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ANNOTATED BIBLIOGRAPHY OF MEDICAL INSPECTION AND HEALTH SUPERVISION OF SCHOOL CHILDREN IN THE UNITED STATES FOR THE YEARS 1909-1912

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CONTENTS.

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, January 1, 1913.

SIR: In the older Greek education one-half of the school day was regularly spent by the Greek boys in exercises and games designed to make them strong and also to teach them the mental significance of sound health. During the middle ages this high ideal of soundness and sanity was lost, and even looked upon as spiritually dangerous.

There is emerging to-day a new health consciousness. We now know that diseases are not providentially sent, but are the results of natural forces which man may overcome. We know, too, even better than the Greeks, that physical soundness and mental sanity are vitally related. Hence, we realize that mental progress demands physical progress.

Medical inspection of school children has for its chief purpose the early discovery of physical defects or disease, so that such defects may be corrected in early life, or that contagion may be reduced to a minimum. No educational movement in modern times has had more vital relations to the children, to the homes they represent, and to the Nation, than medical inspection of school children and the general hygienic movement it typifies.

The work began in this country less than 20 years ago, but we are now in the midst of the most rapid development of this part of the public educational service. Information is eagerly sought from all parts of the country.

The manuscript hereby transmitted, entitled "Annotated Bibliography of Medical Inspection and Health Supervision of School Children in the United States for the Years 1909–1912," was compiled in the Division of School Hygiene and Sanitation of this bureau. It is a digest of the chief literature on this subject published in America during the past four years, and will be very helpful, especially to school and health officers. I therefore recommend its publication as a bulletin of the Bureau of Education.

Very respectfully,

P. P. CLAXTON,
Commissioner.

THE SECRETARY OF THE INTERIOR.

ANNOTATED BIBLIOGRAPHY OF MEDICAL INSPECTION AND HEALTH SUPERVISION OF SCHOOL CHILDREN.

GENERAL REFERENCES.

ALLEN, Arch Turner. The school and physical welfare of the child. *In* North Carolina association of city public-school superintendents and principals. Proceedings, 1911. Raleigh, Edwards & Broughton printing co., 1911. p. 19–27.

"It is the business of the school to see that the physical surroundings of the child comply in every detail with the laws of healthful living. The room should be large; the air space ample; the ventilation continuous; the light free from shadows and properly directed; the sittings accommodated to the child's size and not to the grade; the water pure and of the right temperature, and sanitary arrangements for using it; the toilets clean; the playgrounds large and dry; and plenty of time to use them . . . .

"The school is under urgent obligations legally as well as morally to see that it does not become a distributing center for contagious diseases. . . .

"When we consider what medical inspection will do for the schools, its cost becomes a legitimate school expenditure. It is just as much so as the salary of the teacher. . . .

"The three essential things in this inspection are the following:

"1. To know the health records of the community.

"2. To know as far as possible the physical condition of the children who attend school.

"3. To follow up this knowledge by having as many of them treated as we can find a means for, and to use these health records in every helpful way possible."

American medical association. Report of committee on administrative methods of physical examination of school children. *Its* Journal, 57: 1750–51; November 25, 1911.

Signed: Ernest B. Hoag, M. D. *and* Everett C. Beach, M. D.

Recommends: That city and county boards of education should secure the services of trained medical inspectors sufficient in number to instruct all elementary school teachers in making preliminary physical examinations or health surveys; that city boards of education maintain departments of medical inspection, the heads of such departments to be medically trained men; that the cities be divided into districts with a medical inspector in charge of each district.

That each child be given a physical examination each year, preferably at the beginning.

That this examination be sufficiently thorough to detect defects that interfere, or are liable to interfere, with the health, growth, and development of the child, such examinations to include the examination of the eye, ear, mouth, nose, throat, teeth, heart, lungs, thorax, shoulders, spine, hips, inguinal region, feet, nutrition, mentality, and nervous system.

That the preliminary examination in the elementary schools be made by the teacher or nurse and in the high schools by the director of physical education or one of his assistants.

That the supplementary physical examination be made in the elementary schools by the trained medical inspecter, and in the high schools by the director of physical education if he be medically trained; otherwise by the medical inspector; that a careful record be kept of the results of the preliminary and supplementary examinations to include only such data as would be of future use to the teacher or director.

