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A Report of an Educational Hygiene Survey

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PREFACE

In the developing of this study the original purpose is being kept clearly in mind. The tentative outline which follows, is being adhered to more or less closely, however no previously formulated outline is being allowed to cramp or to limit the field of investigation, rather, practically every possible suggested sourse of information is being followed out. As a result this report perhaps contains some material which will prove of very little value so far as contributing materially to the final study. However, it seems wise to include at this time all data collected.

The content of this report is in most instances the raw product just as originally collected. As suggested in the outline, it is the purpose of the writer to have all tabulated information for which he assumes responsibility referred to the proper authorities for correction and approval.

This study is being made possible only through the cooperation of various Health and Educational workers. Numerous national organizations are contributing very materially; to those and others due acknowledgement must be made. I am especially indebted to Dr. John L. Manahan, Dean of Education, University of Virginia, under whom the work is being done, for his sympathetic interest and guidance.

E. K. Bennett.

TENTATIVE OUTLINE

1. Purpose.

(1) To make a general survey of Educational Hygiene in States, Cities and Counties.

(2) To make a detailed critical and analytical study of one City, one Town and one County school system.

(3) To formulate a constructive program to be made up of approved practical principles and features of various programs analized.

(b) To discuss the adaptation of program to other units.

11. Methods.

A. (1) A copy of form letter Number 1, Appendix 1 .to all State Superintendents of Public Instruction.

(2) Follow up letters, form 2, Appendix 1, to addresses suggested in reply to form Number 1.

(3) Other follow up letters suggested through replies to Forms 1 and 2.

(4) Copy of form letter 3, Appendix 1 to white schools, selected by County Superintendent of Albemarle County.

B. Investigation of Selected Systems.

(1) By means of personal correspondence.

(2) Through visits

(3) Through consultations with workers of system.

(4) Through study of reports and other literature published by the system.

B. Study of Literature with special reference to recent publications.

SUPPLEMENTARY MATERIAL

Considerable material listed under the following Heads is being filed as a Supplement to this Report.

(1) Pamphlets on Medical Inspection.

(2) Additional Material for Teachers

(3) Supplement to suggested Course of Study

(4) Additional Outlines of Course of Study and Manuals for Schools.

(5) Additional Bibliography.

(6) Special correspondence.

(7) Detailed Description of Health Work in the Schools of Binghamton, N. Y; Detroit, Mich.; and the Jordon High School, Jordon District, Salt Lake County, Utah.

(8) Government Bulletins on Education and Related Subjects.

(9) State Laws concerning Education.

(10) School Catalogues and Bulletins.

(11) Annual Reports.

(12) Replies (in part) to form Letters 2 and 3.

(13) Appendix.

BOOKS.

(1) "Education in Health", By George Payne, Editor.

(2) Treasury Annual Reports-1921 U.S.Public Health Service.

(3) Treasury Annual Reports-1922 U.S.Public Health Service.

THE NATIONAL AND SCHOOL HEALTH PROBLEM
AND
HOW IT IS BEING MET IN SCHOOL AND NATION

Health and physical vitality are all-important to the attainment of the goal of life (happiness through social efficiency), but they are being very poorly provided for, since:

A. The national health losses are enormous and largely preventable, for:

1. Approximately 1,600,000 of our population die each year, 42 per cent, or about 670,000, of reasonably preventable diseases. The economic loss in deaths is approximately a billion dollars.

year

2. Approximately 3,000,000 persons are constantly seriously ill in the United States, largely of preventable diseases; and this occasions an economic loss of about another billion dollars.
3. A very large number of persons suffer from many minor ailments which lower their efficiency and cause absence from work, which makes an economic loss of another very large sum.
4. Other nations, such as Sweden and Germany, are succeeding by adequate national and school provisions in lowering the losses much below our own.
5. Competent authorities have estimated in various ways the large preventability of these losses by reasonable application of present knowledge.
6. Such preventability can be seen from the effects of such civic improvements as pure water and pure milk supplies.

B. The school health losses are enormous and largely preventable, for:

1. Approximately 100,000 children of elementary and high school age die each year in the United States, 65,000 of whom have been during the year enrolled in a public school. Of these 40,000 and perhaps 50,000 are reasonably preventable. Their education has been socially wasted expenditure of energy and money.

2. The illness losses of both teachers and pupils of the public schools are enormous, coming in the form of personal and public financial loss, of lowered vital efficiency and happiness, and of elimination, non-promotion and retardation at school. Tentative guesses at the amount of each of these last three due to illness as the chief or only factor are:elimination, about 12 per cent; non-promotion, about 11 per cent; retardation, about 10 per cent.

3. The physical defects losses are also enormous and largely preventable. They function largely in causing about: five per cent of elimination, six percent of non-promotion and seven per cent of retardation.

4. Combined, the two factors of ill-health and physical defects function largely in causing about :15 percent of elimination; 16 percent of non-promotion, and 17 per cent of retardation.

5. These results are not the only ill-health results, of course, but whenever these are related to the twenty million school children in the United States, the problem of school health stands out as one of the greatest before the public.

C. The national provisions for public health, in the federal, the state and local governments are comparatively numerous, heterogeneous, and entirely inadequate to meet the national health needs and problems.

Likewise the school provisions for public health are numerous, growing, heterogeneous and entirely inadequate, both as to quantity and to efficiency, to solve satisfactorily the school health problem. The science and the practice of educational hygiene are in their infancy---and medical inspection is at present isolated from other phases of education hygiene.

The above statement from School Health Administration, by Rapeer, published in 1913 represents, in my estimation, the most authorative statement found in my entire investigation of the national health situation in 1913. The following statement from Medical Inspection of Schools, by Gulick and Ayres, is a brief summary of the findings of physicians in their examination of school children published in the same year:

"Physicians find about 65 per cent of the children in our public schools to be suffering from physical defects serious enough to require attention; that the most common are those of teeth, throat, eyes, and nose; and that these four classes of defects combined constitute about 85 per cent of all those discovered."

Since 1913, however, the World War has offered an unparalleled opportunity for the study of the physical condition of a cross-section of the American population, and concerning the results of the findings of the Army Draft, General Wood, in the Metropolitan of June 1919, states "that the application of the principle of Universal Service brought to the colors through the draft, first and last, approximately three million men,--men from all sections of the country and from all the races and race mixtures which make up our population." "An examination of these men," continues

General Wood, "brought to our attention certain conditions which are not only regrettable but alarming,--that only about half of the men of military age are really fit for hard military service. This rating is based upon standards of physical excellence well below those of the regular army, navy, and marine corps in time of peace. The Draft Boards sent forward to the Training Camps seventh and sixty-five hundreths per cent of all who presented themselves for enrollment and were suitably examined by the board. Of those sent to the Training Camps an average of seven per cent were rejected as unfit for public service; and a large percentage was sent to Development Battalions, and others to Labor Battalions, camp utilities, and special lines of work not requiring the best physical condition; so that, deducting all, it is safe to say that not over fifty per cent, probably less, of the men were fit for line service when the Nation was called to the colors."

"In some of the racial groups from certain sections, vice disease, active or latent, but dangerous were found amounting to over thirty per cent. Through all the draft there was a lamentable and alarmingly heavy percentage. The percentage was lower among men coming from agricultural and ranching districts of the Middle-west and Northwest, much heavier among the colored than among the white race. The heaviest percentages, taking the men as a whole, were found among those coming from the large towns and manufacturing centers."

Although we are perhaps not justified in concluding that the findings of the Army Draft represents a true picture of the physical condition of the present school population, we are, however, justified in assuming that those findings indicate the physical condition of the school population represented by those examined, as the statement that "20 to 40 per cent of

those graduating from elementary schools are physically unfit," made by Dr. William R. P. Emerson in Standards of Child Welfare (Bureau publication No. 6, page 238) serves to illustrate.

In an address, War's Emphasis on Health Education, before the National Council of Education February 28, 1918, Dr. Thomas D.Wood made a very forceful application of the work among enlisted men in the following words:

"This national asset, health, while the most essential, is at the present time the most endangered of all our natural resources. We are appalled at the number of our young men, in both voluntary and draft enlistment, who are incapable of defending their country; who are rejected for military service because of physical and mental defects."

"While types of disease and weakness are markedly different in their prevalence in, and effects upon the sexes, still the welfare of the nation is, on the whole, as seriously threatened by the health limitations of girls and women as by those of boys and men."

"Some there are who, in view of recent revelations, apprehend this menace to the welfare of the nation. And yet it has been known for years before this great war engulfed us, that seventy-five per cent of the more than 20,000,000 school children of this country were handicapped by physical defects. While some of the defects, which are incapacitating our young men for military efficiency and which are lowering the ability of our citizens for the business of life, developes in late adolescence or adult life, still many of them exist in the children and youth in our schools.

In the mobilization of our nation's resources for the stupendous task of this war, nothing is more dramatic or impressive

than the inspiring spectacle of these young men being trained to preparedness for the intensive, the grim business of war. Records even of men in our great training camps, who have been accepted as fit for military service, show that in multitudes of cases, and within six months after the beginning of training, the improvement in health, in vitality, in physical and general efficiency, has been almost incredible. Shall we not provide as thorough and effective health care and physical education for the children of our country as we furnish for the young men in the army and navy?

Lives are being neddlessly sacrificed; human power in enormous quantity is left wholly or partially undeveloped; economic loss of staggering extent occurs, because scientific knowledge and practical wisdom are not applied to the prevention of needless weakness and disease, and for the constructive development of the potential health resources of the children of our great country.

The monstrous efficiency of the German Empire in this awful war is due in an important part to the organized health work, the national program of health care and education which has been conducted in that country for the last half century.

The pioneer development in school hygiene occurred in Germany. The movement for open-air schools began in Germany. Many of the best examples of experiment and accomplishment in the field of health education have occurred in the very country which today hurls fearful menace at the safety and freedom of the civilized world. We must learn, even from the fiendish success of despotic Germany, important lessons for the solution of vital problems which perplex democracy.

