentives for Continuing Education

The profession has directed much attention to the vital matter of continuing education. The American College of Dentists, since its founding in 1920, consistently has advanced the concept of continuous study by dentists. For the past 20 years the College has stressed the absolute necessity for dentists to continue their learning after graduation so that they may provide an increasingly better service to the public. Dental educators, examiners, certifying boards, and other organized groups also have encouraged continuing educational efforts.

The need for this form of education has been recognized and established. The responsibility for providing it has been accepted. The methods for providing it are known and have been outlined. The great problem now is to persuade dentists to further their knowledge during their total life span of practice.

Recently two new approaches to attract dentists to undertake and to maintain a schedule of continuing education have appeared. One is aimed at motivating dentists established in practice, the other to stimulate new graduates.

The University of Pittsburgh School of Dentistry has formed a Postgraduate Scholars Association to honor and recognize achievement in this area of education. A practitioner becomes a *member* on completion of 100 hours of study; he receives a 20 per cent reduction in tuition at future courses. After 300 hours' attendance at courses, he becomes a *scholar* and is entitled to a 30 per cent reduction in tuition. He is named a *fellow* following 500 hours of participation, and thereafter is given a 50 per cent reduction in tuition fees.

The St. Louis University School of Dentistry gives each graduating senior five Certificates for Continuing Dental Education. One of the Certificates entitles the graduate to free tuition remission for



one course; the other four provide for half-tuition remission. The Certificates are valid for the first two calendar years after graduation.

Hendershot\* points out that only about 30 per cent of the 1966 graduates will begin private practice; the others will enter one of the federal dental services, begin residencies and internships, or accept teaching positions. Eventually most will enter private practice.

In view of this situation the St. Louis University plan might be altered so that the Certificates would be made valid for the first two years of practice. Thus when these young dentists return in a few years from their various tours and training posts to begin practice, the opportunity still would be available.

Likely there are other schools with similar plans. If so, the programs could be extended to include exchange. Thus the dentist who begins practice in a location remote from his alma mater would then have his Certificates honored at a school more convenient to attend.

There is merit in such innovations. The young dentist would be stimulated at the very start of his career, and the older dentist would be enticed to continue his learning at intervals during his practice. Both would be impressed with the idea that continued learning is really an exciting lifelong experience.

T. McB.

## The Power of Babel

In most groups of our society there is a shocking tendency to spawn a stock of words and a set of terms in the interest, it is held, of better communication and refined meanings. I submit that this trend may bring about just the opposite—either bewilderment and misunderstanding, or at best a dullish comprehension.

Today, with the phenomenal bursting of new ideas, the rapid extension of old horizons, and the frenzied planning of a new way of life, we need to know more quickly, easily, and better what other people are thinking and doing. Success in reaching common objectives demands that groups of persons be mutually dependent, and share ideas and philosophies. This will be done mainly with words.

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\* See page 156 in this issue, July 1966.

Naturally, language is not static. Emerson has said, "New words are constantly being formed; living words are constantly changing their meaning, expanding, contracting, gaining or losing caste, taking on moral or spiritual significance, and old words, though long sanctioned by custom, sometimes whiten and die." True, true. But I am talking about the jargon that is becoming more prevalent, and the senseless coining of words and phrases to supplant the good, useful words and phrases that already say the same thing simply and intelligibly.

A. P. Herbert, a British poet-politician, once urged that we "worry about words." He said that words were the tools of our thinking, and that often we will find ourselves not thinking right because we are using the wrong, poor, or too fancy tools. Now is a time when we all should be thinking as best we can.

An example: With the multibillion dollar legislation to provide health care for more of the people of the United States, numerous and diverse groups will have to be brought together if there are to be wise and effective programs planned.

These groups will include all of the health professionals and related auxiliaries, medical care organizers, public health servants, social scientists, behavioral scientists, educators, economists, statisticians, insurance writers, communication experts, administrators of all kinds—and how many more!

And each seems to be coining and multiplying a specialized, differing, and esoteric vocabulary and nomenclature. This inclination is growing alarmingly. Think back to Babylon in Shinar—"the Lord did there confound the language of all the earth"—and remember the result.

One great danger along this path of phrases we are beating is that the ability to accomplish will be lessened and progress will be hindered. Another pitfall is that when communication is made difficult or is confused, groups that should be coming closer in thought and action may lose interest in each other and with each other's problems, and there will be no cooperative effort.

Needless words—wild, weird, with peacock's tails—may corrupt our thinking and make less forceful our actions. The time is here when we should become a little more anti-semantic.

T. McB.

# THE "SURVEY OF DENTISTRY"

## An Important Social Document

JOHN OPPIE McCALL, D.D.S.

THE *Survey of Dentistry*, published in 1961, was a definitive and comprehensive study of dentistry covering its status, at the time, from biotechnical, educational, and social aspects. Analysis of dentistry from these standpoints led to a series of recommendations (1)—78 in all—pointing out the direction which the sponsoring Commission thought dentistry should take in the years ahead. Certain of these recommendations had to do with a desirable expansion in the field of practice of auxiliary personnel intended to enlarge the base for providing dental service to the public.\*

I reviewed the *Survey*, with its impressive professional and public health sponsorship, in 1962 (2), and discussed its ideologic background and certain of its recommendations. Some of the latter had aroused an unfavorable response in the dental profession. I attempted to counteract this by discussing some of the misunderstandings which had brought about this response. In addition, I pointed out the social aspects of the profession's responsibility in providing dental service.

Mainly, these proposals had to do with the need for expanding dental services so that special groups in the population, children and the aged, might receive the care they require and are not today receiving in full measure. It is heartening to note the action by the House of Delegates of the American Dental Association last year in initiating a program for dental care for all children of the nation, and to read that President Johnson in a major speech directed attention to the need for such a program. Likewise, it is gratifying to see that the 1965 health legislation of the 89th Congress included bills

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\* Generally these proposals were received by the profession as if new. Actually, they had been made in somewhat the same form by Alfred Owre in the 1920's, and in a modified form by myself in the mid-1940's. Owre's proposals were too extreme, even as viewed in the climate of today, and he suffered from an unwillingness to "sit down and reason." My proposals seemed to be less extreme and more in line with growing public dental needs. Both met largely with disapproval.



that will make possible care for the aged. Implementation of these programs may take time.

Yet the fact remains, according to reliable findings, that only about 40 per cent of the population visit a dentist every year and presumably receive adequate dental care. An additional 30 per cent receive some dental care, while 30 per cent receive no dental care at all. Yet, if dental and general health are to be served, almost all of the population need such care. Dental neglect thus indicated has brought about a situation in which, among other things, nearly 29 million Americans are edentulous.

The question is: Why do so many people fail to receive the dental care they need? One factor is the financial one—inability to pay for dental service on a private practice basis. Another is lack of demand, this stemming from ignorance of the real value of dental health.

The next question is that of the ability of the dental profession to meet increased demand, on the basis of the existing dental manpower pool, if dental health education were to become more effective. It has been estimated that to care for the increased demand, based only on expected expanding population, would require an increase of dentists to 134,000 by 1975, a date only nine years away. The implications of this increase in terms of new dental schools needed, along with faculty expansion, and increased student enrollment, can readily be visualized. These problems must be faced realistically and not in terms of wishful thinking.

Among the considerations that must be kept in mind in this regard is the fact that dental care is coming more and more to be looked on as basically a health service, something that is needed for the maintenance of optimum health in all its aspects, psychological as well as physical.

Further, provision of health care is coming to be recognized as a social obligation, something to which all segments of the population are entitled. Witness the 1965 national health laws. Dentistry cannot remain aloof from participation in all of these programs. Dental care, already included in some of this legislation, eventually will be spelled out in many more new laws and amendments.

Still another factor tending to increase demand for dental service is the prepayment insurance plans already activated in many states, and pending in others.

As one way of meeting this increased demand I advocated in 1944

(3) the training of dental hygienists to treat caries in preschool and school children as had been done for 20 years (more than 40 years now) in New Zealand. What is the basis of that proposal? It was said in the *Survey* that to be most effective, the prevention of dental disease must begin in childhood. And what of dental disease in the child? Figures gathered at the Guggenheim Dental Clinic in New York City point up the importance of that pronouncement. In 1944, it was found that 30 per cent of two year old children examined had carious areas. This figure jumped to 70 per cent in the three year olds, and up to 90 per cent at five years. Neglect of this group has consequences in pain, infection, and extractions that come readily to mind; there are others more far-reaching.

It is figures such as these, showing the size of the problem of dental care for children alone in the population that justify the recommendation of the adoption in the United States of the New Zealand plan (4) for placing the dental care of children in the hands of specially trained young women. What can be accomplished in a program such as is operating in New Zealand in terms of dental benefits is shown, for example, by figures on reduction of need for extractions during the period the plan has been in effect. At the plan's inception in 1922, the rate was 407 extractions per 100 children annually. By 1960, this figure had dropped to 19 extractions per 100 children per year. It is obvious that this represents effective prevention, that is, control of caries, with benefits both in childhood and in later life. In the latter connection it should be noted also that preservation of the teeth and maintenance of arch integrity is an important element in prevention of periodontal disease.

In the matter of training, New Zealand has shown that the School Dental Nurse can be trained to care adequately for children's dental needs in a course of two years' duration. As to the quality of the dental treatment done by these nurses, I was told privately that it is definitely on a par with that done by the private practitioner.

On the basis of figures quoted it seems clear that an increase in effective dental manpower is needed to take care of the evident needs of the child population in this country, plus the needs of older people.

The need for dental service for the elderly and the obligations implicit in this need was recognized by St. Marie (5). He called attention to the fact that the chronically ill and the aged have dental

problems related to physical disease and disabilities, and that dental care is needed as much as medical care for physical and psychological rehabilitation. In addition, there is the factor that people are living to an older age now through the accomplishments of modern medicine.

For these reasons I advocated in 1944 the training of dental technicians to provide full denture service for the elderly. It is to be understood that service given in such a program (as well as that for children) would be under the effective and responsible supervision of the dental profession.

Severe criticisms were leveled at my proposals when made. I feel that these were based on a failure to realize the size of the problem facing the profession, and the fact that my proposals included the establishing of adequate safeguards both in training and operation of the programs so that quality of service given would be assured.\*

The dental profession understandably is fearful of the results, in terms of poor quality of service, if dental care is given by personnel having less than the full four years of training now required for dentists. Dentists also feel that such a program would lead to sub-level dentistry and "splintering" of the profession. It was this fear that led to the violent rejection of Owre's (6) so-called master dentist-technician proposal put forth in the 1920's.