That these records be kept by the teacher and passed on with the promotion slip, a duplicate being retained in the office of the health inspector.

That whenever feasible the physical examination be conducted preferably by examiners employed by and under the direction of the board of education. When this is not feasible the appointee of the board of health should be approved by the board of education.

That a greater effort be made to establish hearty cooperation between the school physician, the teacher, the family physician, the home, and the free dispensaries in following up and in securing the correction of physical defects.

American medical association. Report of committee on medical inspection of schools. *Its* Journal, 57: 1751–57, November 25, 1911.

Chairman, George L. Leslie.

"Two divisions of this field of work are advisable:

"A. *Under the control and direction of boards of education*—that part of the work essential for the intelligent handling of pupils and students throughout their period of educational training; and for the maintenance of hygienic environment and hygienic activity—the field of *educational hygiene*.

"B. *Under the control and direction of boards of health*—that part of the field of work concerned with the care and control of contagious and infectious diseases as a part of the field of *public health*.

"EDUCATIONAL HYGIENE—UNDER THE CONTROL AND DIRECTION OF BOARDS OF EDUCATION.

"PURPOSES OF THE WORK.

"1. The establishment of biennial, annual, and, when necessary, more frequent skilled physical and developmental examinations of pupils and students by a staff of experts. The establishment of initial examination of pupils by the teaching force of the schools, as far as the teaching force is qualified, prior to the skilled examinations by experts.

"2. By effective action, based on the data of these examinations, to secure (*a*) the correction of physical anomalies and, thus remove the growth-barriers of children and youths, and (*b*) whenever possible and practicable, to adjust educational activities to meet the requirements of physical and mental health, growth and development, and thus establish a special field of education for the maintenance of continuous health and development supervision of pupils and students.

"3. To maintain a scientific and systematic study of mental retardation and mental deviation of pupils and students by skilled examination, and whenever possible and practicable, by skilled training in special schools.

"4. To establish skilled physical and health examinations of candidates for teachers' positions prior to their election to determine vital fitness for their work, and thereafter to maintain continuous supervision of health and efficiency to teachers as related to the work of the schools.

"5. (*a*) To organize and supervise courses of technical instruction in hygiene for pupils, students and teachers, in the means of conservation of physical and mental health, growth and development; in the means of correction and prevention of defects, disease and degeneracy; (*b*) whenever necessary for efficiency, to give practical and technical instruction to the teaching force of the schools, while engaged in teaching, in the initial physical and developmental examination of pupils; and in the skilled physical and developmental and psychoclinical examination of exceptional pupils, abnormal and supernormal.

"6. To establish and maintain well-equipped medical anthropometric and psychoclinical laboratories in the public schools which shall afford opportunity and equipment—

"(*a*) for sufficiently skilful medical, anthropometric and psychoclinical examination of exceptional pupils and of all pupils requiring special examination.

"(*b*) for such technical training of teachers in the laboratory and experimental phases of educational work, connected with the physical and mental examination of pupils, in clinical psychology and in experimental pedagogy as is essential for the intelligent handling of pupils.

"(*c*) for essential work in hygiene and sanitation.

"7. To exercise expert sanitary supervision in the planning and maintenance of school buildings and grounds.

"8. To bring about the establishment of dental and medical clinics for pupils whose parents are financially unable to provide essential medical and dental aid.

"9. Whenever possible and practicable, to cooperate with State, county, and city health officers in the detection of and reporting of contagious diseases.

"10. Each department of educational hygiene to constitute a bureau of practical investigation and research in educational hygiene, and as such to cooperate with State bureaus of educational hygiene whose functions will or ought to be the organization and supervision of State-wide work and investigation in this special field of education—looking forward to the establishment also of a national bureau of educational hygiene.

"*An approximate grouping of pupils.*—Based on the data of physical and developmental examinations which ought to follow the examination of pupils and students. 1. Those for whom medical and dental aid is essential. 2. Those whose respiratory or circulatory systems are defective or are poorly developed, for whom a larger amount of out of door life and physical activity is essential, or other modification of school activities necessary. 3. Those whose nervous systems are defective or poorly developed and who require an unusual amount of out of door life, physical activity, special care and skilled training. 4. The segregation of pupils requiring an unusual amount of physical activity for possible mental growth—both sexes. 5. Segregation of pupils of truancy and criminal tendencies or otherwise showing more or less degeneracy, and assignment to special schools with special training. 6. Segregation of mentally defective pupils and assignment to special schools. 7. The segregation of supernormal pupils and assignment to special schools. 8. As far as practicable, the grouping of pupils in accordance with development age.

