

A N N U A L M E E T I N G  
RHODE ISLAND STATE DENTAL SOCIETY  
January 17, 1956

I am glad to have an opportunity to attend this annual meeting of the Rhode Island State Dental Society. You have a vigorous and most constructive organization. Although Rhode Island has no dental school, your society has given impressive leadership in promoting post-graduate study; and your sponsorship of meetings and seminars at the Rhode Island Medical Library, the Samuels Dental Clinic, Brown University, and Providence College has contributed greatly to the high quality of dental care in our State.

I was particularly interested to learn of your approach to problems that are common to dentistry and medicine through establishment of a joint committee from the dental and medical societies. I have of course been aware, too, of the distinguished contributions of one of your senior colleagues, Dr. Albert L. Midgley, toward the ideal of coordinated health services for the whole man. It was gratifying to hear that Dr. Midgley, who has practiced dentistry in Providence since

1901, has received, among his other honors, the coveted Medal of Award of the State Society for his devoted service to the profession.

I should like to express at this point my deep appreciation for the high honor you have conferred on me tonight. I will always be very proud of this generous citation from the Rhode Island State Dental Society. It will be a constant inspiration in my efforts to bring better health to the American people.

In speaking to you on dental health, I have no intention of dwelling upon matters of professional judgment in your field. I should like rather to examine those problems that belong in the realm of public policy and legislative action, in the light of their bearing on the national welfare.

My interest in these matters has been stimulated in part by my work in Washington during the past fifteen years. It has been my privilege to serve as a member and now as chairman of the House subcommittee that provides funds for the major health programs of the Federal Government. These include the Public Health Service's activities

in dental public health, in dental resources, and in dental research at the National Institutes of Health in Bethesda, Maryland. Through discussions with staff members of these programs--all of which are within the Department of Health, Education, and Welfare--I have come to appreciate the great importance of dental health, and have given a great deal of thought to its more pressing problems.

I feel the dental problem confronting the Nation is threefold. First, there is the matter of manpower, a major factor affecting the Nation's dental health. The demand for dental services is rising, largely because of more effective health education and the advancing standard of living. In addition, dentists are needed for the armed services, civil defense activities, and community health organizations. We may expect the problem of manpower to grow, as more and more people seek correction of dental disorders--which, I am told, afflict 95 percent of the people of this country.

In the face of these increasing demands for dental care, public health officials have expressed concern over our failure to make more

progress toward modifying the continuing decline in the ratio of dentists to population. It appears from testimony before our subcommittee that there is great need for a concerted effort to expand the present corps of dental and ancillary personnel.

Second, there is need to promote the use of dental services and to bring them within the reach of all families in the United States. Certainly an intensive effort to increase dental manpower must be accompanied by a program which will pave the way for expanded use of the additional services.

Third, there is urgent need for the development of better preventive methods. No one can fail to be impressed with the sheer magnitude of the dental problem. Since only a fraction of the population receives adequate treatment, we face a huge backlog of accumulated neglect. We can never expect to solve this problem through increased dental care alone. We must rely ultimately upon a forceful research program to point the way to more effective means of preventing dental disorders.

It is self-apparent that one way to meet the persistent shortages in dental personnel is to increase dental school enrollment. But--as is true in medical schools--costs of training have risen so high as to make the financing a major national problem. The schools' financial difficulties are reflected in problems of insufficient space, obsolete equipment, and inadequate salaries. Student fees and other sources of income for dental schools simply cannot maintain the schools on a sound basis, let alone provide for necessary expansion. And I have been told that recent studies indicate that further increases in tuition would tend to curtail enrollment.

From my point of view as an interested layman and legislator, I am convinced that only increased funds from other sources can avert deterioration in the quality of the schools. The national interest in better dental health leaves no doubt in my mind as to the propriety of Federal assistance. On this account, I introduced in the first session of this Congress a bill authorizing grants for construction of

medical and dental facilities for research and education. As you know, the provisions of this bill have the approval of the American Dental Association.

In addition to such long-range efforts as those directed to training and facilities, it also seems important to make maximum use of the individual dentist's productivity, without sacrifice of quality. Our subcommittee has been told of promising studies in this field. One of these, I am pleased to note, was organized as a six-year co-operative project of the city of Woonsocket, the Rhode Island State Health Department, and the Public Health Service. Dental examinations and complete dental treatments were given to more than 5,000 school children, in order to collect data on the amount and type of service, equipment, and personnel required for adequate dental care of a community's school-age population. I find three of the results, as they were reported to me, particularly striking. One was the discovery that fully 80 percent of the children had received no previous dental care whatever. Another was the appreciable increase in service output

per dentist through the effective use of chairside assistants. Finally, I was impressed by the demonstration that dental care for children is well utilized if readily accessible.

There is a continuing need to find new and more satisfactory ways for people to meet the costs of dental care, particularly for medium- and low-income groups. As early as 1950, I understand that the Council on Dental Health of your Society made a start toward investigating the possibilities of prepaid dental care for children. Increasingly, leaders in labor and management are turning to dental societies for advice and cooperation. This is your challenge, for no one is better prepared to do the job. The growing concern and initial action among dental societies is a strong indication that the challenge will be met.

Progress in the ability to prevent dental disease depends upon a continued acquisition of basic scientific knowledge. The search for new knowledge, however, is very costly, in terms of both facilities and

personnel. I feel that present expenditures for dental research are less than is warranted by the frequency of dental disease and the lack of knowledge as to causes and means of prevention. In addition, I am aware of the fact that there is a critical shortage of trained investigators in dental research. But some progress has been made in these areas. And I am pleased to be able to say that some of the progress has resulted from actions of my subcommittee on appropriations. Evidence points to a continued public and Congressional interest.