It is of course the obligation of the profession to see to it that the public receive nothing less than the best in quality of dental care. But there are ways of carrying out that obligation with substantial savings in terms of cost, one means being through a shorter course of instruction concentrated entirely on denture construction, and without disproportionate drain on the fully trained dental manpower pool.

Next to be considered, if and when the proposed auxiliary program is accepted, is the method of distribution of that service. Group dental practice, with all services rendered in one office, has been proposed. But this is subject to difficulties related to the necessity of caring for the needy under government subsidy, along with care of patients receiving service under the usual arrangements obtaining in private practice.

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\* It may be of historical interest to note that I made these proposals more than 15 years before they appeared in the *Survey* in essentially a similar form.



An alternative plan would parallel that used in New Zealand—setting up dental clinics in connection with public schools for child care, and in hospitals or health centers for the aged. In each case, to repeat, the services would be rendered under the effective if not continuous supervision of a dentist. Utilizing such facilities, under strict dentist supervision, would answer claims of sub-level dentistry by keeping those services separate from those provided by the dentist in his own office. Needless to say, the services in the schools would be free but would be given only on a demonstration-of-need basis.

With the dental care of children and the aged arranged for in this manner, the dental profession could and should concentrate on the biologic as compared with the mechanistic aspects of practice. This will involve more than just a reorientation in attitude; it will require some reorganization of the undergraduate curriculum. In 1959 (7) I brought up the subject of dental education and spelled out what I would recommend by way of implementation of dental education. It was emphasized particularly that there was a need to give the dental student more medical instruction than he is now given. I indicated that the first year of the course should be given over almost entirely to biologic and medical subject matter. To accomplish this I advocated having the dental student take such instruction in the medical school in that first year and, incidentally, in company with first year medical students. I think that both these groups would benefit by this through the relationship of interest thus established. Also, through this plan the medical point of view would become implanted in the mind of the dental student at the very outset of his course of instruction. Naturally, there should be some continuation of medical instruction in the later years.

To provide for the inclusion of this additional medical instruction in the dental course without undue curtailment of the purely dental instruction, I advocated lengthening the dental course to five years. The fifth year would constitute a compulsory internship, that is, an internship to be served before admittance to licensing examinations. One half of this intern year would be spent in the dental school clinic, the other half in the hospital. I have repeatedly said, "The dentist must be medically minded as well as dentally alert; he must be truly an oral physician."

Finally, it is a strange and somewhat ironic fact that three times within the past 40 years proposals have been made for expanding the

effective "work force" of the dental profession in the interest of public health, and that each time they have been rejected by the profession charged with the responsibility for providing that service.

A prominent college president, speaking of educational goals, said, "Some things need to be discovered over and over, by different people with different viewpoints, in different contexts, for different applications and at appropriate times."

It is to be hoped that the present is an appropriate time for the dental profession to take the advice of today's leaders as expressed in the *Survey of Dentistry*.

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#### REFERENCES

1. "The Survey of Dentistry" Recommendations. J. Am. Col. Den. 31:170-8, July 1964.
2. McCall, John Oppie. The survey of dentistry—one point of view. J.A.D.A. 64:75-81, May 1962.
3. McCall, John Oppie. Dental practice and dental education in the future with consideration of social and health aspects. J.A.D.A. 31:16-30, Jan. 1944.
4. Walsh, Sir John P. The dental nurse. J. Am. Col. Den. 32:62-9, April 1965.
5. St. Marie, Gerald L. What does society expect from dentists regarding care of the chronically ill and aging? N. Y. J. Den. 35:8-12, Jan. 1965.
6. Owre, Alfred. President's address, Dental Faculties Association. Proceedings of the Association, 1908-24, pp. 109-11.
7. McCall, John Oppie. Needs in dental education—suggestions for future development. N. Y. D. J. 25:253-8, June-July 1959.

# Dentistry in the Changing Social Order

LELAND C. HENDERSHOT, D.D.S., PH.D.

**Y**OU HAVE completed a long, intense, rigorous, and costly education. Your determination and devotion to purpose have carried you to where you are today. You have earned the admiration and the applause of the entire dental profession. We welcome you into a great profession, and we know that over the years to come you will contribute towards making it even greater.

Now that you have completed your education, where will you go? What will you find when you get there?

Where will you go? About 55 per cent of you will enter one of the federal dental services . . . the Army, Navy, Air Force, Public Health Service, or Veterans Administration. Another 15 per cent of you will begin residencies and internships or accept teaching positions. And although this may come as a surprise, only 30 per cent of you will enter private practice in 1966. Eventually, however, most of you will enter private practice.

What will you find when you get there? The answer to this question does not come so easily, because the situations you may encounter today may be quite different from those you will encounter tomorrow. We are living today in what an article published in *Fortune* magazine two years ago (1964) describes as the era of radical change (1). This article says:

Within a decade or two it will be generally understood that the main challenge to U. S. society will turn not around the production of goods but around the difficulties and opportunities involved in a world of accelerating change and ever widening choices. Change has always been a part of the human condition. What is different now is the pace of change, and the prospect that it will come faster and faster, affecting every part of life, including

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Dr. Hendershot is Editor of the American Dental Association.

This paper was presented at the Honors Convocation, University of Michigan School of Dentistry, Ann Arbor, April 22, 1966.



personal values, morality, and religion, which seem most remote from technology. . . . So swift is the acceleration that trying to "make sense" of change will come to be our basic industry.

The author discusses the categories of change and defines the periods of history in which each prevailed. Of the present era, the era of radical change, he says that newness has become a "treacherous beacon." Men cannot

. . . plant their feet firmly in a foreseen future. . . . The movement is so swift, so wide, and the prospect of acceleration so great that an imaginative leap into the future cannot find a point of rest, a still picture of social order.

As to how society will cope with this problem, the article says:

Historically, it would be ironic if the long struggle of the individual vs. the state should issue as a program for protecting the individual by having government take charge of change. Practically, it is quite hopeless to expect a central government to perform well a task requiring a high degree of flexibility, decentralization, and willingness to accept risk. But the argument against statism will not prevail as long as we think that responsibility for coping with change must be assigned either to the government or else to the naked, isolated individual.

The article goes on to cite the widely held principle that government should do only those things that the people cannot do for themselves and then asks:

But in the American society of 1964, what can the people as individuals do for themselves? Each man can grasp only a few of the disciplines in which knowledge is divided. No individual, by himself, can sustain his present level of living. Most obviously of all, no individual can cope with radical change.

#### THE INDIVIDUAL AND GOVERNMENT

The choice between the individual and government is, of course, no choice at all, and we must, therefore, look to a third party to lend a sense of balance to the obviously ill-matched forces of the individual and the government. This third party, the so-called "middle tier," comprises the large business corporations, local government services, professional and other voluntary organizations, labor unions, philanthropic foundations, and universities. These groups must assume a responsibility to assist in the regulation of the pace of change and the direction which change should take. It is fitting for the middle tier, which has created much of the newness,

to assist in finding a way to cope with it. What role should each of the groups which form the middle tier play? Should the components of the middle tier unite as a single, solid front? Would this even be possible? Or should the members of the middle tier operate independently but, when possible, cooperatively?

I would suspect that the only way in which the components of the middle tier can efficiently play their assigned roles is the way in which they are now playing them. That is, cooperatively when possible and independently otherwise. Because of their widely varying purposes and methods of operation, they cannot be expected to agree on all issues or even to lend assistance in all cases in which there is no disagreement. Almost everyone would agree, for example, that dental care should be available to all who need and want it. But viewpoints differ on how best to provide it. Labor unions favor the principle of federally supported health care for all segments of society. The American Dental Association does not. Yet constituent dental societies and labor unions have shown that they can cooperate effectively in obtaining dental care for union members and their families through prepaid dental care plans.

#### DENTAL PREPAYMENT PROGRAMS

There is little question that one of the greatest challenges the profession now has before it is the providing of dental care under prepaid programs. The large purchasers of health care—labor and, more recently, government—are presenting this challenge with ever greater emphasis and frequency. Never before in our country has the combination of affluence, consensus, health consciousness, and far-reaching legislation on the national level combined to raise so rapidly the demand of the public for more and better dental care. And although these demands are made to serve the interests of individuals, negotiations with the profession are made by the representatives of groups of individuals. Thus, the profession is becoming accustomed to thinking in terms not only of individual patients but of groups of patients.

The challenge is not only to the American Dental Association, not even primarily to the American Dental Association. The glove of challenge has been dropped squarely on the doorsteps of the dental societies at the state and local levels, for that is where dental care is

rendered and where dental prepayment programs must be established and operated. As early as 1949, the Association suggested the establishment of experimental voluntary prepayment plans by dental societies at the state and community levels (*Trans.* 1949:264). A great deal has been done in the area of prepaid dental programs since 1949. Yet, the changes that have taken place in American society during the past 16 years have been so swift and so broad that the dental profession is now having to put to test its experience and ingenuity in degrees far beyond even its wildest imagination a few years ago.

Dentists always have and always will treat individuals. It is to be hoped that these individuals will, as they have in the past, be allowed to choose their own dentists. And it is also to be hoped that the dentist shall continue to maintain his right to accept patients who apply for treatment. But the trend today, and a very strong trend, is for the individual patient to be identified with a group that has a program that will pay for all or a portion of the dental fee. Because the profession is being asked to deal with groups in the matter of payment for dental care, it is obvious that the dental societies must have mechanisms for dealing with these groups. Furthermore, some of these groups are large ones, not confined to one community or state but spread out over many states.

Who are these groups and what new groups can we expect to see in the future? And what are the alternative methods for providing dental care under prepaid programs?

I would guess that most dentists know the answers to these questions.

Far and away, the largest purchasers of prepaid group dental care are the labor unions and the commercial concerns that employ union members. Today, over two million persons receive dental care as a benefit of employment. Of this number, well over one-half million receive dental care under programs conducted by commercial insurance companies. About 400,000 receive care through dental service corporation programs sponsored by dental societies. And over 600,000 receive care through closed panel programs.

Although the approximately two million persons now receiving dental care as a benefit of employment represent only a small segment of our population, one should bear in mind that the real growth in



prepaid dental care programs has taken place in a relatively short time—five or six years. Until 1959, only eight states had dental service corporations. In that year, the commercial insurance industry took its first steps into the dental field with Continental Casualty Company's program for employees of The Dentists' Supply Company of New York.