"In this program, school nurses are assistants to the staff. Their field work is essentially as follows:

"To assist members of the staff in the skilled examination of pupils and otherwise as assistance is needed; to assist teachers in making preliminary surveys of their pupils and in giving initial examina-

tions, notifying parents of essential needs of pupils, etc.; visiting parents and in all justifiable ways establishing effective cooperation between home and school. Further, the function of the school nurse is that of the social educator in the field of hygiene. As such, the work of the school nurse is one of high order.

"The staff of experts, the teaching force of the schools and school nurses, *working from the standpoint of education*, form an educational corps to secure the effective cooperation of home, school and school authorities in meeting the requirements of the physical and mental health and growth of pupils. When educational means fail, the law must remedy instances of neglect of health and growth of children.

"Each department of educational hygiene should act, as far as practicable and consistent with the required established work, as a bureau of investigation and research.

"The functions of departments of educational hygiene are twofold: 1. Carrying out certain established work of the schools. 2. Investigation and research of problems of health and development, of clinical psychology and of experimental pedagogy.

"Two classes of experts stand out as preeminently qualified for work in this special field of education: 1. The psychologist-educator. An expert in child hygiene, in educational and clinical psychology and in practical experimental pedagogy: skilled in physical and mental diagnosis, of normal and abnormal growth and development and having a knowledge of elementary medicine: a thoroughly trained, broad-gauged expert in education. 2. The skilled physician who has had sufficient training and acquaintance with educational work.

"Your committee, therefore, joins in a recommendation already made by Dr. Terman of the department of education of Leland Stanford university, essentially as follows: That steps be taken to bring about a conference of representatives from the United States department [bureau] of education, the National education association, the American medical association, the American institute of homeopathy and other national medical associations and the Russell Sage foundation for child welfare, which committee, after joint consideration of the problems involved, shall formulate and recommend alternative systems of educational hygiene which in time would be accepted as standard requirements in this special field of education."

American school hygiene association. Report of Committee on status of medical inspection of school children throughout the United States. *In its* Proceedings, 1910. Springfield [Mass.] American physical education review, 1910. p. 176–83.

Chairman, John J. Cronin, M. D.

A questionnaire [*see* Appendix, p. 129] was prepared by the committee and sent to 50 places. Of these, 14 submitted forms properly made out. All declared that some form of organized medical inspection of school children was adopted. All places have a system of following up and controlling the cases found with contagious disease and physical abnormality. Particularly in towns, the percentage of children brought under treatment is very high—75 to 100 per cent. In one place only are the parochial schools under municipal supervision. General inspection for contagious conditions is made regularly once a year, and thereafter as the emergency arises. The physical examination is made on selected cases. The number of children under the care of one inspector varies from 900 to 10,000. Not one place provides baths for the use of school children in the school building, and only two places report facilities for bathing in municipal baths. Of the 14 places reported, 13 are supervised under the direction of departments of education. Seven places report some form of instruction in the care of children's teeth.

American school hygiene association. [Report of Committee on] Status of medical inspection in the United States. *In its* Proceedings, 1911. Springfield, Mass., American physical education review, 1911. p. 144–48. tables.

Chairman, John J. Cronin, M. D.

About 1,400 questionnaires were sent out.

Returns were received as follows: 308 from North Atlantic States; 45 from South Atlantic States; 67 from South Central States; 286 from North Central States; and 52 from Western States. The chairman says: "In concluding this statistical report, I am constrained to inquire why is it that only 337 places of 758 reporting have made any attempt to protect the health of their school children."

AYRES, Leonard Porter, *comp.* Medical inspection legislation. New York City, Russell Sage foundation, Dept. of child hygiene [1911] 53 p. map. 8°. ([Russell Sage foundation. Dept. of child hygiene. Pamphlet] Health, education, recreation, no. 99)

Principal features of State laws and regulations providing for medical inspection, 1911. p. 6.
Abstracts of laws and regulations: p. 7–11.

AYRES, Leonard Porter. Physical defects and school progress. American physical education review, 14 : 197–206, April 1909. tables.

