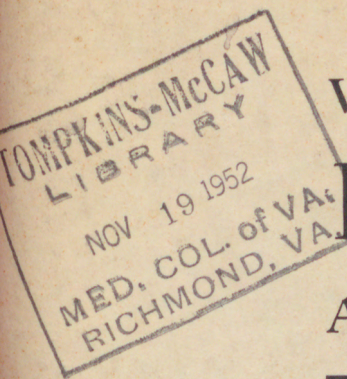


THE *Bulletin* OF THE



VIRGINIA STATE
DENTAL
ASSOCIATION

VOLUME XXIX

Special Issue

*Conference on Dental Health
Education*

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PROCEEDINGS

•

SPONSORED BY

VIRGINIA STATE DENTAL ASSOCIATION
VIRGINIA STATE DEPARTMENT OF HEALTH
VIRGINIA STATE DEPARTMENT OF EDUCATION



CAVALIER HOTEL
VIRGINIA BEACH, VIRGINIA

APRIL 24, 25, 26, 27, 1952

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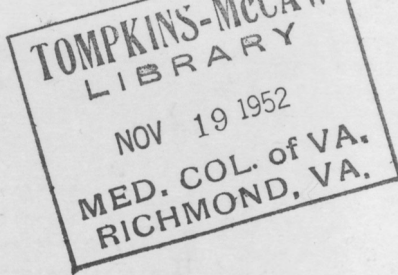


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FOREWORD

Before beginning this report, the reader is apt to want to know something about its background—that is, the series of events and situations which led up to the calling of the Conference on Dental Health Education. Otherwise, the deeper implications and significance of the proceedings might easily be overlooked.

The first Conference on Dental Health for Virginia was held at Richmond, Virginia, in 1948 and was co-sponsored jointly by the Virginia State Dental Association and the State Department of Health. The reports and recommendations of that meeting clearly recognized the responsibility of the dental profession in advising and actively cooperating with the public regarding the organizing and implementing of community dental health programs, such projects to involve "dental health education" as well as dental service procedures. At that same conference the delegates listened to Dr. Kenneth A. Easlick of Ann Arbor outline, step by step, the steady, ever increasing encroachment of the federal government into the field of such health services as medicine and dentistry. Dr. Easlick pointed out the gradual constriction of states' rights which has accompanied this steady growth of federal control, and, as we listened to him speak, we were much impressed, alarmed, and considerably dismayed to realize just how far this process had progressed up to that time.

Since 1948, the promotion by Harry Truman of his so-called "fair deal" program, the activities of such high-ranking federal administrators as Oscar Ewing, and other events have increasingly disturbed the average dentist by a clearer realization that powerful forces are today at work in this country, both within and without the federal government, to impose upon the nation a system of federal compulsory health insurance which, no matter by what name it may be called, amounts to essentially complete socialization of the medical and dental professions. And, insofar as dentistry is concerned, fuel for the flames of socialism is being constantly provided in growing amounts by the ever-increasing demand for dental services which is rapidly exceeding the available supply of dental personnel.

At the present time, only about 25% of the people of this country are receiving reasonably regular dental services. The remaining 75% receive no more than the emergency extraction of "abscessed" teeth and, in some cases, the set of "artificial" teeth to which such a policy is apt to lead. A great many of this latter group probably do not even desire dental services, and would not take advantage of such services

could they be provided. However, two world wars within one generation, the widespread exploitation of such commercial products as dentrifices and toothbrushes, the courses including dental hygiene being taught in the public schools, and many other factors have combined to rapidly increase the public demand for dentistry. On the other hand, the speed with which our dental resources can be expanded, to accommodate this increased demand, is sharply limited by such obvious difficulties as cost, time required, etc. Perhaps the greatest bottleneck of all is the fact that it is impossible to develop a satisfactory faculty and teaching staff for a dental college overnight; it takes time, and a good deal of time, to train an efficient dental teacher.

All of these and related problems have served to make the dental profession more fully aware than ever before of the understanding that its professional responsibilities extend far beyond the routine rendering of good dental service to the patient in the office of the private practitioner of dentistry. In short, dentistry is coming of age in the recognition of its social, moral, and economical responsibilities and their political implications. Not that dentistry has been idle or indifferent in the past in these regards; its record of progress includes many such fine developments as the organization of local, state, and national-level Councils on Dental Health, local and state clinics for the care of indigents, cooperation with school boards and P.T.A. groups in dental services to school children, and numerous others. Nor have the state and local health departments ignored these problems, as is demonstrated by the present state and local dental clinic programs throughout the country. Educators have not been idle either, as witness the courses on dental hygiene now being taught in the schools and the warm welcome with which accurate and authentic teaching materials for these courses are received by the teachers and school boards.

However, attempts to meet and cope with such problems as those noted above almost invariably run into an ever-present stone wall: the appalling ignorance of the general public in nearly all matters relating to dental health. Perhaps no group recognizes the great extent of this ignorance more than the private practitioners of dentistry, as their work brings them constantly face to face with it. And the dentist, along with all other workers in the health field, is more and more coming to appreciate the importance of prevention in our efforts to control the diseases which plague mankind. Especially is prevention invaluable as regards that 75% of our population which does not receive adequate dental service, particularly the indigents. In passing, the writer would like for the reader to note at this point that, considering all of the foregoing, it should be plain that the purpose of this Conference on Dental Health Education most definitely was not to promote more people to seek the services of the private dentist, although

there is no doubt that such is necessary if our people are to enjoy proper dental health.

On the contrary, throughout the course of the Conference, the emphasis was constantly on the importance of prevention of dental disease, rather than upon its cure, and this no doubt is as it should be. And this appears to be a basic fundamental: boiled down to its essence, PREVENTION MEANS EDUCATION!, whether applied to the individual or to people in the mass. A perfect illustration of this fact is afforded by the problems and difficulties which usually arise when an attempt is made to bring about the fluoridation of a city's water supply.

Since no group is more acutely aware of the great need for dental health education than the dentists themselves, it seems appropriate that the first moves towards the organizing of a Conference on Dental Health Education were initiated within the State Dental Association. Accordingly, the Council on Dental Health requested and was granted funds for this project, and a Planning Committee was formed. In marshalling our resources to meet the issue at hand, we very early realized that we had before us a public health problem of large dimension. Our next step, then, was to join our forces with the public health agencies of the Commonwealth, on the state and later the local levels. Also, education being a highly specialized science that calls for much professional knowledge and technical skill, we next invited the assistance of the State Department of Education, whose guidance, advice and active cooperation we view as essential to any success which we might hope to attain along these lines. At its first meeting, the Planning Committee decided that the conference should be co-sponsored jointly by the three interested groups, and that the personnel of the conference should be selected, equally insofar as possible, from these groups.

A glance at the program will reveal to the reader the manner in which the conference was organized. The "workshop" system of study was used. The first day was devoted to presenting the assembled delegates with the essential background material which they would need for the study-group discussions. We were, indeed, fortunate to be able to make available to ourselves the counsel of such a group of speakers, each an authority in his own field, as spoke to us that first day. Prior to the presentation of this background material we had a representative from each of the three sponsoring groups, dentistry, health, and education, briefly to summarize from the viewpoint of his own group the basic problems relating to dental health education, in order to point up the delegates' thinking and to prepare them better to evaluate the talks which followed. The first evening and all of the second day was spent in the individual study groups, each group

considering some definite phase of the general problem. The reader's attention is, in particular, called to the series of questions which each study group was offered as a starting point for their discussions; within these questions may be found a great many of the most difficult problems relating to dental health education in this state, and the way in which the individual groups handled these questions is both revealing and significant. On the third day the delegates again met in general session and heard the reports and recommendations of the seven study groups.

As the reader will understand, the proceedings of this conference cannot and are not intended to represent any final solution to the many problems which confront any effort to achieve better and more effective dental health education. Rather, the material contained herein can, at best, only serve as a guide for future activity. In this light, it should be studied by every dentist, educator, and public health worker in the Commonwealth.

One point which was brought out repeatedly in the conference is that any program for better dental health education is, and quite properly should be primarily a local community problem. Thus, although certain national and state-level activities are essential and must be coordinated with local measures, not until the recommendations of this conference are translated into terms of action on the local level can we begin to count any real concrete progress. To such action, and to those who will undertake it, this report is respectfully dedicated.

MILLARD P. DOYLE

Norfolk, Virginia

May 15, 1952

Program:

THURSDAY, APRIL 24, 1952

Special Meeting — 8:00 P. M.

Parlor A

Officers and Group Leaders

•

FRIDAY, APRIL 25, 1952

Morning Session — 9:00 A. M.

Ballroom

Presiding—MILLARD P. DOYLE, B.S., M.S., D.D.S.

Chairman, Council on Dental Health,
Virginia State Dental Association

Greetings

J. H. COCKS, D.D.S.

President, Virginia State Dental Association

MACK I. SHANHOLTZ, M.D., M.P.H.

Virginia State Health Commissioner

DOWELL J. HOWARD, Ph.D.

Virginia State Superintendent of Public Instruction

R. P. STICKLEY, D.D.S.

President-elect, Virginia State Dental Association

Summary of the Problems Relating to Dental Health Education:

From the Dental Viewpoint

PAUL L. CHEVALIER, D.D.S.

Professor, Crown and Bridge Prosthesis

School of Dentistry, Medical College of Virginia

From the Public Health Viewpoint

THOMAS L. HAGAN, M.P.H., D.D.S.

Regional Dental Consultant, U.S.P.H.S.

From the Educators' Viewpoint

HAROLD K. JACK, Ph.D.

Supervisor, Health and Physical Education

Virginia State Board of Education

*The Present Background of the Dental Health Education Problem:**Basic Principles of Education as Applied to Dental Health*

GEORGE OLIVER, Ph.D.

Director of Education, College of William and Mary

Specific Materials Available to Teachers and Pupils in Health Education in the Virginia Public School System

G. L. QUIRK

Assistant Supervisor of Health and Physical Education

Virginia State Department of Education

Afternoon Session — 2 P. M.**Ballroom***Continued:**The Present Background of the Dental Health Education Problem:**Dental Health Facts for a Health Education Program*

JOHN W. KNUTSON, D.P.H., D.D.S.

Senior Dental Surgeon, U.S.P.H.S.

Dental Health Education from the Point of View of the Private Practitioner of Dentistry

MOFFETT H. BOWMAN, D.D.S.

Editor, "Bulletin of the Virginia Dental Association"

The Present Program of Dental Public Health Education in Virginia

WILLIAM H. RUMBEL, M.P.H., D.D.S.

Director, Bureau of Dental Health

Virginia State Health Department

Dental Health Education as a Part of the Total Public Health Education Program

C. MAYHEW DERRYBERRY, Ph.D.

Chief, Division of Health Education, U.S.P.H.S.

Evening Session — 8:00 P. M.**Individual Conference Rooms***Study Group Discussions*

GROUP I—Dental Health Education: Sources, Scope, Rationale, Participation

GROUP II—Dental Health Education in the Private Dental Office

- GROUP III—Dental Health Education in the Public School System
GROUP IV—Dental Health Education for Parents
GROUP V—Dental Health Education for the General Public
GROUP VI—The Role of Public Health Personnel in Dental Health Education
GROUP VII—The Community Dental Health Education Program

SATURDAY, APRIL 26, 1952

Morning Session — 9 A. M.

Individual Conference Rooms

Continuation of Study Group Discussions

Luncheon — 12:30 P. M.

Ballroom

Informal Progress Reports by Study Group Leaders

Afternoon Session — 2:00 P. M.

Individual Conference Rooms

Completion of Study Group Discussions

Preparation of Study Group Reports and Recommendations

SUNDAY, APRIL 27, 1952

Morning Session — 9:00 A. M.

Ballroom

- Report and Recommendations of Study Group I*
Report and Recommendations of Study Group II
Report and Recommendations of Study Group III
Report and Recommendations of Study Group IV
Report and Recommendations of Study Group V
Report and Recommendations of Study Group VI
Report and Recommendations of Study Group VII

*Discussion**Evaluation of Recommendations:*

Representing Dentistry, DR. HARRY LYONS

Representing Public Health, DR. C. L. OUTLAND

Representing Education, MR. RAY E. REID

*Adjournment***PARTICIPATING DELEGATES***General Chairman*, DR. MILLARD P. DOYLE*Vice-Chairman*, DR. THOMAS C. BRADSHAW*Local Arrangements Chairman*, DR. A. L. MARTONE**STUDY GROUP I***Chairman*, DR. HARRY LYONS*Secretary*, DR. T. C. BRADSHAW

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	MISS VIRGINIA WILLIAMS	

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DR. H. B. FIELD	DR. A. S. McCOWN	MR. R. E. REID
DR. J. W. FRIDL	DR. S. C. PATTERSON	DR. R. E. WILLIAMS

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DR. RUTH J. BROWN	DR. G. M. HILL	MISS CHARMAINE
MR. W. H. DURR	DR. E. B. KENT	SOULIER
MISS MARGUERITE	DR. W. H. LEWIS	MR. F. O. WYGAL
ERDMAN	MR. J. L. MAUCK	

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DR. G. C. STARBUCK	MR. W. W. WILKERSON	

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DR. J. H. COCKS

President, Virginia State Dental Association

DR. DOWELL J. HOWARD

Virginia State Superintendent of Public Instruction

DR. J. E. JOHN

Secretary-Treasurer, Virginia State Dental Association

DR. WILLIAM H. RUMBEL

Director, Bureau of Dental Health,
Virginia State Health Department

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Virginia State Health Commissioner

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President-elect, Virginia State Dental Association

Alternate Delegates:

DR. C. R. ARMISTEAD

DR. J. P. CROSS

DR. THOMAS J. FITZGERALD

DR. J. R. FLEET

DR. V. STANLEY HART

DR. MYRON E. HENDERSON

DR. F. L. LEONARD

DR. S. A. LIPFORD

DR. W. T. McAFEE

DR. T. C. POWERS

DR. A. G. RUSSELL

DR. MARTIN SHEINTOCH

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DR. A. C. VIPOND

Consultants:

DR. ELIZABETH S. AVERY

Health Education Consultant, American Association for Health,
Physical Education, and Recreation, Washington, D. C.

DR. C. MAYHEW DERRYBERRY

Chief, Division of Health Education, U.S.P.H.S., Washington, D. C.

MR. RONALD D. FREDERICK

Dental Health Representative, Region III, U.S.P.H.S.,
Washington, D. C.

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Office of Education, Washington, D. C.

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DR. GWEN MCWHORTER

Virginia Tuberculosis Association, Richmond, Virginia

DR. GEORGE OLIVER

Director of Education, College of William and Mary,
Williamsburg, Virginia

MR. G. L. QUIRK

Assistant Supervisor of Health and Physical Education
Virginia State Department of Education, Richmond, Virginia

MISS MAUDE E. WALLACE

V. P. I. Extension Division, Blacksburg, Virginia

GREETINGS TO THE CONFERENCE ON DENTAL HEALTH EDUCATION

J. H. Cocks, D. D. S.

President, Virginia State Dental Association

Mr. Chairman, Dr. Shanholtz, Dr. Howard, Delegates to the Conference, and honored guests:

It is a distinct honor and genuine pleasure for me to bring greetings from the Virginia State Dental Association to this meeting.

I wish first to pay tribute to the General Chairman of this joint project, Dr. M. P. Doyle, of Norfolk, Virginia. Dr. Doyle and his able committee have been working at this task for the past year. I mean this literally, for I know he actually began working on this job as soon as he was appointed to the task, even before the adjournment of our 1951 meeting, and has not let up even now, but will continue to function as General Chairman throughout this week. He and his committee deserve every bit of the credit and thanks which it is possible for us to give them. They had a big job and have done it well. They have laid the foundation for a work of monumental proportion, and it is up to us, the members of the various groups, to build on this foundation a structure of which we will all be justly proud.

Dr. Shanholtz and Dr. Howard, the members of the Virginia State Dental Association extend their hearty appreciation for the full measure of co-operation given by you and your committee members, from the Department of Health and the Department of Education. We are de-

DR. WILLIAM H. RUMBEL

Director, Bureau of Dental Health,
Virginia State Health Department

DR. MACK I. SHANHOLTZ

Virginia State Health Commissioner

DR. R. P. STICKLEY

President-elect, Virginia State Dental Association

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Dr. Shanholtz and Dr. Howard, the members of the Virginia State Dental Association extend their hearty appreciation for the full measure of co-operation given by you and your committee members, from the Department of Health and the Department of Education. We are de-

lighted, and hope that this will prove but the beginning of many such educational projects which we may take part in jointly in the future, for truly "No man liveth unto himself," and I am convinced that each of these departments can, and should be of material help to the other.

One cannot practice dentistry without health and education. One cannot be healthy, in the full sense of the word, without some education and some dentistry. Neither can one acquire a full education without some health and some dentistry. See how dependent we are, the one upon the other? Let's not stay too closely in our own little corner any longer. I am sure we will all profit as we all share.

Virginia was the eleventh state to put on a Conference on Dental Health. That conference was held on April 9, 10, 11, 1948, and was sponsored by the Virginia State Dental Association and the Virginia State Department of Health. The results were published in a special issue of "The Bulletin of the Virginia State Dental Association" in August of 1948. A splendid work was done in that conference, under the leadership of Dr. Harry Lyons of Richmond, Virginia.

I am under the impression that this present joint effort of the three sponsoring groups, Dentistry, Health and Education, will be the first of its kind in the United States. This is not the first time that Virginia and Virginians have pioneered, and I am quite sure that it will not be the last.

We are expecting great things of the Dental Department of the Medical College of Virginia when they get into their new quarters in 1953, and we rejoice with them and M. C. V. as a great unit of education and mercy.

To the chairmen of the seven study groups, and the specially-selected members of these groups, I would say you are the architects of an ambitious plan for fusing into a workable unit the activities of three great services of our State, the fields of Education, Health and Dentistry.

I am confident that the result of this fine cooperative effort will be of lasting benefit to the Commonwealth.

I thank you.

GREETINGS TO THE CONFERENCE ON DENTAL HEALTH EDUCATION

Mack I. Shanholtz, M. D., M. P. H.

Virginia State Health Commissioner

Mr. Chairman and members of the Conference, it is a pleasure for me to bring you greetings on behalf of the Virginia State Department of Health, and to assure you that we consider it an honor and a privilege to have been asked by the Virginia State Dental Association to cooperate with their organization and the State Department of Education in sponsoring this, the second Conference on Dental Health.

The State Department of Health had the privilege of co-sponsoring the first Conference on Dental Health which was held in Richmond in April 1948. It gives me a great deal of satisfaction to announce that every recommendation made during that conference, relative to the work of the State Department of Health, has been fulfilled. I am sure that many worth-while recommendations will result from this conference, and I can assure you that we shall do everything in our power to guarantee their fulfillment.

It is a healthy sign when representatives from three important groups such as are sponsoring this conference meet for three days to work together and discussing our mutual problems in groups. I am sure that much can be done that will result in the improvement of the dental health of the citizens of the Commonwealth of Virginia. The fact that each of you is here indicates your keen interest in dental health education, which is of major public health importance.

It may be of interest to you to know that the Virginia State Department of Health has long been interested in Dental Health. Following the passage of the West Law in 1920, teachers in the public schools of the state reported such a high percentage of dental defects among the pupils that the Virginia State Dental Association was asked to make recommendations as to what steps should be taken for the alleviation of these conditions. A survey was undertaken by a representative of the Dental Association who reported that in his opinion some form of corrective clinics were necessary, and that such clinics should be held under the direction of the State Department of Health. As a result, the Division of Mouth Hygiene was created in April, 1921.

The objectives of the Bureau of Dental Health are to educate teachers, parents, and children in the importance of good teeth; and to furnish a means of correcting dental defects in rural areas where dental

services are not readily available. The clinics are conducted on a co-operative basis—the state, the county, and the pupils participating. The plan provides that a county shall make application to the State Department of Health for a clinic, agreeing to pay half of any portion of the cost not covered by contributions from pupils, on the understanding that the state will pay an equivalent sum.

The education of laymen is accomplished by lectures to parent-teacher organizations, civic clubs, and other groups, and through the distribution of literature and films. As more and more dental health needs of the state are becoming apparent, the State Department of Health is expanding its services to include a wider scope of activities in order to meet the new needs as they arise. Dr. Rumbel, the director of our Bureau of Dental Health, will discuss these services in more detail later during the conference.

In closing, I wish again to pledge the full cooperation and support of the Virginia State Department of Health to the State Dental Association and the State Department of Education in solving this major public health problem.

GREETINGS TO THE CONFERENCE ON DENTAL HEALTH EDUCATION

Dowell J. Howard, Ph. D.