But the real growth in dental prepayment has taken place in the 1960's. At the end of 1960 there were 155 group plans in operation covering 730,000 persons. At the beginning of 1966 there were 470 groups involving almost two million persons, a 200 per cent increase in five years. Except for the pioneering plan of The Dentists' Supply Company, all commercial insurance programs and the majority of the present programs sponsored by dental service corporations started in the past five or six years.

There is no reason to believe that the growth of dental prepayment during the next five or six years will be less than during the last five or six. Most likely the greatest acceleration of the growth of prepaid programs is yet to come, and this increased acceleration no doubt will be enhanced at least in some measure by new programs of the Great Society.

Oral surgery benefits already are provided under the voluntary supplemental insurance program of the Medicare act. And funds for dental care for needy adults and children can be claimed by states under the expanded Kerr-Mills type of benefits included under Title XIX in the act. If this is not enough to convince you that the dental profession will be asked to deal with government-sponsored groups, consider the dental care provisions in Project Head-Start, in the Job Corps, and under the VISTA (Volunteers in Service to America) program. Finally, consider President Johnson's recent surprise announcement of his intention to institute a federally sponsored children's dental care program.

It should be obvious that the demand for dental care will rise rapidly in the next few years, that overnight large groups will receive financing for dental care from their places of employment or a government agency, and that the dental profession must be prepared to render treatment in the best manner possible. It is my guess that the dental service corporations and the commercial insurance groups will offer the mechanisms by which funds from whatever source can

be applied to the treatment of dental disease. It is also my guess that the newly established National Association of Dental Service Plans, whose counterpart in medicine is the National Association of Blue Shield Plans, will become a highly valuable instrument in the establishment of multi-state dental care programs, such as would occur when a large company, say General Motors, wishes to purchase dental care for all its employees.

This then is a brief description of dental prepayment, the challenges it poses, and the dental profession's efforts to meet these challenges. Although some dentists do not like the shape of things to come, for the future surely will necessitate changes in the character of dental practice, the profession must prepare itself to meet the challenges the future holds.

#### DENTAL MANPOWER

It is an easy prediction that if the demand for dental care will rise as rapidly as some people think it will, dentistry will be faced with a manpower shortage. The reaction to this shortage will probably take the form of new dental schools in which to train more dentists and of finding ways of increasing the work output of dentists, dental hygienists, and dental assistants. Yet, even with a reasonably rapid increase in the number of dental schools, it appears that the best we can expect is a maintenance of the present ratio of dentists to population (1:2,014) over the next ten years. It is likely that this ratio will not be maintained in the next ten years, for even with the opening of new dental schools at six universities (Kentucky, 1962; UCLA, 1964; Connecticut, 1967; Florida, 1968; South Carolina, 1967; Georgia, 1968) the output of dentists will rise from an estimated 3,200 in 1966 to about 4,000 in 1976. Because it takes seven or eight years from the time funds are allocated for a school to produce its first graduating class, new schools in addition to these six that may be announced in the future could produce few dentists before 1976. And to maintain the present ratio of dentists to population, several hundred more dentists than 4,000 would have to be graduated annually by 1976. So, facing what is expected to be a rising demand for dental care and a declining ratio of dentists to population, the practitioner of dentistry may have to find ways of increasing his output. Advances in technology probably will help him. He will have

better equipment and better materials with which to work. He will have new technics. He will rely more heavily on dental technicians. And he may assign tasks to dental hygienists and dental assistants that he would never dream of assigning today.

The move is on in several quarters of the profession to determine how well auxiliary personnel can perform tasks now performed by the dentist. Two studies, for example, have shown that dental assistants can be trained to insert amalgam fillings into cavities prepared by dentists (under a dentist's supervision, of course) and that these fillings are of comparable quality to those inserted by a dentist. I believe that such experimentation will continue, and that the findings may offer a partial solution to what appears to be an impending manpower shortage in dentistry. At this point, I do not think anyone knows whether it is a good solution, but it certainly should be studied and discussed thoroughly by the dental profession.

#### RECIPROCITY

We may also see the day when dental manpower shortages may be influenced by laws that allow freer movement of dentists from one state to another. You may know of the organization called the National Society for Reciprocity in State Dental Licensure. How successful this group will be remains to be seen. The state boards of dental examiners guard carefully their right to examine dentists who wish to be licensed in their states. Certain patterns are emerging on a regional basis, however. For example, in May of this year (1966) the dental examining boards of the District of Columbia and the State of New York are conducting jointly an examination that will enable a dentist to obtain simultaneous licensure in the District and in New York. Michigan and Wisconsin have a similar program, and there are now 16 states that have reciprocal dental licensing agreements with certain other states. Six states have reciprocal agreements with others for the licensing of dental hygienists. It is to be hoped that in time more states will have reciprocal agreements or joint licensing programs that will encourage freer movement of dental personnel. It is also to be hoped that the state examining boards and other official state agencies will consider the possibility of providing incentives to dentists to practice in areas in which there are manpower shortages.

I hope that I have been able to convey to you some of the issues now facing the profession and stress sufficiently well the necessity for all members of the profession to study them and discuss them so that the decisions that will have to be made in the future will be the right ones.

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#### REFERENCE

1. Ways, Max. The era of radical change. *Fortune* LXIX:113, March, 1964.

### SOPHISTICATION

Sophistication has entered the scientific vocabulary as a "must" word. More and more the "deployers" of sophisticated techniques and sophisticated hardware and software are becoming segregated as a scientific elite. The neophyte, not to mention candidates for scientific obsolescence, needs a guide to quick sophistication.

Reference to dictionaries shows that the authorities are in complete agreement. Sophistication is the employment of sophistry; the process of investing with specious fallacies or of misleading by means of these; falsification; quibbling; disingenuous alteration or perversion of something; cunning; trickery; baseness; artificiality; dishonesty; adulteration with a foreign or inferior substance; the state of being spoiled or corrupted; fraudulent and guileful.

Additional guidelines may be drawn from literature: "But the age of chivalry is gone, that of sophisters, economists and calculators has succeeded" (Burke); "I love not a sophisticated truth, with an allay of lye in't" (Dryden); "He is fluent and sophisticate—a sure token of inferior wisdom"; "I laugh at the lore and the pride of man, at the sophist school and the learned clan" (Emerson); "A sophisticated rhetorician, inebriated with the exuberance of his own verbosity and gifted with an egotistical imagination that can at all times command an interminable and inconsistent series of arguments to malign an opponent and to glorify himself" (Disraeli, on Gladstone).

In moments of despair, if any, the fledgling sophisticate may take heart: "Destroy his fib, or sophistry in vain the creature's at his dirty work again" (Pope).

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# THE PROSPECT FOR DENTISTRY: CHALLENGE AND CHANGE

HARRY W. BRUCE, D.D.S., M.P.H.

IT is a pleasure to discuss with you some of the signs which point up the future of dentistry. I think it important that you, the practitioners of tomorrow, be aware of the changes which are occurring both within the profession and in the society in which you will practice. I think it more important still that you understand their import and their significance, for they will impose upon each of you even greater obligations than your professional predecessors have known.

You enter dentistry in an age of swift technological progress, at a time when the pace of scientific discovery challenges our ability to assimilate it and to use it wisely. The years of your practice will be marked by innovations in materials, in instrumentation and in techniques, such as no man can fully envision today. I envy you the prospect; they will be exciting years.

By the same token, they will be, for you, years of challenge—of a need and a demand for your talents and your time never equaled in the history of the profession. For the same scientific advances which will so affect the practice of dentistry will carry in their wake social and economic progress. And this, too, has implications for us. And it is our response, our willingness to respond, to the pressures exerted upon us by society that more than any other factor will determine our future as a profession.

It is, in fact, the very pace of socio-economic advance that has caused many thoughtful observers to foresee, within the immediate future, a time of crisis for dentistry. If their prediction is correct, and I am convinced that it is, we are fortunate in being able to

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identify and assess the causes. These are, in part, the effect of national growth—growth in numbers of people certainly but also in productivity and income. They are, in part, the result of a greater national maturity—a maturity that values more highly education and health services and all the things that affect the well-being of its people.

### TRENDS

Let us try to understand, then, what the nation and dentistry will be like in 15 years—in 1980. I am not a modern day prophet, and predictions are hazardous undertakings at best. Yet, certain trends, particularly in regard to national growth and development and its influence upon dentistry, are plainly evident. If their full impact on our profession cannot be predicted with absolute certainty, it is nonetheless possible of accurate estimate.

Ours will be in 1980 a nation of 260 million people. We will be a better educated people—twice as many of us will have some high school or college training as do so today. Our average income will be about that of today's upper level. We will be more urbanized. I would emphasize these trends, for they hold a special significance for us. Each one—population growth, higher average levels of income and education, urbanization—bears directly upon demands for dental care.

Dentistry, then, as it looks to the future, must face, first of all, the challenge of rising per capita demands for its services from a population which will be a third again as large as it is today. And it must do so even though its own ranks will have grown hardly at all in comparison with population. To serve the 260 million Americans of 1980, there will be 101,000 active dentists—but this is only one for every 2,600 persons—almost 400 more people than the average practitioner serves today.

Only the enactment of the Health Professions Educational Assistance Act and the expansion of dental school training capacity which it makes possible prevents an even greater decline. The Act is important; I hope that it is only the beginning of a national attack upon the shortage of professional health personnel. Yet its great benefits, for the immediate future at least, may come not so much from the stimulation of school construction and expansion as from the financial assistance which it offers to students. Its loan provisions are an

assurance that dental schools will be filled to capacity, and filled with students capable of upholding and advancing the standards of dentistry. But the fact remains that, even with the anticipated expansion of educational facilities, we will be able to train no more than one-third of the additional dentists required just to maintain over the next decade or so today's dentist-population ratio. And the continuing reduction in relative dentist supply will mean, for each practitioner, a greater responsibility, in terms of the people he must serve and the amount of service he must provide.

At the same time, we cannot measure the problem in terms of population growth alone. I have mentioned the changes which are taking place in the make-up of our population. These are changes which tell us that we must provide care, not only for a larger population, but for a larger proportion of that population. For while only 40 out of a hundred seek care today, 50 or 60 out of a hundred will do so in the near future. And each of them will seek more care than the average patient of today.

Perhaps the best indication of what is happening is the steady rise in personal spending for dental care. In the decade 1950-60, consumer expenditures for dental services doubled, rising from \$1 to \$2 billion annually. Some of the increase was due to population growth, some to higher fees, but well over half was the result of higher per capita demand. If the amount spent by the average patient increases at the same rate over the next two decades, private expenditures will reach \$5 billion annually, at a minimum, by 1980.