Also in Hygiene and physical education, 1 : 599–606, September 1909; *and with some additional tables and paragraphs in* Laggards in our schools. New York, Charities publication committee, 1909. p. 117–31.

Reprinted. Russell Sage foundation. Department of child hygiene. No. 41.

The interrelation of physical defects as discovered by medical inspection, and retardation of school children as found in statistical studies of Camden, N. J., New York City, and Philadelphia.

"In the two Philadelphia examinations the percentage of defectiveness among 'exempt' and 'non-exempt' children is very similar. The Camden investigation showed very little difference as regards vision and hearing between retarded children and those of normal age. The New York examinations showed that the retarded children have on the whole fewer defects than those of normal age, but it goes farther than this. It establishes the important principle that, except in the cases of vision, older children have fewer defects, and . . . that when children who are badly retarded are compared with normal children and very bright children in the same age groups so that the diminishing of defects through advancing age does not enter as a factor, the children rated as 'dull' are found to have somewhat higher percentages of each sort of defect than the normal and bright children. Here again defective vision must be excepted . . . .

"Physical defectiveness does have a bearing on the progress of children, but . . . physical defects constitute a cause, not *the* cause of retardation."

CLAPP, Raymond G. How can our physical examinations be made more effective? Hygiene and physical education, 1 : 76–78. 370–72, April, June 1909.

"I have come to the conclusion that a medical examination should be required annually of every college student; that medical consultation and advice should be free to all students; that the health of the general student body should be protected by the early determination and proper control of all cases of venereal disease, tuberculosis, and other infectious diseases; that each student should be carefully watched to see that he does not impair his health by overwork; that there should be practically no medical or surgical treatment given which will arouse outside antagonism; and that all this supervision should be made by the department of physical education."

Conference on "Diseases among school children, and the remedy." Boston medical and surgical journal, 166 : 621–27, April 25, 1912.

Diseases of the mouth, throat, and chest, by Richard C. Cabot; Malnutrition, by George S. C. Badger; Diseases of the skin, by C. Morton Smith; Orthopedic defects and rickets, by Joel E. Goldthwait; Nervous and mental disorders in the schools, by Arthur Willard Fairbanks.

Conditions in Boston: Approximately 4,000 school children suffering from malnutrition. From September 13 to December 31, complete physical examinations were made in the schools, and 11,691 children with skin diseases were found.

Papers read under the auspices of the Boston association for the relief and control of tuberculosis, January 31, 1912.

COPLAN, M. Medical inspection of our public schools. Pediatrics, 23: 465–74, August 1911.

References: p. 473–74. *Also in* Ohio medical journal, 7: 443–47, September 1911.

Emphasizes the need for the proper teaching of sex hygiene in the public schools. "The medical inspector should be one of the instructors, or have the supervising of the instruction of the hygiene of the sex in the public school. The medical inspector should instruct the boys and the nurse the girls."

CORNELL, Walter Stewart. Health and medical inspection of school children . . . Philadelphia, F. A. Davis co., publishers, 1912. illus. figs. tables. 8°.

CONTENTS. I. Medical inspection. II. Hygiene. III. Defects and diseases (the eye; the nose and throat; the ear; the teeth; the nervous system; mental deficiency; the skeleton; nutrition; the skin; speech; infectious diseases; prevalence of defects and diseases).

"The aim is to present a practical exposition of the work of medical inspection, born of the examination of some 35,000 children, and to give to physicians and teachers a survey of medical practice as it relates to children of school age. A review of the work of medical inspection in different localities is not attempted." (Preface)

DAVISON, Alvin. Medical inspection of schools. Pennsylvania school journal, 57: 471–75, May 1909.

Reprinted in Pennsylvania State educational association. Department of city and borough superintendents. Proceedings, 1909. p. 13–16.

Statistical résumé of work and defectives found.

"The benefits, then, to be derived from the medical inspection of school children are a saving of many thousands of dollars spent in instructing backward pupils, the prevention of much sickness and suffering, the warding off of a considerable amount of early death, and the remedying of numerous defects in childhood which are certain to limit the usefulness of the future citizen, and in a considerable number of instances make him an object of charity, and sometimes even a criminal.