Virginia State Superintendent of Public Instruction

Mr. Chairman, Ladies and Gentlemen:

It's a pleasure for me to bring greetings to this group from the State Board of Education and the State Department of Education. We in Education have enjoyed many fine co-operative programs with the Department of Health. We recognize fully that there is an extremely close relationship between health and education. I am particularly glad at this time to say to the Dental Association that we are extremely happy to know, and we have here concrete evidence of that fact, that they, too, are concerned about the degree to which the three organizations might work well together. It's a pleasure for Education to enter into this program wholeheartedly.

We, in education recognize, of course, that there are many problems which must be faced in the education of a child. Yesterday, and on Monday, there will be in the schools approximately 570,000 children

throughout this Commonwealth. Approximately 400,000 of those children are in the elementary grades; the others are in high school. I mentioned the 400,000 because they are the younger children, many times seriously handicapped because of some physical defect, some mental defect, or affected by other causes which retard their progress. Some come from homes where parents believe in education and believe in health. Others come from homes where parents are extremely skeptical about anything which might be done to improve the health or general welfare of their child. Probably much of their skepticism is in the field of health. There is doubt whether or not many are willing to have those things done in the matter of dentistry, or other phases of the health services, which will greatly enhance the opportunities the child might have. So we are faced with an educational program not only with the child, but with the parents of Virginia as well.

We are conscious each day of the fact that a healthy body is essential to a healthy mind, and from this fact evolves one phase of our program, and one with which the State Department of Health cooperates fully, and that is a school lunch program where, we, with them, work on cleanliness, good habits, and good diets. As a matter of interest, I might use just this one figure: In 1950-1951 there were 34,000,000 school lunches served in the 180 days that the schools operated. If you will just view this one aspect of diet, you can see what great opportunities we have to do a better job in building strong bodies. Then, of course, you in the profession of dentistry, general health, and medicine are better acquainted with the fact than we are, that at this young age, there are many things that can happen to a child that handicaps him seriously from then on.

Dental health is extremely important in the total health picture, so far as we, as laymen, see it. Dental defects are responsible for many health deficiencies. Our concern in education, not being specialists in the field, is each day to do what we can as teachers to know more about how to discover these deficiencies, and then after discovering them, take proper steps to have those who are qualified do something about it. Then I would say that our major concern, or maybe our major responsibility is to locate these deficiencies and get them in the proper channels. I repeat that we have here a great job, in which the education of parents is extremely important.

Then we come to this point: After having discovered the deficiencies, how can we have the correction made? Then we turn to the dental profession, and also to the civic organizations of the community, that we may do a better job for those children who are in the lower economic level, and do not have funds to correct these deficiencies. In education, we recognize the extreme importance of the co-ordination

of all these agencies. Maybe the job is too big for all of us combined, and that's the thing that makes me extremely interested in this conference. So, here we are, that our three groups may sit down together, recognize the total problem, co-ordinate our activities to one common end: and that is, so far as our group is concerned, the education of the child, while recognizing that we are seriously handicapped unless we have the full co-ordination of those who deal with the physical body.

This Conference, in my opinion, should develop much good. It should develop a much fuller understanding than we have at present, of the responsibilities of each agency and the job that it has to do. And the extremely important thing is the understanding, which I believe will result, of how we might do a better job jointly. Therefore, it is my hope that through this Conference, we will develop a very definite plan of co-ordination.

I repeat that Education is extremely happy to join with the Health Department and with the Dental Association to this end. I wish to close by adding my words to compliment the Dental Association for taking the lead in a move which I consider to have the greatest possibilities of anything that we might achieve when it comes to the general welfare of our citizens.

GREETINGS TO THE CONFERENCE ON DENTAL HEALTH EDUCATION

R. P. Stickley, D. D. S.

President-elect, Virginia State Dental Association

I wish to concur in the greetings as expressed by the gentlemen who have preceded me.

I shall make no attempt to evaluate the benefits we may expect from this Conference, as your presence here indicates your appreciation of its possibilities. I am concerned, however, in expressing to you my belief that there is developing within our organization more of a realization of the need for cooperation with your Departments in the dental health and care of our people.

It is to that end that I wish to express to you my personal interest in this Conference, and the assurance of the full cooperation of our Association during the coming year.

SUMMARY OF THE PROBLEMS RELATING TO DENTAL HEALTH EDUCATION, FROM THE DENTAL VIEWPOINT

Paul L. Chevalier, D. D. S., Professor, Crown and Bridge Prosthesis
School of Dentistry, Medical College of Virginia

The dentist engaged in private practice today is acutely aware of the shocking inroads that dental disease is making upon the general health of the public. And, to him, the most disturbing feature of this grave situation is the appalling ignorance of the average person as to even the most simple fundamentals of dental health.

Dental caries, or, "tooth-decay," is the most prevalent disease in America at present, exceeding even the common cold in the number of persons affected and in duration of time. It is most active in youngsters, but is apt to continue at a gradually diminishing rate so long as the victim retains any of his natural teeth. Over 95% of the American people suffer this disease. Once a cavity begins, it must be eliminated by a "filling" in the tooth because otherwise, if it is allowed to run its natural course, the end result is dental "abscess," necessitating extraction of the infected tooth.

When the teeth do not occupy their proper positions in the jaws the result is "malocclusion," or, failure of the upper and lower teeth to make a proper contact. In the present process of human evolution, this disease appears to be on the increase. Such deformity of the jaws seems to be promoted by so-called modern "civilization."

"Hare lip" and "cleft palate" are deformities resulting from the failure of the face to complete its proper formation in the human embryo or fetus. Everyone is to some extent familiar with the sad results. A fact, however, which is not well known is the frequency with which such tragedies occur. For example, studies show that in the State of Pennsylvania about one out of every seven hundred live births produce a cleft palate, hare-lip, or both.

Gum disease is almost universal in that segment of our population which reaches in the middle years of life. Indeed, it is extremely difficult to find a mouth past forty years of age, and still possessing natural teeth, which does not suffer, at least to some extent, one of the various gum disorders.

The results of dental disease can be far more serious and far-reaching than is generally appreciated today. Almost everyone is fa-

miliar with the pain and suffering which may accompany an "abscessed" tooth. But the role which such infection might play in the general health of the individual is not so well known or appreciated. Before the development of the sulfonamide drugs and the antibiotics such as penicillin, an abscessed tooth was even more serious than today and occasionally resulted in death. And at the present time, one of the main concerns of the dentist who treats such an abscess is to prevent its spread to cause infection in other parts of the body.

The ravages of dental decay are particularly marked in children. The loss of permanent teeth, and of the "baby teeth" prematurely, may result in such improper development of the jaws as to produce marked deformity. Certain it is that the child whose mouth is tender and sore cannot chew his food so as to allow proper digestion and nutrition.

Parents are becoming more aware of the importance of their children's personal appearance in the development of personality and character. For this reason, many children are sent to dental specialists to "have their teeth straightened." A fact which is not well appreciated, however, is that teeth which are not in their proper positions in the jaws are very apt to develop gum disease later in life.

The child with hare lip or cleft palate is just as much a cripple as the one with a club foot. But such a child, has, up to the present, been largely ignored by clinics and programs devoted to the treatment of child cripples. The loneliness, frustration, and sorrow of such little folk can hardly be imagined.

A large number of people associate dentistry primarily with dental decay and the extraction of teeth. But the fact is that more teeth are extracted in America because of gum disease than for any other reason! When gum disease reaches a certain point, the resultant infection can be eliminated only by removal of the involved teeth. Furthermore, a great many more people are today living to the age when disease is prevalent than did just a relatively few years ago. Thus, the health of the gums must be recognized as being of paramount importance, not only to dental health, but to the general health as well, since badly diseased gums may act as an enormous reservoir of infection and poisons which can spread to, and damage, other vital organs of the body.

Many years of research have shed much light on the cause of dental decay. We know that the formation of cavities in the teeth is contingent upon the presence in the mouth of sugar. There are two ways by which sugar may come to be in the mouth. The first and obvious one is the taking of food or drink which contains sugar. The second, and not so well recognized, is the fact that if, following a meal, starchy foods such as bread or potatoes, are allowed to remain on the

teeth, the starch may be gradually converted to sugar by chemical action, in susceptible individuals. Such persons have in their mouths large numbers of certain bacteria which can act on sugar to convert it into acid which, in turn dissolves away the hard tissues of the teeth.

The causes of malformed jaws are not as well understood. There seems to be an hereditary factor involved. However, it is a well known fact that premature loss of the baby teeth by extraction, as well as loss of the permanent teeth, require that the remaining teeth be anchored in position by "braces" in children or bridgework in adults, lest these teeth drift out of their proper position in the jaws.

The causes of hare lip and cleft palate are likewise obscure. It is thought that heredity may play a part. More light will be thrown on the subject as our knowledge of human embryology is increased.

Up until very recent times the causes of gum disease have, even by the dentist, been considered rather complicated and mysterious factors. Today, leading specialists in the field believe that up to 85% of gum disease has its origin in the mouth alone and is due to such relatively simple things as poor mouth hygiene, the presence of too much calculus, or "tartar," on the teeth, and malposition of the teeth leading to improper biting stresses and strains. And many of the general or "systemic" factors are well known, such as improper diet, blood dyscrasias, and such.

One fact which impresses itself daily, almost constantly, upon the practicing dentist is this: most of the dental tragedies which occur need never have happened. And nowhere more than in dentistry is confirmed the old saying, "An ounce of prevention is worth a pound of cure." The chain of events which produces the cavity in a tooth can be interrupted at any one of several points: By the keeping of sugar out of the mouth; by the removal of food from the mouth immediately after eating; by rendering the tooth structure less soluble in acid by means of chemicals such as fluorides; and, by filling cavities soon after they get started. Malposition of the teeth may be avoided by retaining the baby teeth in good health until they are shed normally and at the proper time; by placing "space-retainers" to hold teeth in their proper position when neighboring teeth are lost; and, by the use of orthodontic appliances, so-called "braces," to straighten the teeth in the jaw once they are out of line. Much gum disease can be prevented by proper mouth hygiene; by the removal of calculus deposits on the teeth whenever they become too large; by seeing to it that the upper and lower teeth strike one another properly; by proper diet; etc.

As one comes to realize the above facts, one begins to appreciate more fully the importance of regular and adequate dental care, especial-

ly with regard to tooth decay in children and to gum disease in adults. Yet, the public's ignorance of such matters is appalling. Less than 25% of all Americans seek any dental care whatsoever, other than the extraction of a tooth when it "abscesses" and, perhaps, the inevitable set of artificial teeth which is the result of such policy. In 1951, the annual consumption of sugar per person was more than 100 lbs. a year! And, in many American homes today the tooth brush is conspicuous by its absence. Small wonder that children are frequently found to have upwards of twenty to thirty cavities in their teeth! Small wonder that, in each of the two great world wars, examiners of our young men have been horrified and disgusted at the condition of their mouth!

It is said that the cost of dental treatment comes high, and considering what it takes for a young man to become a practicing dentist, such treatment could hardly be expected to be cheap. However, the cost of anything is a relative matter, and one of the related factors is how much the purchaser desires that which he is buying. In this respect, let us look at the record. Last year, compared to what was spent on dentistry, Americans spent nearly twice as much on jewelry, five times as much on tobacco, eight times as much on alcoholic beverages, and twelve times as much on recreation admissions! And this list could be extended indefinitely. In spite of the enormous prevalence of dental disease, only twelve cents of the health-care dollar went for dental services. And, Americans spent less of their total income in 1951 on dentistry than they spent in 1935, although during that time dental services increased 100%. As for individual dental fees, their average cost during the past ten years has increase only 53% as much as the cost of living has increased. Thus, it is easy to understand why the dentist is not getting rich.

The great discrepancy between the amount of dental care needed by Americans and the amount actually being sought for and received in this country has created an enormous backlog of dental disease which far exceeds the possibility of treatment with our present dental resources. Many obstacles lie in the path of any sudden and drastic expansion of our supply of dentists, among which the greatest is perhaps the lack of trained personnel for dental college teachers. A dental school can be built in a short period of time, but it takes years to train a good dental teacher. Because of this, as well as many other reasons, such as cost, and the relatively slight public demand for dental services, it is not likely in the foreseeable future that we shall have enough dentists to perform every dental service that will be needed in America.

What then, meanwhile, can we do? The practicing dentist feels that the answer lies in two ways and means: First, the prevention of dental disease, which is to so great an extent preventable; second, the correc-

tion of dental ills while they are still at a stage where they can be corrected easily and simply.

The immediate problem, then, is one of education, education of the dentist from the standpoint of public health as well as individual health; education of the dental patient as to his needs and resources; and, education of the general public, especially in the field of prevention of dental disease.

Which brings us, of course, to this Conference on Dental Health Education.

SUMMARY OF THE PROBLEMS RELATING TO DENTAL HEALTH EDUCATION, FROM THE PUBLIC HEALTH VIEWPOINT

Thomas L. Hagan, M. P. H., D. D. S.

Regional Dental Consultant, Public Health Service, Washington, D. C.

The problems relating to dental health education from the public health viewpoint are not greatly unlike those associated with other health problems. In discussing the total dental health program, Nyswander¹ has succinctly described the relative position of dental health education:

"A forward-going dental health program is a triangular structure, the three sides of which are research, service and education. Lacking any one of its parts, the triangle collapses. If research data are not available to provide answers to questions, education about these matters will lack validity. If dental services are not available or are beyond the consumers' purchasing ability, then education which develops desires for dental care may lead to frustrating experiences for the individuals concerned. It is true that dental services and dental research depend upon dental health education. Dental services unaccompanied by education which explains the reasons for the services cannot bring about their intelligent use. Pre-school children will remain a neglected group, children of school age will continue to fear the dental chair, and adults will act upon the misinformation they receive from various unqualified sources."

Today the formalized principle is rather widely accepted that the major purpose of health education is to close the gap between scientific

Reference: 1. Nyswander, Dorothy B. Dental health education. p. 222. (in Pelton and Wisan's *Dentistry in public health*. Philadelphia, W. B. Saunders, 1949. 352 pp.)

knowledge and its appreciation in the daily life of every person. The recognition of a public health problem in the past, and perhaps now, has not been accomplished entirely by following the precept "Love thy Neighbor," but rather because of economic loss as a result of disease. Certainly during the epidemic scourges the isolation of the sick and the quarantine of the well were related to personal fear—fear of illness—fear of death—as well as fear of financial loss. Should basic fears such as these be made part of the interpretation of the dental health problem, or should the interpretation be of a higher order? An important question to be answered, it seems to me, is how dental problems can obtain or be given a place in the sun of public interest. What is the best way to describe the dental problem in concise terms? Who should bring the problem out into the open? Should its recognition be clouded or of a character somewhat less than spectacular?

The particular problems in the dental field are tooth decay, disorders of the gums and tooth-supporting structures, malformations ranging from simple malocclusion of the teeth and jaws to complex birth deformities, oral cancer, and manifestations of general disease. In some of these categories little is known of their cause or prevention, leaving only for their amelioration case-finding and treatment of the entity itself or its consequences. Can it be that, because we have some knowledge in some of these fields, we think that we are supposed to have an equal quantity of information in all fields? Rather should we not take a firm stand and base health education material only on scientific evidence and not on hope?

One serious hurdle in the use of health education as a tool in developing more effective corrective dental service is the present disparity between the almost universal need for dental care and the limited dental personnel available. For example in one Virginia community a survey showed that of ten-year-old children 70 percent needed some form of dental care at the time of examination; that 95 percent had experienced decay in permanent teeth; and that only 50 percent showed any evidence of dental care in the form of fillings. In the sixteen-year age group tooth loss was found to average one permanent tooth per person. Surveys on adults in other parts of the country show that at forty years of age the average person has lost half of his teeth. It would seem that a paradox as well as a problem exists in the light of the fact that the common preachment of all dental health education is early and regular care.

What problems exist in the interpretation of the value of preventive practices? With respect to the use of water fluoridation dental groups almost without exception have done yeoman's service in the interpretation of the facts. In fact, interest in this preventive is so

widespread that perhaps we have become complacent by believing that everyone is properly and adequately informed. Conceivably this complacency could result in delay of its widespread use. There is a real need for communities to know the facts about water fluoridation, for in numerous instances the scientific evidence is weighed by the electorate before governing bodies will act. Not since water chlorination was recommended for widespread use in water purification has such a furor been generated in the health field. Many people who are merely seeking cause, or who have ulterior motives, or who in some cases are sincere, find an attraction in opposing water fluoridation based on an invasion of personal rights, a means of mass medication, a hazard to health or, by some strange quirk of thinking, as a tool of saboteurs unequalled by the atom bomb. We must recognize that human beings, being what they are, seem to take a delight in opposing new practices or ideas about which they are not informed.

To summarize, the problems in dental health education necessarily stated in broad terms from the public health point of view include:

1. The development of personal and community attitudes on dental health problems which will lead to the kind of behavior or action necessary to solve these problems.
2. The use of health education material based on scientific fact.
3. The non-spectacular character of dental disease.
4. The inadequate recognition of dental diseases as being amenable to solution.
5. The disparity between dental needs and dental services.

SUMMARY OF THE PROBLEMS RELATING TO DENTAL HEALTH EDUCATION, FROM THE EDUCATORS' VIEWPOINT

Harold K. Jack, Ph.D., Supervisor, Health and Physical Education
Virginia State Board of Education, Richmond, Virginia

Schools in Virginia have been and are vitally concerned with all aspects of health. The quality and scope of the total school health program has continued to improve, even though many problems and

obstacles have made it difficult for teachers and school administrators to accomplish the health goals they sought to achieve.

It should be kept in mind that the school is interested in all phases of the health program, health service, healthful school living, and health instruction. The extent of the program may be illustrated in part by the following: pupil observation by teachers, dental examinations, emergency care of first aid cases, maintenance of sanitary and clean schools, as well as instruction in nutrition, first aid and safety, mental health, control of disease and personal hygiene. It should be emphasized that Dental Health Education is just one facet of the complete health program and the health educator, or the teacher, must be concerned with the many problems which arise, and, as a result, give due consideration of each in relationship to the others in organizing and conducting a total program for health.

Teachers are interested in the health of children because as they know, the healthy child is a more efficient citizen and pupil. It is generally recognized that success in school, and the optimum use of skills and abilities acquired in school, depend upon one's health. It should be kept in mind, however, that the teacher or the school cannot teach effectively for health without full use of resources within the community. True and effective health instruction demands cooperation and united action. Teamwork by all interested groups and individuals is essential if the health of the children is to become a reality. The school, the home, and the community all have a stake in this undertaking. This Conference provides an excellent opportunity for dentists, public health people, and school personnel to establish, through effort, effective programs of action outlining joint responsibilities as well as a general interpretation of dental health, which will result in the action-approach to our local problems when we return to our homes. Can we then, as we think in terms of school problems, direct our thinking toward how all of us can work in a unified way to determine and solve problems relating to dental health?

In the Virginia course of study, dental health education is a part of the section concerned with personal health, and in addition, some reference is also made in nutrition, control of disease, and in mental health sections. A balanced program of health instruction is one goal we are striving to achieve. Because of this effort, each phase of the health program receives a fair and adequate share of attention within the limits of time available for health instruction. We should continuously study and analyze the scope and extent of a sound dental health program, and to use our findings as a guide in establishing curriculum content for each local school. What should be taught, where, and how much? What objectives are advisable? What assistance is available?

An understanding of the basic facts and information about dental health which is acceptable to the dental profession, and which is suitable for lay consumption, will help to answer the previous questions. Can the dental profession provide the facts—not the methods or graduation of content—but the facts for use by teachers in planning programs of work? Planning of programs can and will be very well done, and material presented in a dynamic and graphic manner, if adequate information is available.

The pre-service and in-service training of our teachers includes up-to-date information, as well as improved methods and procedures. Instruction in health must be vital, accurate, challenging, purposeful, useful and provide practical application. Information about up-to-date procedures and practices in dental health are a part of this over-all endeavor.

No health program can be effective as far as the school is concerned unless that program provides for functional experiences. The dental examination and the correction of dental defects are examples of experiences in dental health that can be most meaningful. Satisfactory patient-dentist relationships can be and should be developed in such a situation. The dentist and the teacher become a team in working on this phase of dental health. Information and basic concepts mean little to the child unless he has an opportunity to improve his dental health. Working relationships with local dentists and health department are procedures that the teacher desperately wants to use in order to make dental health effective and functional for all pupils—not just a few. Our teachers are interested in dental care, dental examinations and correction of dental defects. In many situations the use of the mobile unit has been a real help to the teacher in making the program effective and functional.

Teachers are also interested in all types of teaching aids. Use is made of charts, graphs, diagrams, slides, films, demonstration models, special bulletins, leaflets and textbooks. There is always a need for more material that can be used effectively by the teacher. Pupil textbooks in health are available which carry some specific information on dental health but supplementary material which is up-to-date, acceptable to the dental profession, and which is accurate, is always a need. In spite of fine health textbooks there is a need for more information and resource material. We do not want health education limited to a textbook approach, but rather dental health, as any other phase of health, should be a rich and meaningful experience.