Hundreds of millions are being expended for hospitals, for supplies, for medical care of the soldiers in training; for our men who are wounded or in any way disabled in the service of the country; and the best that can be done in all of this program is never really enough. Institutions are being prepared for the convalescence of our splendid men who are shattered in hazardous service for all the rest of us. Wonderful and unprecedented plans are being made for the fullest possible reconstruction and rehabilitation of those who are injured in war. Plans are being most wisely made, under the revised requirements of the draft, for the removal and correction of the remediable physical defects of the men who are found to be below the standard of physical fitness. And all of this is as it should be. Too much cannot be done."

"But," asks Dr. Wood, "what about the basic needs of the great draft army of the nation's children who must supply the human units of the citizenry of the next generation; who must bear the burden of civilization in peace and in war? What shall we do about the neglect of the children who hold the future of civilization in their immature lives?

Our country is suffering--not only in relation to the war, but in the general program of the nation's advancement--annual economic loss amounting to hundreds of millions of dollars, and human loss of value immeasurable; because the health, the biologic soundness and welfare of the children are so largely neglected; because existing defects are not recognized and cured whenever possible because the available forces are not mobilized to prevent diseases which might be avoided with intelligent and organized effort; because wisdom is not practically applied to the conservation and development of the most vital of all our nation's resources, the health

of the people, and most important of all, the health of the children and youth. For, let it be said again, the foundations for enduring soundness of the nation must be laid in provisions secured for the health and welfare of the children.

Our schools are wasting enormous sums in educating, or trying to educate, the children who are handicapped by ill health when the expenditure of much smaller amounts in a judicious health program would produce an extraordinary saving in economy and efficiency. A dollar spent promptly in a timely, constructive effort to conserve a child's health will be more fruitful for the child and for human society than will a thousand dollars applied twenty years later. The principle of national thrift finds its first and most vital application in the conservation and improvement of the health of the children.

At least one per cent-200,000 of the 22,000,000 school children in the United States, are mentally defective.

Over one per cent,-250,000 at least, of the children are handicapped by organic heart disease.

At least five percent,--1,000,000 children have now, or have had tuberculosis, a danger ofter to others as well as to themselves.

Five per cent,--1,000,000 of them have defective hearing, which unrecognized, gives many the undeserved reputation of being mentally defective.

Twenty-five per cent,--5,000,000 of these school children have defective eyes. All but a small percentage of these can be corrected, and yet a majority of them have received no attention.

Fifteen to twenty-five per cent,--3,000,000 to 5,000,000 have adenoids, diseased tonsils, or other glandular defects.

Fifteen to twenty-five per cent,-3,000,000 to 5,000,000 of them are suffering from malnutrition, and poverty is not the most important cause of this serious barrier to health development.

From ten to twenty per cent,-- 2,000,000 to 4,000,000 have weak foot-arches, weak spines, or other joint defects.

From fifty to seventy-five per cent,--11,000,000 to 16,000,000 of our school children, have defective teeth and all defective teeth are more or less injurious to health. Some of these defective teeth are deadly menaces to their owners.

Seventy-five per cent,--16,000,000 of the school children of the United States have physical defects which are potentially or actually detrimental to health. Most of these defects are remediable.

One of the appalling revelations of recent years is the conclusion based on unrefuted evidence that the rural school children in this country are handicapped by more physical defects than the pupils in the city schools. While several significant causes seem to be responsible for this astoundingcondition, the present physical inferiority of country children depends in part upon the fact that city children now receive more health care than do those in rural regions.

I$ i$ necessary to urge that in all of the school children of the country these health defects should be recognized, and that all of the defects which demand remediable attention should be promptly corrected? It is lamentably true that in only a small percentage of the entire school population are the defects studied and recognized, while in only a small fraction of these even, are the detrimental defects corrected in an effective manner.

The business of keeping the school children of this country in good physical repair, is,as now conducted, a disgrace to the nation. The great majority of people (many of them generally intelligent) fail to appreciate the significance of these defects. This fact,

however, does not lesson in any way the injury to the children of the neglected health defects.

The real danger to the children of the land, as a matter of fact, lies in the ignorance, irresponsibility of, and neglect by, the adults intrusted with, and supposed to be equal to the most important task of the adults of any species, namely, the care and training of the young.

The children of our country deserve as effective physical care as the live stock.

The children are entitled, even in war times, to as careful attention and cultivation as the crops.

Shall not the children, drafted by compulsory education into our schools, be assured of as skillful and satisfactory care as the soldiers in camp and trench?

The principle of universal training must, in a manner consonant with the spirit and methods of democracy, be interpreted and applied in the universal, compulsory health and physical care, and training of all the children of the nation. Moreover, a comprehensive program of health training must provide for the education of adults as well as of the children. The children will be the responsible adults of the next generation, but those now of adult age control largely the opportunities of the young in preparation for adult life.

While it is true that many agencies of influence and responsibility are requisite for a comprehensive national health program, still it is equally true that the consideration of any particular plase of this work must recognize the importance of cooperation with other agencies as clearly as the details of its own work.

In a nation with compulsory education and free schools, the possibilities of a health education program are extraordinarily impressive. The acceptance of the rapidly widening social scope of education in preparing the young for all the privileges and responsibilities of life, carries inevitably with it the opportunity and obligation that the school shall undertake the most important part in the entire continuous program of health education.

Much of the actual health care of the children must be accomplished by the home, by health boards, and by other organizations, both governmental and voluntary. However, the school in the United States is the universal, the officially credited, and the strategic agency to lead in the educational program of health, to standardize the principles involved, and to organize and supervise the social program for the care of the children's health.

GENERAL HISTORICAL STATEMENT

LEGAL PROVISIONS

Historical Sketch.--The following from "Medical Inspection of Schools", by Gulick and Ayres gives a brief Historical Sketch of Medical Inspection of school children from a national point of view, up until 1911.

FRANCE.

The earliest work in the field of medical inspection seems to have been done in France, where the law of 1833 and the royal ordinance of 1837 charged school authorities with the duty of providing for the sanitary conditions of school premises and supervising the health of the school children. A few years later, in 1842 and 1843, governmental decrees were promulgated in Paris, directing that all public schools should be regularly inspected by physicians. In spite of these early beginnings, however, it was not until 1879 that genuine medical inspection in the modern sense of the term was begun in France. In that year the general council of the Department of the Seine reorganized the medical service in the schools of Paris and passed an appropriation for the payment of salaries to the physicians. Eight years later medical and sanitary inspection were made obligatory in all French schools, public and private.

At the present time the work is carried on in Paris by a force of 210 school physicians who are selected on the basis of competitive examination and each of whom has supervision of not more than 1,000 children. These physicians visit each school at least twice every month and make careful examinations of the sanitary conditions, paying special attention to lighting, ventilation, cleanliness and water supply. Visits are made to each school room

and a general inspection of the pupils conducted. Following this general inspection, individual examinations are conducted in the inspector's private room. The children examined are of three classes: first, those whom the physicians have selected as apparently needing special attention; second, those referred to them by teachers and parents; and third, those who have returned to school after absence because of illness or some unknown cause.

The first object of the examinations referred to is to detect and exclude cases of contagious disease. In addition to these inspections each child, during the first months of his school life, is given a thorough physical examination, and a careful record of the findings, entered on an individual record sheet, follows the child through his subsequent school career. Every six months measurements of height and weight are made and the results entered on these records sheets, together with data of any illnesses suffered during the period and the results of subsequent physical examinations. Parents are informed of any defect or disease discovered and urged to secure remedial treatment.

In other cities of France, the systems followed are modeled after that of Paris, but in general are less thorough, and in the smaller places are not infrequently restricted to inspections for the detection and exclusion of cases of contagious disease.

GERMANY

In Germany the city of Dresden began medical inspection in 1867, when tests of vision were instituted. The first genuine system of medical inspection, however, appears to have been inaugurated by Frankford on the Main, which appointed a school

physician in 1889, an example which was soon followed by many other localities.

In the city of Wiesbaden a plan was developed that was widely copied and became a model, not only throughout the empire but in other countries. The plan adopted by the physician on his monthly visits to each school closely resembles that already described as being followed in Paris. General inspections are first made of class rooms and school premises and these are followed by individual examinations of pupils selected because they are suspected of suffering from contagious diseases. Previous to entering, each child has been given a physical examination, and this is repeated in the second, fourth, sixth and eighth years of school life. On each of those occasions an examination of heart, lungs, throat, spine, skin, and the higher sense organs is made, and (in the case of boys) an examination for hernia. The findings are entered on a report blank which accompanies the child from grade to grade. Twice a year the teacher records the height and weight of individual pupils. Whenever it is deemed necessary, the school physician takes chest measurements. The records of children who seem to require the regular care of a physician are marked accordingly, and these children report at regular intervals to the school physician. It is the duty of the school physician to give advice to the teacher with reference to the child. Parents are notified of the results of the examinations.

There is wide variation in the thoroughness of medical inspection in different parts of the empire. Thoroughly organized systems under state regulations exist only in Saxe-Meiningen and Hesse-Darmstadt where every school, both public and

private, in the country as well as in the city, in provided with a state-appointed physician. In other states the school physicians are appointed by and work under the municipal Magistrate, the local board of education, or the board of health.

In the year 1908 some 400 towns and cities had systems of medical inspection of schools, employing about 1,600 physicians. There are three common plans of employing and remunerating these school physicians. Under the first form of organization the physician is employed on full time, is paid a salary ranging from $1,750 to $2,750 per annum, and has the right to a pension. Under the second plan, a salary of from $150 to $250 a year is paid for part time services, and work is usually carried on in addition to other public health services, for which separate payment is made. Under the third plan, payment is made on a per capita basis, according to the number of children inspected, and the scale of payment ranges from 6 to 16 cents per child per year, the average being about 12 cents. Payment is also sometimes made at the rate of from 60 cents to $1.00 for each class examined.

As yet the movement for the employment of school nurses has not made great progress in Germany, Charlottenburg and Struttgart being, in 1910, the only cities having nurses. On the other hand, notable progress has been made in the development of other movements closely allied to medical inspection, such as open air schools, school feeding, dental inspection, and the organization of special classes for exceptional children.

GREAT BRITAIN.