Given the very clear relationship between socio-economic status and the receipt of dental care, and the changing character of our population, this trend is inevitable. You would expect that the better educated, higher income groups would be most likely to seek dental services they need, and this is true. In fact, families with incomes of \$7,000 or more are about three times as likely to receive treatment in the course of a year as are families with incomes below \$2,000. The range is roughly the same when utilization rates are compared on the basis of educational attainment—17 per cent of the most poorly educated see a dentist in any year as compared with 57 per cent for those with at least a year of college.

Living as we do in a time of steady economic growth, in a nation which has declared an "unconditional war" on the causes of poverty,

we cannot afford to dismiss the implications of this pattern. For the better educated, more prosperous Americans of the future will be no less aware of the importance of dental service than their counterparts of today.

#### PREPAYMENT FOR DENTAL CARE

Population growth, coupled with the steady climb of income and educational levels—these alone promise to create a demand for dental care which the profession will be hard pressed to provide. Add to this the possibility of a sudden surge of enrollment in prepaid dental care plans, at least some growth in public programs of health services, and the reasons for concern for our supply of dental manpower become abundantly clear.

Prepayment is important. It holds the potential for placing dental care within the economic means of a vast number of people who otherwise could not pay its cost. It is still a small movement; enrollment has only recently passed the one million mark. Yet, this figure itself represents a doubling in two years. Only a handful of today's plans permit individuals or individual families to enroll; the majority are employment-related and allow only group enrollment. Geographically, the plans are concentrated on the West Coast and in the industrial states of the East. Prepayment is, nevertheless, a nationwide movement, and there are only 20 states where no plans are known to be in operation.

The potential market for prepayment is enormous.

Consider the effect on dental practice in Alabama if all of your steelworkers receive prepaid dental care as a fringe benefit. Or, if dentistry were added to the health benefits of the government employees in the space and military installations in this state. It is true that many of the people who will be covered under prepayment plans in the future will not be strangers to dental offices, but it is also true that for many others, coverage at no out-of-pocket expense will represent the first real chance for routine and regular dental care. Prepayment is a factor to be reckoned with in assessment of future demands for dental service, in this state or in the nation.

So, too, are the public programs which provide health services for specific groups. In the main, these are intended to benefit the disadvantaged—the indigent, the aged, dependent or handicapped



children. Frequently, public programs are the sole source and the only hope these people have of obtaining needed health services. Yet, nowhere are they large enough or broad enough to permit adequate care for all they are meant to benefit. They will grow in size and in scope; the national conscience will not allow any other course. As for any national health plan providing life-long services to the entire population, I suspect that movement in this direction will be inversely related to the success with which voluntary programs meet the public need.

#### EDUCATION AND RESEARCH

The widening gap between demands for dental care and the ability of the profession to meet those demands is the most crucial issue facing dentistry. But there are others no less disturbing—the need to broaden the dental curriculum, to achieve a better integration of the basic and clinical sciences; the lag in dental research, particularly in the dental schools; the continuing failure to integrate medical and dental practice, both in the hospitals and in community care programs for the chronically ill and aged; the need to train vastly large numbers of auxiliary personnel and to appraise realistically their functions; the development of appropriate and effective methods for the continuing education of the practitioner.

Much has been done upon some of these; on others, action is just beginning. How far we will have advanced in 10 or 15 years I can but speculate.

In dental education, the curriculum will be more flexible and teaching methods more modern. Students will spend more time in the laboratory, a reflection of greater emphasis on the basic sciences and oral pathology. Auxiliaries will be assigned to each student for the entire period of his clinical training, and students will receive no more than an introduction to those procedures which auxiliaries can perform. Educational TV, programmed materials, and teaching machines will reduce the time required to teach many subjects, permitting the addition of badly needed courses.

Basic research upon the nature and causes of dental diseases is coming into its maturity. We know a great deal, but we have so much more to learn. Dental diseases are extremely complex, and we cannot yet identify the cause of many of them. Research is a slow process of trial and error—and rarely, of spectacular breakthrough.

Perhaps by 1980 one will come on our major problems. Certainly there will be more effective methods of controlling and reducing the incidence of periodontal disease, new ways of preventing caries.

But I think it important to remember that discoveries such as fluoridation, though they improve dental health standards generally, do not necessarily reduce the overall need for care. This seems to be the case with fluoridation, at least. Teeth protected from caries attack are retained longer, and because they are, the need for dental care continues over a longer period. The result of improved methods of prevention and control is more likely to be a shift in the types of service provided rather than a sharp reduction in the overall amount of service required.

Experimentation with the design of instruments, with dental materials, and office arrangement holds tremendous potential for greater productivity. Perhaps by 1980 the perfect filling material will have been discovered. Work now going on with adhesives may revolutionize crown and bridge work. The dental office of the future certainly will look different. Few if any will have the dental units we know today. The office will be designed and the equipment arranged for maximum efficiency.

In addition, dentistry will benefit from research in other fields, as it has in the past. Automation will come to the dental office. At least one practitioner has envisioned a machine that can be set to drill a cavity to the proper depth, attached to the patient's head, and then left to do its work while the dentist cares for a second patient, returning later to insert a pre-prepared restoration. Unlikely as this may sound, it could happen. Technical changes are coming fast, and many of them will surely reduce the time spent on many procedures today.

#### DENTAL PRACTICE

The environment of dental practice will certainly be different. There will be more group practices, particularly by specialists, and there will be more specialists. Dentists, like physicians today, will share auxiliaries and offices and equipment—a much more economical and effective arrangement than solo practice. The offices will be centered in the community's hospitals and rehabilitation centers. These will have dental departments and full-time dental staffs. Ser-

vices to nursing homes and other institutions for the chronically ill and aged will be routine.

The long-discussed dental health team will be a reality, supervised by the dentist who reserves to himself those specialized duties which only he can perform. And dental practice will focus upon preventive dentistry.

Upon these latter predictions, at least, I will make my stand. They represent a necessary and a logical extension of current dental practice. Too many of us have been content to repair the ravages of disease, reluctant, perhaps because of the press of time, to apply the preventive procedures which even now can do a great deal to prevent their development and their recurrence. We have been slow to respond to the opportunities to serve in the organization and operation of community programs of health services for the homebound ill and aged. We have given less than full support to community efforts to achieve fluoridation and played an even smaller role in initiating those efforts. If the pressures upon us force us to concentrate in the main upon those patients who seek us out, we cannot permit this to excuse any continuing disinterest in that large segment of society which cannot—or does not—come to us.

Nor can we continue to follow, in the future, the pattern of practice that permits the dentist to work alone, devoting much of his time to procedures that can be performed by well-trained auxiliaries. It represents a needless waste of professional skills, a waste that can no longer be condoned. For if the problem of serving those who seek us out is in itself a matter of concern, that posed by the still greater numbers who need care is formidable.

It is a mark of the maturing of dentistry as a health science that it has accepted its rightful responsibility to promote and protect the health of all our people. It is to the credit of the profession that it has done so much to secure remedial action, conducting studies and experimentation of its own, cooperating in the work of others.

I know of no more forward-looking action by a professional group than the encouragement which dentists have given to the development of prepayment plans. These can be an effective stimulant to the seeking of dental services, and, as such, they can contribute substantially to the improvement of dental health standards.

This is only one example. The support of the dental profession

was instrumental in the passage of the Health Professions Educational Assistance Act. Its representatives have spoken for other federal legislation bearing directly upon dental health. Though the program in which you are learning to work with chairside assistants is supported by the Public Health Service, it could not have been established without the cooperation of the profession. Nor could those projects in other schools in which students are being taught to provide care for the chronically ill and handicapped. Or a new program of experimentation with the duties of dental auxiliaries.

I would like to think that these are actions which are also signs of the future—a future in which every practitioner is indeed a scientist-clinician, utilizing all of his knowledge and all of his skills; and a future in which dentistry does indeed emerge from the narrow confines of its office to “treat the larger patient called society.” And I would like to consider what such a future will require of you.

#### OUR PUBLIC IMAGE

Not long ago, *McCall's Magazine* carried a provocative article, entitled “The Sad Case of Our Good Old-fashioned Dentistry” (November 1963). It contained several statements that should disturb all of us:

“American dentistry is the best in the world; but Americans, by and large, are a Nation of dental cripples. . . . No other healing art is so far short of maintaining the health of all the people in its area of work.” And the article suggested as one cause a “dental fatalism”—not just on the part of the public—but one shared by the profession, a fatalism that sees dental disease as very nearly inevitable and that leads the dentist to by-pass preventive procedures in favor of the restorative work he finds more interesting, more challenging and more remunerative.

The justice of the criticism is undeniable. The attitude itself, in a profession dedicated to the promotion of health, is inexcusable. It is true that the public's “fatalism” means, all too frequently, a reluctance or a refusal to undergo preventive treatment, or to consider as necessary any service not directly related to the relief of pain and discomfort. We obviously have a job of education to do, but perhaps it should begin at home.

There is a great deal of concern and discussion within the profes-



sion today about the public's unflattering "image" of dentistry. Might not our continuing emphasis on restorative procedures be one reason? Can we reasonably expect that the public will recognize dentistry as a health science so long as so many of our members continue to act as skilled craftsmen rather than as scientists?

The prevention of disease is the highest form of a healing art. It is one which dentistry will be infinitely better prepared to do in the future, but it also is one that should be common today. By utilizing our knowledge to the fullest, we can prevent the development and recurrence of dental disease. By redirecting our efforts, we can promote the health of the whole patient. Appearing as it did in a general magazine of large circulation, the *McCall's* article suggests a growing public awareness and understanding of dental health problems, and it suggests too, a public increasingly likely to request and to accept preventive care. It will be your obligation to further that awareness and acceptance—and to adopt, in your practice, the knowledge and the procedures which make it possible to maintain good oral health and good general health.

#### CONTINUING EDUCATION

There will be for you also the personal task of simply keeping up with technical and scientific progress. Each advance must be applied, and by every practitioner, if its full benefits are to be realized—if dentistry is to continue to serve the public as it has in the past.

In dentistry, it seems to me, we have for too long regarded our professional education as completed on the day of our graduation from dental school. Yet, it was never more true than it is today that what we learn in dental school is but a foundation upon which to build. The pace of progress is too swift—what we know today will be obsolete tomorrow—and there will be no room or no justification for the dentistry of 1964 in the world of 1980.

It may very well be that, in the years ahead, the states will require that we undertake some sort of periodic retraining if we wish to retain our licenses. In doing so, they would be exercising a legitimate right. It is not an imposition to ask that a health practitioner keep abreast of his field.