It was to help cope with these problems that the Dental Research Act was passed by Congress in 1948. Congressional appropriations enabled the National Institute of Dental Research, one of the seven National Institutes of Health at Bethesda, Maryland, to attack problems that had received little or no attention.

The Act further enabled the Public Health Service to give assistance in the form of grants to schools, hospitals, and other non-federal organizations in expanding their fundamental research. Although this is still a program of modest size, it is bringing about a general



increase in laboratory and clinical studies of dental disease. During the current year, for example, Public Health Service grants are supporting 45 projects in 22 research institutions in the United States.

Another aspect of the Service's program is the awarding of research fellowships to investigators and students in the basic sciences related to dentistry. This helps talented young men to prepare for research careers. The present program is supporting 18 full-time fellowships at the predoctorate or postdoctorate levels.

When the Service opened its Clinical Center at NIH in 1953, research in dental disease was able to take another step forward. The Clinical Center, symbolizing the upsurge of public interest in health research since World War II, is a 500-bed combined laboratory and clinical facility serving the seven National Institutes. Patients, to be admitted, must meet the requirements of a particular study, and they must be referred to the Center by a dentist or physician. The referring dentist or physician is kept informed of the treatment and progress.

His cooperation is essential, particularly during the follow-up period.

The National Institute of Dental Research is now conducting several clinical research projects on selected patients. When testimony was presented before my committee last spring, I was told that the current projects include investigations into the cause and development of gum conditions that may lead to cancer, changes in bone density, and cysts. Other projects include an evaluation of current methods of treating periodontal disease, chemical studies of oral tissues, and research on hereditary abnormalities of tooth enamel. I cannot attempt, of course, to name all the studies, much less describe them.

I did ask the Public Health Service, however, for brief descriptions of some of their current research that might be of interest to this group. I should like to quote a few paragraphs from the material they sent me.

"There is new evidence that the diet can influence the development of tooth decay. In rats fed dry milk powder, the incidence and severity of tooth decay was shown to parallel the intensity of heat with which the powder was processed. Further studies showed that considerable protection against decay was afforded by the addition of a protein component, lysine, to the milk powder diet. This work may be extended to include study of other protein foods commercially processed with heat.

"Other studies using antibiotics gave clues to the role of oral bacteria in the development of tooth decay. The testing of several antibiotics indicated that microorganisms susceptible to penicillin and bacitracin may cause caries in the rat. A clinical study was begun to evaluate bacitracin as a preventive of tooth decay in humans.

"Gains were reported in various laboratory, clinical, and field studies of ingested fluorides and their relation to the entire physiology of the body as well as to dental caries. Experiments with young growing

rats showed that fluorides do not interfere with the growth or calcium metabolism of bones.

"A survey of defects in tooth structure among the population of two Maryland counties led to the discovery of a racially isolated group of about 4,500 related individuals for whom exhaustive family histories can be obtained. Extensive studies of this unusual group are under way.

"In research supported by Public Health Service grants to nonfederal institutions, several species of oral bacteria with unusual nutritional requirements have been discovered. This may help explain the role of bacteria in causing or preventing diseases of the teeth and mouth.

Another grantee is developing tests to permit studies of starch-digesting enzymes in saliva. In early work he has found significant differences between the saliva of children with high and low incidence of decayed teeth."

I think you will agree that fundamental studies of this type offer the best hope for decisive gains against the problem of dental disease.

Knowledge obtained through research should be developed, tested, and utilized as soon as it becomes available. An instance of this is the nationwide program to demonstrate the usefulness of topically applied sodium fluoride to prevent tooth decay. Based on the results of an eight-year study with thousands of children, Congress in 1949 appropriated \$1 million for the demonstration program. Over a five-year period, units were in operation in 38 states and 5 Territories. Demonstrations conducted in cooperation with State and local dental societies and health agencies showed how community-wide programs might be operated, serving also to stimulate nationwide interest in dental health.

In 1945 the Public Health Service launched its 10-year pilot study at Grand Rapids, Michigan, to determine the value of fluoridation of public water supplies. This and other studies have demonstrated convincingly that children who have used the fluoride-adjusted water since birth benefit to the extent of a two-thirds reduction in tooth decay.

To me the significance of the fluoridation story is this. As a result of many years of laboratory and field research, our public health

departments are now able to reduce substantially the impact of dental caries--a disease of major importance in terms of ill effects on personal health, lost time, and an expenditure for dental services that is estimated to exceed \$1½ billion a year. It is gratifying to know that communities serviced by the water supplies of Providence, Bristol, and Newport have already laid a firm groundwork for better dental health in the future. Some 450,000 persons in 11 communities--more than half of our State's population--are receiving the protection of this safe, simple, and inexpensive public health measure.

In conclusion, I should like to say that one fact emerges crystal clear in any realistic attempt to work out approaches to the Nation's dental and medical problems. This is the need for continued, wholehearted cooperation between interested groups, whether concerned with the development of knowledge or its application. Like the major undertakings of industry, progress in research and education today require the mobilization of talent, funds, and facilities on a vast scale; and no one segment of society can or should bear the whole burden. Progress in the field of health is necessarily a cooperative responsibility.

For this reason I believe that the Federal Government has a continuing role to play in the dental field, but a role that must supplement the efforts of private individuals and organizations.

I should like to close on a note of confidence expressed aptly on a similar occasion by Dr. Midgley--that the Rhode Island State Dental Society will "continue with the same high purpose, inspiring effort, and dauntless will that have characterized the sturdy growth of dentistry in our State" since the Society's inception nearly eighty years ago.