While medical inspection in England has been universal and compulsory only since the passage of the Act of 1907, it has existed in London since 1891, when the first school physician was

appointed. From that date up to the passage of the National Act the development of the movement was sporadic. The details of organization are in the main left in the hands of local authorities, subject to the minimum requirements laid down by the memorandum of the board of education. These minimum provisions include the physical examinations of each pupil at the time of his entrance to a public elementary school, and if possible three subsequent examinations, the first of which takes place during the third year of school life, or about the seventh year of age, the second during the sixth year of school life or about the tenth year of age, and the third at the time the child is about to leave school and go to work.

England was the pioneer in the employment of school nurses, the first having been appointed in London as early as 1887. However, the first school nurses in the modern acceptation of the term were appointed in 1901 by the London school board, and their employment is now becoming general in other cities.

OTHER COUNTRIES.

In Belgium medical inspection is the rule in the more important municipalities, and Brussels is credited with having established the first system of medical inspection in the full modern sense of the term in 1874, when school physicians were appointed and charged with the duty of inspecting every school three times a month. This system was remarkably successful from its inception, was copied in other cities of Belgium, and served as a model for systems in Switzerland. Some of the earliest work of school dnetists and oculists was done in Belgium.

In Norway medical inspection has progressed steadily since 1885, when some localities began to support regular school physicians. Permissive regulations were passed in 1889 and were followed two years later by mandatory ones.

Sweden is probably the country where the term "school physician" was first used in its modern sense. As far back as 1868 medical officers were attached to the staff of every public secondary school. Their duties and spheres of activity have been progressively extended, beginning first with the higher schools, and since 1895 including the primary ones.

In Denmark there is no regular system of medical inspection nor any legislation directly providing for it. Nevertheless, some work is carried on in the elementary and secondary schools of her larger towns and cities, Copenhagen having led the way in 1896.

Russia has made provision for medical inspection since 1871 but with a few exceptions it has not extended beyond the secondary and higher schools.

Austria was the first country to enact effective legislation providing for medical inspection in the elementary schools, by a ministerial decree of 1873 which provided for the regular employment of school physicians. In Hungary the office of school physician was established by the act of 1885.

In Bulgaria organized work dates from 1904, while in Roumania adequate legislation has existed since 1899.

In Switzerland the medical inspection of schools and school children is recommended, but not enforced, by the federal government. Nevertheless some 13 cantons now carry out the recommended inspection, and thorough work is done by the school

physicians of some cities.

In Japan medical inspection has been compulsory and universal since 1898, only small towns and country districts being exempt.

In Egypt, Cairo appointed the first school physician in 1882, and the system has been in force ever since.

In Australia and Tasmania the work dates from 1906 and includes not only measures for the prevention of contagious diseases but physical examinations, together with much scientific study of results. This renders the reports from these countries unusually valuable.

In America a number of countries besides the United States have more or less fully developed systems of medical inspection. In Canada, Montreal began in 1906 with the appointment of 50 school physicians. Halifax and Vancouver followed in 1907. In all of the provinces there is inspection; and in Ontario, Manitoba and Alberta, it is provided for by law.

In Mexico medical inspection dates from 1896, when the department of medical inspection and school hygiene was organized under the director general of elementary instruction and a few physicians were appinted. Since that time there have been several reorganizations of the system, with constant extension. In the city of Mexico and its suburbs, it is now very complete and notably efficient. From the capital the work has spread until it is now fully organized in the state of Chihuahua, and partly so in Guanajuato and San Luis Potosi.

In South America, the Argentine Republic and Chile began medical inspection in 1888 and in both countries the systems are thoroughly developed.

DEVELOPMENT IN THE UNITED STATES.

Boston was the first city in the United States to establish a regular system of medical inspection, starting in 1894 with a staff of 50 school physicians. The movement came as a result of a series of epidemics among the school children. Chicago began in 1895. New York City followed in 1897 when the board of health appointed a corps of 134 medical inspectors for the public schools, and Philadelphia in 1898. In all these instances medical inspection in its inception had as its sole object the reducing of the number of cases of contagious disease among the pupils. The movement rapidly spread from the greater cities to the smaller ones, the first step in many cases being taken by a local medical society offering to carry on the work for a limited time without expense to the municipality, in order to demonstrate its desirability.

BEGINNING OF STATE LEGISLATION.

So rapidly and convincingly did the movement establish itself that it was soon provided for by laws in the more progressive states. In 1899 the legislature of Connecticut passed a law providing for the testing of vision in all the public schools of the state. New Jersey authorized boards of education to employ medical inspectors in 1903. In the following year Vermont enacted a law requiring the annual examination of the eyes, ears, and throats of school children.

The first mandatory legislation providing for statewide medical inspection in all public schools was passed by Massachusetts in 1906. From these beginnings the movement spread rapidly until by 1912 seven states had passed mandatory laws, 10

had passed permissive ones, and in two states and the District of Columbia medical inspection was carried on under regulations promulgated by the boards of health and having the force of law. The fact that the Massachusetts statute, passed in 1906, is the oldest of the laws now in force, shows that the whole body of legislative enactments which crystallize the views, beliefs, and the results of experience of educators and physicians, is of distinctly recent origin.

STATUS 1911.

The best body of evidence as to the status of medical inspection in American municipalities in 1911 is furnished by the results of an investigation conducted by the Russell Sage Foundation during the school year 1910-11. This investigation gathered the facts on medical inspection and school hygiene from 1,046 school systems in 1038 cities and towns, or nearly 90 percent of the American municipalities which have regularly organized systems of public schools under superintendents. For the purpose of tabulating the results, the states of the union were divided into five groups, following the order adopted by the Bureau of the United States Census. These groups are as follows:

NORTH ATLANTIC DIVISION

Maine
New Hampshire
Vermont
Massachusetts
Rhode Island
Connecticut
New York
New Jersey
Pennsylvania

SOUTH ATLANTIC DIVISION

DELAWARE
Maryland
District of Columbia
Virginia
West Virginia
North Carolina
South Carolina
Georgia
Florida

SOUTH CENTRAL DIVISION

Kentucky
Tennessee
Alabama
Mississippi
Louisiana
Texas
Arkansas
Oklahoma

NORTH CENTRAL DIVISION

Ohio
Indiana
Illinois
Michigan
Wisconsin
Minnesota
Iowa
Missouri
North Dakota
South Dakota
Nebraska
Kansas

WESTERN DIVISION

Montana
Wyoming
New Mexico
Colorado
Arizona
Utah
Nevada
Idaho
Washington
Oregon
California

Forty-three per cent of the cities and towns which reported to the Foundation had regularly organized systems of medical inspection in their public schools. The number of municipalities reporting, the number having systems of medical inspection, and the per cent having such systems in each state group, are shown in the following table:

Table 1.--CITIES OF UNITED STATES HAVING MEDICAL INSPECTION, BY GROUPS OF STATES. 1911.

DIVISION	Cities Reporting	Cities having medical Inspection	
		Number	Per Cent
North Atlantic	411	236	57
South Atlantic	74	23	31
South Central	101	35	35
North Central	382	109	29
Western	70	40	57
	1,036[a]	443	43

[a] Representing 1,046 school systems.

The percentage figures in the final column show that medical inspection has made the best progress in the North Atlantic and Western divisions, where 57 per cent of the cities

had taken up the new work. In the two southern divisions the percentages are 31 and 35, and the poorest showing is made by the North Central division, where only 29 per cent of the cities had medical inspection systems.

It has been stated that the first system of medical inspection was inaugurated by Boston in the year 1894. Ten years later, in 1904, 36 cities and towns had such systems. From this time on, the increase was exceedingly rapid until in 1911, as shown above, the number of municipalities which had systems of medical inspection had increased to nearly 450. Out of the 443 cities and towns reporting systems of medical inspection, 32 did not state the year in which work began. From the records of the 411 cities which gave this information a table has been compiled showing the total number of cities having medical inspection systems in each year since the pioneer work in Boston.

TABLE 2.--CITIES OF UNITED STATES HAVING SYSTEMS OF MEDICAL INSPECTION IN EACH YEAR FROM 1894 to 1911.

Year	Cities having Medical Inspection.
1894	4
1897	5
1898	8
1899	9
1900	11
1901	17
1902	23
1903	28
1904	37
1905	55
1906	77
1907	111
1908	167
1909	263
1910	400
1911	411

The reason for the comparatively slight increase in the year 1911 is that the data were gathered in the early spring so that cities which adopted medical inspection later in the year were not included.

STATUS 1919

School Medical Inspection.

State Administrative Authority.

School medical inspection is an older branch of child hygiene work in this country and is treated separately. It is, as a rule, carried on under the direction of the State department of education, cooperating with the State department of health or local health authorities through the local school authorities.

A total of 29 states and territories were found to have laws on school medical inspection which designated some State agency to administer the law. In 15 states the departments of education and of health cooperate in the administration of the law. In 6 states it is administered by the departments of education, and in 8 states by the boards or departments of health. In 9 states with medical inspection laws no State authority is designated to administer the law, though certain duties are imposed on the local authorities; in 3 states authority is given to local units to employ public-health nurses, but no specific reference is made to school medical inspection, which they make in some cases. In 9 other states there is no specific law regarding school medical inspection, but some cities have instituted a system of inspection under their general health powers.

In the following outline the States belonging to these various classes are given.

STATE AND TERRITORIAL ADMINISTRATIVE AUTHORITY OF SCHOOL MEDICAL INSPECTION.