Nutrition and dietary habits as they affect dental health are always a concern of the teacher. Sale of candy, soft drinks, etc., either as a substitute for a balanced lunch or for refreshment, certainly affect the

nutritional status of children unless certain safeguards are established, and in the opinion of many, may have an adverse effect upon dental health. We need to work together on this problem so that the school does provide a safe and healthful environment, in order to put into practice our basic concepts about dental health.

In summary, one can be assured that our schools are alert to the problems that exist in dental health. Our teachers are interested and the pupils aware of the value of maintaining good dental health as one very important aspect of living healthfully and being a useful citizen. Our challenge then becomes: how can we improve and strengthen our existing programs—how can we cooperatively use all of our resources to do an even better job—how can we develop an action program that will result in the practical application of our knowledge to better practice and procedures? Success in our understanding will mean better health for our boys and girls and better health for the people of our commonwealth.

THE BASIC PRINCIPLES OF EDUCATION AS APPLIED TO DENTAL HEALTH

George Oliver, Ph. D.

Educational Director, College of William and Mary

Mr. Chairman, Ladies, and Gentlemen:

Perhaps it would have been more pertinent to have introduced me as the son of a dentist who practiced some forty or fifty years, most of which I knew about. I have some very vivid recollections from my childhood of various occurrences associated with dentistry, which at that time was practiced largely in our home. Nitrous oxide gas was the anesthetic of preference; I guess it was about the only one they had in those days, and it had many interesting possibilities in the use of dental surgery. I can remember, quite vividly, the smash of the bottles when the cabinet was kicked over, and the rattle of teeth falling on the linoleum around the chair when my father worked rapidly against time to extract teeth during the brief duration of the anesthesia. I can even remember once seeing him riding a partly anesthetized patient around the office floor "piggy-back."

I am glad to be here to talk to you a little bit about what seems to me to be three or four aspects of the "psychology of learning" (if I must be dignified about it) which apply in the teaching of dental health.

What I shall say is, to many of you quite obvious, but none-the-less important and none-the-less difficult to accomplish. The ways of thinking about how people learn, and the ways of defining the processes of education have changed remarkably in the past thirty-five years or so. Some of the older ideas about education have not completely disappeared, even though more recent scientific discoveries have somewhat discredited them.

The first of those to go was the idea of "formal discipline," or the strengthening of the faculties of the mind. An analogy was drawn between the exercise of the mind and the exercise of a muscle, in the belief that by the mere process of repetitive exercise the mental powers and mental faculties could be strengthened. We still act on that psychology quite a bit now in some of our educational activities, but men like Woodworth, Thorndyke, and others have pretty thoroughly discredited that general psychological notion.

The second idea which came along was that education consists largely of the "acquisition of knowledge." However, when one considers the whole problem, particularly in such a field as that of dental health where knowledge alone is not enough, it must be recognized that education means something far more than simply the acquisition of knowledge; that education, to be of value or to be significant, actually must result in changed behavior resulting from experience.

As the ideas about education have changed there have likewise been changes in the educational methods which correspond to those ideas. During the past twenty-five years, the emphasis and method of teaching centered upon the technique of presenting material content. How could you present certain subject matter, certain previously-organized knowledge, to the learner so that he could most readily take it into his background? We set up a thing that we called an educational project, the "project method" of teaching, which was quite closely akin to some of the things we do now. It was simply the organization of activities and subject matter about a central idea, such as an interesting adventure, etc.; or, it might be the building of a bird house which enabled children to learn arithmetic.

Then we had the so-called "contract plan." In this plan we outlined in neatly packaged form the knowledge that we thought youngsters should acquire, and we were continually looking for ways to present the contents more effectively. You can see how that was appropriate to the "formal discipline" and "acquisition of knowledge" ideas.

The notion that education consists primarily of growth and development in changing behavior has come to be generally accepted. Now the emphasis and method in education, it seems to me, is upon

planning and guiding the experiences of the child so that the desired behavior results. That is stated very simply, but you can see that it is a most difficult undertaking to change the way that people think, act, and feel. It constitutes something far more complicated than acquisition of knowledge and renders teaching an art as much as a science.

I would not, in any sense, discredit the matter of knowledge. Knowledge is essential to this matter of changing behavior that we are talking about. It seems to me that dental health is achieved on the basis of two things: knowledge and habit-formation. Both of them, you see, are aspects of the general idea that education is growth and development; that significant education results in changed behavior. It is essential, I believe, in dental health education, that the learner has some knowledge of what to do to achieve dental health. We had very effective reference this morning about the use of data which have developed as a result of careful research. Thus, in order to change behavior, the person whose behavior we wish to change needs to have the knowledge of the directions and means of changing his behavior. The regular practice of an appropriate activity, that is, repetition of experiences which bring about a desired result, produce the formation of a habit. Thus, habits are learned in the same way that any other knowledge is acquired by individuals. The same principles of learning apply.

What we are concerned with today, then, are the principles of learning as applied to dental health, and I have chosen only four which seem to me to be the important four in this connection. The first of these is that learning depends upon the purpose of the learner. As I told you, these things are going to seem quite obvious to you, but don't let their obviousness intrigue you into thinking that they are easily done. A learner must have a purpose to facilitate the process of learning.

Now, that purpose must be his! It is not one that you or I set up for him. The latter has some value, it's true, but the most effective purpose is the one which the learner, himself, recognizes as his own purpose. There are a number of such purposes which are readily recognized in dealing with children and which can be used profitably in the area of dental health. For example, youngsters as well as adults are concerned with and have the purpose of acquiring prestige. They desire to be liked by others. They also desire to satisfy their curiosity about themselves and the world around them. Young children desire to please their parents and, as they grow older, they become interested in such things as improving their personalities and getting ready to earn a living.

The way we find those purposes is by studying individuals as individuals. Therefore, the teacher who instructs in dental health or

anything else, must know his pupil well enough to get some clues as to what his real purposes are, and to try to establish for him goals which can be utilized to bring about the desired acquisition of knowledge and formation of habits. Young children, particularly, have difficulty in seeing remote goals, and the use of a goal as a stimulus to learning, for the very young, in terms of its immediacy, extending, of course, into the more distant future as maturity occurs. The first principle, then, is that learning must have direction; it must have an end, and the individual must have a purpose to achieve that end through his learning.

The second principle: Learning depends upon understanding: recognizing, seeing meanings in the experience which is designed to bring about a desirable end. In dental health, for example, the learner needs to know why you do this or that to get a certain result. Thus, it must be explained how keeping the teeth clean contributes to dental health. This doesn't necessarily mean that the teacher explains; it is also important that the learner have experiences which help him to find out for himself why certain actions produce certain results. Thus, certain little elementary research activities can enable him to learn these things for himself.

The third principle: Habits are acquired by repetition which results in satisfaction. The psychologists' views on habit have changed somewhat during the period that I have been discussing. Back at the time of the "s-r bond" theory, which was that there is a neutral connection which ties together a stimulus with a response, so that the former will come to produce the latter it was thought that by simply doing something often enough you set up a natural bond between a given stimulus and the desired response.

However, we have come to understand that the human organism functions as a complete unit, as an individual, in the learning situation and in the learning experiences which we plan for him. So now we view practice not simply as repetition, but as successive presentations of a situation with repeated efforts of an individual to react to it effectively. I have said that effective learning depends upon meaning, and that applies here. It is true that an act may be repeated, or an experience may be repeated, until it leads almost to an automatic habit; even so, however automatic that habit may become, there must be an element of meaning involved in the practice if the response is to be fixed. So the acquisition of a habit represents the continued, repeated effort of the learner to react effectively to similar situations. Meaning, purpose, and goal become increasingly familiar and build into an effective pattern of behavior. The basic satisfaction comes from attaining the desired goal. Awareness of progress helps the learner to understand his actions. Commendation, especially from parents and teachers in

the case of a child, lends encouragement to continue. Avoidance of pain, which is a fundamental drive, contributes to that sense of satisfaction in the field of dental health.

It seems to me important, then, that if the learner is to get satisfaction in seeking to achieve the goals of dental health, his contacts with the dentist must always be pleasant and satisfying. I know that the professional men are greatly hurried, but it's worth the time, I believe, that is taken in acquiring the confidence of the youngsters in his contacts with the dentist.

And the fourth, and final, principle which I wish to mention this morning is this: Learning depends upon the will to learn or, as some of my educational friends here would say, upon motivation. It simply means that this purpose to reach a goal must carry with it also a willingness to learn the activities, to acquire the knowledge, to form the behavior patterns which take one to that goal. There is a variety of ways of motivating, of course: there are rewards and punishments, gold stars, grades (good and bad!), commendations of one sort and another. It has been found that such things as these are not to effective a kind of motivation for permanent learning. Rewards, it is true, are more effective than punishment, and indifference is less effective than either rewards or punishments. That is why the environment must consistently encourage the patterns of behavior that you would like developed.

Social approval is a means of motivating learning. One of the more powerful factors in building a will to learn is the climate of the group in which the learner finds himself. Thus we have to give consideration to developing a climate of social approval in the group with which the learner is associated, especially the group of his peers whose respect and approval he desires. That is a very powerful motivating factor.

One of the poorer means of motivation is fear, as was brought out this morning in another of these discussions. The reason for this is that fear has a negative effect rather than a constructive one. And, while avoidance of pain may be utilized, it should be utilized sparingly. To motivate learning by fear of punishment introduces incidental learnings which are quite the opposite generally from the desired learnings which we would establish.

These, then, are the four principles which I would mention to you this morning: The matter of a purpose, and the job of those of us who wish to help children acquire good dental habits is to help them find a goal which is not too far away for them to understand; the second, to understand the why, to see the meanings, the relationships, the insights which make possible the understanding of why certain things are being done; the third one, practice with satisfaction; and

the final one, the development of a will to learn. Now, these are not easy. They are obvious, yes. But, they are not easy to acquire. However, I think that combined resources, such as this meeting represents, is one way to accomplish these obvious but difficult things which are essential to learning dental health.

I appreciate the opportunity to have met with this group. I understand that it is made up of one third dentists, one third public health workers, and one third educators. To some of us who are interested in that "mere recreation" which Dr. Doyle mentioned in his opening remarks, that 1, 2, 3 may have some significance. At any rate, I am happy to be here and I think that this Conference is going to pack a real kick.

SPECIFIC MATERIALS AVAILABLE TO TEACHERS AND PUPILS IN HEALTH EDUCATION IN THE VIRGINIA PUBLIC SCHOOL SYSTEM

G. L. Quirk, Assistant Supervisor of Health and Physical Education
Virginia State Department of Education

Careful planning for the effective selection and use of health education materials is an integral part of planning for the total school health program.

In health education, as in other subject-matter fields, it is highly important that teachers have at hand certain materials that may serve to guide and enrich the instructional offering. Schools must constantly seek sources from which up-to-date health materials may be secured; for in reality the effectiveness of health education will depend in large measure not only upon the adequacy, but more upon the wise use of instructional materials and devices, and upon the extent to which available resources are used.

The selection of materials for use in health education classes is primarily a local school problem. The classroom teacher, in the final analysis, is the school person best informed in regard to specific health needs of his pupils. Therefore he should be looked upon as the person best qualified to select materials appropriate for the consideration and use of his group. It may further be said that materials have their optimum value only as teachers have the opportunity to exercise the initiative in planning for their use, and only when materials used are con-

sistent with established objectives, and appropriate for the consideration of pupils at particular age and grade levels.

In an effort to be of assistance to schools in the development of their health education programs, the State Department of Education has directed the development of, or in other ways made available to schools, the following materials:

1. Health Education Course Study Materials—These materials are in the form of two bulletins, namely, Health Education, Grades I-VII, and Health Education, Grades VIII-XII, both of which are intended to serve as guides for teachers in the development of the total health instructional offering. The content of these bulletins, tested for the most part in the crucible of practical experience, was developed over a period of years chiefly through the tireless efforts of administrators and teachers in Virginia schools. Since we all agree that one learns best by doing, the suggested content of these bulletins has been developed entirely from the standpoint of a functional or action approach to learning. That is to say, along with a specific listing of content the teacher will find contained in each of these bulletins a suggested list of appropriate activities which may be used to bring content to life.

Speaking specifically about dental health education one can find considerable content pertaining to this subject progressively arranged and pointed up in these health guides. Various aspects of dental health from the selection of a toothbrush, to factors to be considered in obtaining professional services, are discussed at appropriate grade levels. The following is a partial listing of items suggested for study:

- a. Mouth care, as an essential part of healthful daily living.
- b. Food essentials for the development of sound teeth.
- c. The importance of regular visits to the dentist and the need for prompt correction of defects.
- d. Tooth structure and function.
- e. The alignment of teeth.
- f. Causes and process of decay.
- g. Diseases of the gums.
- h. Dental health and its effect on general health, personal appearance and social adjustment.
- i. Appraisal of advertisements relating to products used in the maintenance of oral hygiene.
- j. Organization and agencies concerned with dental health.

2. Administrative Materials—In 1950 a manual entitled *Planning Together For Health* was issued by the State Department of Education to all schools. The purpose of this manual is to provide all school personnel with a body of information which, if carefully considered in light of local situations, will materially assist schools in the organization, administration, and conduct of an adequate and far-reaching program of health and physical education. The materials contained in this manual, like the *Course of Study Materials*, incorporate the suggestions of a large number of classroom teachers, supervisors, directors of instruction and principals who shared in its development.

It is hoped that all schools will be stimulated to adapt the materials contained in this manual to their respective situations and, that they will fully utilize the suggestions to the end that the health status of all pupils, and the communities in which they live, will be materially improved.

3. Free and Inexpensive Materials—In recent years many national, state, and local organizations and agencies have developed, or otherwise made available as a public service, certain materials in the general field of health. If carefully examined for appropriateness such materials can contribute much toward the enrichment of health instruction, and toward the development of an intelligent understanding of health problems.

The State Department of Education has collected considerable material of this nature for free distribution to schools, a certain amount of which deals specifically with problems of dental health.

In addition, the course of study materials include a comprehensive listing of sources from which free and inexpensive materials may be obtained.

4. Health Textbooks—Suffice it to say that there are numerous health texts available today for all grade levels. Such texts, without exception, place a certain amount of emphasis on dental health, and may be used effectively to enrich dental health education.

5 Audio-Visual Aids To Instruction—Audio-visual aids may be used to good advantage in developing interest, and in getting across certain health concepts which might otherwise be difficult to achieve. The State Department of Education, through its Bureau of Teaching Materials Service, has available for school use over 170 different health films, approximately 6 per cent of which deal specifically with Dental Hygiene. These films are circulated without cost, except for mailing charges, to the schools of Virginia and are in constant demand and use.

In addition, state aid is available to public schools through the State Public Library Fund for the purchase of filmstrips, many of which relate to health and particularly dental health.

6. Health Manual For Schools—This manual, prepared by the State Department of Health in cooperation with the State Department of Education, is now undergoing revision. The Manual is based on actual health situations as they often exist in schools throughout the state. The object of this manual is to serve as a source handbook and to assist teachers in guarding and promoting child health. Special emphasis is placed on the physical inspection of pupils by the teachers, and on some practical suggestions as to ways and means of securing the correction of defects revealed.

7. General Community Resources—In no other area of instruction, as in the field of health, will one find more abundant community resources that can be used effectively in the development of the total health program. Schools are urged to carefully explore and fully use all resources, and resource persons, that have an interest in, and a contribution to make to, the school health program.

Although there appears to be a considerable amount of materials and resources available for pupil and teacher use in health education, nevertheless there is, and perhaps always will be, a constant need by school people for up-to-date information relating to scientific facts, discoveries, and changing concepts of dental and other aspects of health. Though schools are presently making a sincere effort to accomplish the purposes of their health programs, much remains to be done. All forces concerned with health must be brought into play and must work cooperatively toward established goals, so that in the end, we will be turning out of our schools individuals who have an intelligent understanding of the basic facts concerning health and disease; individuals who know how, and make an effort at all times, to protect their own health and that of their associates; and who in the final analysis, work to improve their own health and that of their respective communities.

DENTAL HEALTH FACTS FOR A HEALTH EDUCATION PROGRAM

John W. Knutson, D. P. H., D. D. S.

Senior Dental Surgeon, U. S. P. H. S.

Mr. Chairman Ladies and Gentlemen:

I have been so long in the habit of expounding the need for dental health education that it is a real pleasure to talk to a group of men and women who take that need for granted. None of us would be here today unless we realized that without an informed public behind us we are helpless to develop any community, state, or national health program. We know, too, that without public enlightenment there is no public support. I wonder, however, if we don't lose sight sometimes of the simple fundamentals which form the foundation of any successful health education program. Perhaps we become so involved with the outer trappings of health education, the pamphlets, news releases, films, and speeches that we overlook the intricate principles which are the very life blood of health education.

I am referring to education of the educators. Let me explain. Not long ago a newspaper in one of our larger cities carried the fantastic statement that if we fluoridate our public water supplies we will be able to eat all of the sugar we want without getting any acids. Misstatements of facts are always distressing; this one was downright alarming, because it was not the pipe dream of an uninformed reporter; it was a direct quote from a professor in one of our leading dental schools, a man who was sincerely trying to promote fluoridation as a method to reduce the incidence of tooth decay. I heard another equally sincere professional man virtually promise that, if we drink fluoridated water, why, in a couple of years we will be able to toss away our tooth-brushes.

These intemperate claims were made in good faith, I have no doubt, but the men who made them are guilty of what might be called "seeing through a glass, darkly." Either they have not troubled to familiarize themselves with the facts about controlled fluoridation, or else they have examined the literature so sketchily that they have misunderstood the facts. Then, again, they may have been so swept away by their own enthusiasm that they forgot the importance of complete accuracy; of dotting our I's and crossing our T's. No matter what the reason, there is no need for embellishment in telling the facts about fluoride in advancing the cause of what is the most remarkable development in the history of preventative dentistry.

The final decision on whether a community shall fluoridate its water supply is made by laymen: the civic leaders, the elected officials, the schoolteachers, and the parents. But, remember, it is the scientists, the dentists, the public health educators, in short, the professional men who guide and shape that decision. Success hinges upon the ability of these professional men to inform the public fully about the value of fluoridation; to interpret the scientific facts to the laymen. But, how can a health educator pass along the facts to the public unless he, himself, knows and understands those facts?

The title of my talk, "Dental Health Facts for a Health Education Program," is about as broad as the whole science of dentistry, itself. I shall not even attempt to cover all the dental facts which should be included in any respectable dental health program. Instead, I shall outline some of the methods of prevention and treatment now available for dealing with only four of our dental health problems: tooth decay, malocclusion, oral cancer, and cleft lip and palate. Even in discussing these I can hope only to hit the high spots, but I do hope I can point up the seriousness of each of the problems and spotlight some of the more important facts about them; facts which may serve as a springboard for more effective community action in tackling and solving these problems.

It might be appropriate to begin with the problem of tooth decay and the possible methods of controlling it. Not only is this the most widespread of dental ailments, but it is also the most prevalent of all diseases. It affects 98% of our people, so that scarcely an American family escapes it. Here in Virginia, in 1947, your State Superintendent of Public Instruction reported that, during the previous school year, the number of tooth defects among all the Virginia school-children had surpassed the combined total of defects in the four next leading catagories.

Through scientific research, both in the laboratory and in the field, we have highly developed a method that can prevent roughly two-thirds of this most prevalent disease! That method is controlled water fluoridation, which I mentioned earlier. Whether or not the public decides to use this weapon depends solely on the effectiveness of dental health education programs; programs based not only on cold, hard scientific facts, but also on the ability of health educators to use these facts intelligently.

Sadly enough, the facts do not always speak for themselves. They must be given voice by the experts in health education: men and women who understand the facts about fluoridation and are prepared to use them as artillery against the half-truths and garbled facts being set forth by opponents of the measure. I am sure that everyone here today agrees with me on this point, so I won't belabor it further. I

shall simply discuss the facts concerning fluoridation and other methods which have been proposed for controlling tooth decay. I am confident that you in the field of dental health are well able to separate the wheat from the chaff, and that you will find a way to convince the laymen that this distressing problem of tooth decay must be, and can be, controlled.

To begin with, during our study of the deterioration of the human tooth we have been able to isolate certain factors which indicate why some of us have more dental decay than others. These factors form the basis for the currently advocated methods of prevention. We can divide them into four broad categories: fluoridation of water supply, topical applications, oral hygiene, and diet. Let's take them in order, beginning with fluoridation:

This procedure is based on the proven scientific fact that when fluoride is present in drinking water in the amount of one part fluoride to every million parts of water, children who drink it from birth grow up with two-thirds less tooth decay, and their teeth are stronger, straighter, and better-looking than those of youngsters who have drunk non-fluoride water. Fluorides have given us our first real opportunity to control tooth decay, not only on a community-wide, but on a nation-wide scale, and to deal with it effectively, safely, and practically.