"If medical inspection is to prevail, it should be made as efficient as possible. With the results of the experience of others, the opinion must be upheld that both kinds of inspection should be undertaken,

the one for the detection of contagious diseases, the other for physical defects. The work relative to contagious diseases should either be related to or under the direction of the board of health, while the physical examination should be directed by the school authorities."

DIXON, Samuel C. The object to be obtained by the medical inspection of school children. Harrisburg, Pa. [1910] 9 p. 8°. (Pennsylvania health bulletin, no. 8, February 1910)

Résumé of medical inspection in various cities:

"The first day that medical inspection went into effect in New York, 140 children were found to be ill with dangerous contagious diseases, contagious skin diseases, or parasites.

"In Boston during the first four months, 5,825 pupils were found to be sick, of whom 1,035 needed to be sent immediately home. Of these, 286 were capable of spreading the disease from which they were suffering . . . . The New York report for the year 1905 presents the following: Number of [examinations of] children, [1] 6,285,435; children excluded, [1] 18,844."

"In the annual report for 1905 of the board of health of Philadelphia the number of pupils referred to inspectors by principals for examination, 74,524; the number of individual examinations was 141,303; the number excluded from school was 7,598; the number of pupils found to be requiring medical care, but not needing to be excluded from school, was 27,481.

"In the city of Chicago, during a period of four months, 233 schools were visited with the result that 1,417 cases of diphtheria and 306 cases of scarlet fever were discovered in actual attendance on school.

"In the city of New York trachoma was known to prevail. The report showed that 17 per cent of all the school children were suffering from this affection and it was found necessary to open a special hospital for the treatment of this disease alone in the year 1903."

The number of cases treated by operation was 4,337; treated without operation, 11,599.

"In 1900 the deaths from [diphtheria] in the United States were 16,475, the great majority of whom were school children. In Chicago, medical inspection was instituted in 1900. During the year preceding 3,931 cases of that disease had occurred, of which 843 were fatal. During 1900 the number of cases fell to 3,303, a decrease of 628, and the number of deaths was reduced to 797.

"One most important result of inspection is the discovery of unreported cases of contagious disease at the homes. In Chicago 744 cases of diphtheria discovered in schools brought to light 2,619 cases at home, while 231 cases of scarlet fever discovered by the school inspectors disclosed 745 cases at home.

"In Terre Haute, Ind., out of 491 children examined 125 were found defective in hearing, and yet only 3 had been so recognized by their teachers.

"In the year 1900, out of 9,258 deaths from pulmonary tuberculosis in this State [Pennsylvania], 1,456 were of persons under 20. Of children over five and under nine, 39 died of that disease, of those between nine and fourteen, 166, and of those between fourteen and nineteen, 784.

"The investigations of our county medical inspectors and health officers [in Pennsylvania] soon developed the fact that throughout our rural districts the excellent laws which the legislators had provided for the construction and management of schools in the interest of the protection of the health of our school children" were not observed, and in 1908 the department inaugurated a system of sanitary inspection of school buildings through its health officers.

"On careful deliberation it has been decided therefore to place the supervision of the whole system of school inspection in the hands of the county medical inspectors, including both sanitary inspection of buildings and grounds, and medical examination of the children . . . and only physicians are to be entrusted with it.

"The reports of inspection are made on score cards. One of these is marked 'Sanitary inspection,' the other 'Physical record.' On the first is recorded the sanitary condition of the schoolrooms, grounds and outbuildings including provisions for light, heat, ventilation, water supply, and sanitary conveniences. On the second the age and sex of the pupil, the condition of sight, hearing respiration, skin, teeth, cervical glands, contagious diseases, pulmonary tuberculosis, and deformities."

DOWLING, Oscar. Value of medical inspection for schools and school children. *In* Southern commercial congress. Proceedings, Third annual convention, 1911. p. 334–50.

A general résumé of statistical information from various medical inspection reports of leading American cities.

DRESSLAR, Fletcher Bascom. The duty of the State in the medical inspection of schools; results which the public may rightfully expect. *In* National education association. Journal of proceedings and addresses, 1912. Published by the association, 1912; *and in* U. S. Bureau of education. Current educational topics no. 3. p. 5–13. (Bulletin no. 24, 1912)

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[1] New York City. City superintendent of schools. Seventh annual report . . . year ending July 31, 1905. p. 302. (Report of Dr. Thomas Darlington, commissioner of health)

Recent books on medical inspection of school children: p. 13.