In 15 States the law is adminstered jointly by the State Health and State educational authorities:

Alabama
Idaho
Indiana
Louisiana
Maine
Maryland
Massachusetts
New Hampshire
New York
North Carolina
Ohio
Utah
Vermont
Virginia
Wisconsin

In 8 States by the State, District or Territorial Health Department:

Florida
Georgia
Kentucky
Nebraska
Nevada
Pennsylvania
District of Columbia
Hawaii

In 6 States by the State Department of Education:

Arkansas
California
Colorado
New Jersey
Rhode Island
Wyoming

No State authority is designated in 9 States:

Arizona
Connecticut
Deleware
Iowa
Kansas
Montana
North Dakota
Washington
West Virginia

In the following States there is no specific law for school medical inspection except that counties and other local units may employ public-health nurses who may examine school children, as may also the State public-health nurses:

Minnesota
Oregon
South Carolina

In 9 states there is no specific school medical inspection law, but the authority of cities to carry on medical inspection is implied in other laws and in some cases medical inspection is made under this implied authority:

Illinois
Michigan
Mississippi
Missouri
New Mexico
Oklahoma
South Dakota
Tennessee
Texas

Referring to the above outlines, it should be noted that in the states classed as having joint administrative control, the laws specify certain administrative duties for each State agency. In some cases the law provides that the health authorities merely act in an advisory capacity or perpare forms and instructions for health examinations. In a number of instances the wording of the law is so indefinite that it is impossible to tell whether the prescribed cooperation between the health and educational authorities is real or merely nominal. However, this study is of the provisions of the law and not

of the practical working of the law. Consequently some States classified as having joint administrative control of the school inspection laws, may in actual practice have no such joint supervision.

LOCAL ADMINISTRATION OF SCHOOL MEDICAL INSPECTION.

The local authorities in charge of school medical inspection are, in the great majority of cases, the local boards of directors, school boards, boards of trustees, or other designated local bodies which control the schools. Out of a total of 34 states from which information on this point was secured, 22 leave the local administration of the law to the school authorities, 2 leave it to the Health authorities and ten States leave it to the school or county authorities in some places and to the health authorities in others, or to these authorities jointly, depending upon local conditions.

The local administration is by the school authorities in 22 States:

Arizona
California
Colorado
Delaware
Iowa
Kansas
Maine
Louisiana
Maryland
Montana
Nebraska
Nevada
New Hampshire
New Jersey
Pennsylvania
New York
Rhode Island
Utah
Virginia
Washington
West Virginia
Wyoming

The local administration is by the health authorities in 2 States:

Georgia
Kentucky

In 10 States the local administration of the law is either by the health and school authorities, together with the county authorities in some cases, or the local authority varies according to local conditions, being by the health authorities in some localities, and the school authorities in other localities in the same State:

Alabama
Connecticut
Florida
Indiana
Massachusetts
North Carolina
North Dakota
Ohio
Vermont
Wisconsin

In the 14 other States the laws on school medical inspection either do not specify any local authorities or there is no law on the subject.

LAW MANDATORY OR PERMISSIVE.

The law for school medical inspection is mandatory or permissive, depending on whether the designated authority is required to establish a system of medical inspection or whether it is merely permitted to do so. The law makes no reference as to whether or not the child is required to submit to physical examination. The law may merely require the teacher to examine the nose and throat and yet be classed as mandatory inasmuch as she is required to make an examination.

In the following 20 States the laws are mandatory for all school districts:

Arizona (teachers only are to be examined)
Colorado
District of Columbia
Florida
Idaho
Kansas (dental, mandatory; physical, permissive)
Louisiana
Massachusetts
Montana
Nebraska
Nevada
New Hampshire
New Jersey
North Carolina
Pennsylvania
Rhode Island
Utah
Vermont
Virginia
Wisconsin

In 4 States the law is mandatory for certain districts, but makes no provision for inspection in other districts:

Kentucky	Mandatory in counties with full-time health departments.
Maine	Mandatory in cities under 40,000 in population
New York	Mandatory in all localities except first-class cities.
Wyoming	Mandatory in incorporated cities or towns.

In 5 States the law is mandatory for certain school districts and permissive for others.

Alabama	Mandatory in counties with full-time county health officer.
Connecticut-	Mandatory in cities over 10,000 population
Georgia	Mandatory in counties with a full time county health officer
Indiana	Mandatory in cities over 100,000 population
W.Virginia-	Mandatory in all independent school districts.

In five States the law is permissive for all districts--namely, California, Delaware, Maryland, North Dakota, and Ohio. In Iowa dental inspection is permitted in districts of 1,000 population or above.

In the State of Washington the law is permissive in first class school districts and makes no provision for other places.

Thirteen States either have no school medical inspection laws or have laws which do not specify whether inspection is mandatory or permissive.

EXTENT AND CHARACTER OF MEDICAL INSPECTION.

The provisions for medical examinations range all the way from specifying that the teacher shall test vision and hearing, to a complete physical examination (including dental) by a medical inspector or dentist and the mental examination of children who are retarded or show signs of mental defect.

The extent and character of the medical examinations is specified by law in 24 States and the District of Columbia, as follows: 1. In 13 States the law specifies a physical examination or an examination for sight, hearing, and other physical defects, namely:

Alabama
Connecticut
Florida
Georgia
Indiana
Maine
Maryland
Massachusetts
New York
Pennsylvania
Rhode Island
New Jersey
District of Columbia.

11. In three States the law specifies an examination for sight, hearing, teeth and mouth breathing, namely:

Nebraska
Nevada
Utah

111. In two States the law specifies an examination for sight, hearing, nose and throat; or for sight, hearing and breathing:

Colorado
Wyoming.

lV. In two States the law specifies an examination for sight and hearing only:

Louisiana
Vermont

V. In West Virginia the law provides for a "proper medical and dental examinations.

Vl. In two States--Iowa and Kansas-- the law specifies only dental examinations.

Vlll. In Arizona the law only provides for an examination of teachers for tuberculosis.

MEDICAL EXAMINERS.

In 18 States, Hawaii and the District of Columbia, the law provides that the physical examinations are to be made by persons of medical training, physicians, oculists, dentists, or nurses--who are designated by various titles, such as health officers, school physicians, physical directors, medical inspectors, or school nurses:

Arizona (teachers only are to be examined)
California
Connecticut
Delaware
Dis. of Columbia
Florida
Georgia
Hawaii
Iowa
Kansas
Kentucky
Maryland
Montana
New Jersey
North Dakota
Ohio
Pennsylvania
Washington
West Virginia
Wisconsin

In all 11 States the physical examinations are required to be made in some schools by teachers, in others by physicians or nurses, and in still others by the teacher and physician jointly

Alabama
Indiana
Maine
Massachusetts
Nebraska
New Hampshire
New York
Rhode Island
Utah
Vermont
Virginia

In five States it is the duty of the teacher to make the examinations:

Colorado
Louisiana
Nevada
North Carolina
Wyoming

In 14 States the laws either do not specify who shall make the examination or there is no medical-inspection law.

The above synopsis on Medical Inspection is from Public Health Bulletin No. 110 (See Appendix Vl.); see other material in Appendix VI. (also phamplets on Medical Inspection supplement to report).

LATER DEVELOPMENTS.

A comparison of the figures for 1919, which show a total of twenty-nine states and territories having laws relative to state administration of medical inspection of school children with the report of Mary H.Moore in Public Health of the United States, Page 247, which states that "in 1922, thirty-nine states had school health supervision or medical inspection laws; some (laws) merely permit examinations and other make them mandatory" is suggestive of the increased interest recently in this vital phase of the national school health program. Moore is also sesponsible for the statement that "in May 1923, thirty-two states had physical education laws, with final action pending on such laws in three additional states. The effectiveness of these laws vary in the several states, as a more detailed study will show . In some states the physical education laws are effective and in some so weak as to have but little influence." In all but eleven of these thirty-two states, the physical inspection laws were enacted between the years of 1918 and 1923. As a result of an investigation conducted by the United States Public Health Service in an effort to discover the status of organized play and recreation for the year 1921, five hundred and two of eleven hundred and seventy cities of the United States and Canada reporting, report playgrounds and recreation centers maintained under paid leadership, and that in fifty-one of these, work was established in 1921. The Joint Health Committee reports that "36 per cent of 291 cities have gymnasiums in one or more elementary schools; about 4 per cent of the same number have one/or more swimming pools.

This is especially encouraging when we consider the importance of organized play in the prevention of disease among children. Organized play has a three-fold relationship to disease prevention; it keeps children in open air; it devolops their bodies, especially the lungs; and apparently it tends to develop resistance to disease,

particularly to tuberculosis, pneumonia and the diseases of the respiratory tract and "if tuberculosis continues to cause so large a proportion of deaths as at present, 1,800,000 of the 21,600,000 school children in the United States will eventually die of this disease" says Harry H. Moore.

Much, however yet remains to be done especially in the schools of America. The total enrollment for the session 1919-1920 in the schools of this country was 23,612,958. Of this number 21,578,316 were distributed in the public schools, 2,034,642 being enrolled in private and parochial schools. (United States Bureau of Education Bulletin 1922, No. 29).

The 1920 census gives 27,728,788 as the population of America between the ages of five and eighteen. Since the Commission on the Reorganization of Secondary Education gives health as the first of seven main objectives of education, and since the importance of "arousing the public to recognize that the health needs of young people are of vital importance to society " is emphasized, and since such a large proportion of our young people are enrolled in the schools, it is significant to note that while the states are spending $1,036,151,209.00, considerably over one million dollars per year (1919-1920) for education, only twelve to fifteen million are being spent for school health work. This is approximately 65 cents per child per year being spent on health work in schools, which is less than 1.5 per cent of the national school fund. As a result, according to the United States Bureau of Education, only about one-tenth of the nation's children of school age are receiving "anything which even pretends to be adequate physical education and health training."

CITY SCHOOLS

Conclusions based upon unrefuted evidence, according to Dr. Wood, show that "rural school children are handicapped by more physical defects than the children of city schools". It is in the city schools that we find the best organized health work. Virtually all communities with a school enrollment of 10,000 or more employ a physician or nurse, or both--usually both, but of communities with an enrollment of less than 1,000 only approximately fifty per cent have such health supervision. (Moore, Public Health in United States, page 248.)

According to a report of an investigation of the Joint Committee of the National Education Association and the American Medical Association on Health Problems in Education, of 341 school communities having an enrollment of 25,000 and over, regarding health activities for the school year 1921-22, sixty-nine per cent of 318 cities report a daily inspection of health habits; sixty-one per cent of 323 cities reported physical examinations once a year; seventeen per cent twice a year; four per cent no examination. (The term 'examination' is not definitely defined.) The examination is relatively superficial in many cases, as in only forty-seven per cent of 245 cities are lungs examined.