But whether there is some legal requirement or not, continuing education is a debt we owe to ourselves as well as to society. There

will be many more opportunities for you than for the practitioner of today. One need not be a prophet to visualize formal courses of instruction emanating from this health center and reaching, via closed circuit TV, every medical and dental office in the state. Programed textbooks and teaching machines will stimulate postgraduate study by individual practitioners.

I urge you, when you enter practice, to establish at the beginning the habit of setting aside some time—an hour a week, a week a year—for your own re-education. And I hope that your study will include, first, dentistry but also history, art, public affairs—all that make a well-rounded and a well-educated man. You will, by doing so, enhance your profession and your ability to practice it, and you will renew yourself. Our world has been too narrow. We are the products of a highly specialized education, one that is only beginning to look beyond itself to the broader world outside. Our horizons have been further limited by our pattern of practice. The future demands a broader vision.

#### CIVIC RESPONSIBILITY

In closing, I would suggest one thing further. Dentistry, all professions, are obligated to adapt themselves to the requirements and demands of society, as that society itself changes. But we have as well some duty to effect change, to guide the directions in which society moves. We are health scientists, but we are also citizens. And we are viewed today, if the articles I read and speakers I hear are correct, as a group removed from the community.

We are known, in the opinion of one newspaper editor,\* as a "group who do nothing but practice dentistry. In the public eye [we] don't provide community leadership, [we] don't support community activities with either time or money" (Boissonneault, 1963). This is harsh judgment. Each of us has been the recipient of society's generosity. It has borne a large share of the cost of our education, and it has granted to us, because of that education, a special place in its life. It expects, in return, first, that we will use our education for its benefit, and, second, that we will assume, as individual men, the

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\* Boissonneault, Glen A. A newspaper man looks at the dentist's image. J.A.D.A. 66:300-07, 1963.

responsibilities incumbent on every citizen—to vote, to be well-informed on public affairs, to be active in our schools and churches—in sum, to participate in community life in the ways that our individual talents and interests dictate.

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Dentistry, as it looks to the future, is beset by problems complex and immense. They are problems which demand your thoughtful appraisal and action. None of them will be solved easily or quickly, and none of them will be solved by the profession alone. The expansion of dental research, the shortage of professional and auxiliary personnel, the further development of programs which can meet the needs of groups now deprived—will require continuing public action. This is as it should be, for it is the dental health of the public which is at stake.

But in the end the public's recognition of its responsibilities toward dentistry will be but a measure of the success which the dentist has had in creating an image of a purposeful, responsible, and forward-looking professional man.

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### CONTINUING EDUCATION

May there never develop in me the notion that my education is complete, but give me the strength and leisure and zeal continually to enlarge my knowledge.—Moses Maimonides, 1135-1204.

# Prepaid Dental Care for University Students

WALTER J. PELTON, D.D.S., M.S.P.H.

DURING the past 30 years or so, most institutions of higher learning have developed reasonably adequate student health services which they have managed to finance in one way or another. The management of illness, first considered a personal matter, had by 1900 begun to give way to the concept that colleges were concerned with sound minds in healthy bodies—except in the case of dental health. Even today, no college considers itself obligated to the provision of routine dental services to all of its students (1). It is a sad commentary on the dental profession that university administrators, and particularly those having dental school components, have developed a bivalent attitude that general health is important and should be provided for, and that dental health is so unimportant that it is left to the student to obtain on a catch-as-catch-can basis.

*Recommended Standards and Practices for a College Health Program* (2), adopted by the American College Health Association in 1961, makes no provisions for preventive dental services and states that, "Dental facilities should be available either on or off the campus for dental examinations, prophylaxes and emergency care." This peculiar ambivalence is not in keeping with the objectives of professional dental educational institutions.

## UNIVERSITY OF ALABAMA STUDENT DENTAL HEALTH SERVICE

As in many institutions, entering students at the Alabama Medical Center prior to 1963 were required to enroll, or show satisfactory

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Presented at the Annual Meeting of the American Dental Association, Las Vegas, Nevada, Summary Reports Session, November 11, 1965.

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coverage, in a Blue Cross-Blue Shield group insurance program, and also to pay a \$24.00 fee for outpatient medical services which excluded eye examinations and refractions. To remedy the lack of dental care for college students and to acquire knowledge about the problem of supplying routine dental health services on a prepaid basis, the University of Alabama School of Dentistry undertook a demonstration program in September, 1963 (3). Students of the University Hospital School of Nursing were selected as a pilot group and were enrolled in a dental health program at a tentative additional cost of \$24.00 per student annually. The premium intentionally was set at the lowest possible figure and eventually will stabilize at the amount required to make the program self-supporting. The premium will be \$36.00 for the 1966-67 academic year.

#### BASIC DENTAL SERVICES TO BE PROVIDED

Although the objective of a student dental health program ought to be the provision of comprehensive dental care without exceptions, the cost of a comprehensive program at Alabama at this time was deemed to be prohibitive. In the meantime, however, it was believed that a sensible program that would meet most of the students' dental needs at a reasonable premium could be developed on a trial basis by eliminating the less frequent and more expensive services in the initial stage of the program. Dental services eliminated but which can be added to the program at a later date are: orthodontics, surgical treatment for periodontoclasia, and prosthodontics, including crowns and fixed bridges.

The basic items included in the program are:

1. The elimination of pain and infection
2. Examinations, X-rays, and diagnoses
3. Prophylaxes and topical applications of fluorides
4. Necessary extractions and post-operative care
5. Restorations: silicates and amalgams provided on a routine basis, and gold in selected cases, depending upon the operator's judgment
6. Repair of minor accidents involving oral structures (hospital care for serious accidents is provided for by the required hospital insurance coverage)
7. Endodontics and apicoectomies

### OUTSTANDING FEATURES OF THE PLAN

The Student Dental Health Program is expected to become a self-supporting nonprofit venture prepaid by the student upon enrollment. At Alabama the program operates much the same as a dental service corporation but utilizes a closed panel as well as an open panel. After the initial examination, bite-wing roentgenograms, and prophylaxes (and topical applications of fluorides), each student is asked to elect the dentist whom he wishes to provide his dental service. The examination, diagnosis, and dentist selection takes place each Fall for every student. Each student, regardless of the supplier of his service, is asked to return to the Student Dental Health facility for a final examination prior to graduation.

If the student selects a private practitioner, the dentist is informed of the decision and asked to supply the needed care and bill the Student Dental Health Program when the service is complete. If the estimated cost of the student's care is expected to exceed \$20.00, the hometown dentist is asked to provide an estimate in order that the administrator of the plan can encumber the necessary amount. If the cost does not exceed \$20.00, the dentist simply supplies the needed care and bills the plan without prior approval.

If the student elects to receive treatment in the plan's facility, services are provided on an appointment basis by part-time dentists, hygienists, and assistants employed on an hourly basis. Appointments are made between 4:30 and 7:30 p.m. on Monday through Thursday.

### RESEARCH CONSIDERATIONS

The plan provides the School of Dentistry with a built-in laboratory for unlimited research opportunities running the gamut from social considerations to treatment procedures, including behavioral and attitudinal studies, administrative problems, such as recall systems and health educational technics, and the testing of anti-caries agents or other preventive procedures.

### FINANCIAL CONSIDERATIONS

The rapid adaption of the principles involved in the Alabama Student Dental Health Program to other institutions will require the provision of, or funding for:

1. Space and equipment for a suitable student dental health clinical

facility. In certain schools such programs can be the basis for extramural practice programs

2. Fiscal support for the first several years of the plan when initial costs of establishing the program are the greatest. The cost of treatment needs of entering students are greater than the estimated premiums for the entire span of the students' academic residence and, hence, a planned deficit must be provided for. In the Alabama program, invaluable support for the initial phases of the program has been available through the Dental Programs Development Branch of the United States Public Health Service's Division of Dental Public Health
3. Eventually, the basic plan is to be self-supporting. Large scale research efforts, however, will need special funding

Voluntary prepaid dental care plans for university students are a logical and long overdue development in dental affairs which, if applied to the utmost, would include 6 million students now enrolled in colleges. Such plans would go a long way toward closing the gap between care needed and received by this important age group and in removing the dichotomy that exists in the minds of university and college administrators about the importance of dental health versus general health programs.

Detailed findings and cost data from the plan will not be available for at least another year. Periodically thereafter, reports will be published as data become available.

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#### REFERENCES

1. Farnsworth, D. L. College Health Services in the United States. Washington: American College Personnel Association, 1965.
2. American College Health Association. Recommended Standards and Practices for a College Health Program. Coral Gables, Florida: American College Health Association, 1963.
3. Pelton, W. J. A plan for a student dental health program at the University of Alabama Medical Center. Ala. J. Med. Sci. 2:216-220, Apr. 1965.

# Trends in National Health Programs

WILLIAM H. STEWART, M.D.

I AM happy to share a few ideas on the changing size and shape of federal participation in health programs.

You and I represent different health professions, and our respective organizations have long been considered to represent opposite poles in health service—private and government. Yet with every passing day we have more in common, more to say to each other; and it becomes increasingly imperative that we say it—loudly and clearly and frequently.

For there is one central trend in national health programs. All the others are derivative details. This fundamental theme is that the people of the United States shall be served with the best that the health sciences have to offer.

This theme has been set for us by the people themselves. It has been eloquently enunciated, many times, by the President. It has been crystallized into specific patterns of action by the Congress. But the impetus has been the people's acceptance of the principle that the best in health services is theirs by right, and their insistence that they receive it in full measure.

Our job—whether we be private practitioners or educators or health professionals or administrators of public programs—is to deliver the goods. The effectiveness of our partnership will determine, in large measure, our success in fulfilling the people's expectations.

Secretary Gardner, speaking at the dedication ceremonies of the

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Dr. Stewart is Surgeon General, Public Health Service, U. S. Department of Health, Education, and Welfare.

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new American Dental Association Building in Chicago, described the health partnership this way:

"Cooperative enterprise is the keynote of our health effort today. The partnership extends through professional and voluntary groups, the university world, and individual practitioners and consumers. Government is also a partner, not as a poacher or usurper, but as a helpful ally and a source of support and stimulation."

In this context, let me describe briefly for you the broad trends that are implicit in the new federal health programs.

Recent health legislation has done more than increase the size of the federal commitment to health in quantitative terms. It has altered the very nature of that commitment in several significant ways.

Legislation has expressed a public decision that the federal government shall be involved, far more deeply and broadly than ever before, in the delivery of health care. This is the central thrust of Titles 18 and 19 of the Social Security Amendments, which remove economic barriers to care, and of the Heart Disease, Cancer, and Stroke Amendments which seek to channel scientific advance into medical practice. In both instances, the accent is on quality as well as accessibility of care.