The idea of scientifically controlling the amount of fluoride in the community water supply is a by-product of two decades of painstaking scientific research on the relationship between dental decay and the presence of fluoride naturally in the drinking water. Time after time researchers noted that tooth-decay rates decrease as fluoride concentrations in water supplies increase, from none to about one part per million. Also, at this low concentration they found none of the enamel stain caused by too much fluoride in drink water.

If this tiny quantity of natural fluoride reduces dental decay without staining teeth, the investigator reasons, why not produce the same results by adding fluoride to community water supplies in scientifically controlled amounts? This theory led to a series of controlled fluoridation studies, beginning in 1945, in Grand Rapids, Michigan; Newburg, New York; and Bradford, Ontario. Similar projects have followed in other communities. Many of these studies have been under way for six or seven years, and in each case controlled fluoridation has produced the same low decay rates that we find in communities where water containing natural fluoride in the ideal amounts of from one to one and a half parts per million is consumed.

Take Grand Rapids, for example: an industrial city only slightly smaller than your own state capitol. For seven years now this Michigan city has been adding fluoride to its water at a cost of less than

ten cents per person per year. And what has been the return for this modest sum? Simply this: Today in Grand Rapids, five, six, and seven year old children (born before fluoridation began) have two-thirds fewer cavities in their permanent teeth than children in the same age groups had seven years ago. There has been a substantial drop in decay rates among the older age groups too, with the benefits lessening slightly for each additional year of age. Although only children who drink fluoridated water from birth receive its fullest benefits, in Grand Rapids there has been almost a 20% decline in decay rates even among sixteen-year-olds, and, of course, the crowns of these youngsters' permanent teeth had already formed at the time when fluoridation was started.

It might be well to emphasize here that fluoridation benefits last a lifetime. We can see a good example of this in Colorado, where the adults in fluoride-free Boulder City are losing three or four times more teeth than are adults in nearby Colorado Springs. As you probably guess, Colorado Springs is a city with a naturally-fluoridated water supply, while Boulder City is not. From such observations, it is safe to predict that the next generation of adults in Grand Rapids (and in Lynchburg and Charlottesville here in Virginia) will have experienced two-thirds less tooth decay, and will have lost only one-third as many teeth as their parents are suffering today.

These same benefits can be had by any community, provided it is served by a public water supply. There are 15,000 communities with fluoride-deficient water supplies in the United States today and yet, at present, less than 2% of them have taken advantage of controlled fluoridation. In Virginia, there are over 500 communities served by central water supplies, but only two of them are fluoridating at the present time. Obviously, this is a fertile field for dental health education, unless you want this job to last for about 300 years. If we tell the fluoridation story truthfully and forcefully enough, we will be helping to make better teeth the natural heritage of every child served by a public water supply.

But where does this leave the youngsters who live in rural sections and villages not served by central water supplies? Fortunately, they can benefit by fluoride too, through the procedure known as topical application of fluoride. Many of you in Virginia have had the chance to see this method applied at first hand. Even before the first controlled study was begun in Grand Rapids, laboratory experiments had proven that tooth enamel treated with fluoride solution is more resistant to the destructive forces of acids. Discovery of this fact led to a long series of tests involving the local application of fluoride to human teeth. Tests of this kind, performed on thousands of children, show

that the incidence of decay can be reduced as much as 40% by painting teeth with a 2% sodium fluoride solution at regular intervals, generally at the ages of 3, 7, 10, and 13 years, so that all teeth are treated soon after they appear in the mouth. This method has been well received here in Virginia. I understand that your state dental clinics offer it as a routine service, and that there is an increasing demand for sodium fluoride solution from private dentists throughout the state.

A number of other topical agents besides fluoride have been proposed from time to time as possible methods of tooth decay prevention. However, at present penicillin seems to be the only one worthy of serious consideration. In preliminary tests, a penicillin dentrifice showed considerable promise as a preventative of tooth decay, if used according to prescription of the family dentist. But, unlike fluoride, penicillin is still in the experimental stage and not yet ready to become a candidate for dental health education programs.

Oral hygiene is the third on our list of methods now being advocated for the prevention of tooth decay. There are those who say that correct tooth brushing habits could reduce tooth decay as much as 60%. This contention may be valid, on paper anyway, but let's examine it a little closer. There is no doubt that tooth brushing does help to beautify some teeth, but the question that concerns us here is: How effective is the tooth brushing habit in preventing tooth decay? It could be effective, but isn't. Although there has been an increase in the sale and use of tooth brushes and tooth cleansers, there has been no corresponding decrease in tooth decay rates. Also, during recent years, tests have shown that when free sugar is placed on an open cavity, it is converted into harmful acid in as little as three minutes. This suggests, of course, that most of the damage is done either during, or shortly after, meals. But our present tooth-brushing habits (in fact, our whole busy way of life) simply do not conform with the successful utilization of this scientific observation. Imagine trying to educate an active child to scrub his teeth not only after each meal but also after each injection of candy bars, chewing-gum and soda-pop! It could be done, I suppose, but I doubt that it ever will be—not on a wide scale, anyway.

The fourth on our list of preventative methods is based on the premise that we can resist tooth decay by eating the right foods: i.e., by boosting our intake of certain vitamins, or restricting our intake of sweets. Unfortunately, studies on the relationships of Vitamin deficiencies and tooth decay indicate that, at present, there is no scientific evidence that we could have better teeth merely by fortifying our diets with any specific vitamin or with any combination of vitamins. On the other hand, there is a wealth of evidence to link dental decay

with the over-eating of highly-refined carbohydrates: that is, sugar, starches, etc. Scientists have been able to lower the incidence of tooth decay in individuals by limiting their carbohydrate intake. But, to try to duplicate this fact on a voluntary group basis would be a pretty complex undertaking. However, there is no doubt at all that we could fire a mighty broadside at this problem of tooth decay by limiting the frequency of dental exposure to sweets: in other words, by eliminating all in-between-meal snacks, "lifts," and "energy pick-ups" so popular in this country. Thus, if we could satisfy our collective sweet-tooth during meal-time, and only at meal-time, perhaps we could place ourselves in the enviable position of having our cake and eating it too.

To sum up: The fluoride method for preventing the high incidence of tooth decay on a mass basis is the only one which contains no "if's" and "maybe's." It requires only an effective dental health education program, a program which every community should and must adopt if we are to take the first long stride toward control of this decay problem. I have not meant to imply that fluorides are the whole answer. An ideal dental health education program would include not only fluoridation, but also restriction on refined sugars plus better-timed tooth brushing. Not one of these methods, or any combination of them, can insure complete protection against decay; meaning that the problem of treating cavities in the teeth by such methods as fillings will probably be with us for years to come. Therefore, our program must provide not only for early protection of the teeth against decay, but also for filling of cavities. And, of course, we must approach these matters not only from a health standpoint, but from an economic one as well. The State of Virginia has made a good beginning on a clinical program for rural children, with a staff of full-time dentists furnishing prophylaxes, fillings, and extractions for a nominal fee. This is probably one of the largest kind of programs in the country, and a big step towards our goal of adequate dental care for all.

However, no dental program is truly satisfactory unless it makes some provision for the second problem I cited: the problem of "malocclusion," the broad term covering a wide range of incorrect relationships of the teeth and jaws. It is typified by the chinlessness of Andy Gump on the one extreme and the abnormally jutting chin of Popeye the Sailor on the other. "Buck teeth," "squirrel teeth," and "snaggle-tooth" are all terms commonly used to describe the defect. The mental health aspects of this problem are far more serious than the physical, as you will find by observing any person afflicted with disfiguring malocclusion. Nothing is more pathetic than the stark malocclusion case, the case that actually can be diagnosed from across the room. Par-

ticularly pathetic is such a case because it is unnecessary for any child to go through life with such a social handicap. Modern orthodontic procedures can perform miracles by reducing or eliminating the mental as well as the physical difficulties of such cases. And yet, these miracles are beyond the reach of nearly all children in the indigent groups. So, I say that no community is providing even the barest essentials of dental care if it has no system for screening all disfiguring malocclusion cases and referring them to an orthodontist for treatment.

The need for dental health education is just as urgent in the field of oral cancer as it is in dealing with dental care and malocclusion; perhaps even more so, since here we face a matter of life or death. Cancer of the oral cavity brings the dentist the opportunity to save human life, and yet, all too often, it is an opportunity that he overlooks. To begin with, we are still in the dark about the mechanics of cancer (that mysterious chain of events which leads inevitably to the production of an overt cancer), nor have we found the ideal method for treating the disease. Both surgery and X-ray are effective in curing and arresting a cancer, by sterilizing or cutting out the cancerous tissue. However, they are successful only when used in time! Nowhere do we find better proof of the old adage that "the art of medicine is usually a matter of time." Roughly, 10% of all cancers originate in or near the oral cavity. A patient with an advanced case of cancer of the lips stands only a 50-50 chance of being cured. The chances diminish in other forms. For instance, only 10% of tongue cancers can be treated successfully in the late stages. And, an advanced case of cancer of the tonsil is nearly always fatal.

Despite these alarming odds, the fact remains that in no other type of cancer is prevention as possible as in oral cancer; that is, prevention through early detection of lesions or tumors which may become malignant. Actually, 90% of all malignancies originating in or near the mouth can be cured completely if they are recognized early and given prompt treatment. The fate of the cancer victim usually rests with the first physician, dentist, or nurse who has the opportunity to note the signs of the disease. In many cases of oral cancer, the majority in fact, the signs are seen first by a dentist. This is natural, in that most of us seldom consult a physician unless we have a pain or some other obvious symptom, and there is no pain in early cancers. If an oral cancer victim notices his ailment at all in the early stages, he usually mistakes it for a dental lesion, in which case he will quite logically visit the dentist. But even if he fails to notice it, the chances are that he will see his dentist first anyway. Since it has been impressed on us as a nation, with some effect, that we should see a dentist at least twice a year, we are apt to visit him first. This is all very good but,

unfortunately, many a dentist searches religiously for tooth defects without realizing that he literally holds a life in his hands.

Here we have a truly striking example of the need for education within the dental profession itself. What good would it do to educate the public to suspect early oral lesions, if our dentists fail to recognize three out of every five cases of oral cancer in the early stages? It seems obvious that in every state and in every community there should be a vigorous oral cancer program, aimed not only at the public but also at the dentist, himself. I am happy to say that this kind of program has been under way on a national basis since 1947, when the American Dental Association and the National Cancer Institute developed a plan for encouraging more research and instruction in oral cancer in dental schools throughout the country. Taking part in this program at present are thirty-eight of the nation's forty-two accredited dental schools, including the School of Dentistry of the Medical College of Virginia. The Medical College now has ten part-time faculty members and the equivalent of two full time instructors lecturing on the various phases of oral cancer. By taking part in weekly clinics, senior dental students are being trained to recognize early malignant lesions, and to refer the patient to a physician for definite diagnosis and treatment.

We see here the need for cooperation among several professional groups in dealing with this problem of oral cancer. If the cancer patient is to have the best possible chance for recovery, his case must pass before the dentist, then the physician, then the pathologist who makes the microscopic examination for a definite diagnosis, and finally, the surgeon or radiologist. But, note that the dentist is first in this procession. It is he who can and must touch off the chain reaction that will lead to the patient's ultimate cure. He is often the patient's first, and perhaps only, hope.

The need for cooperation among the different fields of specialization is even more critical in cleft lip and palate. I say more critical because, in all too many cases, this type of team-work simply does not exist, and the results are tragic. There are an estimated 20,000 cases of cleft palate in the United States today. One in every six of them is accompanied by "hare-lip." Thousands of these people are looked upon as freaks. Their faces have a flattened appearance, and there is an unattractive disproportion between their upper and lower jaws. Their speech is halting and unnatural; and yet, every one of these unfortunates could have been turned into normal looking, normal speaking individuals had they been given proper treatment. Many of them, of course, have had no treatment at all but, shockingly enough, the majority have been treated and the treatment just wasn't good

enough. Sometimes it did more harm than good. Here, again, we have a double-edged problem: a need for educating the public and an equal need for education within the dental profession.

Cleft palate is a congenital defect in which there is a gap in the palate, or roof, of the mouth, with no separation of the oral and nasal cavities. What causes it? We do not know. There is evidence that maybe 50% of the cases may be linked to heredity. Trauma and disease during the first eight weeks of pregnancy are both possible causes. But, whatever the explanation for this fluke of nature, the fact remains that it occurs in one out of every eight hundred live births. It is thus the most common of all congenital defects. And yet, until very recently, the facially or dentally handicapped were never included in any of the programs for crippled children. I understand that the Bureau of Crippled Children in your State Department now offers surgery for all reported cases of cleft lip and palate, but let's emphasize that word, "reported." Unfortunately, Virginia like nearly every other state has no truly adequate means of finding such cases. Virginia birth certificates do provide a blank space for birth deformities but it is obvious that, due primarily to the carelessness of attending physicians, many cases of cleft palate are not reported. It is estimated that there have been 415 cleft palate births in Virginia since 1948, and yet only 298 cases have been reported for all ages up to 21 years. If properly cared for, there is no reason why any child born with cleft lip and palate cannot become a normal, useful member of society. Hence the need for educating the public to the absolute necessity of reporting every case of this abnormality.

But, let's not fool ourselves. There is little purpose in finding cleft palates unless we are prepared to give them adequate treatment. It's a fine thing to provide surgery for all cleft palate patients, but surgery is never enough. In many cases, surgery is not indicated at all for complete rehabilitation. Nearly every cleft palate case requires the services of all dental specialists, and several outside the dental field. We have seen that the oral cancer patient must have the services of several professional men: dental, medical, pathological, surgical, etc. An even wider range of specialists comes into play in the treatment of the cleft palate patient. But, here the team doesn't work in relays. It works, or should work, shoulder to shoulder in partnership. In cleft palate a complete rehabilitation program should include the services of the surgeon, orthodontist, prosthodontist, speech therapist, and psychologist.

I have no intention of describing in detail that long, tedious process of correcting the facial appearance, speech habits, and mental outlook of the cleft palate patient. But I shall mention just a few of the reasons why this process should be a complete and thorough one, and why it must be a cooperative effort instead of a one-man show. For

obvious reasons, "hare-lip" should always have surgical attention. The treatment of cleft palate, however, is far more complicated. In a majority of cases the surgeon must create a functioning palate, which will enable the patient to eat properly, and lay groundwork for correct speech development. But surgery is never the full answer to the cleft palate problem. In some cases facial deformities actually result from ill-advised surgery and, indirectly, from the surgeon's failure to consult with a dentist, a prosthodontist, or any of the other specialists whose advice might have been invaluable. In perhaps 25% of all cleft palate cases, particularly in the larger clefts, surgery would be a mistake. Instead, the prosthodontist should fit the patient with a mechanical appliance which serves the same purpose as surgical closure of the cleft. Sometimes both surgery and prosthesis are called for.

In any event, the proper decision on the method of dealing with each individual cleft palate must be a group decision. Treatment of a patient, either by surgery or prosthesis or both, is only the beginning of the rehabilitation program. No matter how successful these procedures may be, the patient still is faced with the problem of reordering his speech with what is, basically, a faulty mechanism. It is essential that a speech therapist take part in the diagnosis and initial planning for any program for cleft palate rehabilitation. Surgery or an artificial palate merely furnish the patient with the means of perfecting his speech. Perfection itself must come with practice, and the patient can't do it alone. He also need the help of the psychologist in the business of learning an entirely new way of speaking. For the cleft palate patient, self conscious and sometimes emotionally warped by his physical deformity, is often a real social problem as well as a dental and a medical one.

I have touched only the surface of this very vital problem of cleft palate treatment and rehabilitation, but I hope that I have succeeded in spotlighting the need for special collaboration; for a program of mutual assistance in dealing with the problem successfully. It is rather distressing to find in the literature such wide disagreement on the proper methods of caring for the cleft palate patient: the surgeons who believe that surgery is the whole solution; the prosthodontists who may make undue claims for the value of prosthesis, etc. In the final analysis, it is just another example of what I have been talking about all along: education of the educators; education of the professional men who, in turn, are responsible for the educating of the public.

In closing, I should like to repeat what I have said earlier: that we must build our dental health education program on a sturdy foundation of scientific knowledge within the dental profession. If we in the dental and public health fields do not understand the nature of

each of our problems and the possible methods of solving them, we cannot and should not expect cooperation from the general public. As all of you will agree, we must have that cooperation. Without it as we would have to sit back and watch our problems grow; watch this whole generation of children lose half their teeth by the time they are forty; see thousands of oral cancer victims suffer and die needlessly; see countless cases of malocclusion and cleft lip and palate pitifully deformed and socially maladjusted because our indifference denied them proper treatment.

This presentation has been concerned largely with an analysis of facts, and of the dentists' role in solving community dental health problems. It has cited his errors, his failures, and sometimes his lack of qualifications in playing this role of educator as it should be played. However, lest I be misunderstood, I should like to add an all-important postscript to my discussion: I want to make it clear to the laymen in my audience that I haven't been telling the dentist anything he doesn't know and admit. I have merely tried to tie some of the loose threads together and suggest a pattern for dental health education programs: programs to which the dentist has much to contribute.

The dental practitioner must be ready and able to stand squarely behind any worthwhile dental health program, but I want to reiterate my earlier statement that the final solution of our dental problem, the end result of our program, rests not with the dentists but with the laymen. For it is the civic leaders, the community officials, the parents, the non-professional people who determine which community problems should be marked "top priority." What incentive is there for the dentist to sharpen his abilities; to learn all the facts about fluoride; to search for oral cancer; to learn proper techniques for dealing with cleft palate; to screen malocclusion cases—what incentive is there for him to do any of these things, if community leaders ignore these problems and fail to provide funds and facilities for treating these problems?

I am confident that the dental profession will prepare itself to meet any demands which an informed and aroused community chooses to impose. But these demands must exist in definite, tangible form, and they must be met within the framework of cooperative effort by professional men and lay leaders working side by side. The dentist who attempts to educate the public without first educating himself is fulfilling only part of his obligation, and the dentist who undertakes health education without the support of community leaders is just another Don Quixote, tilting at windmills.

I thank you.

DENTAL HEALTH EDUCATION FROM THE POINT OF VIEW OF THE PRIVATE PRACTITIONER OF DENTISTRY

Moffett H. Bowman, B. S., D. D. S.

Editor "Bulletin of the Virginia State Dental Association"

Before we discuss Dental Health Education, there must be full agreement on the part of each and every representative here as to what is meant by that term. Webster says, "to educate" means to "bring up," "rear" or "train as a child." To educate, there must be a teacher and a learner, or pupil. Simply handing out material, dispensing hand bills, or lecturing to groups does not necessarily denote education.

"Lecturing" to, or admonishing a mother because of neglect to her child's mouth likewise does not always come in the category of education. Time thus spent serves in a great many cases to antagonize. The mother may have brought the child in to have an aching tooth relieved. She may not be interested in what caused the defect, but may simply wish to have the pain relieved. However, such education, if carefully presented, might fertilize the mother's mind, so that she might become interested in the cause and thereby become a willing subject and eventually a participant in a thorough educational process.

In this discussion of health education, "teaching" and "education" become somewhat synonymous. Education also becomes a process of self teaching, self-building, self learning. Education in this sense means teaching one's self to react to a certain stimulus in a certain manner. Teaching and learning are not the same, but teaching and education are very similar. Health education cannot simply be given to one person by another; it is a process of self-change or self-development. People will educate themselves if provided with the necessary information and stimulus to learn. (1)

Education means showing, teaching, training, practicing under guidance, until the voluntary act becomes involuntary. To educate there must be a willing pupil. The ancient Greeks believed in one teacher and one pupil sitting in council together as the best method. A popular method of education, like agriculture, is the preparation of the "soil" or, mind, and the sowing of the "seeds" or, ideas. The thought being that some of the "seeds" will take root and grow. This gives rise to an often-quoted term today, one we hear in almost all situations:

(1) "What Is Health Education" Dorothy B. Nyswander, *American Journal of Public Health* 37: 641-652—June 1947

PROPAGANDA! How does education and propaganda differ? How are education and propaganda alike?

Our educational systems in the public schools and colleges today border on the use of propaganda methods. This goes back to the system of preparing the soil and sowing the seed. Such methods of teaching, or educating, today have grown popular because of the ease with which audiences can be captured! For example, the radio, newspapers, magazines, billboards, placards, hand bills and television. Audiences are made-to-order. These methods of education, if we may speak of methods, are to be discussed more fully by other groups today and need not be fully covered here, but must be mentioned in order to point up the complexity of the problem confronting the private dental practitioner.