More money per capita is being spent by city school systems on health education than is spent in rural schools. The report of the Joint Committee on Health Problems, shows $1.37 per pupil to be the median cost of health supervision and physical education for the 282 cities furnishing data. For 265 cities, two per cent of the entire funds spent for education, represents the median spent for health supervision and physical education. These figures compared with the figures for the Nation, gives the cities a considerable margin over the rural schools.

RURAL SCHOOLS.

It is true that the reports on rural health work are somewhat conflicting. A brief reference to the studies of Dr. Thomas Wood and of Dr. Taliaferro Clark, of the Public Health Service, will indicate that there is need in this field of further scientific investigation. However, the weight of evidence seems to support Dr. Wood's conclusion. At any rate reports show that health work is less efficiently organized in rural than in city schools.

Of the 2850 counties (wholly or part rural) in the United States, only in about thirty per cent of them is found any school health supervision. (Physical Education and School Health Work) and yet 58.4 of the children of the United States attend rural schools, according to Health Improvement in Rural Schools, 1922.

A report issued in 1922 by Joint Committee on Health Work shows that in only eleven states is there health legislation making medical inspection mandatory for rural schools. The committee estimates that there are at least 2000 nurses employed as full time rural nurses, or as nurses who devote a large part of their time to school work, to supply the demands of the 2850 rural counties. This number is obviously quite inadequate. The State of Massachusetts has perhaps the most efficient service in this line, since it is estimated that in a short time "95% of the school children of the state would have school nursing."

Rural districts are often seriously handicapped because of the lact of clinic facilities. In some states this problem has been met by traveling facilities.

It had been found that in North Carolina 80% of the

children in rural districts had decayed teeth, and less than one per cent had corrections made.

Dentists with portable outfits visited these communities, and in January 1922 more than 66,000 children in two-thirds of the counties of the states had been given dental attention. General reports from a number of other states of this type of service are equally encouraging.

HIGH SCHOOLS.

Less emphasis has been given health work in High Schools than has been given in the Grades. 2,199,389 of the more than 21 million public school children, are enrolled in High Schools, and it is to be regretted that seemingly no report is available which will give the status of Health Work among this body of young people which are in such a critical and important stage of life.

In regard to the physical education program of High Schools, it may be stated with certainty that the emphasis in the future will be on developing the entire group rather than training winning teams. This is in accordance with the recommendation of health workers, as expressed in numerous recent publications.

COLLEGES AND UNIVERSITIES.

According to John Sundwall of the University of Michigan, a program of hygiene and public health for a university should include(1) a university health service;(2) a full program of physical education for both men and women; (3) intra-mural athletics and (4) training for practice of leaderships in the fields of hygiene and public health.

The activities of the Department of Hygiene & Preventative Medicine, recently established at Cornell University, include (1) Medical examination (2) Medical consultation, instruction in hygiene and preventative medicine (3) Medical conferences and (4) sanitary supervision and control of communicable diseases.

Moore, of the United States Public Health Service, states that "satisfactory courses of physical education have not been developed in most universities and colleges." Of 210 schools reporting in only 178 are such courses prescribed. Two Hundred institutions have a department of physical education. "118 or more provide care for the students health; fifty-five or more resume responsibility for sanitation of college community. The head of the department of Physical Education has a seat in the college faculty in 189 of 216 institutions reporting."

To provide one supervisor for every 500 pupils 40,000 to 45,000 persons are necessary. There are in the United States less than 6,000 trained instructors of physical education to supply this demand.

That the National Government is considering seriously this shortage of supervisors is evidenced by the "Foss Capper Bill". This measure if passed would provide "an amount sufficient to allot 1.00 per child of school age to each state which shall accept the provisions of this act.

SUMMARY OF ANNUAL PHYSICAL INSPECTIONS OF SCHOOL CHILDREN OF VIRGINIA, FOR THE YEARS 1920-1922.

	1919-20	1920-21	1921-22
Number of children enrolled		400,769	524,850
Number of children inspected	62,670	127,187	338,202
Percentage of school enrollment inspected		31.7%	64.4%
Percentage of the children inspected having defective vision	23.0%	15.0%	13.2%
Percentage of the children inspected having defective hearing	6.0%	4.0%	4.3%
Percentage of the children inspected having defective teeth	50.3%	38.0%	39.3%
Percentage of the children inspected underweight	6.4%	5.7%	7.2%

The following report is for eighty-one (81) counties which have reported their physical inspection (April 30th) for the 1922-23 session. A great majority of counties not reporting to date have county nurses.

"The reports for cities have not been received to date. It is too early for them, as medical examiners continue with the examinations throughout the school year. The report of cities will raise the percentage of school children inspected over the percentage of 77 for rural districts."

Enrollment:	274,141	
No.children inspected	210,213	(this figure represents 77% of school enrollment.)
*No.children with defects	118,874	(56% of children inspected have other defects.)
No.children defective teeth	127,363	(60.5% of children inspected have defective teeth.)

*Not Accurate.

No. children defective hearing	14,693	(6.9% of children inspected have defective hearing)
No. children defective eyes	49,145	(23.% of children inspected have defective eyes.)
No. children defective tonsils	41,516	(19% of children inspected have defective tonsils.)
No. children under weight	36,251	(17% of children inspected are underweight.)

Dental clinics held from October 1920 to September 1921.

Number children examined	6959
Number of children treated	1935
Amount of money paid by the State	$3,545.08

Dental clinics held from Oct. 1921 to September 1922

Number of children examined	14,611
Number of children treated	7,896
Amount of money paid by the State	$5,726.81

	1919-20	1920-21	1921-22	1922-23(to date)
Total number of counties having school nurses		0	26	31
Total number of counties having school physicians	none	none	none	none
Total number of county nurses (school)	27	.	30	37
Total number of city nurses (school)	27		8 community 33 city	12 community 30 city
Total number of county health units	9	7	5	11
Total number of city physicians	We do not have a record of this.			
Total number sanitary officers	10	10	12	11

Fourteen counties other than those listed have had nurses but have none now.

Personnal.

There are only two workers giving their full time to school health program. The others only give part of their time to this program, therefore, it would be practically impossible to determine the amount spent on health work in the schools.

The above is a brief summary of work reported for the State of Virginia. A great deal of work has been done in an attempt to evaluate the efficiency of the present health program of Virginia. Owing to the fact that this state is not requiring the teachers to meet the minimum requirements in respect to training until 1925, it seems advisable not to submit a report at this time. Much data has been collected and the Field Workers express themselves as "much encouraged" with the prospect for the future. It may be stated that the Virginia plan is receiving national attention and many states are anxious to know just how successful the plan will be, especially in reference to physical inspection of children by the teacher. (A detailed report on Virginia is to be submitted later.)

For further detailed discussion concerning both National and Local development, See Appendix V. (Appendix V. contains very important data.) See also Section on Reports, Appendix V11 .

MINIMUM STANDARDS
for the
PUBLIC PROTECTION OF THE HEALTH OF SCHOOL CHILDREN
with
SPECIFIC RECOMMENDATIONS CONCERNING THE BALTIMORE SCHOOLS

MINIMUM STANDARDS FOR THE PUBLIC PROTECTION OF THE HEALTH OF SCHOOL CHILDREN.

(Standards of Child Welfare, U. S. Bureau Publication No.60)

1. Proper location, construction, hygiene and sanitation on school-houses; adequate room space--no overcrowding.

2. Adequate playground and recreational facilities, physical training and supervised recreation.

3. Open-air classes and rest periods for pretubercular and certain tuberculous children, and children with grave malnutrition. Special classes for children needing some form of special instruction due to physical or mental defect.

4. Full-time school nurse for not more than 1,000 children to give instruction in personal hygiene and diet, to make home visits to advise and instruct mothers in principles of hygiene, nutrition, and selection of family diet, and to take children to clinics with permission of parents.

5. Adequate space and equipment for school medical work and available laboratory service.

6. Part-time physician with one full-time nurse for not more than 2,000 children, or full time physician with two full-time nurses for 4,000 children for:

(a) Complete standardized basic physical examinations once a year, with determination of weight and height at beginning and end of each school year; monthly weighing wherever possible.

(b) Continuous health record for each child to be kept on file with other records of the pupil. This should be a continuation of the preschool health record which should accompany the child to school.

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(c) Special examinations to be made of children referred by teacher or nurse.

(d) Supervision to control communicable disease.

(e) Recommendation of treatment for all remediable defects, diseases, deformities, and cases of malnutrition.

(f) Follow-up work by nurse to see that physician's recommendations are carried out.

7. Available clinics for dentistry, nose, throat, eye, ear, skin, and orthopedic work; and for free vacination for smallpox and typhoid.

8. Nutrition classes for physically subnormal children, and the maintenance of midmorning lunch or hot noonday meal when necessary.

9. Examination by psychiatrist of all atypical or retarded children.

10. Education of school child in health essentials.

11. General educational work in health and hygiene, including education of parent and teacher, to secure full cooperation in health program.

SCOPE OF SCHOOL HEALTH WORK
U. S. BUREAU PUBLICATION HEALTH FOR
School Children, School Health Studies No.1)

1. Health training and instruction, meaning training in health habits, acquisition of health knowledge, and the formation of ideals and attitudes tending to promote personal and community health, to be given to all school children, either in the course of regular classroom work or in special classes if needed.

2. Physical training activities as related to health, meaning all supervised play, school athletics, gymnastics, etc.

3. Health supervision of children and teachers, which includes:

(a) Health inspection, daily to detect communicable and other acute diseases, and any other conditions adverse to health.

(b) Health examinations to chart the condition of the child, reveal his physical and mental defects, and indicate the relation of such defects, if any, to his capacities.

(c) Health correction to include all steps necessary to secure the remedial treatment of children with defects, in cooperation with parents and the family physician. Also work in the correction of malnutrition, including the preparation and serving of school lunches.

4. Preparation of teachers for health training and instruction, meaning all steps necessary to prepare teachers now on the school staff, as well as those who are being prepared for teaching, to take an efficient part in health education, by giving them a better knowledge of the subject matter and methods to be used, and by encouraging them to practice health habits.