Medical inspection must include the following points:

"1. It ought to serve as an efficient means of preventing the spread of contagious diseases. This will necessitate a careful examination of all children, especially at the beginning of the school terms, in order both to exclude children who are suffering from contagious or parasitic diseases and those 'carriers' who are a menace to others, even though they themselves show no decided effects of the diseases they are capable of disseminating.

"2. Medical inspection ought to emphasize in a decided way the especial significance of hygienic conditions in schools; it is far more important to furnish conditions which promote the health and development of well children than it is to make special efforts to care for those who are sick or defective, especially where these defects have been largely induced through neglect.

"3. Health officers must know more about education, more about the hygiene of teaching, more about the normal demands of child life; they must possess more ability to work with teachers and the people for the general welfare of the community. A large majority of physicians, those who would not hesitate to undertake the work of supervising the health interests centered in our public schools, are wholly unfit for the place because they know next to nothing of the ideals and methods of modern education, and they are ignorant of their own ignorance. The best results can not obtain under such conditions.

"4. We need doctors of health, who will be more delighted in exhibiting a large list of healthy, well-developed children than a long list of those who are physically defective and diseased; they must be able to see defects and diagnose correctly, but their chief emphasis should be in preventive measures."

FERRELL, John A. The medical inspection of schools and school children. North Carolina. State board of health. Bulletin, 27: 91–110, June 1912. illus. tables. map.

Reprinted as Public school health bulletin no. 4. Raleigh. Issued from office of superintendent of public instruction of North Carolina. 1912.

In the following résumé of medical inspection and its needs, Dr. Ferrell dwells chiefly upon the need for sanitation and the wide prevalence of hookworm disease in North Carolina. "We know," he writes, "that the disease prevails in 99 of the 100 counties of the State. In determining its frequency by counties we microscopically examine not less than 200 rural school children—ages 6 and 18, inclusive—taken at random in each county. The surveys are complete in 29 counties and partially complete in other counties to a degree sufficient to justify the map.

"Can we neglect to have the simple examination made and the treatment administered; knowing that by it more than one-fourth of all our girls and boys are being stunted in their bodies, dulled in their minds, robbed of their vitality, rendered backward in their work, and started on a road which will lead them to death, invalidism, or perhaps to prisons?"

GIVENS, Amos J. The prevention of nervous and mental diseases through medical inspection of schools. North American journal of homoeopathy, 26: 291–301, May 1911.

Reprinted. Stamford, Conn., 1911.

The need is for immediate action, in order that medical supervision shall go "as far beyond the detection of physical defects as that detection is an advance beyond the mere search for contagious and infectious diseases. An extension which shall secure for children from all classes of society the beneficent determination of temperamental and constitutional conditions, of mental capacity, of the soundness or unsoundness of the nervous system—an estimation and valuation by the medical inspector not only as a pathologist, but also as a psychologist."

GULICK, Luther Halsey. The importance of medical inspection of schools. School progress (Trenton) 1: 20–23, December 1909.

Each school district should have an inspector. The cleanliness, ventilation, water supply, closet, the accumulation of dust, the examination of children's eyes, throats, noses, ears, and skin, their general physical make-up, should be gone into. The inspector should have authority to exclude from school, and to take such steps as he judges necessary to prevent spread of communicable diseases.

"Growth is more necessary than education. There is not a school board in America that systematically weighs and measures its children to ascertain whether or not they are growing normally, and if not to readjust the mental task to meet these physiological conditions; the courses of study are constructed without the guidance of any data based on any careful investigation of these vital matters. We must develop within our boards of education power to see that the fundamental principle of human life—health—is properly guarded. Until these things are done it will be impossible to contribute anything of permanent value to physical development."

GULICK, Luther Halsey *and* AYRES, Leonard Porter. Medical inspection of schools. [4th ed., rev.] New York, Survey associates, inc., 1913. 224 p. illus. 8°. (Russell Sage foundation)

Bibliography: p. 203-206.

Text of earlier book has been entirely rewritten, and material and forms brought down to date.

GULICK, Luther Halsey *and* AYRES, Leonard Porter. Medical inspection of schools. [4th ed., rev. and reprinted, January 1913] New York, Survey associates etc., 1913. 224 p. illus. tables. charts. map. 8°.