Propaganda is often mistaken for education, and for educational purposes there is a legitimate place for propaganda in arousing interest. In education the recipient is active while in propaganda the recipient is passive. Unfortunately there are many seeds of dental misinformation being scattered, to find fertile fields for growth. All the methods above mentioned served to impart negative as well as positive information. Education can be guided in the wrong direction. There is a saying that "practice makes perfect." This is not necessarily true. Practice may make one just as imperfect as it makes one perfect. It depends upon the instruction one has had and is receiving. Commercial information afforded to the public may be either positive or negative—good or bad.

Today the large majority of our information regarding health is dispensed by means of commercial advertising. How many times during the last week have you dentists in your office been asked about "new green tooth-paste" that is supposed to stop tooth decay? The public reads this information and often believes it, either fortunately or unfortunately. Such barriers to correct information must be broken down and replaced by the correct information itself. Consider such commercial claims as those dispensed by the citrus fruit growers, and many other food and beverage manufacturers. The public is led to put far too much stress on what is good for the teeth rather than what is good to prevent caries. The public is still looking for an "over-the-counter" pill to end all its tooth worries, and is unwilling to accept the scientific information which is available today.

The role of educator, for the private practitioner of dentistry, must of necessity consist of two features or approaches. First; there must be a break-down of the misinformation: that is, unlearning the untruths and learning again the truths. The negative must be offset by the positive; in order to have education there must be a teacher and a willing

pupil; it follows conclusively that the ideal situation exists in the office of the private dental practitioner. Here we have the one teacher and the one pupil idea. So why not relegate all teaching to the private dental office, where the ideal situation exists? The reasons for not doing this are numerous:

There are those who believe that the dental office is no place for dental health education. There is a preponderance who feel and believe that here alone is the fertile field to be sown with the seeds of dental health education. The private dental practitioners problems are increasing in insurmountable numbers. There are the economic and psychological difficulties. The economist says that in a busy office the dentist does not have the time to teach and educate each patient who presents for service. If time is utilized for such purposes then a fee must be rendered for the use of such time. Such a fee is not so easily collected and in many cases when rendered will incur ill-will, certainly in the speakers locality. Therefore, rather than "waste" valuable time from a monetary standpoint, the private dental practitioner is rather reluctant to go into the many complications and ramifications of teaching, or educating the patient.

Psychologists tell us that we are not fit teachers. The private practitioner has a role in our modern complex civilization as a health agent, specializing in diseases of the teeth and gums. The teaching should be left to those so trained for that purpose. The dentist is not trained for the purpose of educating individuals or groups in dental health matters. I say they have not been trained psychologically. Dentists could be trained for such a program and I believe should be. The fact that they have not been trained for a role as teacher makes them unfit for this particular phase in our struggle for a solution to a gargantuan problem.

Let us assume for a few moments that the private dental practitioner is responsible for the education of the public in dental health matters. Until recently, possibly two decades ago at the most, this was the only method by which the lay public received any information regarding dental problems. About 1920 the State Public Health Department instituted a Division of Oral Hygiene, which in a feeble manner accomplished some of the tasks of dental health education. This was mostly for indigent or near-indigent groups.

Prior to 1935 there were 15 states conducting dental hygiene programs. In 1940 there were 38 states with dental programs, and in 1941 there were 154 full time dental health administrators, employed by various states, as against 8 in 1935. In 1946 all states except Arizona and Idaho had adopted a dental health program for demonstration or educational purposes, and I am sure that these states have

since adopted some method of meeting the pressing need for dental health education. In 1918 North Carolina established a Dental Division in its State Board of Health. Virginia was second in 1919 (2) I thought a brief resume' of dental health teaching and education would serve to illustrate an important point and that point is: It is not the responsibility of the individual dentist to deprive himself of valuable time in order to teach dental health education; but, through organized dentistry, dentists as a group can acquaint society of a definite responsibility on the part of society to assume this phase of health prevention.

The attitude of the American Dental Association today reflects "the opinion of individual dentists, and the Associations opinion, that the actual provision of dental service (likewise education, because education after all is a service) is not the responsibility of the dental profession alone, but must be shared by society." (3) It is dentistry's responsibility to provide leadership and guidance in the establishment and maintenance of dental health programs, and it is dentistry's responsibility to see that the professional and technical aspects of such programs are maintained on a plane so high that the services rendered will be superior in quality. Financial responsibility for these programs must be assumed by those who have the duty to provide such necessities of life.

With the advent of prevention and modern public health measures of maintaining good health, rather than curative and palliative treatments, and with the introduction of treatment for prevention of caries by fluoridation and the reduction in carbohydrate intake, dental health education assumed an entirely different complexion. The appearance at about this time on the horizon of the threatening socialization of health services may or may not have been coincidental. At least the change in attitude of organized dentistry in relation to dental health problems was simultaneous with the threat of socialism. Just before 1940 the dental profession was brought face to face with a mounting problem of increasing numbers of dental ills, which could not possibly be cared for by the existing dental personnel. Nor could the colleges turn out additional personnel to meet the increasing demands. The war years with increasing prosperity brought still more demands upon the dental profession and an order by the public to "do something."

The dental profession has attacked the task with magnificent strides. Research workers came up first with reduction in carbohydrate intake, with concomitant bacterial counts of saliva samples, and, later, the application of fluorides to the tooth surfaces; and still later the intro-

(2) and (3) "Dentistry, An Agency of Health Service" Page 115 by Malcolm Wallace Carr, D.D.S. Pub. by Commonwealth Fund, New York

duction of fluorides into communal water supplies, all for the purpose of reducing the incidence of caries. Why? Simply because there were more complaints than could be met by the existing man power. Politicians immediately seized upon the idea and without sufficient forethought made an issue of this problem. They were going to solve the problem by making health services free. No solution on earth could have been farther from adequate than this answer. Every dentist was doing his utmost to produce for those willing and able to pay a fee, and could not produce adequately, even for these, so the politicians were going to make the services free. How that answers any problem of supply and demand is beyond my scope of comprehension. "There is not enough to go around, so make it free and then no one can be satisfied:" I suppose that was to be the answer.

The dental profession approached this problem from a different angle. Their approach was to find out what caused dental caries and then prevent this disease, so far as possible and thereby accomplish a tremendous saving in taxes to the people. In the wake of these activities the private dental practitioner found himself in a peculiar role, that of teacher, or educator, for the purpose of showing the public how to prevent caries in order that there would be fewer demands upon his time. Three decades ago such a program would have been condemned by organized dentistry.

All these changes have made of the dentist a teacher or educator, a position which he has not been equipped to fill. What has he done in such a position? By and large he has made wonderful progress. He has talked reduction in carbohydrate intake, fluoridation, and mouth care to the child, the parent, the school-teacher and the school nurse. He has gone before city councils and stumped for communal water fluoridation programs. He has faced the problem magnanimously. That is what the large majority of the dentists today have done and are still doing.

One tremendous handicap still pervades and that is a unanimity of opinion on just what to tell the patient, where to begin, and where to stop. The dental profession is not in 100% full agreement on the fluoridation program, or on reduction of carbohydrate intake. There are those among our ranks who do not subscribe to these facts as shown by research to be beneficial. There are those dentists who do not bother to inform themselves of modern scientific methods and hence are ignorant of present-day dental methods. Yet, these dentists teach and educate the same as you and I. They may be guilty of disseminating misinformation and in the eyes of an uninformed public have as much influence as their neighbors down the hall, who subscribe to the modern trends in prevention of dental caries.

Recently I took occasion to ask three of my busiest professional associates of their opinion regarding topical application of sodium fluoride. One man said, "I give it to them if they ask for it"; another said, "I don't believe in the stuff, it looks too much like water"; and the third said "I have been applying it regularly." Now, from the attitude of the three foregoing statements it is easy to discern that a unanimity of "what to teach" must be established and adhered to. If teaching and/or education is to be put into the hands of the private dental practitioner, then a "curriculum" must be established. Imagine the confusion and chaos that would exist if dentist number 2 above (the one who "does not believe in the") made a talk before a parent-teacher group and sowed the seeds of doubt and disbelief.

We are beset with the mammoth problem of educating our fellow practitioners, so that they can and will educate the public in matters of dental health. To inform is one thing; to educate is another. What benefit can be derived, when we, who should know and do know, are prone to neglect and ignore these teachings? We are surrounded at all times with confections and carbonated beverages, fermentable carbohydrates, which we know to be contributory to the caries process. We partake of a bountiful supply, without regard to the lesson that can, and is being taught by our simple participation in publicly consuming such sweets ourselves! The soft drink and confection machines placed in all public places, institutions of higher learning, even in our dental schools, stand as mute evidence that we are not willing to "practice what we preach." What is our answer to this problem? Are we, like the cleric, sworn to be teetotalers and celibates, to be likewise sworn to abstinence with regard to the selection of those choice morsels, which are offered in such tempting arrays? Should we require of each man upon entering the field of dentistry, as a lifework, to sign a pledge to abstain from the use of those things that we know to be contributing causes of dental caries?

These problems must be solved in our own ranks first and then for society. Will it be sufficient to tell the public the facts regarding the carious process, and then with a simple gesture, say "there are the facts; observe the rules and you are free from dental caries." It is not that simple. People will not do what is best for them; they do what they like. Therefore education must be to teach the public to want healthy teeth and mouths, and in so doing train them to abstain from the harmful effects of certain foods.

It is no more the private dental practitioner's full duty to teach dental health than it is the banker's duty to teach and preach economy, even though he knows that his future depends upon financial security and financial security is attained through economy, rather than through

waste and extravagance. What would be your attitude should you approach your banker regarding a loan and he, in turn, should launch into an upbraiding regarding your extravagance? Most likely you would seek help elsewhere in the future, if not immediately. This is the attitude many patients assume and have a right to assume, upon presentation to our offices and being immediately lectured to regarding neglect of their dental health. There is a place for dental health education that can best be determined by the individual case. The dentist must be psychologically trained to select those cases wherein he might gain the greatest foot-hold, with the least amount of time expended.

The private dental practitioner has one definite responsibility and that is to the patient who has submitted to extensive dental restorations, in the hopes of retaining his teeth longer. Here no means or methods should be overlooked or neglected in order to acquaint the patient with knowledge to care for and cleanse artificial appliances and restorations. It is the full duty of the dentist to educate this patient along preventative lines. Here we do have the ideal situation, the old Greek method of one teacher—one pupil, and, at least momentarily, a willing pupil.

In Conclusion:

1. Education today has assumed a different complexion; having progressed from the old Greek method to that of propaganda, that is, telling the story so often to so many that the story eventually becomes a deeply imbedded "fact" or "truth." The dentist by his insidious and persistent attacks must strive to eradicate the untruths and insert the truths; to replace fiction with fact; to temper pallative and curative methods with prevention.

2. The private dental practitioner must continue to supply the leadership and counseling in dental education and preventative programs, as he has in the past. No dental program of a worthwhile nature has ever succeeded without the support of the private dental practitioner, through his organizations and groups.

3. The dentist must be taught to deal psychologically with the patient and become a teacher as well as a technician; and, in turn, the dentist must be taught what to teach and how to teach.

4. Full responsibility for dental health education cannot be assumed by the private dental practitioner, because of economic reasons.

THE PRESENT PROGRAM OF DENTAL PUBLIC HEALTH EDUCATION IN VIRGINIA

William H. Rumbel, M. P. H., D. D. S.

Director, Bureau of Dental Health, Virginia State Health Department

In the United States, dental programs, like other health programs, are being conducted by the Federal Government, by state, county and local governmental agencies and by many other agencies and very probably by some individuals. Here in Virginia dental programs are being conducted by the State, City and County Health Departments, welfare agencies, county boards of education, tuberculosis sanatoria, mental hospitals, private hospitals, colleges, industrial plants, parent-teacher associations and service clubs. In this maze of dental programs, the State Department of Health is being requested more and more frequently to furnish supervisory and consultative services, and is fast becoming the clearing-house where administrative policies are being systematized and standardized. Certain basic policies are always very essential, but a dental program must be flexible enough to be applicable to the individual community's needs. In many communities there are often several dental programs in operation, and, unfortunately, where two or more agencies are sponsoring programs, there is little or no coordination of effort. Some communities have recognized apparent weaknesses in the basic foundation of their programs and seek help to establish sound practices.

Teaching individuals and communities what must be done to obtain and maintain dental health is set forth in the following "proposals" of the Council on Dental Health of the American Dental Association:

1. Help every American appreciate the importance of a healthy mouth.
2. Help every American appreciate the relationship of dental health to general health and appearance.
3. Encourage the observance of dental health practices, including personal care, professional care, and proper diet.
4. Enlist the aid of all groups and agencies interested in the promotion of health.
5. Correlate dental health activities with all generalized health programs.
6. Stimulate the development of resources for making dental care available to all children and youth.

7. Stimulate all dentists to perform adequate dental service for children.

As most of you know, the dental program of the Virginia State Department of Health was established in 1921 as the Mouth Hygiene Division—now known as the Bureau of Dental Health as recommended at the First Conference on Dental Health of the Virginia State Dental Association, April, 1948. In 1949, the State Board of Health adopted a reorganization plan for the State Department of Health in order to decentralize the administrative duties. This plan divided the work of the State Department of Health into five major divisions—Division of Sanitary Engineering, Division of Specialized Medical Services, Division of Local Health Services, Division of Administrative Services and the Division of Tuberculosis Control. The Division of Local Health Services was expanded to include, in addition to local health districts, the Bureaus of Public Health Nursing, Laboratories and Dental Health, and the following Sections: Branch Laboratories, Milk Sanitation, Tourist Establishment Sanitation and Records. This change made it possible for dental health to become correlated with all of the basic health services provided by local health departments. All of the new health centers constructed since the reorganization have provided space for dental clinics, and most of them have installed modern dental equipment. This has been a definite influence toward increasing dental program interest with the local health officers, nurses, other local health department personnel, school authorities and other agencies. Eighty-six of the 100 counties in Virginia are now covered by organized local health services and most of the remaining counties have shown a desire to join as soon as trained personnel are available to staff the units. Naturally, when all of the counties in the State are covered by local health services, the interest and demand for dental programs will be increased.

Following are the policies of the Bureau of Dental Health written by the Virginia State Dental Association and presented to the State Board of Health for adoption in 1921:

1. "That all oral hygiene activities should be under the supervision of the State Board of Health, the dental profession and the State Board of Education cooperating and assisting."
2. "That the money for educational publicity be by the state appropriation and one-half from local communities."
3. "Dental clinicians should be employed by yearly contracts and paid monthly through the State Board of Health."
4. "No local dentist should perform clinical service gratuitously, nor exact a fee for educational work."

5. "It is a dentist's civic duty to give educational talks and demonstrations to the public of his community."

6. "More serious thought is now given to the importance of teeth than ever before, and mouth hygiene problems everywhere in the state are being solved."

7. "The medical and dental professions are getting closer together, and one cooperating with the other for the sake of preventive medicine and preventive dentistry, and that oral hygiene will shorten the road to the goal sought by both."

During the past thirty years the administration of the dental program of the State Department of Health has adhered closely to these policies and hundreds of thousands of children in rural areas have benefited through the program. Perhaps the following interpretations of these basic policies that have been followed throughout the years are essential for clarification:

1. "The county, through the Health Officer, providing the county is covered by full-time Local Health Services, or through the Division Superintendent of Schools in those cases where a Health Unit does not exist, makes formal application for a clinic to the Bureau of Dental Health, State Department of Health."

2. "The dental clinic is conducted by a full-time dentist employed by the State Department of Health. The dentist is directly responsible for the conduct and overall organization of the dental clinic in the county. The technical supervision is the responsibility of the Director of the Bureau of Dental Health."

3. "Dental treatment is provided pre-school children and school children from the first to seventh grades inclusive in the rural areas only."

4. "All dental equipment, supplies and materials are furnished by the State Department of Health."

5. "The children, when financially able, are requested to contribute towards the cost of the clinic. The total operational expense of the clinic is divided approximately three ways—the child patient, the County and the State."

6. "The dental clinicians are not allowed to have any outside practice. A violation of this rule means immediate dismissal from the service."

7. "White and Negro dental clinics are conducted separately. The staff includes Negro dentists for work in the Negro schools."

8. "Treatment is limited to cleaning, filling all savable teeth, extractions and topical fluoride treatments. No orthodontic treatment or prosthetic appliances are provided." The Annual Report of the State Department of Health for the fiscal year July 1, 1950 to June 30, 1951 shows:

Dental clinics were held in white schools in 18 counties and in colored schools in 14 counties. Dental clinics were also held during the summer-vacation months in all children's industrial schools.

35,160 Children were examined

27,762 Children were treated

44,633 Corrections were made (consists of porcelain, amalgam fillings—extractions—and cleanings)

7,150 Children received complete topical fluoride treatments.

The staff of the Bureau of Dental Health consisted of 18 dentists—12 white and 6 colored, two dental assistants—one white and one colored, a secretary and a director. Seven modern dental trailers, each equipped with two complete operating units were in use in the program. All other dental treatment was provided through the use of the most modern portable dental equipment available today.

A Topical Fluoride Demonstration Team consisting of a dentist, two dental hygienists and a clerk-typist from the U. S. Public Health Service, loaned to Virginia, gave complete topical fluoride treatments to 4,986 children in 14 schools scattered over a wide area of the State. This program was terminated on June 30, 1951 after a three-year period in which 15,507 children received complete topical fluoride treatments in 39 demonstration programs. An oral examination was made on each child prior to the beginning of treatment. During this same three-year period, a second topical fluoride program was conducted in Fauquier and Prince William Counties by members of the staff of the Bureau of Dental Health. This program was started as a pilot study program to determine the cost of treating children with topical fluorides by using a dentist and a dental assistant. A white dentist and a white dental assistant worked in the white schools and a colored dentist and a colored dental assistant worked in the colored schools. Approximately 2,164 children in 47 schools in both counties received complete fluoride treatments during the fiscal year. All second, fifth and seventh grade school children were treated each year during the three-year program. The two dental assistants were specially trained to do all or any part of the work except the application of the fluoride solution and cleansing the teeth. An oral examination was made on each child prior to the beginning of treatment. The cost of the program was divided between the Counties and the State.

Members of the staff of the Bureau of Dental Health made talks to school assemblies, civic organization, service clubs, Parent Teacher Associations, staff conferences of local health departments and over the radio. Motion pictures on dental health were also shown. Slides and motion pictures, depicting the history of the fluoridation story, were shown to health, professional and lay groups all over the State for the purpose of promoting the fluoridation of communal water supplies. The result to date is two cities now add fluoride to their drinking water—seven other cities have received their permits and approximately fifteen others are at various stages in the process. All members of the staff participated in local programs in observance of National Children's Dental Health Day. The January issue of the Health Bulletin of the Virginia State Department of Health was devoted entirely to the observance of National Children's Dental Health Day. Every letter sent from the State Department of Health from February 1 through March 31 was stamped with slogan, "Visit your Dentist Regularly." Incidentally, the number of letters sent out during this period was approximately 55,000.

Although the public health officer is responsible for the administration of public health service to all of the people in this area, including school children, and the promotion of a program for health education, the public health nurse is often the connecting link between the health department and the individual citizen. In the Virginia State Department of Health, the public health nurses have constantly endeavored to promote early correction of dental defects—probably because dental defects are the most common and most numerous of all human ills. The nurses have assisted in the promotion of, and in many cases, have directed dental programs. They have informed the parents of the importance of preventing the premature loss of deciduous teeth early and regular dental treatment, good nutrition and good oral hygiene. They have also assisted in organizing and conducting county dental programs through their contacts with school authorities and public officials.

During this school year a combination nutrition and dental health education program was conducted in Rappahannock, Madison and Warren Counties. The purpose of these studies was to evaluate the effect of concentrated nutrition education when correlated with the existing dental programs. A public health nurse and a nutritionist from the State Department of Health conducted a three-day dietary survey on the fourth grade children in several selected schools in each County. The results of the dietary surveys were tabulated, using the seven basic food groups as a standard for the evaluation of each child's eating habits. The figures showed that the children were eating adequate amounts of breads and cereals, meat and meat substitutes, fats and excessive amounts of sugars and confections. A very small per-

centage of the children was drinking the recommended one quart of milk per day. An oral examination made on these same children showed a much higher tooth-decay rate than the national average.

The survey stimulated the interest of the teachers to such an extent that they requested refresher courses in nutrition so that they could correlate the teaching of nutrition and dental health in their regular health classes.

A demonstration project was conducted in each fourth grade class. Two white rats were used—one was fed a good diet, the other a very poor diet. The children were able to compare the changes in growth and development in the two rats daily. Charts and posters on good nutrition were displayed, and booklets and pamphlets were distributed to the children. Motion pictures on dental health and nutrition were shown in all schools.

Newspaper articles and radio talks enlisted parental support of the project. Prepared articles giving the results of the dietary surveys and the oral examinations were distributed through the aid of service and civic clubs, parent-teacher associations and women's groups.