5. The hygienic arrangement and administration of the school program.--This would include such questions as the determination of length and arrangement of the school day; length

of periods; alternation of work and rest; number, length, and character of recesses; number and sequence of subjects; examinations and tests; size of classes; forms of discipline; extra curricular activities, including home study, etc.; the composition and make-up of school texts and the personality and influence of the teacher.

6. Mental hygiene.--Mental hygiene, which began with the care of the feeble-minded and mentally disordered, is now concerned also with the mental health of normal children. This includes the prevention of mental disorder and training in habits of healthful mental activity. It has to do with the mental tests of children, the education of the defective and those with arrested development in special classes and the like, and the application of the principles of mental hygiene in the training of the normal.

7. The hygiene of the school plant, meaning the correct construction and equipment of school buildings, the proper planning of play-grounds, adequate and sanitary toilet facilities, the hygienic management of the school grounds, plant, and supplies including heating and ventilating, cleaning, lighting, correct adjustment of furniture, etc.

ADMINISTRATION OF SCHOOL HEALTH WORK.

1. The responsibility of the board of education for all educational work is clear, while the responsibility for the control of communicable diseases rests with the board of health, (through the supervision of whomsoever it may delegate to take charge of this work).

2. Certain parts of school health work, however, are

not unquestionably subject to the jurisdiction of either board, and variations in local conditions make it impossible to lay down any universally acceptable rule as to the administration of such matters as the health supervision of children. In some states this is done under the law by the board of health, in others by the board of education.

3. If school health work is to be conducted efficiently, the two boards must cooperate and any arrangement which is made for its conduct, should be entered into only after they have jointly approved a written agreement clearly defining the basis for cooperation, and providing for centralized supervision of all phases of the program. Even after such an agreement has been made there should be frequent consultation between the two boards, or their appropriate committees, and any person or persons who are employed to administer the work.

4. Where it is possible to find a person mutually agreeable to both boards, and qualified by training and ability to take charge of all phases of school health work, he should be appointed under the terms of an agreement of the kind mentioned in the preceeding paragraph. Such a person should, in all cases, have the powers, privileges, and obligations of a member of the school staff, regardless of the source of his salary or supervision.

PERSONNEL AND FUNCTIONS OF STAFF REQUIRED TO CARRY OUT THE SCHOOL HEALTH PROGRAM.

STAFF.

		Possible Salary range	
		Minimum	Maximum
1	director of school health work	$4,000.00	$5,000.00
1	or 2 part-time physicians, at $1200 to $1500	1,200.00	3,000.00
1	supervisor of health training and instruction	2,500.00	3,500.00
1	mental hygieniest and supervisor of ungraded classes	2,500.00	3,500.00
3	school nurses, at $1,500 to $1,800	4,500.00	5,400.00
1	part-time dentist	500.00	1,500.00
1	or 2 oral hygienists, at $1,500 to $1,800	1,500.00	3,600.00
		16,700.00	25,500.00
Cost per pupil on basis of 5,000 pupils		3.34	5.00
Cost per pupil on basis of 6,000 pupils		2.78	4.20

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[1] In some communities health training and instruction are successfully directed by the supervisor of the physical education department in others by a public-health nurse, a nutrition worker, a classroom teacher, or a person trained along other lines. Different combination of work will be found practicable in different communities. Irrespective of the particular combination that may be affected, however, the person who undertakes to supervise health training and instruction must be well grounded in hygiene and pedagogy, and must have had sufficient teaching experience to qualify as a practical educator. In selecting supervisors for work of this kind in the past, too much attention has been centered on the relative merits of the persons qualified in different lines, and too little thought has been given to the specific qualifications needed to do the work successfully.

[2] The salaries indicated are for staff nurses, not for those holding executive positions. Good administration will probably require that one of these nurses be used as a supervisor, to whom it will be necessary to pay more than the maximum salary indicated.

Teachers of physical education.--This staff does not include special departmental teachers or directors of physical education, although, so far as the health phase of their work is concerned, they should be under the supervision of the director of school health work. As in the case of the regular elementaryclassroom teacher who must carry the burden of health teaching and habit formation in the elementary grades, they have a very important contribution to make to school health work. They are in most communities, however, now employed as part of a regular teaching staff, and on that account it

is not considered necessary to list them here.

Nutrition specialist.--The school health program of every community should have at least the consultation service of a person thoroughly trained in nutrition work (see requirements for such training drawn up by the advisory committee on foods and nutrition of the National Child Health Council). This important school health service may be performed by the supervisor of home economics or domestic science, provided she (a) has an adequate general training in health subjects, (b) possesses a knowledge of modern nutritional subjects and methods, and (c) is available for effective supervision of the nutritional phases of the program. If the general supervisor of home economics in the school system is not available for this work, or if satisfactory arrangements can not be made for consultation service, this budget must be increased by $1,800.00 to $3,000.00 in order that a full-time person may be employed. In some cases, where the community is not sufficiently large to justify a full-time person for the schools alone, her services may be arranged for on a cooperative basis with other educational institutions, local hospitals or health agencies.

Specially trained teachers.--Besides the persons listed above, there are also needed within the schools specially trained teachers for bline, deaf, and crippled children and those with defective speech or defective vision, (who should be handled in special classes); and also for pretuberculous and anemic pupils and those suffering from malnutrition, classes for whom should be conducted in open air, open-window rooms, etc. Although these teachers make an important contribution to health work, they are not included in the staff shown above, as they constitute a part of the regular teaching force.

THE PARTICIPATION OF THE SCHOOL STAFF IN THE HEALTH PROGRAM.

The director of school health work, with the approval of the superintendent, should supervise and coordinate all phases of health work in the schools as defined in the statement setting forth the scope of school health work.

HEALTH TRAINING AND INSTRUCTION

In the statement concerning the fundamental principles which underlie health training and instruction it is stated that school programs should be so organized that each subject and activity will contribute its appropriate part to education in health, and this presupposes the intelligent and enthusiastic cooperation of superintendent, principals, and teachers. Upon the classroom teachers must devolve the real duty of inspiring the children, espically the younger boys and girls, with a conception of what health really means, and of teaching them, both in connection with their regular class work and special activities, the regular and natural practice of health habits in their daily living.

The training of pupils in the habits, attitudes, and knowledge of health requires preeminently the following forms of service and cooperation:

(a) General guidance and oversight of all the health teaching in elementary and high schools by the supervisor of health training and instruction. This is of the greatest importance to secure unity, progression, and gradation in the program.

(b) In the elementary grades the fundamental health instruction should be given by the grade teachers. The school physician, school nurse, dental hygienist, mental hygienist, supervisor

of home economics, supervisor of art, supervisor of physical education, or other special supervisors who can give expert assistance should cooperate with the teachers, by giving them subject matter which they in turn may give to the children and by conducting demonstrations or giving special talks or lectures when advisable.

(c) In high schools health training and instruction should be given directly and in correlation with other subjects, by the departmental teachers most interested and best qualified and situated to cooperate in such instruction. The following individuals, especially, would naturally participate and cooperate in health teaching in high schools: Teachers of physical education, biology, home economics and civics; mental hygienists, school physicians, school nurses, dental hygienists, and school tentists.

Teachers and supervisors of other subjects may give valuable assistance and cooperation in a diversified and comprehensive program.

PHYSICAL TRAINING AS RELATED TO HEALTH

In the elementary grades, instruction and supervision, both in the schoolroom and on the playground, must be given by the grade teachers under the general direction of the supervisor of physical training. In the earlier elementary grades, especially, such work should be correlated at many points with other subjects in the program.

It is desirable after the sixth elementary grade that boys and girls should be taught for the most part in separate classes and that each group should have a teacher or leader of the same sex.

In the junior high schools, where special men and women teachers are provided, correlation with other phases of the health

program may be readily arranged, but in the traditional elementary school with eight grades satisfactory teaching in the seventh and eighth grades will require a more specialized adjustment. The physical training activities in the classroom may be given to these grades by the grade teachers. In the gymnasium activities and in outdoor games the schedules of the high-school men and women teachers should be so arranged that they may take care of these upper elementary grades, or some corresponding adjustment should be worked out.

In the high schools instruction in physical training should be given by special teachers.

Outing clubs should be organized and officered by selecting members from their own groups. Wise and tactful supervision and guidance should be insured in every case, however, by teachers of physical training or other well-qualified adult leaders.

THE HYGIENE OF INSTRUCTION.

Proper attention to the hygiene of instruction requires the cooperative supervision of the entire school program by the general administrative officers of the school in cooperation with the director of school health work. With the approval of the superintendent specific phases may be technically supervised by the specialists engaged in carrying out the school health program under the supervision of the director of school health work.

THE HYGIENE OF THE SCHOOL PLANT

The heating, ventilation, and cleaning of the school building and many other matters pertaining to school sanitation require the care of the janitor, in cooperation with teachers and pupils, under the supervision of the principal. All activities of this kind

should be under the general direction of the director of school health work, who should be responsible to the superintendent for the sanitary inspection and supervision of the entire school plant.

RECOMMENDATIONS.

Organization of the Staff.

In the report on Medical Inspection it was recommended that a Director of Hygiene and Physical Education be appointed as the administrative officer in charge of and responsible for the health work and physical education in the schools. The explanation of his status and the division of his staff follows:

1. A Director of Hygiene and Physical Education with the rank of assistant superintendent. Aside from the reasons for this rank which lie in the fundamental and basal character of his work, this rank will be necessary in order to secure sufficient salary for a high class man, as warranted by the importance and necessity of the work.
2. A Supervisor of Play and Athletics in charge of the inter and intraschool athletics, and the after school athletics. This could be either a man or woman. In time, the damands of the work will require two; one for boys and one for girls.
3. A Supervisor of Physical Training in charge of the assistant supervisors and teachers of physical training. Responsible for the required work in the program.
4. A Supervisor of Hygiene in charge of the health teaching in the schools, the training in hygiene at the Training Schools. Cooperation with outside agencies interested in and doing acceptable health work to be secured.
5. A Supervisor of Medical Supervision in charge of the school nurses, the school physicians and cooperating with the visiting teachers, the attendance supervisors, and the Board of Health.
6. A Supervisor of Special Classes in charge of the open air classes, the crippled and defective classes, the tubercular cases and

conducting remedial and corrective work for children with orthopedic defects and in need of therapeutic gymnastics. Nothing is being done in this important field by the present department of physical training.