Recent legislation has strengthened and diversified our role in helping to supply the resources to care for the health of the American people. The Hill-Burton program, which supports the construction of hospitals and other health facilities, has been amended to put further stress on planning and to permit an attack on the critical problem of modernizing obsolete facilities in our major cities. We are giving greater emphasis to long-term care facilities. In addition, Congressional action last year permits us to stimulate the creation of home health services where none have existed before.

The catalog of new opportunities and challenges presented to us is a long one. We are now able to foster the dissemination of research knowledge through the creation of a national system of medical libraries. We are able to support both the construction and the operation of community mental health centers, thereby encouraging the treatment of the mentally ill close to home instead of in large, isolated institutions. We have been given new and needed authorities to control air pollution and to undertake a frontal attack on a critical problem of modern American life—the disposal of solid wastes. Our

authority to aid the construction of research facilities has been extended and expanded.

But perhaps the most significant advance, in long-range terms, has been the entry of the federal government as a full partner in the development of health manpower. The Health Professions Educational Assistance Act of 1963, the Nurse Training Act of 1964, and the Health Professions Amendments of 1965 enable us to support a nationwide effort to meet manpower shortages in the professional categories and to upgrade the quality of the manpower produced.

Most of you are probably aware of the specific support given to the development of dental manpower through the Health Professions Assistance Act Program. Since September 1963, when the original Act became law, \$44 million have been allocated to help construct or expand dental schools. Fourteen dental school construction projects are now underway. Four more have been approved but not funded due to the lack of money in this fiscal year. The construction grants program was extended last year for three additional fiscal years beginning this coming July. It is anticipated that about \$100 million of the authorized funds will be allocated to dental schools during this next 3-year period.

From the information at hand it appears that nearly all the dental schools will participate. We expect, in addition, applications from at least 7 or 8 new schools. These projects—current and envisioned—will produce nearly 1,800 additional first year places in dental schools by 1975. They will increase the number of graduates to almost 5,000 by 1980—an increase of 55 per cent over 1965.

And yet, welcome as all these new dentists will be, there still will not be enough of them to meet the rising demand. The population per dentist in the United States was about 1,700 in 1930. There are about 2,200 people per dentist today. By 1980, despite the increase in expected graduates, there will be 2,400 potential consumers for every dentist's services. In health manpower they can never seem to run fast enough to stay where we are.

The only possible answer, of course, is to make better use of the time, knowledge, and skills of the dentists we have. There are at least two roads toward this goal—both of which I am happy to note, are being explored to some extent. If the dental profession—like its opposite number, the medical profession—is to succeed in meeting the

challenge of popular expectation, it must advance with all possible speed along these promising avenues.

The first is preventive dentistry. The course of fluoridation is certainly not smooth, as was newly evidenced last February here in Washington. Nevertheless the number of people protected by this community measure grows from year to year. Meanwhile research is moving ahead on the methodology for topical application for caries control, and it seems likely that a combination of techniques will enable us to do what water fluoridation alone cannot do—completely prevent dental caries. This achievement—far from diminishing the need for dentistry—will free you to attack other problems more worthy of your highly developed professional skills.

The second avenue toward optimum dental services is the effective use of supporting personnel. This is another challenge you share with your medical confreres. Dentists and physicians alike operate at the top of their capability only when they successfully delegate less demanding tasks to assistants.

Your profession can take considerable pride in its conscious effort to prepare dentists for the task of using assistants effectively, and I am happy that the Public Health Service has had a hand in stimulating this program. Ten years ago the Service started pilot programs in six dental schools—to teach dentists how to use chairside dental assistants. Five years later in 1961, Congress recognized the success of this pilot program by appropriating funds for training grants in dental auxiliary utilization.

I understand that 46 schools are now taking part in this program, and that by 1975 some 45 per cent of all practicing dentists will have received this training. Further, it is estimated that these dentists will be able to treat up to 60 or 70 per cent more patients, without lengthening their workday or sacrificing quality.

The catch, of course, is that we shall need a lot more dental assistants to make this promise come true. About 89,000 dental assistants are on the job now, of whom less than 10,000 received formal training. We shall need something like 220,000 active dental assistants by 1980—and as of the end of 1965 only about 1,300 were being graduated annually from 92 training programs. Elementary arithmetic shows that we shall be far short of our target unless an enormous training effort is mounted.

At present only about 15 per cent of practicing dentists employ a dental hygienist. The other 85 per cent continue to perform the sub-professional work for which hygienists are trained and licensed. Many more would be using hygienists, of course, if they were available.

In his Special Health Message to the Congress, delivered in March, President Johnson has proposed new legislation which, if enacted, will provide substantial assistance in meeting this need. The new Act is designed to provide grants for training of dental hygienists and other allied health professionals—medical technologists, physical therapists, and the like. The three-year program would authorize funds to:

- (1) construct and improve needed educational facilities;
- (2) offer fellowships for students in advanced training; and
- (3) stimulate institutions to develop new types of health personnel.

We in the Public Health Service are keenly interested in this new legislation. It will fill a critically important gap—between the education of top-level health professionals which is supported by the health legislation I mentioned earlier, and the training of health auxiliaries at the high school graduate level which is supported by the Vocational Education Act. The college-trained workers who perform essential supporting services have been seriously neglected. This legislation will bring the federal health manpower program into much better balance. It should improve both quantity and quality of manpower. And it will stimulate needed innovations.

This proposed legislation illustrates very well my central thesis—the supporting and stimulating role which we perceive for the federal government in the health partnership. If anyone has derived the impression from the growing list of federal commitments to health that the federal government intends to do the whole job, he has been gravely misled. No single element of the partnership can possibly “do it alone” and serve the people as they expect to be served.

You have a job to do. We have a job to do. And we can help and support each other. The crisis confronting the health professions is a crisis of opportunity—to deliver the best we have to all who need it. Working in concert, the American health resource can fulfill this high promise.



# Dental Health in the Republic of China

ERIC S. W. CHEO, D.D.S., M.Sc.D.

DENTAL diseases have always afflicted mankind. An examination of the skulls of prehistoric man give evidence of this. As early as 2693 B.C., the Emperor Hwang Ti described oral diseases. In the royal records of Emperor Kao Tzung of the Yin Dynasty (1339-1279 B.C.), eight paragraphs were devoted to dentistry. The ancient literature of the Sung Dynasty (960-1279) reveals the beginning of restorative and prosthodontic services. Dental caries and periodontal disturbances were described during the Ming Dynasty (1368-1661). Dental prophylaxis, through the use of willow branches, cloth wound around the finger, tooth brushes of a sort, and various tooth powders plus herbs, are all mentioned in the records of the Sung Dynasty. Metal caps are mentioned in Hiu Su between 925 and 965.

The history of dental health in China may be divided into three periods. First, from the beginning of "quack practice" to the establishment of the School of Dentistry in the West China Union University—a missionary university sponsored by the United Board for Christian Colleges in China. This was the period of initiation. Second, the period of development is represented. And third, the period of expansion developed during which dental centers and dental educational institutions in various parts of the country were established with the support of the provincial and national governments.

In the first period there were several different types of dental practitioners; they followed dental procedures similar to those in Western countries. One type was the rural market physician. He was

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This paper is based on an address at the Convocation of the College, San Francisco, November 8, 1964.

Dr. Cheo is Director, the West China Stomatologic Center, Taipei, Taiwan (Formosa), Republic of China.

found in the busy market places among herb sellers, fortune tellers, cloth dealers, and the like. His simple technique involved the use of fingers or a piece of string, in addition to a bowl of cold water to which the spirit of God was invited by his magic; the water would stop the pain. Immediately after extraction, the patient was instructed to take a mouthful of the cold water and retain it in the mouth for a quarter or a half hour. He was cautioned not to swallow, or the intestines would be injured; nor to spit, or the entire dentition would be lost. Thus threatened, the patient forgot the pain.

Another type of practitioner was the "tooth worm remover." She (usually it was a woman) hid under her finger nails some dry willow flower debris, and would scatter this on the surface of water in a bowl. The surface tension of the water and this willow powder produced a wormy movement. Then she presented to her client a worm or worms according to the fee agreed upon.

Still another type was the "tooth fitter." He offered to cover decayed areas with a gold cap, and to cap sound teeth for adornment. He would also relieve toothache by opening into the pulp and sealing in arsenic trioxide. Then there was the technician returned from other countries. He practiced much as the tooth fitters. In root canal therapy, alas, X-ray examination revealed frequently that the bifurcation of roots were perforated and infected. There were also dentists who, years ago, had returned from other countries. The service of these practitioners was far better and more satisfactory than the other groups. However, they emphasized mechanical restorations; biologic and physiologic principles were unimportant to them.

In short, dental health in China during this first period progressed along an unscientific uncertain path. The most modern group in that period only emphasized mechanical dentistry, and diverged from general medicine. This tended to delay the development and progress of scientific dentistry.

The second period brought a biologic awakening. Chinese dental personnel traditionally had consisted of quacks, unscientific dental technicians, the so-called pre-scientific dentists, and the scientifically trained dental professionals. The concept of total dental health was entering a transition period. In the development of this period, China cannot but deeply thank the United Board for Christian Colleges in China; Ashley W. Lindsay, Toronto, Canada, founder of modern dentistry in China; the W. K. Kellogg Foundation; and a

number of United States and Canada dental schools that assisted in training our teaching staff members.

The School of Dentistry of West China Union University was organized in 1918 as a department under the faculty of medicine. A year later, the department of dentistry was reorganized and created as a separate faculty of the University. In 1929, the faculties of medicine and dentistry were united as the College of Medicine and Dentistry.

Also, in 1917, the Peiping Methodist Hospital began a three year course of instruction in dentistry. This endeavor was not successful.

In 1935, the Ministry of Education established a special Committee on Dental Education. Somewhat later, a dental technician school was started in the National Central University. In 1938, a six year course was inaugurated by this institution.

The National Dental Health Board was established in 1941 under the Ministry of Health. Dr. David Dai and I have served as "executive secretaries" of this Board. Also in 1941, a dental department was started in the National Defense Medical College. And in 1942, the Chungking Dental Demonstration Center was created. Later, Nanking and Shanghai developed dental centers.

The first dental health campaign was held in West China in 1943. Serial broadcasts, lectures, movies, panel discussions, and professional exhibits were carried out successfully. The West China Dental Association was organized in 1947. In the same year, Peiping University included a dental department in its medical college.