Up to this point I have presented to you the direct dental health education program of the Bureau of Dental Health of the Virginia State Department of Health. However, dental health teaching is not solely the responsibility of the Dental Bureau. The work of several other Bureaus of the State Health Department must cross over into the field of dental health. Dental health education is part of the work of the Bureaus of Maternal and Child Health, Cancer Control, Crippled Children, Tuberculosis Control, Venereal Disease Control, Industrial Hygiene and School Health Services. The correlating agency for the over-all program of education for the State Department of Health is the Bureau of Health Education. All of the educational materials such as pamphlets, brochures, bulletins and exhibits are prepared by the Bureau of Health Education for distribution. This Bureau is also responsible for the technique and method of presentation of these materials.

Dental Public Health Education in Virginia is not limited to the work of the State Department of Health. Each of the three counties, Albemarle, Arlington and Campbell, employ a full-time dentist to conduct its own dental program. The only connection these programs have with the Bureau of Dental Health is through consultation service. These programs do, however, follow the general pattern of the dental programs of the Virginia State Department of Health.

The dental program in Albemarle County is sponsored by the Charlottesville-Albemarle County Child Welfare Association. All of the clinical work is done in a modern mobile dental trailer donated by

the Mary K. Stone Foundation. During the last fiscal year 858 children were examined and 6,224 corrections were made on 2,175 children.

The dental program in Arlington County is sponsored by the Arlington Board of Education. All clinical work is done in school clinic rooms using portable dental equipment. During the last fiscal year 10,653 children were examined and 2,207 corrections were made on 1,266 children.

I regret that no figures were available for the work done in the Campbell County Program. There has been a dental program in operation in Campbell County, however, for the past three school terms.

Another phase of the Dental Public Health Education program in Virginia is carried on in city dental programs for indigents. The cities of Alexandria, Danville, Norfolk, Portsmouth and Richmond conduct such dental clinics.

Dental clinics in Alexandria program, held in the Health Center, are conducted by part-time local dentists. City Health Department Public Health Nurses are used as assistants. During the last year 1,015 children were examined and 3,372 corrections were made on 987 children.

The dental clinics in Danville are held in the City Health Department, and are conducted by part-time local dentists. During the last year 2,287 corrections were made on approximately 825 children.

The Norfolk City Dental Program was started several years ago by the Junior League with part-time local dentists acting as clinicians. The dental equipment used in the clinics was purchased by the Junior League. Today a full-time dentist is employed and members of the Junior League furnish the clerical assistance. During the past fiscal year 1,976 patients were treated and approximately 3,000 corrections made.

Portsmouth has the distinction of having its own building in which to hold its dental clinics. At the present time two full-time dentists, one white and one colored, and two full-time dental assistants, one white and one colored, are employed. This clinic is in its first year of operation, having started July 18, 1951. During this year 2,384 corrections were made, 294 x-rays taken, 62 patients visited the clinic for prosthetic work and 33 patients visited the clinic for crown and bridge work.

The dental work of the Richmond City Program is done in the MCV-City Dental Clinic. Two full-time dentists, one part-time dentist and a full-time clerk-assistant conduct the clinics. The Richmond Dental

Clinic was also inaugurated in July, 1951. Since then, approximately 145 new patients per month have been receiving treatment.

Besides the County and City Programs, dental treatment programs are also conducted in Mental Hospitals and Tuberculosis Sanatoria.

Two full-time dentists are employed in Eastern State Hospital, Williamsburg; and Central State Hospital, Petersburg; and one full-time dentist is employed in Lynchburg State Colony, Lynchburg; and Southwestern State Hospital, Marion.

One full-time dentist is employed in Blue Ridge Tuberculosis Sanitorium and a part-time dentist in Piedmont Tuberculosis Sanitorium. Dental treatment in Catawba Tuberculosis Sanitorium is provided by local dentists.

Dental Clinics are also held in the Crippled Children's Hospital, and the Orphanages of St. Joseph's Villa and the Methodist Church, Richmond, by part-time local dentists.

On the surface there may seem to be a very meager amount of dental public health work accomplished in Virginia; however, a re-check of the personnel as presented in this paper numbers 31 full time public health dentists, 2 full-time dental hygienists and an estimated 18 part-time dentists.

As previously stated in the Annual Report, the dental program of the State Department of Health is primarily a corrective one for children in rural areas; however, it is not in itself without educational value. The American Dental Association has recommended the three Principles: Education, Correction and Prevention as a basis in dental program planning. To most health authorities, it is difficult to divorce one principle from another. There is a certain amount of educational value in the individual's participation in either the correctional or the preventive phase of a dental program. Most educators agree that learning is the sum of the individual's experiences. Therefore, the 35,000 odd children examined as reported earlier, must have benefited even though they had no further treatment. Few people will claim that 27,000 children who had 44,000 fillings placed, or teeth extracted, received no benefit (educationally) from their experiences. The same may readily be said about the 7,000 children who had to make four separate visits to the clinics to receive complete topical fluoride treatments.

DENTAL HEALTH EDUCATION AS A PART OF THE TOTAL PUBLIC HEALTH EDUCATION PROGRAM

C. Mayhew Derryberry, Ph. D.

Chief, Division of Health Education, U. S. P. H. S.

Mr. Chairman and Fellow Conference People:

Up to this point we have been talking about dental health education, and it becomes my job to establish the perspective of dental health education as a part of general health education; of all of health education for the community, or, I might say, all of community education; because there are many other problems in the community with which we are faced.

I have been impressed with the success of the Planning Committee in the way in which they, in laying out this program, have followed the four principles discussed by Dr. Oliver this morning. For example: we are all here for a purpose, which is to improve the results of educational efforts for the dental health of Virginia. Secondly, we have had the facts presented to us, and we have had the reasons behind those facts. Thirdly, I think we have the will to learn, as this is demonstrated by our presence and faithful attendance here and our persistence in remaining on these hard chairs for so many hours of the day. Finally, we are now faced with the problem of developing a habit of good dental health education in ourselves: dentists, educators, and public health workers, as we work with the people in our respective communities.

Now, before we get into that (and we are going to do a little practicing on that habit in a few minutes), may I point out to you some of the hurdles, or at least a couple of them, which we have to meet and get over? The first is that the members of the community do not have, necessarily, the same purpose that we do here today. They may be concerned with cancer-education, tuberculosis-education, education to prevent accidents, etc., as much or more so than we are about good dental health education! They may be working as hard to get their facts out before the people and to reach their goals as we are to reach the goal of dental health. How, then, can we get a dental health education program into the community when there are all these conflicts of goals?

I wish I knew the answer to it—there is no set answer. But, there are many approaches; many more than I possibly could think of. Such is my confidence and faith in people that I am sure that within this room there are ideas for many approaches; many more than we could

think up and recite to you. Therefore, it would seem to me to be much more fruitful if we could give all of you a chance to develop your ideas with your fellow man and share it with him this afternoon. Through this sharing of many ideas, each of us will go away with a choice of approaches that we might make.

Now, in order to carry this out, I have drawn up some facts about a hypothetical community, and I put them on the board here, and will read them to you. I want you to pay particular attention to these facts, because you are going to use them in a few minutes in figuring out how you would go about putting a dental health program into effect in this community that hasn't got one. This community is a county, of 40,000 population. It has a very active dental society, and that's the reason I want to put a dental program there. Somebody has been to this meeting and wants to get to work. There is an active tuberculosis association in this community; also, there is a very good cancer society, but there is an understaffed health department (that seems to be usual around the country, and I suspect that there are a couple of places in Virginia where it would fit). There is a visiting teacher in the community who serves as liason between this under-staffed health department and the education department. There is an infantile paralysis association, and an inactive medical society. There is a school supervisor, a health council, a crippled children's society, and a brand new cerebral palsy society that's awfully interested in getting something done.

Now, here is the way we are going to work it: You will form small groups and elect for yourselves a spokesman, and for six minutes you will be allowed to talk together and decide what you would do in that community if you were going to try to put in a dental program. At the end of the six minute group discussion period, each spokesman will be expected to report back to us and give us your decisions. During such a procedure you will share with one another your ideas on the various methods which might be used, and maybe we will have some good discussion on what are the good ways and the poor ways of doing it. Now, how do we get into small groups? May I suggest that these first three rows here form one group, and then take it two rows at a time? Any questions? O. K.: six minutes from now!

Spokesman for First Group:

The first thing that we would do would be to get the health council and the dental society to call together a meeting of a representative from each of the organizations listed on the board, and we would discuss our dental health problems. We would also set up a committee to go out and determine just what the needs were in that community, and also what facilities were available to meet those needs. Then we would highly advertise our needs and give everybody a job to do.

Spokesman for Second Group:

Our group decided that all the listed agencies should be approached through the council; and, if this program was to promote dental health, the schools certainly should be in it in more ways than just with a liason person from the education department: the county board of education should be included. The suggestion was also made that we would try to interest all age groups in working together with their own group, so as to stimulate more interest in the problem, particularly in the high schools. The proper ground-work is very important in promoting any type of program. The use of a local survey was mentioned, and the use of publicity, especially in the newspapers, so that all available information could be given the community before a definite program was actually started.

Spokesman for Third Group:

Our group spent more time electing a spokesman than we did getting to the problem. However, four points were decided upon: First, the dental society should determine, within itself, to put on a community dental health education program. Then, the dental society should approach the P. T. A. It should use material from the American Dental Association, and it should also try to arouse the interest of the inactive local medical society.

Spokesman for Fourth Group:

We felt that a survey by the Council on Dental Health of the individual component dental societies would prove very useful in telling what our needs in that community would be. This has been demonstrated very well in my own community of Alexandria by a very thorough program which the local Council on Dental Health promoted and carried out. There was no dental health program there at the time we carried out a survey; we got absolutely no opposition within that particular community. We carried our program out through whatever when we proved to them with figures what we had to deal use of the press, through P. T.A. groups, fraternal and civic organizations, etc. So, that is the recommendation of our group.

Spokesman for Fifth Group:

I have nothing further to add, since the recommendations of our group have already been covered in the reports of the first four groups.

Spokesman for Sixth Group:

Our group had the same trouble that the other groups had in electing a chairman; this took up more than half of our time. We did come through, however, with a few concrete suggestions:

In the first place, the weak structure in this county set-up was the health department. We felt that it was imperative, before anything

really could be done, to strengthen that health department immediately. At the same time, it seemed important to all of us to determine where funds were coming from, and so we felt free to call upon the existing organizations plus the P. T. A. and service clubs, to determine what funds would be available. And, in our survey, we also included the question of ability to pay, because it is important to use the available dental personnel in their own private offices if possible. At the same time, we felt that the local schools, P. T. A., etc. should be used to educate the population in this county. The rest of my report has already been covered by the previous sections.

Spokesman for Seventh Group:

The first action of our group was to compliment the finesse with which Dr. Derryberry, having accepted a part on a program to give us a talk, has succeeded in making the audience do all the work. We assumed that the health council of this county was active, and made up of representatives from the other agencies, and that it, therefore, was the logical body to consider the matter of dental health education. Since, in many places (probably most places), a program such as this comes under the health department, we felt that this might be a means of stimulating the "under-staffed" health department to become better staffed, and that, therefore, the health officers should be brought into the program.

Spokesman for Eighth Group:

We have nothing extra to add, except that we did emphasize that we would help these individual agencies to incorporate dental health education into their already active programs, so that they would not feel in any way that we were causing them to give up their emphasis, but, rather, to add to it. We did talk about ground work, and we did emphasize the health council's part in such a program.

Dr. Derryberry:

Briefly, in summarizing, it seems to me that we have here accomplished some of the kind of things that we need to do. There is a need in any community, in starting out a program, to stimulate an understanding of the problem which is proposed to be carried out, by surveys and other methods. There is also the need of planning together, because only through that kind of means can we achieve a community that is working together; otherwise, we work at cross-purposes, and peculiarly enough, though competition is the spice of life and truly the reason why our capitalistic system seems to get places, it is a deterrent to our program, because we want everybody to get dental health; we want them to get tuberculosis-free health; we want them to get cancer education; we want them to get all the good things of life. And when we compete with one another in these fields,

people are confused and say, "well, I don't think I'll do anything." So, we must incorporate, in order that our purposes will be the same. One of the ways of doing that is to use the council as a technique by which planning is done together.

I think we here have learned one thing about this problem, and that is that we have to recognize other people's problems too, and we have to have the confidence that if we help them to achieve their goals, they, too, will turn around and help us.

Now, if you don't believe that, just try it sometime.

Thank you very much.

QUESTIONS FOR STUDY GROUP CONSIDERATION

Introduction

Most of the delegates present are probably somewhat familiar with the "workshop" system of study which we are following for this conference. According to this plan of approach, the general topic, Dental Health Education, has been broken down into a number of related sub-topics, each of which will be considered by one of the individual study groups. Such a method of subdivision will, of course, greatly facilitate discussion of the many questions and problems at hand.

It should be emphasized that at many points the topic under consideration by one study group may overlap and duplicate the subject for another group. For this reason, each delegate is strongly urged to familiarize himself not only with the outline and questions for his own particular study group, but also with the outline and questions for each of the other groups as well.

Such an over-all appraisal will enable each delegate to better evaluate the topic for his own group in its relation to the general subject, DENTAL HEALTH EDUCATION. Also, it is likely that he will run across questions under consideration by other groups which may quite well sharpen his thinking as regards the particular topic for his own group.

The questions which are offered to each study group for consideration are in no way intended to restrict or limit discussion by that group. They are offered only as a possible guide, and may be utilized or discarded as desired.

PROPOSED QUESTIONS FOR STUDY GROUP NO. I

*Topic***DENTAL HEALTH EDUCATION:
SOURCES, SCOPE, RATIONALE, PARTICIPATION**

The objective of this group is to consider the basic principles relating to Dental Health Education as a pressing public problem. Certain broad concepts and "bed-rock" fundamentals must be well defined and established before detailed discussion and planning on the general subject can proceed in a rational manner.

1. What do we really mean by "Dental Health Education"?
2. Is the term "education" synonymous with the phrase "familiarization with facts"?
3. What are the principal dental problems which cause the need for Dental Health Education?
4. What are the reasons for Dental Health Education?
5. What are the objectives of Dental Health Education?
6. Where does the basic responsibility for Dental Health Education lie: With dentists, as individual citizens? With dental organizations? With professional educators? With the public school systems? With governmental agencies such as departments of health? With parents? With the individual community governments? State governments? The Federal Government? With other groups or individuals?
7. Is the matter of Dental Health Education fundamentally a national, state, or local community problem?
Should Dental Health Education programs be initiated at the national, state, or local level? By whom?
Should means, methods, and materials for such programs be determined at the national, state, or local level? By whom?
Who best might evaluate the procedures and results of such programs? Should such evaluation be objective or subjective?
8. With regard to Dental Health Education, what, in general, are the proper responsibilities and activities of:
 - (a) Organized dentistry
 - (b) Public health agencies
 - (c) Educational agencieson the national, state, and local levels? By what practical means might these principles now best be applied in Virginia?

9. In the individual communities, should the dental profession take the initiative in promoting improved Dental Health Education? Might such action be misunderstood and misinterpreted? How best can such misunderstanding be avoided? What would be the best avenue of approach from this point of view on the community level? What part should the local dental society play? The State Dental Association? The State Council on Dental Health?

10. Is a local community Dental Health Education program a practical and proper approach to the dental aspect of the general problem of health education? Provided that such a project is worthwhile, what community group or groups might best take the initiative in getting such a program started? By what means might this best be done? What should be the general approach? Who should participate?

11. As regards Dental Health Education for the dentist himself in participation with his fellow dentists, what may be done prior to graduation from dental college? After graduation? What activities to promote such health education for dentists should he and his colleagues encourage and actively support? (National, state, and community levels)

12. By what means, other than through private patient associations within his own office, can and should the individual practicing dentist seek to promote Dental Health Education within his own community?

13. How may organized dentistry, as a group, best cooperate with other groups and agencies to improve the general public's knowledge regarding dental health? (National, state, and local levels). What are the responsibilities in this regard? By what practical means might these principles now best be applied in Virginia?

14. What are the general facts we want people to learn about dental health? Why should they know these facts?

15. What are the attitudes, practices, habits we want various people to form with regard to dental health?

16. Will information on teeth, caries, gingivitis, etc., cause people to act in a desirable way as regards their dental health?

REPORT AND RECOMMENDATIONS

Certain broad concepts had to be well defined before a discussion of details and planning could proceed in a rational manner. Accordingly, Group I first proceeded to develop a definition of Dental Health Edu-

cation. The following definition was developed, and is recommended for adoption by this conference:

Dental Health Education is a process designed to create a desire for, and an understanding of dental health, that leads to a conviction of the necessity for, and that results in action for good dental care; the term "dental care" is used in its broadest sense, to mean prevention, cure, and repair of dental defects.

Group No. I then proceeded to enumerate the factors which create the need for Dental Health Education. The following items were noted:

1. An improved appreciation on the part of the public for a better life.
2. The realization that dentists, public health workers and educators, without the help of an enlightened public, cannot solve the dental health problems.

Group No. I viewed Dental Health Education as primarily the responsibility of citizens at the level of the local community. State and national agencies were considered to serve best as resources for information, general guidance and consultation.

Within this framework of reference, it was deemed to be the responsibility of the dentist and dental organizations to initiate and supply the stimulus for dental health education programs. However, Group No. I recognized that any interested person or group may properly offer the leadership necessary for the development of such programs.

The dental profession is also expected to supply the scientific and technical facts and should be charged with the responsibility of making this information available.

The privately practicing dentist should seek to promote dental health education by active association with allied health groups.

It was also deemed to be the responsibility of the dental profession to offer leadership in matters pertaining to the education and training of adequate dental personnel.

Group No. 1 recommends that, in the further discharge of its professional responsibilities, the dental profession should promote courses in dental health education for the undergraduate students of dentistry, medicine and other health services. It was also recognized that every professional servant should be a continuing student and that dental health education should come within the scope of his continuing study. Dental societies may serve as a useful medium for this activity.

In the course of discharging these assigned responsibilities, it is recognized that misunderstanding and misinterpretation may develop. If ultimately the community is properly educated the objectives of dental health education would become apparent, and controversy would not then be viewed as an unmixed evil.

Group No. I then discussed the responsibilities and the activities of educators in dental health education, it being recognized that in school the teacher is the key person in a functioning dental health education program. The educators are charged with the responsibility of presenting factual information concerning dental health through educational channels, a program designed to result in action for good dental care.

It was deemed to be the responsibility of public health agencies to serve the function of coordinating the efforts of the dental profession, the educators and other groups in dental health education programs, and also to serve as resources for information and guidance.

Group No. I then proceeded to discuss the need for determining the objectives of dental health education programs and for making these objectives known to communities, states and the nation. It was agreed that dental health education programs should have as their prime objective the prevention of the dental diseases.

In discussing the means and methods for the development of dental health education programs it was agreed that information in itself will not cause people to act in a desirable way in regard to their dental health. Therefore, it was deemed necessary that the broadest possible type of dental health education programs be developed. Such programs should emphasize those actions which a person or a community can take for themselves and those services which must be obtained on an individual basis from professional persons or groups.

The development of such broad programs is best accomplished by voluntary cooperative efforts of interested persons and groups, working as a community health council. Through such an agency, the dental profession, the educators, the public health agencies and other groups may best discharge their responsibilities and make their respective contributions.

With reference to the evaluation of dental health education programs once these are in action, it was agreed that such evaluation may best be done by those who initiate, implement and conduct the programs. It was further agreed that both objective and subjective evaluations should be made. Evaluations should be made in terms of specific goals of the individual programs.

To the end that dental health education programs may succeed it appears necessary, in the judgment of Group No. I, that the public

should have certain general, scientifically established facts concerning the identity and nature of the many dental diseases, their causes, and their effects on human welfare in terms of over-all health. The public should also have certain general facts with reference to the prevention, the control and the correction of the various dental diseases. Knowledge of the scope and the present limitations of these available measures should be widely disseminated to the health professions, the educators and the public.

The principles discussed in this report and the recommendations offered should be accepted as the responsibility of every citizen in Virginia, it being recognized that the strength of our democratic way of life rests on the acceptance by every citizen of his responsibilities along with his privileges and rights to a better life. In a better life dental health assuredly plays an important role.

Recommendation:

Group No. I recommends the adoption of this report, its definition of Dental Health Education, its described plan for the distribution of responsibilities and activities, its statement of objectives and its general proposals for the development of dental health education programs.

PROPOSED QUESTIONS FOR STUDY GROUP NO. II

Topic

DENTAL HEALTH EDUCATION IN THE PRIVATE DENTAL OFFICE

The objective of this group is to consider the problems relating to Dental Health Education in the office of the average practicing dentist.