The Director of Hygiene and Physical Education should have a vote in the committee that selects and approves of sites and school buildings.

The Supervisor of Play and Athletics should be a member of the Executive Committee of the Public Athletic League, the Children's Playground Association and the Maryland Scholastic Athletic Association.

With the present inadequate play spaces at school sites in use, the work in many schools would be conducted by the grade teachers; the type and character of the work, as now given, to be changed.

The teaching staff in physical education would be extended as facilities became available. At once however, the following provision should be made:

a. Fifteen (15) assistant supervisors of physical training for the elementary grades.

b. Five (5) assistant supervisors of play and athletics.

c. Twenty-five (25) teachers of athletics and physical training.

d. Four (4) assistant supervisors of hygiene teaching: three for the elementary and one for the high schools.

THE COST OF THIS ORGANIZATION.

One (1) Director of Hygiene and Physical Education at $6000	$2,000.00
Four (4) Supervisors at $1800.00	7,200.00
Fifteen (15) assistant supervisors of physical training at $1450.00	21,750.00
Five (5) assistant supervisors of play and athletics at $1450.00	7,250.00
Twenty-five (25) Teachers of athletics and physical training at $1300.00	32,500.00
Four (4) assistant supervisors of hygiene at $1450.00	5,800.00
	76,500.00

At present about $50,000.00 is being expended for physical training. A distinct advance could be made by spending $50,000.00 and changing the emphasis. It is seriously recommended, however, to increase the teaching budget to $76,500.00 and lay the foundation for really effective work in hygiene and physical education.

TIME SCHEDULE

1. ELEMENTARY SCHOOLS.
    a. Twenty minutes daily in physical education of a modern kind.
    b. Organized recess--daily
    c. Sixty minutes play and recreation after school. Voluntary at present. To be extended in requirement as facilities warrant.
2. JUNIOR HIGH SCHOOLS.
    a. Three forty-five minute periods a week in physical education of a modern kind.
    b. Two sixty-minute periods a week on other days than those provided for in (a) in games and athletics after school. Voluntary at present. To be extended in requirement as facilities warrant.
3. SENIOR HIGH SCHOOLS.
    a. Two forty-five minute periods a week in physical education of a modern kind.
    b. Three sixty-minute periods a week on other days than those provided for in (a) in games, hikes, and athletics, Voluntary at present. To be extended in requirement as facilities warrant.

The specific recommendations just stated are from Volume 11 of the Baltimore Survey published in . After a thorough investigation the committee further recommended that the following staff be employed to carry out the medical inspection phase of the City School health program.

TABLE OF OFFICIALS, SALARIES, SERVICE AND PROBABLE COST OF MEDICAL INSPECTION.

OFFICIAL	Number	Salary	Service	Probable cost
Director of Hygiene and Physical Education	1	$6000	Full time	*$2000
Chief Medical Inspector	1	4000	Full time	4000
Medical examiners	10	900	3 hrs.per day	9000
Nurses	70	1200	Full time	84000
Dentists	6	800	3 hrs.per day	4800
Dental assistants	5	750	Full time	3750
				$107,550
		Per capita expenditure		1.12

*$2000 represents the portion of salary devoted to Medical Service.

1. Salary of Director of Hygiene and Physical Education should be pro rated:

   1/3 to Hygiene Instruction
   1/3 to Medical Supervision
   1/3 to Physical Education

2. Salary of Chief Medical Examiner would pay for executive service, scientific study of methods and procedure carried on to determine the best way to conduct examinations and secure corrections.

3. Salaries for medical examiners would pay for
   2 women physicians (at least two).
   6 men physicians (possibly more women and fewer men).
   2 physicians (colored).
   Physicians to examine only for restricted items not
   handled by nurse. Service to provide for 6-7000
   hours. To examine from 12 to 13 children per hour.

4. Salaries for school nurses to provide for 80% of the examination of children and follow up of all defective cases. To assist in instruction in hygiene.

5. Salaries for part time dentists to provide for diagnosis ad-

vice and prophylactic treatment of school children. Dental service which parents should and can have done by private dentists shall not be given. The dental clinic to be provided for those who are unable to pay for dental service.

At least 80 to 90% of school children have one or more defective teeth. Many a child needs only dental care to be restored to health. The city cannot afford to go without adequate dental service for its children.

6. Salaries for dental assistants to provide assistance to part time dentists.

As an associate superintendent, the Director would be in a position with the organization suggested, to accomplish the most for the health and education of Baltimore school children. A diagram of the relationships of the department is given in the report on physical education.

The above also from Volume 11 of Baltimore School Survey, is suggested as an approved outline for a City School System of an approximate enrollment of 96,000.

It has been impossible to collect sufficient data from which to formulate a program for Albemarle County, the Chosen County Unit.

See Detroit Department of Health Routine System Employed in Division of Medical School Inspection 1922-1923, for detail description of work there.

STATEMENT OF FUNDAMENTAL PRINCIPLES
in
HEALTH TRAINING AND INSTRUCTION
with
Suggestions as to Programs of Study
for
CITY AND RURAL SCHOOLS

PROGRAM OF STUDIES
FOR
HEALTH TRAINING AND INSTRUCTION

FUNDAMENTAL PRINCIPLES
(Child Health Bulletin No. 10)

The aim of health training and instruction should be to assure healthful living by (1) the formation and practice of habits essential to health, (2) the acquisition of knowledge necessary to health, and (3) the development of right attitudes and ideals with regard to health, both physical and mental.

(a) Modern hygiene is positive rather than negative. The mental attitudes developed during training are especially important. Children should be led to form correct health habits because such habits will make them stronger, better looking, better able to work and play, and better able to help others. Special care should be taken to see that they do not acquire an unwholesome habit of thinking too much about themselves and their physical condition.

(b) Health training and instruction should be carefully adapted to the stages of physiological and psychological development of children. In the early grades it should be concerned primarily with training in the formation and practice of health habits, and later more especially with instructions, the attainment of knowledge, and the development of attitudes and ideals.

(c) Throughout school life health should be one of the objectives of the whole educational process and school programs should be so organized that each subject and activity will contribute its appropriate part to the attainment of this objective. Healthful development in its broadest sense should be a primary aim of all education. Health is an end to be gained rather than a subject to be taught, but in all grades and in all places in which a definite period of instruction is assigned to it, it

should have standing of equal importance with other major subjects in the school curriculum.

(d) Health training and instruction should be so graded as to be interesting, easily understood, and stimulating to the older children as well as to the younger children, and should be applicable to their actual living conditions. The aim should be to develop permanent health interests as well as habits of healthful activity, both physical and mental.

(e) Health training and instruction should be designed primarily to fit the needs of the average so-called "well" or normal child. The great majority of children temporarily below par will be brought up to proper condition through the development of the health habits which should be acquired by the whole class. Moreover, the strength and vitality of many children who are now considered well can be signally increased by the development of good health habits. Children with definite diseases should be placed under the care of a physician, and so far as the school is concerned, those requiring special supervision on account of defects and disabilities should be handled in special classes or by such special methods as may be required.

(f) It should be definitely recognized that health work in the schools can not be fully effective unless integrated with the life of the home and the community and the forces in both which can contribute largely to the education of the child, such as parents, physicians, visiting nurses, and other agencies.

SUGGESTED PROGRAM OF STUDY IN HEALTH EDUCATION FOR CITY AND RURAL SCHOOLS.

The following Courses of Study, see appendix 111, are suggested as models.

FOR CITY SCHOOLS GRADES 1-V111;

A tentative course of Study in Health Education for the Cincinnati Public Schools, (1923).

FOR CITY HIGH SCHOOLS;

Report of the Committee on a Syllbus in Physilogy for the High Schools of North Dakota.

A Civic & Health Club for the upper Grades and High Schools organized along the lines suggested in the outline for Civics and Health Clubs as used in the schools of Utah is believed to prove very helpful (see appendix 111).

FOR RURAL SCHOOLS GRADES 1-V111;

Course of Study in Physiology and Hygiene for the Elementary Schools of North Dakota, (1922).

FOR RURAL HIGH SCHOOLS;

(Same as for City High Schools)

It is strongly recommended for the Rural Schools that Civics and Health Clubs be organized, along lines previously suggested, among the pupils of the upper Grades and High Schools.

For detailed discussion of the correlation of the teaching of health with other subjects, see Education in Health, by E.George Payne, (supplementary to report.)

Additional health work among parents and the community in general may very profitably be organized along lines suggested in Child Health Program for Parent Teachers Association and Women's Clubs. (See appendix 1V.)

A more detailed discussion of the basis upon which the above Course of Study has been selected will follow in a later report. It may be said here, however, that the above selection rests upon rather hurried and necessarily superficial aanalysis and should not be taken as representing final recommendations for a Program of Study in Health Education.

The following from Dr. Kook, under whom the Cincinnati outline has been prepared, strongly recommends this Course of Study:

> "Using 'Health for School Children' of the National Child Health Council, the literature of the American Child Health Association as a basis, the committee has formulated a course which was at completion submitted to about one hundred national authorities for criticism. You can appreciate the gratification with which we received so many communications commending the results. Several organizations have requested to be permitted to use the course as a model."

The other included outlines come recommended as "highly satisfactory" by those who have tried them.

SUMMARY OF INFORMATION
COLLECTED BY MEANS OF QUESTIONNAIRES.

SUMMARY CHART 1. (Appendix V.)

Summary of questions and replies as tabulated in Chart 1. for 33 school units of America. (Question is first stated--replies given in summary form.)