In 1955, in Taiwan, the Republic of China, the Taiwan University added a dental department to its medical college; it had a faculty of seven. The next year, the private Kao Hsiung Medical College, with a faculty of five, began a dental department. The private Taipei Medical College, in 1960, also instituted a dental department with a faculty of three. A four year Dental Technical School was opened that same year. Dental departments have been set up in the 22 provincial hospitals and the 5 municipal hospitals. A modern dental clinic was opened by the Central Trust Company for insured public servants.

Coming into the third period, we will have to consider the following facts and conditions so as to decide what type of dental health service we should adopt. Preventive oral health services are quite undeveloped; dental service facilities are limited in both urban and rural areas; financial support for all types of dental service and education is insufficient; the general public cannot afford to pay for the

urgently needed dental treatment—only a part of the population has enough income to enable it to pay for adequate dental care; only a small portion of the people have any knowledge of oral hygiene and dental public health principles; and dental schools are too weak to provide the needed dental personnel. Dental education has not developed to meet a comprehensive program of practice.

In the development of dental education to meet the Chinese National requirements, we will have to produce adequately trained dental professional men and women without lowering the standard of the dental profession. This personnel should include dental researchers, professors, clinicians, technicians, and dental nurses.

Dental practice will likely be a combination of public dental service, or state dentistry, and private practice, without encouraging the latter. Public dental service will take care of a major part of the population. And private practice will take care of those who cannot bear to line up just to get registered and receive treatment. Both this service and private practice will be carried out in some form of group practice on a preventive basis. This is reasonable and economical, and when properly handled will treat the old and the young, the poor and the rich, the rural and the urban dwellers.

Dental legislation, including the regulation of dental examinations, must be properly drafted and initiated. Dental public health projects will have to be undertaken.

If these things are not done, dental education in the Republic of China can never fulfill its tremendous obligation to all the people. Dental health service must demonstrate real social value. This is not the responsibility of a few practitioners. It is the duty of government and the community to adopt the proper policy and administration for dental care.

Dental health in North America is the most advanced in the world. American aid to the Republic of China is appreciated highly. So far as realization is concerned, the present urgent need of dental health in the Republic is not dental materials and equipment, but the training of teaching staffs and educational aids for the dental schools with proper academic standing.

In Taiwan, the population is more than 12 million people. There are only 1,070 dentists and 260 "dental fitters." This is the great challenge of responsibility to every Chinese dentist.

No. 11, Chuen Chow Street  
Taipei, Taiwan (Formosa)  
Republic of China



ON OCTOBER 16, 1846 IN THIS ROOM THEN THE OPERATING  
THEATRE OF THE HOSPITAL WAS GIVEN THE FIRST  
PUBLIC DEMONSTRATION OF ANAESTHESIA TO THE EXTENT  
OF PRODUCING INSENSIBILITY TO PAIN DURING A  
SERIOUS SURGICAL OPERATION  
SULPHURIC ETHER WAS ADMINISTERED BY  
WILLIAM THOMAS GREEN MORTON A BOSTON DENTIST  
THE PATIENT WAS GILBERT ABBOTT THE OPERATION WAS  
THE REMOVAL OF A TUMOR UNDER THE JAW  
THE SURGEON WAS JOHN COLLINS WARREN  
THE PATIENT DECLARED THAT HE HAD FELT NO PAIN DURING  
THE OPERATION AND WAS DISCHARGED WELL DECEMBER 7  
KNOWLEDGE OF THIS DISCOVERY SPREAD FROM THIS ROOM  
THROUGHOUT THE CIVILIZED WORLD AND A NEW ERA FOR  
SURGERY BEGAN

## FIRST ANESTHESIA SITE MADE NATIONAL SHRINE

DONALD LEAKE, D.M.D.

THE Ether Dome of the Massachusetts General Hospital was designated a National Historic Landmark by the National Park Service in ceremonies held at Boston on the 119th anniversary of the first successful demonstration of ether anesthesia.

A certificate and plaque which specifically indicated that the Ether Dome "possesses exceptional value in commemorating and illustrating the history of the United States of America" were presented by Mr. Edwin Small, an official of the National Park Service, on behalf of the Hon. Stewart L. Udall, Secretary of the Interior, and George E. Hartzog, Jr., Director of the National Park Service.

On the crisp and clear morning of October 16, 1846, William T. G. Morton, carrying a mysterious flask, appeared at the gate east of the Bulfinch Building of the Massachusetts General Hospital.

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Dr. Leake is Editor of the *Harvard Dental Alumni Bulletin*. This news story appeared in the *Bulletin*, Winter 1966, 26:10-14, and is reprinted by permission.

This Boston dentist hastened into the hospital's operating theater and into the lasting gratitude of mankind. The story of his administering ether to Gilbert Abbott, a courageous patient who was to have a tumor removed "from under the jaw," and of its painless removal by the surgeon, John C. Warren, is well-known.

The commemorative flyer published by the hospital for the occasion describes the architecture and the significance of some of the events that have taken place within.

The original building of the Massachusetts General Hospital is named for its creator, Charles Bulfinch, Boston's first native-born architect whose genius for design and structure has left its enduring imprint on our country. The Bulfinch Building stands today, a priceless heritage from the past retaining its classic beauty and dignity in the midst of the many buildings of the hospital that have risen to encompass it during the past century and a half.

The stately Bulfinch is built of Chelmsford granite. Across the facade is a portico of eight great Ionic columns. In the pediment above the portico is a lunette window, and four chimneys surmount the corners of the center block. Atop the building is the great dome housing the old amphitheatre known as the Ether Dome. Two graceful granite staircases with iron railings complete the impressive entrance.

The interior fulfills the promise of the exterior in its simplicity and beauty. Still to be seen are the beautiful arches, the soaring elliptical ceilings, the graceful staircases with their balusters supporting curved handrails. The floors are solid granite blocks, except on the first floor where smooth and undulating red tiling bears witness to the generations of people who trod them as they ministered to the needs of the sick for over one hundred and fifty years.

Pausing to look down the stairwell from a vantage point between the third and fourth floors, one sees the beauty of the winding cantilever staircase enhanced by the glow of Colonial lanterns, suspended from the ceilings and attached to the walls.

To the original beauty of the Bulfinch Building and its architectural splendour has been added the lustre of great medical achievement. History records medical discoveries of far-reaching significance that have emanated from within its walls.

As we approach the Ether Dome, three notable pioneering achievements immediately come to mind. History records them as "the three

milestones in the development of modern surgery." The first was the first public demonstration of the use of ether in a surgical operation. The second was the contribution of antiseptic surgery by Joseph Lister of Scotland, which was introduced at the M.G.H. in 1869 by Dr. J. Collins Warren, the grandson of a founder of the Hospital.

In 1886 the third advance came when Dr. Reginald Fitz of the Massachusetts General Hospital identified appendicitis, a disease which had plagued mankind for centuries. Following this discovery, members of the surgical staff of the Hospital began performing operations to remove the appendix

It was in the amphitheater of the dome of the Bulfinch Building, the operating room of the hospital from 1821-1867, that, on October 16, 1846, the first public demonstration of the use of ether in a surgical operation was performed. Dr. John C. Warren, co-founder of the Massachusetts General Hospital and its first Surgeon, operated on the patient, and Dr. William T. G. Morton, a dentist "to whom history accords credit for the courage and imagination to demonstrate the chemical's properties in public," administered the ether with his own apparatus. Within a year, following Dr. Morton's demonstration, ether was being used world-wide to conquer pain of surgery.

From the "first milestone" in medical pioneering the amphitheater atop the Bulfinch Building has become renowned as the Ether Dome. Although its use as an operating room ended in 1867, the Ether Dome has continued to serve not only as an historic symbol of inspiration, but also as an important and integral part of the hospital's daily activities. Here medical rounds and conferences are held daily and, just as in its original days, the Ether Dome is the site of the unceasing pursuit of medical knowledge to be shared with others for the benefit of mankind.

# Fifth Annual Institute for Advanced Education In Dental Research

MAY 15-26 AND OCTOBER 9-13, 1967

## SECRETORY PHYSIOLOGY AND SALIVARY FUNCTION

THE Institute for Advanced Education in Dental Research was conceived by the Committee on Research of the American College of Dentists. This group recognized that essentially all training efforts are directed toward either development of new investigators for careers in research, or specialized advanced training of individuals. They felt that there would be real value in a program that afforded experienced workers the opportunity to gather together under the guidance of a group of recognized senior scientists, acting as mentors, and discuss their research interests, problems, and goals.

The basic philosophy underlying creation of the Institute was that by a sufficiently prolonged association of this type the trainees, all with related but preferably non-identical interests, would gain a broader and deeper understanding of dentistry's problems and fruitful ways to attack them. From the personal standpoint, consideration of the specific details of each participant's own research activity would contribute to an insight into its significance and possible future direction, as well as into new and advanced experimental approaches that might be applied.

The Institute is entering its fifth year under support by a training grant from the National Institute of Dental Research. Determination of annual program content, invitation of senior mentors, and selection of trainees have become the duties of a continuing Subcommittee on Research of the American College of Dentists.

The programs are kept entirely flexible and mentors are invited on the basis of stature and competence in the field, and community



of interest with the participants. They are drawn from the ranks of general science as well as from dental research centers. In the selection of trainees, consideration is given to record of accomplishment and promise for the future, ability to add to the dialogue of the curriculum, as well as to the achievement of a balance between the various disciplines pertinent to the study areas. Ordinarily the basic group is comprised of ten to twelve trainees and four mentors, with added senior participants as special needs arise.

The Institute is held at locations where the atmosphere is conducive to serious discussion, informality, and minimal interruption. Sessions consist of a two week period in Spring, followed by a concluding week in Autumn. This arrangement has not only made scheduling more feasible, but the time for thought and trial between sessions has also contributed greatly to the effectiveness of the concluding week's discussions.

The subject for the 1967 Institute is *Secretory Physiology and Salivary Function*. Consideration will be given to the physiological, biochemical and structural aspects of secretory phenomena in general, and to the specialized areas of normal and pathological salivary function. Among the mentors will be Leo M. Sreebny, University of Washington, and Solon A. Ellison, State University of New York; the others will be announced. The sessions will be held May 15-26 and October 9-13. Several locations are being considered.

Research workers interested in attending should forward applications before December 1, 1966, to Dr. T. F. McBride, Assistant Secretary, American College of Dentists, 4236 Lindell Blvd., St. Louis, Missouri 63108. Material submitted should include a curriculum vitae, list of publications, and a detailed account of previous and present research activities, including a statement of the type of discussion subjects the applicant considers most pertinent to his own interests.