1. What are the reasons for Dental Health Education in the Private dental office?
2. What are its objectives?
3. Is the private dental office a practical source of Dental Health Education?
4. Should such education be attempted beyond the immediate needs of each individual patient?
5. Is a patient in a dental chair psychologically ready to receive and profit from instruction relating to dental health?

6. To what extent can and should the private dental practitioner utilize his valuable office time in promoting Dental Health Education? What are the economic problems involved? The political and social problems?

7. What aspects of Dental Health Education best lend themselves to promotion in the private dental office? What aspects are least suited for this?

8. In case the practicing dentist should attempt Dental Health Education in his private office,

(a) What are his resources?

(b) His materials?

(c) His methods?

9. What part, if any, should the dental office assistant play in dental health education? Resources, materials, methods?

10. What situations in the private practice of dentistry offer the best opportunities for Dental Health Education? The poorest?

11. As a dental health educator, in what way is the average practicing dentist well suited for the task? Poorly suited? What may be done to improve this situation in Virginia?

12. What percentage of the population visits dental offices?

13. Is this the group most in need of education as regards dental health?

REPORT AND RECOMMENDATIONS

It was agreed that the private office of the average practicing dentist is a practical source of Dental Health Education for the following reasons:

1. The dentist has the most authentic information regarding recent scientific facts.

2. The environment of the dental office lends itself to Dental Health Education.

3. The dental office is a proper place to supplement and reinforce what is taught in the schools, by Public Health Personnel and other related groups.

In our group, we were exceedingly anxious to develop the feeling that the dentist is not promoting dental health education in an effort to inform the patient of what dentistry can do for him, but rather to

educate the patient to appreciate the value of what he can do for himself to prevent and control dental disease. Other objectives are: to assist in the promotion of general health by giving information, promotion of good practices, encouragement of routine dental examination, and to make the patient aware of the broad scope of what modern dentistry can do for him (such as repair of cleft palate, speech correction, and esthetic achievements).

Some of the reasons why the dental office is a suitable place for dental health education are as follows: The fact that the patient feels a need offers a potentially teachable moment (unless temporarily he is emotionally disturbed). The person with a dental problem is much more susceptible to dental education by his dentist, whose knowledge and skill he respects.

The private dental practitioner can best utilize his valuable time in promoting dental health education by making education a part of every dental procedure. Dental health education by the dentist helps to improve patient-dentist relationships with resultant financial gains and saving of time for patient and dentist alike.

The political and social aspects are important. Meaningful dental health education of an individual will help to improve public relations and offset some of the political and social pressures which have become heavy today.

Some of the aspects which best lend themselves to promotion in the private dental office are: 1. Oral hygiene (proper time and use of tooth brush, etc.) 2. The relationship of diet to the individual's dental needs (excessive carbohydrates, etc.) 3. The value of topical application of Sodium Fluoride. 4. Fluoridation of community water supply. 5. The correction of dental health misinformation found in popular publications, on television, radio, etc. 6. The possible need for coordinated medical consultation. On the other hand, the aspects least suited for promotion in the private dental office are those pertaining to the general anatomy, physiology, pathology of the oral cavity, and highly technical operative procedures.

The following resources and materials should be utilized by the private dentist:

1. Individuals who are trained to follow up with educational procedures such as teachers, public health personnel, and auxiliary dental office personnel.
2. Pamphlets, brochures, posters, charts and etc. from the American Dental Association.
3. Similar material from the state and local health departments.

4. "Study-models" and x-ray films.

Some of the methods or techniques for conducting or promoting dental health education are: 1. The use of photography to demonstrate "before" and "after" treatment results. 2. The illustration of needs through x-ray films. 3. The demonstration of proper brushing of teeth and other oral hygiene measures. 4. Making the office an educational center by having dental health education materials available in the reception room.

The other dental office personnel (receptionists, assistants, etc.) should play a large part in dental health education and have the same resources and materials as are mentioned above. We suggest that they be additionally trained in health education beyond their normal duties.

The situations which offer the best opportunity for dental health education depend upon the receptiveness of the patient. A dentist should become sensitive to the feelings of the patient so that he may recognize when the patient is ready for information.

As a dental health educator the average practicing dentist is well-suited for the task because he has specialized training in basic dental science, has the respect of the patient, recognizes the needs of the individual, should be able to direct the educational attack, and knows available resource materials. In addition he is in a good position to enlist the aid of physicians, ministers, clinic personnel, civic organizations, etc. It is conceded that the average practicing dentist is trained neither in the techniques of education nor of public speaking, and has a limited amount of office time to spend on dental health education.

Recommendation:

Group No. II wishes to make the following recommendations:

1. That dentists work toward continuity, more lasting and meaningful dental health education by: greater use of school and public health personnel in following through on individual dental educational needs as evidenced in the private office.

2. That all delegates to this conference be charged with the responsibility of informing their local groups of the conference proceedings and recommendations.

PROPOSED QUESTIONS FOR STUDY GROUP NO. III

*Topic*DENTAL HEALTH EDUCATION IN THE PUBLIC
SCHOOL SYSTEMS

The objective of this group is to consider Dental Health Education as taught in the public schools of Virginia.

1. Is it proper and practical to attempt adequate Dental Health Education within the public school systems of the Commonwealth of Virginia?
2. What are the reasons for such a program? The objectives?
3. To what extent should public school systems be responsible insofar as the teaching of dental health is concerned? How far should such instruction attempt to go at various pupil age-levels? Into what detail? What specific facts should children know? Who might best decide these matters?
4. Are Virginia's school children, at the present time, receiving adequate schooling regarding dental health? If not, how might the present situation best be corrected?
5. At the present time who is teaching dental health in the schools? Are they qualified to do so?
6. Are the textbooks on health and hygiene in use at the present time in the public school systems of Virginia adequate as regards dental subject matter? Is the dental material content factual in the light of present knowledge? If not, what should be done about it, and how best might this be done?
6. Are the textbooks on health and hygiene in use at the present time in the public school systems of Virginia adequate as regards dental subject matter? Is the dental material content factual in the light of present knowledge? If not, what should be done about it, and how best might this be done?
7. Is there room in the crowded curriculum for dental health education?
8. Provided that the dental health material in the textbooks of Virginia's public school system be adequate, is this material being presented to the pupils in a satisfactory manner? If not, what may be done to improve the situation?
9. Is it correct and proper for the Virginia State Dental Association to actively concern itself with such matters as the Dental Health

Education material in the textbooks of the public schools of the Commonwealth? With the classroom presentation of this material?

Would it be presumptuous on the part of the State Dental Association to seek the opportunity to review and constructively criticize such material at the time when these textbooks are under consideration for selection for use in the public schools?

If such action is proper, how best might this be accomplished?

10. Should special dental health teaching material, other than that found in textbooks on general hygiene, be provided for the public school systems? From what source might such material best be obtained? Who will evaluate and select it? How might such a plan best be implemented in Virginia?

11. Should public school teachers be given a special course in Dental Health Education, or might this subject best be left for inclusion in a general course on hygiene?

12. Would a teaching manual to assist public school teachers in Dental Health Education be of benefit? Is such an idea practical? If so, how might it best be put into effect in Virginia?

13. As regards dental health, should local dental societies attempt the direct education of public school children in the schools of their respective communities? If not, why not? If so, how best might they do this? What dangers should be avoided, and how?

14. In what way may the State and local Councils on Dental Health best assist in promoting better Dental Health Education in the public schools of the Commonwealth?

15. To what extent, by what practical means, and to what purpose should dental organizations be represented on, and participate in the activities of:

- (a) Local school boards?
- (b) The Virginia State Board of Education?
- (c) The Federal Department of Education?

16. How are children motivated to perform in the desired manner?

17. What attitudes, practices, and habits do we want children to form?

18. In an area where dental services are less than adequate, what modifications need be made in the educational program?

19. Is "acquisition of knowledge" synonymous with "education"?

REPORT AND RECOMMENDATIONS

The problem before Group No. III was defined by its chairman to be; "What can the public schools do in the matter of dental health education?" Grades one through twelve were determined as the age groups under consideration. It was agreed that the questions prepared by the Planning Committee of the Conference be followed by Study Group III, with the understanding that other questions be added as the need arose.

The committee agreed that it is proper and practical to attempt adequate dental health education within the public schools of the Commonwealth of Virginia. It was agreed that it is difficult to define what the schools are doing as all schools vary, the programs vary, and the children vary. However, it was generally believed that dental health education is systematically approached in our public schools from grades one through twelve; that the schools are vitally concerned about dental health education; and that they need and desire more help with the problem.

The reasons for a dental health program in the public schools were discussed. It was agreed that the reason for dental health education is primarily to help in preventing defects through an adequate health education offering which will provide factual information leading to the development of favorable attitudes and behavior on the part of all children. It was further agreed that the success of such a program depends largely upon the teacher's interest, initiative, and background.

In considering the dental health program, three major responsibilities of the school were discussed; namely, the development of adequate knowledge, attitudes, habits.

I. Knowledge or Understandings necessary for children—Note: The following is included only as an illustration, since the group had the time to consider just two small topics in the area of knowledge.

A. Brush the Teeth—1. Why—(a) Personal cleanliness (b) Reduction of oral diseases (c) Elimination of faulty ideas about tooth-brushing function and effectiveness. 2. How—(a) Follow American Dental Association suggestions as to method (b) Brush teeth immediately after eating foods.

B. Eliminate use of confections—1. Why—(a) Reduction of dental caries (b) Leads to better eating habits 2. How—(a) Nutrition instructions (b) Reduce accessibility (c) Desirable substitutions, such as; nuts, fruits, etc.

II. Attitudes to be developed by pupils—It is the responsibility

of the school to work toward the development of desirable attitudes which will result in acceptable habits of oral hygiene.

III. Brush teeth properly 2. Eliminate faulty oral habits—
B. Dietary Influence 1. Eat an adequate diet. Reduce carbohydrates, especially refined sugars (a) Eliminate confections (b) Eliminate soft drinks (c) Eliminate sweet desserts and substitute for them fresh fruits C. Periodic Dental Care 1. Visit the dentist regularly for examination 2. Acquire necessary remedial treatment

The group considered the extent to which public school systems should be responsible for the teaching of dental health. It is recommended: (1) that a variety of resource materials in dental health education should be made available to the teacher who in turn will decide what is appropriate for use with her pupils; (2) that the State Departments of Health and Education cooperatively develop and periodically distribute to schools up-to-date factual information relating to dental health.

At the present time, the following people are teaching or having a part in teaching dental health in the schools: teachers, nurses, dentists, and nutritionists. The committee recommends that resource people, such as: nurses, dentists, and nutritionists may be used most effectively for the in-service education of teachers. It is further recommended that schools provide opportunities for the establishment of such working relationships.

The committee recognizes that the text-books on health in use at the present time in the public schools are not entirely adequate, and furthermore, that the content found in the texts is not totally accurate. Consequently, the committee recommends that material contained in textbooks be supplemented by up-to-date factual information as is indicated above in items (1) and (2).

The committee concluded that it is proper for the Virginia State Dental Association to actively concern itself with such matters as dental health education material in the text-books of the public schools of the State, and recommended that they offer their services in an advisory capacity to the reviewing authorities when the need arises.

The committee recommended that special dental health teaching material other than that found in text-books be obtained through recognized sources, such as; the State Departments of Education and Health and the American Dental Association.

The committee recommended that dental health education for teachers be left for inclusion in a general course in School Health Problems and that the emphasis given to dental health be comparable to other phases of health education.

The committee went on record as recommending that the general health education courses of study be used as a guide for dental health education and that it be continually supplemented by materials that are up-to-date.

The committee recommended that local dental societies should not attempt to direct the dental health education in the schools of their respective communities but should contribute to the instructional offerings through work on local school health councils.

PROPOSED QUESTIONS FOR STUDY GROUP NO. IV

Topic

DENTAL HEALTH EDUCATION FOR PARENTS

The objective of this group is to consider Dental Health Education as related to the parents of the children of Virginia.

1. What are the reasons for Dental Health Education for parents?
2. What are the objectives of Dental Health Education for parents?
3. How successful can the education of children be without education of the parents?
4. What do parents really need to know about dental health insofar as the oral health of their children will be affected?
5. To what extent, and by what means and methods, should parents be expected to contribute to the Dental Health Education of their children?
6. Can we suggest successful methods for parents to use?
7. In the matter of Dental Health Education for children, in what ways do parents occupy a position of advantage? Of disadvantage? What can be done to improve this situation?
8. Who best should perform the task of educating parents in the field of dental health?
9. Can you reach significant numbers of parents? How?
10. By what methods?
11. With what materials?
12. To what extent and in what ways should dentists assist in

of the school to work toward the development of desirable attitudes which will result in acceptable habits of oral hygiene.

III. Brush teeth properly 2. Eliminate faulty oral habits—
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6. Can we suggest successful methods for parents to use?
7. In the matter of Dental Health Education for children, in what ways do parents occupy a position of advantage? Of disadvantage? What can be done to improve this situation?
8. Who best should perform the task of educating parents in the field of dental health?
9. Can you reach significant numbers of parents? How?
10. By what methods?
11. With what materials?
12. To what extent and in what ways should dentists assist in

the health education of parents? National level? State level? Local level?

13. To what purpose, and by what means may the dental profession best cooperate with parent-teachers associations within the public school systems?

14. In what ways should the individual practicing dentist assist in the Dental Health Education of parents within his office practice?

15. With regard to Dental Health Education for parents, who will evaluate the procedures and results? Will such evaluation be objective or subjective?

16. Are those of you who are parents successful with the dental Health Education of your children?

REPORT AND RECOMMENDATIONS

After careful deliberation and discussion, this group arrived at the following basic statements which we consider the underlying factors in the problem of Dental Health Education for Parents.

The general public is becoming more cognizant of dental problems necessitating an effective program of Dental Health Education.

The Dental Health Education of Parents must begin before their children are of school age to be effective.

There is a need for accurate and consistent information on which to base community dental health education.

There should be created among parents an attitude that Dentistry is concerned with the overall Dental Health picture and that many of its practices are methods of prevention which might preclude the need for unnecessary pain and excessive cost for treatment.

The observation was made that the Educator group, which has close contact with parents is in an advantageous position to help effect a program of parent education with leadership and technical information best derived from the Dental group.

Because of the extremely high prevalence of dental disease and in view of the scientific progress that has been made in recent years in the treatment of these disorders, it is the opinion of this group that an extensive and continuing Dental Health Education program for parents should be carried out on a state-wide basis.

In view of the foregoing statements the problem of this group seemed to resolve itself into the following questions:

1. What is meant by dental health education for parents?
II. Who should give leadership to the program? III. How can the program be implemented? IV. What groups should cooperate?
V. What information should be given? VI. Recommendations to the joint conference.

I. What is meant by dental health education for parents?—The group recognizes the following needs regarding dental health education for parents: 1. The creation of an awareness on the part of parents of the need for an early and continuous dental program for their children. 2. Provision for the distribution of authoritative and accurate information concerning desirable dental health practices. 3. Instill a desire on the part of parents to accept and make use of appropriate dental health information.

II. Who should give leadership to the program?—The stimulation and leadership of such a program should come from the Virginia State Dental Association and its component societies.

The local health council or a similar local group with representation of the dental group is considered the best body to conduct this program.

III. How can the program be implemented?

1. Through stressing and enlarging local participation in National Children's Dental Health Day including radio, television, and newspaper publicity.

2. Through the establishment by the local dental society of a dental health education training course for educators and public health personnel in order that they might receive accurate and authoritative information.

3. Through picture leaflets graphically presenting individual dental problems to be distributed through the schools, dental offices, public health nurses, service clubs, and so on.

4. Through expanding and wide use of speaking bureaus of local dental societies.

5. Through individual instruction by the dentist, general physician, pediatrician, obstetrician, and public health personnel. Parents respect the source of this type of information.

6. Through the establishment of dental health educational clinics presented by component dental societies for parent consumption.

IV. What groups should cooperate?

1. The dental society, medical society, public health personnel,

civic and service organizations, public school systems, ministerial groups and parent-teacher associations.

2. Representation of these above groups in cooperation with county and city health councils will comprise the working body.

3. Such organizations as the Virginia Society of Dentistry for Children and state agencies including the Medical College of Virginia School of dentistry and the State Department of Health may aid the local programs.

V. What information should be given?

The following points should be included in the dental health education information made available to parents:

1. The importance of taking the child to the dentist at an early age.

2. Acquaint the parent with the dental caries process and the consequences of delay of dental treatment.

3. Importance of practicing good oral hygiene in the home.

4. The desirability of treating and maintaining the teeth of the primary dentition.

5. The importance of maintaining space created by the premature loss of some primary teeth and the possible indication for replacement of missing permanent teeth.

6. Explain the number, position and structure of teeth in the primary and permanent dentitions.

7. The benefits of fluorides through water fluoridation and topical application.

8. Information regarding malformed teeth and jaws and what corrective measures may be taken.

9. Stress the relationship between poor dental health and general systemic disease.

10. Present oral manifestation of childhood diseases.

11. Explain good diet and nutrition with emphasis on the harmful effects of carbohydrates on the teeth.

12. The value of X-ray examination for the child patient as well as the adult.

13. Explanation of effects of oral habits such as "thumb sucking", lip and cheek biting, tongue thrusting, bruxism, and others.

Recommendation:

1. a. That the State Dental Association and the State Department of Health in cooperation with the State Department of Education prepare appropriate educational material, setting forth those basic facts relative to the Dental Health of children which meet present needs and accepted procedures and practices for the alleviation and prevention of dental disease among children in Virginia.
- b. That such cooperatively prepared material be published and distributed by the Department of Health and become the official Dental Health Education Resource Material of the State Department of Health, The State Department of Education and the State Dental Association.
- c. That these materials be amended from time to time as new scientific data and procedures develop.
- d. That this information be distributed to parents by the most effective means and techniques suited to local needs and facilities.
2. That there be representation of parent groups at all levels in the development and operation of this program.
3. That the State Dental Association furnish leadership through its component societies in initiating the program of Dental Health Education for parents.
4. That all existing community agencies which are able to assist the program be encouraged to exert their efforts toward supplementing a more effective program of Dental Health Education for Parents.
5. That information as to the officers of the State Dental Association and its components be available to interested local groups.
6. Recommend that parents actively discourage the sale or distribution of confections and soft drinks on school premises and that they further discourage their use at all times.

PROPOSED QUESTIONS FOR STUDY GROUP NO. V*Topic***DENTAL HEALTH EDUCATION FOR THE
GENERAL PUBLIC**

The objective of this group is to consider the ways and means by which dental health information may best be presented to the general public.

1. What are the reasons for Dental Health Education for the general public?
2. What are the objectives?
3. By what means, other than through private patient associations within his own office, can and should the individual dentist seek to promote Dental Health Education within his own community?
4. How may organized dentistry, as a group, best cooperate with other groups and agencies to improve the general public's knowledge regarding dental health on the local, state, and national levels?
5. By what means and methods, and with what materials, should the State Department of Health and local boards of health contribute to the general public's Dental Health Education?
6. How may the State Department of education contribute to the problem of Dental Health Education for the general public?
7. (a) How might printed material best be used in Dental Health Education for the general public? What should be the sources of such materials? What are the most effective means of distributions?
(b) What uses might be made of the various sources of public information, such as newspapers, magazines, radio, television, moving pictures, lectures, etc.? How best to approach this problem? Sources and evaluation?
(c) In these regards, what part should organized dentistry play on the national, state, and local levels?
(d) In what ways, and by what means, might the local, state, and national councils on Dental Health participate in the above activities to the best advantage of all? The Federal Bureau of Education? The State Department of Education? The State Department of Health?
8. Are such programs as National Children's Dental Health Day a practical and proper approach to the problem of improved Dental Health Education at the present time? Is this particular program satisfactory as now being conducted? How might it be improved? What related and similar program might well be promoted on the national, state, and local levels?
9. Of what value are DMF surveys of child and adult population in the educational program?
10. Much alleged information on dental health is presented to the general public through the medium of advertising by commercial firms marketing such products as dentrifices, tooth brushes, mouth-washes, etc. Have our present means for controlling abuses in this field

proven adequate? By what ways and means to improve the situation may action be taken by:

- (a) Organized dentistry?
- (b) State Departments of Health?
- (c) State Departments of Education?

What dangers must be avoided? Who should determine the general policy in this regard?

11. How can fluorides used topically and in water supplies be used to further Dental Health Education?

12. Is demand for dental services an index of the level of dental health knowledge? Why?

REPORT AND RECOMMENDATIONS

The purpose of Study Group No. V was to consider ways and means by which dental health information may best be presented to the general public.

It was recognized that dental health education is an essential phase of over all health education and that it is the responsibility of many groups.

The schools have great influence on children and families but more information needs to be given to parents of preschool children.

It was recognized that physicians particularly obstetricians and pediatricians, and public health workers have real opportunity for including dental health information in their health teaching.