Bibliography: p. 203-206.

Per capita costs and salaries, p. 101-13 (places by name). Legal provisions. p. 185-80.

Inspection by physicians for contagious diseases costs about 10 cents per child per year; for contagious diseases and examinations for detection of physical defects average about 25 cents per child per year; where school nurses are employed, the average cost is about 30 cents per child per year. In cities having relatively efficient systems, the number of defective pupils receiving remedial treatment as a result of the examinations is from about 10 to 50 per cent.

At the beginning of year 1911, there were 415 school nurses employed in 102 municipalities. In 1912, Minnesota, Massachusetts, Pennsylvania, Rhode Island, New Jersey, West Virginia, Louisiana, Colorado, Utah, and the District of Columbia had mandatory medical inspection laws; California, Washington, North Dakota, Indiana, Ohio, Virginia, New York, Connecticut, Vermont, and Maine had permissive laws, and the remaining States had no laws. Dental inspection is carried on in nearly 200 cities.

HARTMAN, Lawton M. The problem of the public school from the medical point of view: The studies and their effects on the nervous system. Pennsylvania medical journal, 13: 581-88, May 1910. tables.

The author gives a general résumé of various writers' work and findings, substantially as follows:

1. That the subject of nervous diseases among the school children has, up to this time, not received sufficient attention by the inspectors of any prevailing systems of medical inspection of the public schools; that this subject is being recognized as of the utmost importance from the standpoint of the physical and mental development of the country's youth.

2. That there is now no definite knowledge of the part played by any particular study or group of studies or any school occupation in the development of nervous affections among the school children.

3. That there is a large and varied group of nervous manifestations, shown as definite and distinct alterations from the normal mental and physical state, occurring among school children.

4. That before the age of puberty overwork at school is of much less importance as a factor in the causation of nervous disorders.

5. That after the age of puberty, especially among girls, overwork at school plays a much more definite part in producing affections of the nervous system.

6. That the importance of medical inspection of the schools is becoming universally recognized.

7. That proper and broader legislation should be urged for the legal support of more general, more accurate and more powerful medical inspection of schools.

8. That more general establishment of child-study departments should be strongly encouraged and urged.

9. That there should be greater cooperation between educators and physicians for maintaining a better standard of health among the school children.

10. That the individual management of those pupils who may be affected with some nervous disorders is the only rational way of providing for the proper and continued education and supervision of the health of the school youth.

HERBST, H. Herbert. Medical oversight of public schools. Pennsylvania medical journal, 13: 592-602, May 1910.

Bibliography: p. 602.

General résumé of reports made.

HILL, David Spence. First measures needed for child welfare upon the part of municipal and educational authorities in the South. Southern medical journal, n. s., 3: 99-104, January 1911.

1. The compulsory medical inspection of all school children and schoolhouses.
2. Bureaus of research.

"These two fundamental measures would not produce an immediate cure-all for the sins against the children. But adopted, they might mean the application of the scientific method to the root of some of our troubles; the health, efficiency, and happiness of millions of children in the South."

HINES, Linnaeus Neal. A study in retardation. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 53–56.

Also in Journal of education, 75: 460–61, April 25, 1912.

An investigation of retardation in the Crawfordsville, Ind., schools, conducted with 1,229 grade pupils as the subjects; of these 605 boys and 624 girls, 114 boys and 93 girls came under the retarded classification.

Retardation causes.

	Boys.	Girls.
Physical causes, general bad health, anæmia, etc.	21	21
Lacking mental ability to do the minimum amount of work required	57	42
Home and outside environment	34	32

Of the 1,229 children, "887 belonged to the good health class and 342 to the poor health class. In the same body of pupils, only 207 are retarded, and of the retarded pupils, only 63 belong to the poor health class. The poor health pupils constitute 27.8 per cent of the entire number, 1,229 or 27.2 per cent of the nonretarded pupils come in the poor health class and . . . only 30.4 per cent of the retarded pupils are in the poor health classification. Of the nonretarded pupils, 279 are in poor health or need medical attention. The term 'poor health' [includes] poor eyesight, defective hearing, or other similar troubles.

"It may be safely stated that from 70 to 80 per cent of school children have some defect.