The Institute reimburses trainees for their travel expenses and pays a stipend based on the cost of living.

## Looks at Books

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### VITAL AND HEALTH STATISTICS

In the past year the National Center for Health Statistics has published pamphlets presenting data from the National Health Survey. Brief notice of several of these of interest to dentists follow. The comment is excerpted from releases of the Public Health Service, National Center for Health Statistics, Forrest E. Linder, Ph.D., Director.

**ACUTE CONDITIONS.** Incidence and Associated Disability. PHS Publication No. 1000-Series 10-No. 15. April 1965. Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for 40 cents.

A report on "Acute Conditions, July 1963-June 1964," includes annual and quarterly estimates of the incidence of various types of acute illness and their associated disability. The report also includes statistics on the days of restricted activity, bed disability, and time lost from work and school which are associated with acute illnesses.

The incidence of acute respiratory illness which required medical attention or reduction of daily activity was substantially lower during the 12 months ending in June 1964 than during the preceding year. According to information reported to the Health Interview Survey, a decline in incidence of illnesses reported as influenza was the principal cause of the drop.

The total incidence of acute conditions occurring in the civilian, non-institutional population of the United States showed less of a decline than that for respiratory illness alone, because of increased incidence of injuries

and common childhood diseases. There were about 4.5 million more injuries during the current year than in the previous period. Epidemics of measles and rubella (German measles), occurring during the spring of 1964, contributed substantially to the rise in the number of common childhood diseases.

Persons residing in 212 standard metropolitan statistical areas (SMSA) in the United States (as defined for the 1960 Decennial Census) reported a slightly higher rate of incidence of acute conditions than did persons in the nonfarm population residing outside of the SMSA's. Persons residing on farms outside of these 212 areas had the lowest incidence rate.

Residents of the West region reported more acute conditions (252 per 100 persons) than did persons residing in the other regions. Persons residing in the Northeast region had the lowest rate, 192 cases per 100 persons per year. The excess in rate for the West region compared with the Northeast region was greatest for persons aged 15-24.

During July 1963/June 1964, acute illnesses or injury caused an average of 8.1 days of restricted activity per person in the population, including 3.5 days spent in bed. The rate of disability was higher among females than among males, with the average female having 1.5 more days of reduced activity and 0.8 of a day more of bed disability per person.

**VOLUME OF DENTAL VISITS.** PHS Publication No. 1000-Series 10-No. 23. October 1965. Available from the Superintendent of Documents,

U. S. Government Printing Office, Washington, D. C. 20402, for 45 cents.

This study based on interviews conducted by means of a national sample of households indicates that persons in the civilian, noninstitutional population of the United States made an estimated 293.8 million dental visits during the year ending June 1964. This averages 1.6 visits per person (1.7 for females and 1.4 for males). Any visit to a dentist's office for treatment or advice was counted, even if a technician or hygienist provided the service. About 42 per cent of the population were estimated to have made at least one dental visit in the year preceding the interview.

Persons living in metropolitan areas averaged 1.8 visits during the year. Farm residents averaged 0.9 visits, and nonfarm residents residing outside metropolitan areas 1.2 visits. Of the country's four regions, the Northeast showed the most visits (2.1), the South the least (1.1). For the country as a whole the nonwhite population registered 0.9 visits, the white population 1.7 visits.

Dental visits varied directly with family income. For example, persons living in families with incomes of less than \$2,000 made 0.8 visits each per year, as compared with 2.8 for those in the family income group \$10,000 and over. The estimated number of visits per person also increased with education of the head of the family, from 0.6 visits where the head had under 5 years of education to 2.6 where the head had at least 13 years.

The rate of visits among persons aged 17 years and over who had never been married (2.1 per person per year) was higher than the rates for married persons (1.7) and for those widowed, divorced, or separated (1.2).

Fillings and examinations represented about two-fifths and one-fifth

of the visits respectively. (More than one type of service could be performed in a single visit.) The per cent of visits involving fillings peaked at 15-24 years and then declined. Extractions and other surgery also increased until that age, but then leveled off. Orthodontic services were performed almost entirely on persons aged 5-24 years. Visits involving dentures increased with advancing years, until at 65 years and over denture construction was performed in 42 per cent of the visits.

Certain comparisons are made with data covering the two years ending in June 1959, but in general the differences are small when account is taken of changes in the pattern of investigation.

**DENTAL VISITS. Time Interval Since Last Visit.** PHS Publication No. 1000-Series 10-No. 29. April 1966. Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for 40 cents.

Information collected during the year ending June 1964, indicated that an estimated 78.1 million persons in the civilian, noninstitutional population (42.0 per cent of that group) made at least one dental visit during the year prior to the interview. For the three age groups between 5 and 44 years that the study identifies, the proportion who had made such a visit ranged only between 49 and 55 per cent, with the 15-24 old group showing the highest figure. The proportions making a visit fell off markedly for the extremes of the age range.

At every age level, a slightly greater proportion of women than of men had made a dental visit during the year preceding the interview. Whereas 44.6 per cent of the white population had made such a visit, only 22.7 per cent of the nonwhite population visited a dentist. This differential was somewhat re-

duced when persons of similar incomes were compared.

Of the total population covered by this survey 16.6 per cent of the people had never visited a dentist, while for another 14.0 per cent the time interval since the last visit was at least 5 years. Among persons 5-14 years of age, 24.5 per cent had never visited a dentist.

Figures also are given concerning dental visits in terms of six usual activity statuses (school-age, usually working, keeping house, etc.); by marital status; by education of family head; and by family income.

In families with income under \$2,000 per year, about 50 per cent of the population studied had not visited a dentist either at all or during at least the last 5 years. This figure was reduced to about 14 per cent for persons with a family income of \$10,000 and over. Even among the latter group, however, about 6 per cent of those aged 5-14 years had never visited a dentist.

Education of the family head also is strongly related to dental visits. Education and income are independently related to recency of dental care, with income being more closely associated with the occurrence of dental visits than is education.

Persons residing in standard metropolitan statistical areas are more likely to have visited a dentist recently than nonfarm residents living outside the metropolitan areas; and the latter group made proportionally more such recent visits than did residents on farms.

A previous report (Series 10, No. 23) gives information from the same sample for the time period of the present study on the volume and rate of dental visits. An estimated 293.8 million dental visits were made during the year ending June 1964. Comparing these data with estimates for the year ending June 1958 reveals that a larger pro-

portion of persons in each age group had one or more visits during the more recent period, although the proportional relationship between age groups remained quite similar. The present study contains a table comparing the per cent of persons who had visited a dentist within the year in the 1957-58 survey with the percentages for the 1963-64 survey by selected population characteristics.

**PERIODONTAL DISEASE IN ADULTS.** PHS Publication No. 1000-Series 11-No. 12. November 1965. Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for 35 cents.

This report gives the first solidly based national estimates of the prevalence and severity, by age and sex, for the white and Negro populations, of inflammatory disease of the tissues and structures that surround and support the teeth. The data were collected in 1960-62 by physical examinations of a probability sample of persons 18-79 years of age representative of the country's civilian, noninstitutional population.

Degree of disease was evaluated by Russell's Periodontal Index, obtained by averaging scores for each tooth that can range from 0 to 8. The index does not discriminate between types of periodontal disease, and depends on indications discernible to the eye.

Of the country's approximately 110 million adults more than 20 million no longer had any teeth. About one out of four of the remainder had destructive periodontal disease. About two out of four had gingivitis, which develops into the former when the inflammatory process penetrates to the deeper tissues supporting the teeth and forms "pockets." About one out of four adults exhibited no signs of gingivitis or the more severe periodontitis.



Only about 10 per cent of men or of women aged 18-24 show periodontal disease in its more severe form. Thereafter it develops more rapidly in men than in women. At 45-54 years, for example, 37 per cent of men and 30 per cent of women exhibit periodontitis; at 65-74 years, 58 per cent of men and 33 per cent of women. The mean periodontal score for men was 1.34, as compared with 0.93 for women. Negroes had mean score of 1.60 as compared with 1.06 for the white population.

The occurrence of periodontal disease varied inversely with family income and with education. Each variable is independently associated with the disease, and the correlation is higher with education than with income. The inverse relationship with each variable is more apparent in men than in women. The occurrence of periodontal disease in white and Negro men with comparable educational attainment did not differ significantly. The higher periodontal scores for Negro as compared with white women, however, cannot be accounted for entirely by differences in educational attainment.

**PREPAID DENTAL CARE**—A Glossary. PHS Publication No. 679, Division of Dental Public Health and Resources, Washington, D. C. 1965. Limited quantities available from Dental Care Economics Section, Division of Dental Health, 8102 Woodmont Avenue, Bethesda, Md. 20014.

This glossary is a new publication available from the Division of Dental Health, Public Health Service, Department of Health, Education, and Welfare; it contains a section of terms used in prepayment programs and a second section consisting of dental terms.

The glossary was compiled to improve communication among those working in the dental prepayment field. Such insurance terms as "capitation fee," "loss ratio," and "rider," are confusing to members of the dental profession. On the other hand, such dental terms as "mesial," "pontic," and "alveolar ridge" are equally confusing to the non-dentist. The need for more understanding grows daily as the various dental prepayment mechanisms extend coverage to more and more people.

"By the end of 1965, the number enrolled in prepaid dental care plans will exceed two million," said then Assistant Surgeon General Donald J. Galagan, Chief of the Dental Division. "Our latest summary shows more than 1.8 million covered by such plans, and the growth of prepayment is accelerating."

In 1959 the Public Health Service issued its first small glossary of terms. The new edition is three times as large and contains the definitions of dental terms most often used in prepaid dental care programs. Insurance experts and other non-dentists will find this section particularly helpful.

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(July, 1966)

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## *The Objectives of the American College of Dentists*

The American College of Dentists, in order to promote the highest ideals in dental care, advance the standards and efficiency of dentistry, develop good human relations and understanding, and extend the benefits of dental health to the greatest number, declares and adopts the following principles and ideals as ways and means for the attainment of these goals:

(a) To urge the development and use of measures for the control and prevention of oral disorders;

(b) To urge broad preparation for such a career at all educational levels;

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

(d) To encourage, stimulate, and promote research;

(e) To encourage qualified persons to consider a career in dentistry so that the public may be assured of the availability of dental health services now and in the future;

(f) To improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient through sound public dental health education;

(g) To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

(h) To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public; and

(i) To urge upon the professional man the recognition of his responsibilities in the community as a citizen as well as a contributor in the field of health service;

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

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This is from the Preamble to the Constitution and Bylaws of the American College of Dentists.

