

THE FUTURE OF DENTAL RESEARCH
AND ITS IMPACT ON DENTAL EDUCATION

It is good to be here today--particularly so since this is my second appearance before the leaders of American dental education in less than two years.

At the meeting of the American Association of Dental Schools in Boston, I was asked to look at the Survey of Dentistry as a layman and legislator. Today I am a layman and a legislator weighing the future of dental research and its impact on dental education.

But it seems to me that the difference in assignments is merely a surface difference. In essence the core of concern has remained unchanged: It is the realization that, in a time of growing treatment needs and demands and a relative decline in professional manpower supply, the protection of the Nation's dental health can be achieved only through a vast expansion in dental scientific knowledge, combined with the profession's development and acceptance of new methods and new techniques; that such expansion and acceleration can be realized only through more adequate programs of dental research; that the responsibility for making such research a reality must, in the main, be borne by our institutions of dental education; that dental education itself must inevitably be changed and improved--first to permit schools to accommodate research activities and, finally, to reflect the progress which will be scored in consequence.

Remarks of the Honorable John E. Fogarty, Member of the U.S. House of Representatives from Rhode Island, at the 1962 Conference of Dental School Deans, December 10-12, 1962, in Miami Beach, Florida.

Indeed, what impressed me in Boston, and what encouraged me there, was your uncompromising approach to the problems which face dentistry in this country, and the objectivity with which you accepted the fact that solution demands a massive program of remedial action involving drastic departures from traditional procedures and concepts.

I came away convinced that this need for action could and would be met if dental schools were only given adequate financial support. Simply because of the size of the job to be done, it seemed apparent that the great part of that support would have to come from the Federal Government. And perhaps because of the sense of purpose and optimism pervading that meeting, I felt equally sure that the dental profession could succeed in arousing enough public interest to spur the Federal Government into action.

Today I am more than ever convinced that the adequacy of dental health standards in the years ahead will be determined in large measure by the potency and scope of future dental research activities. And I am equally certain that effective dental research is ultimately the function of effective dental education--of an expanded school system with plants large enough and well enough equipped to house research projects; of schools staffed by teachers with the time, the talent, the experience and the interest to initiate and guide research; of schools intellectually stimulating enough and financially strong enough to attract and hold the most capable students and to offer them intensified training in new and challenging areas within the dental profession.

Today I am more than ever convinced that the allocation of Federal funds for the support of dental education is essential. I see no reason to doubt that, sooner or later, these funds will be provided. But what is of increasing concern to me, as surely it must be to you, is that so many people seem to feel that later--whenever that may be--will surely be soon enough. To those of us who regard health matters seriously, so casual an approach to an urgent problem is incomprehensible.

We have talked about the increasing disparity between the number of dentists and population for ten years. We have talked continually of the need to increase--perhaps double--our number of graduates. Yet we are still enrolling freshmen at a rate which has not been improved in seven years. No--I take that back: over the five years prior to 1962, dental schools did, in fact, increase freshmen enrollments by precisely one student per year. With the opening of the University of Kentucky, this annual increase spurted to twenty-seven. That's good. But since these twenty-seven freshmen in no way resemble loaves and fishes, they are not likely to serve adequately as a source for the 2700 additional graduates we have set out to achieve.

We have yet to make a significant start toward the Nation's manpower and construction goals. Time itself therefore becomes a crucial factor--one which may very well determine the validity of every program we propose and every action we undertake. For consider this: All of us--laymen, dentists, legislators--talk of dental manpower shortage as a thing of the future--a threat. But because of our very lack of progress, we must begin to change the tense. In a very short time, what we have foreseen as a threat to the future will be

a fact for the here and now. And in that here and now, the problem of forestalling shortage is automatically transformed into one of coping with an existing fact.

For this reason, if for no other, the need to enhance dental scientific knowledge, and to employ it with greater purpose and creativity, increases. The need for research, basic and applied, becomes more urgent. And, against this background of shortage, what is required is not merely more research programs but research of greater depth and daring--and the courage to act upon the results.

Schools have already made beginnings in this direction. Some schools--although I think too few--now have developed the multi-discipline approach so necessary to effective research in the basic and fundamental problems of dental disease. Almost all schools have joined the search for ways to teach dental students how to work with chairside assistants.