(1)	Population		?		
	Number of units reported	31			
	Number of units not reported	2			
	Total, number for units reported		2,036,832		
(2)	Enrollment Elem. School		?	H. S.	?
	Elem. School;				
	Number of units reported	36			
	Number of units not reported	3			
	Total for units reported		298,265		
	Total for H. S. units reported				
(3)	Number of full time physicians		?	Salary	
	Number of units reported	10			
	Number of units not reported	23			
	Total for units reported	12			
	(Salary, see column 5 of Chart Appendix V.)				
(4)	Number full time nurses		?	Salary	
	Number units reported	27			
	Number units not reported	3			
	Total for units reported		121		
	Salary, (see column 7 of Chart Appendix V)				
(5)	Number part time physicians		?	Hrs.per wk?	Salary?
	Number units reported	16			
	Number units not reported	17			
	Total for units reported	55			

Units reported for both part and full time physicians	4
Units reported for part time physician and no nurse	3

Hours per week and salary (see chart, Colums 8, 9 and 10)

(6) Number of part time nurses ? Hrs per week Salary

Number of units reported 4

Number of units not reported 29

Total for units reported 4

Number of units reporting nurse without doctor 10

Hours per week and salary, (see chart columns 11 and 12.)

(7) Number of other medical assistants ? Salary

Number of units reporting 11

Number of units not reporting 22

Total for units reported 24

Classified as reported:

Dentist 7

Dental nurse 2

Phychologist 1

Nutrition Specialist1

Unclassified 13

Salary, see chart column 14

(8) Number physical directors Elem School H. S. Salary

Elem. School

Number of units reporting 22

No, of units not reporting 11

Total for units reporting 129

High School-

Number units reporting 23

Number units not reporting 10

Total for units reporting 92

Salary, (see chart column 5, 16 and 18).

(9) Total value of play ground and gymnastic equipment

Number units reporting	15
Number units not reporting	18
See Chart column -----	19

(10) Total expenditure of school per year

Number of units reporting	13
Number of units not reporting	20
See chart column ----	20

(11) Total expenditure for Educational Hygiene

Number units reporting	14
Number units not reporting	19
See chart column ----	21

Column 25 shows per cent of dollar spent for educational hygiene.
(Calculation total expenditure for E. H. over total expenditure per year.)

Column 26 shows cost per capita based upon school enrollment.
Median $1.88 per pupil for 14 units reporting.
Avg. 2.64 per pupil for 14 units reporting.

(12) Is formal instruction in Educational Hygiene given in:

Grade	Grade	Grade
1_____	5_____	9_____
2_____	6_____	10_____
3_____	7_____	11_____
4_____	8_____	12_____

Reporting all for Grades---	26
Reporting all for H.S.	13
Reporting 456 Grades only	2
Reporting 1-7-8 " "	1
Reporting 3-4-5-6-7 Grades only	1
Reporting 0	3
Reporting 10,11 and 12	1
Reporting 0 for H. S.	8

See Chart for other report under H. S.

SUMMARY OF CHART 11. (Appendix V.)

Summary of questions and replies as tabulated in Chart 11 for 30 white schools in Albemarle County (Sept. 1922-April 1923.)

(1) Number of pupils enrolled 1920-23

Number schools reporting	33	
Number of Schoold not reporting	0	
total for schools reporting	2819	2819

(2) Number of pupils examined

Number schools reporting	33	
Number schools not reporting	0	
Total for schools reporting		2378
Total percentage based upon enrollment.		84-

(3) Number of children defective

	total number	total percentage based upon number examined.	
teeth	1298	55	48.8
hearing	105	4	4.78
Eye sight	383	16	16.42
Tonsils	455	19	28.14
Underweight	105	4	16.6 Mal.
other defects	93	4	

Figures for the nation

(4) Number of pupils treated by University Hospital, family physician or other sources.

Numbers units reporting (pupils treated)	4
Number units not reporting	26
Total for units reporting	64
Total percentage for units reporting	3

(5) Total number of cases discovered by teacher in addition to defects reported in annual inspection

Number of schools reporting	10
Number of schools not reporting	20
Total for schools reporting	195

B. Health Instruction

1. What per cent of pupils do you believe to have been influenced in the formation of Health Habits through Health instruction in school ?

Number of schools reporting pupils influenced-	26

2. Does your school have a Health Club of any kind ?

Number schools reporting yes	11
Number schools reporting no	16
Number schools reporting X (X = Blank)	3
Total for schools reporting	11

3. Is your school making use of any Projects in Connection with Health Education ?
   (a) Please make use of enclosed paper in giving brief account of Projects used.
   (b) What reference books if any are at your disposal ?

Schools reporting projects used	13
Schools reporting projects not used	13
Schools reporting X	4

(a) See reports

(b)	Schools reporting reference books	11
	Schools reporting no reference books	5
	Schools reporting X (see questionnaire)	14

4. Reason or reasons why 100% of cases reported did not receive treatment.
(see questionnaire)
Ignorance---Indifference---Financial.

Please give brief suggestions as to the Virtues and Limitations of Present Health Program.

(See questionnaires as filed)

Of What value would a manual containing an outline with suggestions for the Practical Applications of Text Book material be to Teacher ?

Number of schools desiring manuals 13

(see questionnaires as filed for full reply)

C. Sanitation.

(1) Does your school have sanitary privies ?

Number schools reporting yes 18

Number schools reporting no 11

Total for schools reporting 18

(2) What per cent of pupils use individual drinking cups?

Number schools reporting individual cups used 26

Number schools reporting individual cups not used 2

Total for schools reporting

Avg. per school reporting 92%

(3) Number of pupils per wash basin ?

Number schools reporting 21

Number schools reporting no basins 1

Average per school reporting 45

(4) Number of deaths among school enrollment this school term?

Number schools reporting deaths 2 (1 burned to death)

Number schools reporting no deaths 28

(5) Per cent of pupils absent from school more than two days on account of his or her illness ?

Number of schools reporting absenses 28

Number of schools reporting X 2

Average for school reporting 55%

Information tabulated in Chart 1, Appendix V. furnished by 33 schools units of America, suggested by the State Superintendents of Public Instruction as representative of the health work of the various schools of the state, seems to warrant certain conclusions:

The staff of school health workers is inadequate to meet the demands. Eleven of the twenty-seven units reporting exceed the maximum of 3000 pupils per nurse recommended by the Committee of Health Problems of the National Council of Education and American Medical Association. The information relative to physicians physical directors and other health workers is less convincing but this force also seems quite inadequate.

The cost to the school board of the health work varies from .45 per pupil in one unit to $7.14 per pupil in another.

The median cost per pupil per year being $1.88, the average $2.64 per pupil annually.

Considerable emphasis is being given to formal instruction in Educational Hygiene. Twenty-six of the thirty-two units reporting, report such instruction in all the grades. Three report such instruction in some grades, while three report no formal instruction for the grades.

Thirteen report formal instruction in Educational Hygiene in all the High Schools grades, while eight report no such instruction for High School pupils.

Chart 11. Appendix V gives in tabulated form information furnished by thirty rural schools of Albemarle County for September 1922-April 1923.

Of the 2819 pupils involved, nearly 84 per cent received physical inspection.

A comparison of the percentage of defects reported with

the report of Dr. Thomas Wood "based upon all statistical data available for 1918" is as follows:

PERCENTAGE OF DEFECTS

	Albo. Co.	Rural Schools	City Schools
Teeth----	55	48.8	33.58
Hearing--	4	4.78	1.28
Eye Sight	16	21	13.4
Tonsils	19	28.14	16.42

The terminology used in the above reports is not identical. The inspection in Albemarle County was made in most cases by teacher and the rather close findings is perhaps indicative of the teacher's ability in this field.

The medical force--namely the physician and nurse, should be able to give more time than is reported as given to the schools.

Sixteen schools report daily inspection of "Health Habits"; nine report no such inspection. This shows too small a per cent of schools giving attention to this matter.

Unless health instruction is correlated with teaching in other subjects, too little time is allotted to this phase of the program. Twenty-six schools, however, report pupils "believed to have been influenced in formation of Health Habits through instruction in school."

From replies received, it is believed that a Teacher's Manual would be of great value (this I understand is in preparation.)

The reports on sanitary conditions of schools indicate the need of much improvement. Especially along two lines: Every school should be supplied with sanitary privies and all children should have individual drinking cups, unless the schools are supplied with "drinking fountains."

CONCLUSIONS

The supply of specially trained School Health workers is inadequate to meet the demands. Were a sufficient number of trained workers available the percentage of the school funds now being spent for health work is not sufficient to pay the minimum salary such workers will demand. As shown in the report for the Baltimore School, however, the expenditure of the same amount of money is believed in some cases to accomplish more satisfactory results with a change of emphasis. The above condition is especially true with reference to rural schools. Nearly 60% of the school children attend rural schools, yet only about 30% of rural counties had any form of health supervision in 1923.

From "all statistical data available in 1918" Dr. Thomas Wood shows that country children have a larger percentage of defects than do city children. The percentages follow:

	County	City
Teeth	48.8	33.58
Tonsils	28.14	16.42
Adenoids	23.4	12.5
Eye defects	21.	13.4
Malnutrition	16.6	7.65
Enlarged Glands	6.4.	2.7
Ear Defects	4.78	1.28
Breathing Defects	4.2	2.1
Spinal Curvature	3.5	.13
Anemia	1.65	1.5
	1.7	.17
Lung disease	1.25	.32
Heart Disease	.74	.40
Mental Defects	.8	.2

Certain definite minimum standards have been worked out upon which the school health program should be based. It is to be regretted that no report seems available upon which to evaluate the efficiency of these standards. Several systems, however, have adapted these minimums as a basis for their health program. (These standards have been

The nurse is an essential factor in the school health program. The following percentages, by Dr. Thomas D. Wood, emphasizes the contribution of the nurse to one phase of the program, viz , in securing treatments:

	Results with nurse's aid-	Results without nurses aid.
Treatment for teeth	92%	20%
Treatment for eyes	80%	26%
Treatment for adenoids	73%	14%
Treatment for Tonsils	65%	18%

Universities, Colleges, and Teacher Training Colleges should increase their facilities in order that more school health workers may receive special training.

Health should be a vital and intricate part of all teaching; health instruction should not be isolated from the other part of the school program. The general health program should be planned for the well or normal child, with the purpose of keeping him 100% fit. Physically and mentally subnormal children should be provided for through special classes, etc.

Health Teaching and Health Education must be positive, not negative.