Repeatedly the group emphasized the importance of local health and educational groups working together to bring to the attention of the general public the need for preventive dentistry and oral health. In doing this, it was felt that it was very important that a common agreement be reached in what is to be taught and what action is desired. Local dentists and physicians should always be included in community planning for health.

The group believed that advantage should be taken of the use of all media for the dissemination of dental health information. Magazine articles and radio broadcasts carrying human interest were thought to be especially worthy of exploration. It was suggested that the use of comic strips and books, puppet shows, etc., might be further investigated. The value of Dental Health Day programs and DMF surveys depend upon their interpretation and follow-up. All promotional material including slogans should be scientifically accurate.

The refutation of oral health fallacies should prove to be an interesting and advantageous project.

Recommendation:

That local dental health programs be planned so as to reach the greatest number of people possible using appropriate educational media.

That all community groups continue their support of measures that will help prevent dental defects. Example of such measures it: Flouridation of public water supplies.

That specific oral health information needed by educational and public health groups be prepared in simple form by the Bureau of Health Education of the Health Department, with consultation and guidance from the Dental Association.

That Public Health personnel evaluate their health teaching with the view of strengthening content relative to dental health.

That on the local level dentists should increase their participation in planning and implementing health education programs.

That continued support be given to emphasis on preventive dentistry and the promotion of dental health in the education of dentists, physicians, teachers, and nurses.

That the Dental profession provide more guidance in the preparation of advertising materials.

That dentists, as a group, formulate a policy regarding dental care of preschool children.

That encouragement be given to the formation of local health councils.

PROPOSED QUESTIONS FOR STUDY GROUP NO. VI

Topic

THE ROLE OF PUBLIC HEALTH PERSONNEL IN DENTAL HEALTH EDUCATION

The objective of this group is to consider the part played by various public health agencies in Dental Health Education.

1. What official public health agencies (national, state, and local) have a proper role in Dental Health Education? To what extent and by what means should each of these participate?

2. Is the present program of the Dental Bureau of the Virginia State Department of Health adequate as regards Dental Health Education? If not, what may be done to improve the situation?

3. In general, are the present programs of the local boards of health throughout Virginia's communities adequate as regards Dental Health Education? If not, by what means and methods may the situation be corrected?

4. What role should the public school nurse play in Dental Health Education? How might she best be prepared for such responsibility? What should be her objectives in this regard? How could she best accomplish these?

5. What useful functions might the dental hygienist serve as regards Dental Health Education within the public school system? What should be her objectives? Her methods? How may she best be prepared to meet such responsibilities?

6. What should be (1) the long range objectives, (2) the specific objectives, of the Dental Health Education program as carried out by public health personnel?

7. Are public health personnel qualified in the field of Dental Health Education?

8. Should qualifications be required? Why, and to what extent?

9. What segments of the population should the Dental Health Education program of public health personnel try to reach?

10. In the field of dental health education, should public health educational personnel direct their efforts to teaching—promoting—providing basic dental facts—evaluating programs, methods and materials? To what else?

11. In the field of Dental Health Education, what should be the division of responsibility and the relationships of public health and school personnel at the state, county, city, school levels?

12. In a county, city, town, school with no dental program, what is your first move?

13. What sequence would you follow to establish an "ideal" education program?

14. What criteria do you use in evaluating an educational program—textbooks, bulletins, movies, or other tools?

15. If we expect nurses, civic groups, etc., to help us in dental programs, what should we be prepared to do for their programs?

16. What place should fluoride play in education program? dental surveys?

17. Is the dental inspection a good device? How might best it be carried out?

REPORT AND RECOMMENDATIONS

This group chose the following as the objective of the personnel of the official Public Health Agencies to be used in dental health education:

"To increase the understanding and utilization of available health education techniques and procedures designed to promote dental health and prevent dental disease."

This may be accomplished by:

1. Providing and making available adequate information on oral health.
2. Promoting cooperative planning with interested groups.
3. Encouraging in-service programs in dental health education for teachers, nurses, and other interested persons.
4. Emphasizing health education and preventive measures.
5. Cooperation in programs for more and better trained personnel.
6. Participating in programs designed to create interest in, and conviction of, the necessity for better dental care.
7. Providing and making available reports of pertinent research and statistical data.
8. Supplying consultative services upon request.
9. Cooperating in the production and distribution of films, pamphlets, bulletins, etc., on dental health education.
10. Cooperating in the development of criteria for the evaluation of the dental health program.

Public Health Personnel—The personnel of the official State Public Health Agency consists of: (1) State level—a. Bureau of Dental Health—Director, Dentists, Dental Hygienists—b. Related personnel—Public Health Nurses, Health Educators, Nutritionists—(2) Local level—

Several cities in Virginia which maintain Public Health Dentists to work in the schools. In the rural areas Public Health Dentists are furnished by the Bureau of Dental Health of the State Department of Health.

Related personnel are Public Health Nurses, Health Educators, and Nutritionists on consultative basis.

Health Education Functions of Public Health Personnel

I. Dentists—The health education functions of the dentists will be discussed in the report of Group No. II.

II. Dental Hygienists—(1) To promote good dental health by: Cleaning teeth—Applying sodium fluoride—Preliminary inspection of the mouth. (2) To promote dental health education by: Instructing parents and children in the importance of the above procedures. Instructing children in the reason for proper use of the tooth brush. Instructing children and parents concerning proper foods for the diet. Instructing children and parents in general health habits. Preparing children psychologically for a visit to the dentist.

III. The Public Health Nurse—

(1) Instructs every pregnant woman in the importance of adequate dental supervision and mouth hygiene throughout the maternity cycle.

(2) Gives instruction and assistance in the prevention or correction of behavior problems relating to eating and mouth habits.

(3) Emphasizes the importance of a satisfactory diet, recognizing that diet is influential in the formation of tooth structure only during the first eight years of life.

(4) Promotes, and if necessary, assists in arranging for periodic dental examinations and treatment, including particularly the care of deciduous teeth and the first permanent molars which erupt about the sixth year.

(5) Supplements the instruction of the dentist and interprets findings and recommendations to parents, teachers, and children.

(6) Motivates every school child to assume an interest in and responsibility for his own dental needs.

(7) Instructs in the proper care and brushing of the teeth as a means of improving appearance, stimulating the gums, reducing the accumulation of tartar, and helping to keep the mouth clean and healthy.

(8) Instructs individuals and groups in the possible causes and early manifestations of dental diseases, the effect of diseased teeth and gums on general health and appearance, and the need for periodic dental care.

(9) Works jointly with all community agencies in securing such social and economic assistance as may be needed in furthering an adequate dental service, particularly to children.

(10) Assists in promoting community understanding, interest, and action in making available adequate facilities for the treatment and care of oral conditions.

(11) Evaluates the effectiveness of public health nursing performance in the control of oral conditions and diseases.

IV. Health Educators—

The Bureau of Health Education has the function of correlating all of the activities of the Dental Program relating to education, such as the selection, preparation, and distribution of pamphlets, bulletins, and other materials; exhibits, radio scripts, films, etc.

This Bureau also offers technical advice concerning the organization of community groups for carrying on dental health education programs.

V. Nutritionists—

The nutritionists act as consultants to the Bureau of Dental Health in the initiation and carrying out of Health Education Programs on the state and local levels.

Criteria for Selecting Dental Health Education Materials

1. The material must fit the problem.
2. The material must be accurate and authentic.
3. It should be well organized so that it tells the story simply and effectively.
4. It must be suitable for the age and grade levels for which it is intended.
5. Mechanically, it must be clear and well organized.
6. It must be interesting. This will help to motivate activities for using the information.
7. Presentation should be timed to coincide with the highest level of interest in the group. In other words when the group is psychologically prepared.

Recommendation:

1. That the prevention and health education phases of the program of the Bureau of Dental Health be expanded and emphasized.
2. That the Bureau of Health Education be provided with more personnel to expand services. This is especially needed to combat the misinformation, distorted statistics, and half-truths that are becoming so common in current literature and discussion.

3. That more research information be obtained and made available to interested groups.
4. That there be a closer coordination of planning at local levels.
5. That the State Health Department encourage the formation of local Health Councils.
6. That more dental hygienists be provided to work at local levels.
7. That a school of Dental Hygiene be added to the Medical College of Virginia.
8. That more dental health education be given public health nurses.
9. That dentists give in-service training to teachers in making the dental inspection.
10. That the Bureau of Dental Health provide in-service orientation on dental health education for Advisory Nurses.
11. That dentists avail themselves of the services of the local public health nurses for follow-up in the home.
12. That the Bureau of Health Education develop a program for the education of the public concerning the facts about fluoride and its place in the dental program.
13. That criteria be developed to determine when the child should see the dentist.
14. That the local public health and school personnel work together in the planning and development of adequate local dental health education programs.

PROPOSED QUESTIONS FOR STUDY GROUP NO. VII

Topic

THE COMMUNITY DENTAL HEALTH EDUCATION PROGRAM

The objective of this group is to consider, in some detail, the problem of organizing and implementing a community Dental Health Education program. In particular, it should be clearly defined just how the individual dentist, as well as the local dental society, may best work with other members, agencies, and groups within the community in the promotion of such a program.

The following outline is by no means intended to cover the subject, or to restrict discussion in any way. The group may make use of it as it sees fit, or may discard it entirely in favor of another approach. It is simply offered as a possible starting point for discussion:

1. Purposes and objectives of such a program.
2. Background as related to any one particular community.
 - (a) Needs
 - (b) Demand
 - (c) Resources
3. Difficulties and obstacles to be met and overcome; ways and means for so doing.
4. Desired results.
5. Participating groups and agencies.
6. Plans and avenues of action.

In considering the problem as outlined above, the following questions may prove helpful:

1. What is meant by a community Dental Health Education program?
2. How do you measure "needs"? "Demand"? "Resources"?
3. What would be the content of an "ideal" community Dental Health Education program?
4. What would it accomplish?
5. What personnel would be needed?
6. What finances would be needed?
7. What is the place of fluoride in the education program? Of dental surveys?

REPORT AND RECOMMENDATIONS

Group No. VII has considered the general problem of the Community Dental Health Education Program. This group feels that the dental problems of a community should be approached at the local community level, and that the community should be informed of the magnitude of the problem of dental health education. Group No. VII recognizes that the dental profession alone is unable to cope with the problem due to insufficient personnel. Furthermore, it is believed that the problems may be partially solved by education of the individual and by cooperation in preventive measures.

In approaching the problem of Community Dental Health Education, the group considered the following areas:

1. Objectives
2. Planning
3. Suggested Program Content
4. Implementing the Program
5. Evaluating the Program

Objectives

1. To promote the preventive aspects of dental health by providing and interpreting basic facts to the community.
2. To develop an appreciation on the part of citizens of the role of dental health in relation to general physical and mental health.
3. To stimulate a greater desire for optimum dental health.

Planning the Program

The following suggestions were advanced by the group:

1. That the community dental health education program should be initiated through the appointment of one or more local dentists for each community by the Dental Health and Education Committees of the eight component societies.
2. The appointed dentist, or dentists, may arrange meetings with the superintendent of schools, and health officer—as a nucleus in initial planning. This initial planning contemplates an inquiry as to what is being done locally in dental health education, as to the community needs, and possible interested local organizations. It is felt that the establishment of a Community Health Council would be desirable. If, however, such an organization does not materialize, the original committee should assume the responsibility of spear-heading a community dental health education program.
3. Meeting of the Health Council, or the representatives of community organizations may be arranged for the purpose of presenting and discussing the existing community dental problem, and to set and agree upon the objectives.

Suggested Program Content

1. Fluoridation of local water supply
2. Topical application of fluorides
3. Diet
4. Mouth hygiene

5. Mal-occlusions
6. Pre-cancerous oral lesions
7. Cogenital defects
8. Instruction in pre-natal care

Implementing the Program

1. Selecting and assembling educational material
2. Distribution of this material
3. Utilizing resource personnel—local, state, and national
4. Stimulating the study of dental health education by community groups
5. Interpretation of the problem by means of any available media

Evaluating the Program

To be done by the initial planning group—this to be a continuous process.

The group realizes that experience may indicate other ways of initiating and developing a community dental health education program, and does not feel that in three sessions it has fully explored all possibilities. However, the group recommends the foregoing plan as a practical beginning.

EVALUATION OF REPORTS AND RECOMMENDATIONS

Dr. C. L. Outland

Director of Health, Richmond Public Schools, Richmond, Virginia

Mr. Chairman and Members of the Conference:

My observation throughout the whole meeting has been one of astonishment. It has particularly pleased me, from the public health standpoint, that three great groups (and I do mean great groups) here could get together on a common meeting ground. If we did nothing else, the mere fact that we have come together, and have spoken about things as we see them, will be of value. The reports are all good. I shall, very briefly, say a word or two about most of them.

First, we cannot do too much to help children. I think all of us will agree to that. In public health, we may have gone over-board in recommending removal of tonsils and other things. In dentistry, I don't think it's enough to pull a tooth or to fill a tooth, and it appears to me that this Conference has shown that you don't think so either. There is a tremendous significance in the fact, that following the 1948 Conference, the recommendations, in so far as they pertain to public health at that time, have been carried out. I am told that by Dr. Mack Shanholtz, also by Mr. Anderson.

Now, just to refer, briefly, to each report (and more as a matter of emphasis than anything else): The dentist must work with all groups. You are certainly recognizing that. Public Health needs you dentists and you, in turn need public health. Prevention should be at all levels, and of all types. We should consider the whole child. Group No. II recommended, with which we strongly agree, that health education should reach all of the people. For Group No. III (I was a member of that group), I think that where that report cuts across the lines of public health I would also agree. Regarding Group No. IV: We have long recognized the need for parental education. Any one working in public health will realize that fact. When it comes to that, however, we usually educate the group just as you are here.

I believe that every dentist in this room, every public health person, every educator has been very well educated the last three days. But, when you undertake to educate the general public, you can't do much about it, because you can't get to those who need it most. They are too busy and often not interested. I think the word of mouth proposition is a pretty good thing to use and I throw it out for what it's worth. In talking to Parent Teachers groups, I recognize the fact

that I often wish I wasn't speaking to the group that I am speaking to, but the group that wasn't there.

I understand that Group No. VI had more to do with the public health side perhaps than any other. There are one or two things that I would like to comment on there. The State Health Department encourages formation of the Local Health Council: I think that we have been doing that for a long time in health fields. Here is the suggestion that dentists avail themselves of the services of local health nurses. I have not discussed that with a public health nurse, but my own opinion is there may be times when that would be very valuable. Group No. VI also suggests that the local public health school personnel work together in the planning and developing of an adequate local health education program. That, I think, is a paramount to anything we can do in health education: that all of us work together, and I trust that it will be broader than it has been. That has been our desire and I think it should be broadened on these phases. To educate we must get the audience and talk in understandable terms. What ever we do to help children the effort is not wasted.

Mr. Ray E. Reid

Assistant Superintendent of Public Instruction

Virginia State Department of Education

Mr. Chairman, Ladies and Gentlemen of the Conference:

(I wouldn't dare say fellow-workers, because I haven't worked very much. I got here late on Friday, too late to register. I have been unidentified throughout the Conference, except by my personal friends, and they have been so very kind as not to reveal very much about me.) I consider it a privilege and a pleasure to be able to participate on this program and to make some attempt to summarize, in a fashion, some of my impressions of the Conference.

I have been impressed with the sincerity and the interest of this group. I had no idea of what I was going to attend. Dr. Harold Jack has attempted to orient me in one fashion, but in the course of the last month or so we have been so "jumping around" in the Department of Education that we haven't seen much of each other except in conferences, when our interest was planted in some specific idea. And I have been very much impressed, and I want you to know that, with the sincerity of the interest in the problem which you have set for yourselves here.

I have also been impressed with another thing, and that is, the quick acceptance of the reports by this group, and by the quality of those reports. I am sure that all of you who worked on these reports and participated in these discussion groups have learned a lot and have profited by your experience. I had the opportunity to sit in one yesterday, and to me, it was a very revealing experience.

I have been impressed by one thing, and that is, that the theme in this Conference seems to be prevention, prevention, prevention. To me until recent years, (and maybe I ought to admit until this Conference) dentistry has been something you needed to correct an ailment. But I am very much impressed with this theme of prevention. I have been also impressed with the seriousness and the dignity of the presentations here. I have been impressed with another thing here too (as I have been a great attender of conferences) and that is that there have been so few stories.

Let me get into a few observations on the Conference generally and the reports, and let me preface those by saying there are more than 2,000 organizations in this country that are interested in health, that is, on the national level. Not all of those organizations exist in Virginia, thank goodness. (Not that our health does not need some concern on the part of a great many people, but we need to boil it down to a little more concentrated effort.) The large number of those groups creates a great problem of coordination and effort. Fortunately this is not great in Virginia.

This meeting that we have been participating in for the last three days is, I think, a great evidence of the fact, that groups don't feel in Virginia that each, as an individual group knows, all the answers to its problem and wants to attempt it all on its own hook.

The principal observation is the fact that the Conference did take place. To me that is a very significant thing. The fact that forward looking dentists, educators, and public health personnel have met here on an equal footing, in equal numbers to discuss a problem which is common in our interests is very commendable. I think that it is a very significant thing that we are recognizing this problem of dental health education, and I think it is very significant that the dental profession itself hasn't considered its problem alone, but has itself in the position that it is our problem mutually, and that we will solve it mutually.

I wandered into one discussion and there I heard considerable testimony to the work which the teachers are doing in the public schools of Virginia relative to health education and more particularly dental health education. If we recognize this problem as a common one, we must admit that it will bring us closer together in our efforts to solve it.

I think the reports indicate that we want to work together, that we want to work together cooperatively. In the report of Group I, we find spelled out recognition that in the school the key person in an instructional program is the teacher, and we have heard it said here that all other people should be used as resource personnel, and that to teach in the class room is the responsibility of the teacher.

Group II recognizes that the dental office is the proper place to supplement and reinforce what is taught in the schools and I commend that sort of recognition.

Group III states that a variety of resource materials for dental health education should be made available to the teacher, who in turn will decide what is appropriate for use in her own classroom. I commend that sort of statement and that sort of thinking, naturally. Certainly in the report of Group III we find that The State Department of Health and The State Board of Education will cooperatively develop and periodically distribute up-to-date, factual information and I think that is commendable.

In the report of Group IV there is recognized and emphasized very much the same sort of thing as far as my interest was concerned.

Group V emphasized something that I would like to re-emphasize, and that is the preparation of oral health information in simple language, if you please.

Group VI suggested that factual information be made available to conduct in-service training programs for teachers and others, and I think that is a wonderful idea; Secondly, that local public health and school personnel should work together in planning and developing adequate local dental health education programs.

Group VII first emphasized that the problem of a community dental health education program should be approached on the local level, with which I agree heartily. It also recognized that the dental profession alone is unable to cope with the problem, due to insufficient personnel.

I would like to comment on something that has cropped up in several reports. And that is this business of eliminating sugar-rich confections from the lunch rooms of our public school system. I'll say that we will give the dentists our moral support (that is those of us in education). You recognize, of course, that the elimination of anything of that nature from school lunch rooms is purely a local problem and will have to be handled on the local level. You run into all sorts of pressure groups which would work contrary to our thinking on that, but I think it is a very commendable project.

Now let me close this by thanking the dentists and the public health people for permitting us in education to participate in this Conference. It has been a great experience for us. We are old hands at such conferences, but this one has been a revelation to us in the amount which has been accomplished here as evidence by these group reports. We also appreciate the fact that you afforded us equal recognition in attacking this problem. We also pledge our best efforts and full co-operation in the future in whatever effort is faced in this direction. I want to congratulate those who have had the responsibility for arranging this program and the conduct of this conference. It has been a fine experience for me and I am grateful to you for permitting me to come. Thank you very much.

Dr. Harry Lyons

Dean, School of Dentistry, Medical College of Virginia

An accurate and valid evaluation of the recommendations developed by this conference, as they may pertain to dentistry, cannot be made at this early hour. This must, in reality, be postponed for a later date and for another conference which I hope will follow this one in the not-too-distant future. The recommendations developed here should, in the meantime, be tried in the crucible of experience.

Speaking for the dental participants in this conference, rather presumptuously, I may say that we dentists have had an exciting experience here in dental health education. We have learned something about attitudes, desires, understanding and motivation for action—terms of common usage to educators but not as familiar to us as some that somehow seem to prevent action with reference to your own dental care by the false fears and apprehension that they sometime engender. We have, indeed, been educated here in dental health education thinking and technics.

We dentists are now debtors to the delegates representing the educational and public health agencies. By your presence here and your participation in co-sponsoring this conference you have contributed immeasurably to our opportunities and preparation for greater service. For this and for your warm friendship, your sympathetic understanding of dental problems, your desire to promote human welfare and the inspiring motivation which you have given us for action in a wider field of service we are, indeed, everlastingly grateful.