But what of the curriculum offered to the dental students--should not this also be the subject of more intensive study and investigation? Perhaps the time is not far off when schools will be unable to afford the luxury of teaching a dental student to do anything which someone else could do for him. Perhaps the time is almost here when it will be sheer extravagance to require every dental student to spend long hours in learning many time-consuming procedures which only a few ever use in actual practice.

I don't know the answer to this question. And I hazard the guess that neither do you. That is precisely why I asked. For this,

and other questions like it seem valid, they are being raised with increasing persistence--and raised by members of the dental profession, not by congressmen. They are therefore questions that must be definitively answered--not by congressmen, but by dentists and dental educators, and not by educated guesswork, but by educational research.

I emphasize the importance of the educator's researching education itself, not because I think our schools are the weakest point in the Nation's defense against dental disease, but because they are ultimately our one defense. I believe, as I said before, that the success of every other remedial action depends upon them. The very pace and tenor of the times we live in creates problems so complex that their solution demands a variety of approaches where, once, one might have sufficed. The first wheel may have been made by one man in a moment of blind inspiration. Today's car is the end product of the specialized knowledge and skills of hundreds of men. As it is with transportation, so it is with science.

Let's bring the point closer home: We know that huge reductions could be made in the need for dental treatment through research into the prevention and cure of dental disease. Yet as of today no one has found the cause of any dental disease, and fluoridation remains the only significant preventive method so far developed.

In the programs at the National Institute of Dental Research, we now have a focal point for intense basic research activity. The advancement of knowledge already achieved is noteworthy and we will undoubtedly accomplish far more. But who would deny that whatever is

accomplished could be accomplished quicker and more efficiently if the National Institute of Dental Research were one of many equally well-financed and well-equipped centers of research?

I have no intention of underestimating the value of the research now being conducted in dental schools. But you know--and I know because you have told me--that many schools lack adequate facilities to house basic research at the graduate level, and that others are so staffed that their teachers do not have time to pursue their interest in research. Undergraduate students are not receiving adequate formal training in research methods. And even though there has been a significant increase in the training of research workers through the Federally supported research training program, schools which are fortunate enough to have the necessary facilities and operating funds often cannot find the research-oriented teachers they need. The wonder is not that the dental research effort is still relatively modest as compared to that in medicine, but that it exists at all. A less stubborn child would be dead of undernourishment.

That schools, hampered as they are by a lack of staff and facilities, have been able, over the last few years, to score marked gains in the expansion of research activities is proof enough of the potential which exists in the Nation's dental schools. The fact that the majority of you here, as Deans, rate the need for increased support and for increased space for teaching or research as your most serious problems is evidence of your willingness to assume the additional responsibilities which progress imposes.

In this light, the failure of the last Congress to pass any of the bills providing Federal support to dental and medical schools is the more serious. I, myself, introduced three bills which together provided the comprehensive program of financial assistance which I consider indispensable to orderly growth and expansion. For, in addition to grants for construction, these bills would have done much to assist schools in attracting capable staffs and students with grants for general operating expenses and funds for scholarships.

When the general features of my proposals were consolidated into a single administration bill, I supported that also, even though I was convinced, and said so, that some of its provisions--in particular those pertaining to operating grants and scholarships--were inadequate. I was also aware that none of this legislation provided adequately for the renovation and rehabilitation of those schools which have been forced to subsist on substandard budgets. Even the provisions for scholarship and operating funds were later dropped or radically changed, and, as you well know, what was left of the administration's program never reached the floor.

Another bill of significance to the future of dental education was introduced in the Congress. It would have provided support to State and local health agencies and other non-profit organizations and institutions, including dental schools. It would have made possible support of research projects of a developmental character so necessary

to complete the dental research effort. It would have provided post-graduate and continuation training in special areas for practicing dentists and other health workers. It would, indeed, have been the next logical step in any Federal action designed to aid in the extension of dental knowledge and its purposeful use. This bill, though it was approved by the Senate committee, was never acted upon by the full Senate. Why?

I do not think the fault really lies with the Congress. Some of us in Congress have worked longer and harder than we like to remember to secure passage of this kind of legislation. And certainly the American Dental Association and the American Association of Dental Schools have repeatedly testified on behalf of such bills. What has been lacking is the pressure of public opinion.

The rest of the educational community has not spoken out decisively on behalf of dentistry. The backing of State and local authorities has not been effectively marshalled. Even the great majority of dentists have remained silent. There has not been created any sense of urgency. Well, the problem is urgent. Those who realize this should speak out; those who do not realize it should be enlightened.

I am sure that there are still some well-meaning dentists who oppose Federal support of dental education and research because they believe Federal support can only lead to Federal control. They are wrong. Federal support to education and research has been available for a long time. This country's medical research programs are among

the strongest in the world. They attained their pre-eminent position only after Federal funds became available for their support. Yet, I have seen no signs that members of the medical profession feel in anyway muzzled or suppressed.

One out of three of all practicing dentists went to school under the G.I. Bill. They seem to have maintained their professional independence. Last year, 12 percent of the total dental student body received some aid through the National Defense Education Act. And the only complaint I've heard against the Act is that the aid provided is too limited. Many of the more modern research facilities of your own dental schools were made possible with construction grants from the National Institutes of Health. And school research programs have grown, not atrophied.

I push the point because it is high time the ghost of Federal interference was exorcised. The real danger to the future of dental research and education is not Federal support, but the lack of it.

The failure of the last Congress to enact the necessary legislation must not be repeated in the next one, and I, for one, will do all I can to see that it is not. Until such legislation is passed, however, schools should be making the fullest possible use of existing Federal grant programs to support basic activities. Where the money available through these programs is insufficient, such as support for training research workers, you should bring pressure to bear to get it increased. On the other hand, where sufficient funds are available,

it is up to you to put them to proper use. From where I sit, it appears that Congress has taken the lead in supplying funds for expanded research. The follow-through, however, leaves something to be desired. I believe the case for expanded high quality dental research was well made before the Congress this year and the year before. Frankly, it is difficult for me to understand why all the available funds were not used last year and apparently will not be used this year. Obviously, then, you have ahead of you a job of persuasion and education, which, like charity, may well begin at home.

I hope, too, that dental schools and dental educators are not merely waiting for the passage of new legislation but that you are carefully planning for it. And I hope that in your planning, you will concentrate not only upon the direct effects of Federal support, but upon its side-effects and by-products.

In the past, not every school receiving Federal support has used its money wisely. Some have emphasized research programs qualifying for grants to the detriment of other programs. The result is an imbalance disadvantageous to students and teachers alike. Surely one of the most valuable by-products of Federal support is that it should permit schools to use other funds for other purposes--for the strengthening of the liberal arts and social science portions of the curriculum, for public health and preventive dentistry courses, for applied research projects--for all those things which schools have wanted to try for so long.

It is up to you to decide what balance should be struck. But I hope that all schools in the health sciences will remember the greatest knowledge is knowledge well used. That even as they build their basic research programs, they train their students how to employ the knowledge already attained. For surely, if the public is to benefit from its investment in your programs, applied research and basic research must advance and grow together. Through your own expanded efforts and through the newly developing Federal programs of applied research we can give the next generation what we ourselves have not always had--the assurance that knowledge is, indeed, being used with the greatest effectiveness in the shortest possible time.

Exactly what the future of dental research is to be, I cannot tell you. But if the history of scientific investigation in other fields is any guide, research will bring solutions to problems which now seem well-nigh insoluble--the prevention of caries and periodontal disease, the cure for oral cancer, the answer to cleft lip and palate. It will bring better rehabilitation techniques and the perfection of methods for treating patients who cannot now be treated. And through research, dental science will discover new problems to be solved and new lines of investigation to be pursued.

Nor can I tell you exactly what impact research will have on dental education. But everything we know now points to the need for an educational system with greater versatility and resilience than has ever existed before.

I indicated earlier in this paper that I thought there was an urgent need for research in the process of dental education itself. I repeat the thought, because it is clear that there is no parallel in dental schools to the strong ferment and change going on in the methods of medical education. If it already seems necessary to revise today's curriculum and teaching methods to accommodate tomorrow's scientific technology, then perhaps tomorrow's curriculum should be designed with some thought to the changes which the day after will bring.

The role of the Federal Government is not to dictate these educational changes. Legislators and Federal administrators are as convinced as you that this Nation gets the best results in education and research simply by leaving their management to people who know something about them. The Government's role is that of making change possible.

This is as it should be, for "Laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths disclosed, and manners and opinions change with the change of circumstances, institutions must advance also, and keep pace with the times." -- That is not my prediction of your future; it is Thomas Jefferson's. But I agree with it.