"What, then, can be done about the matter. Employ school doctors and school nurses, improve the home conditions where possible, better the conditions in the schoolroom and on the playground. . . . If every pupil did his work in the open air all the time, if the school gave him a bath whenever he needed it, if the school kept him properly fed, if the school through the doctor and the nurse sought to remedy his defects, conditions would be changed for the better. . . . The demand is insistent that the school shall take up this burden for society. The school will answer the call by assuming a responsibility for the physical welfare of the child as well as for his mental and moral welfare."

HOAG, Ernest Bryant. The teacher's relation to health supervision in schools. American academy of medicine. Bulletin, 13: 127–34, June 1912.

Reprinted in American academy of medicine. Conservation of school children.

"(1) Every teacher before certification should be obliged to give evidence of practical elementary knowledge of the functions of the body.

"(2) Every such teacher should be obliged to give evidence of practical knowledge of those ordinary physical defects of children in the schools, which interfere with school progress.

"(3) Every normal school and teachers' college should provide adequate instruction in the lines indicated above. Very few of them now do so, although when questioned most of them answer in the affirmative, regarding certain traditional courses in biology and physiology as covering the requirement, a supposition which the facts prove almost entirely unwarranted.

"(4) Teachers who are without experience in child hygiene but who are already certificated, should be instructed by properly qualified specialists in this subject.

"(5) Physical educators must receive this special training in addition to that which they ordinarily acquire in their courses and with it their efforts will prove particularly valuable in this new sort of health supervision."

The writer gives an outline for the health grading of the school child, to be made by the teacher at the beginning of the term. It embodies the following general heads: (*a*) General appearance; (*b*) mental conditions; (*c*) nervous conditions; (*d*) teeth; (*e*) nose and throat; (*f*) ears; (*g*) eyes; (*h*) communicable diseases of the skin; (*i*) eruptive diseases.

"When the outline is properly filled out," says Mr. Hoag, "the teachers will be surprised with the information it develops on points often unsuspected. As a preliminary test before the arrival of the school medical officer or nurse, it will furnish invaluable aid."

HOFFMAN, Frederick L. Medical and physical examination of school children. American statistical association. Quarterly publications, 12: 558–65, June 1911. tables.

"It would pay the community to reduce absence and retardation to a minimum by intelligent medical and physical inspection of school children and to employ methods of sanitary control. . . . We require to know the amount of floor space per pupil as well as the amount of cubic space. . . . We require more accurate and conclusive statistics on the question as to whether there is a direct relationship between school attendance and epidemic outbreaks of acute infectious diseases. . . . We require to know more definitely the actual temperature and air conditions in schoolrooms during the winter months? . . . We need better mortality statistics of children at school, thoroughly analysed according to causes and circumstances to determine the extent to which deaths from diphtheria, scarlet fever, and whooping cough are directly traceable to school infection."

Iowa State teachers' association. Educational council. Report of the committee on medical inspection of schools. *In its* Proceedings, 1909. Des Moines, Iowa, Emory H. English, State printer, 1910. p. 59–76. tables.

Chairman, H. E. Blackmar.

Salaries of medical inspectors, etc.: p. 68–69. Bibliography: p. 74–75. Reprinted.

A résumé of medical inspection. In vogue in some form in France since 1833. In 1874 at Brussels in Belgium, medical inspection in its full modern sense of the term was successfully inaugurated. In Germany a beginning was made at Dresden in 1867, but not until 1889 was a system of true medical inspection established. In 1887 Hungary enacted a law providing for school physicians. Moscow has had school physicians since 1888. Japan has had medical inspection since 1898. The English law became effective January 1, 1908.

In the United States 9 States have passed laws relative to medical inspection. In 1899 Connecticut passed a law for the testing of the eyesight in all public schools. The New Jersey statute became a law in 1903. Vermont followed in 1904. The Massachusetts law was enacted in 1906. The New Jersey law was revised and became mandatory in 1909. Since September, 1908, medical inspection laws have been passed in Colorado, Washington, California, Maine, and Michigan, and are pending in Ohio and Indiana. Controlling authority in cities outside of Massachusetts (1908), p. 60–62. Established since November 1908, in additional cities, p. 65. Salaries of inspectors, p. 68; "cost varies with the extent and kind of work done."

Forms: p. 71–73. References: p. 74–75.

"Until statutory provision is made for medical inspection we urge upon the superintendents and school boards the wisdom of taking initiatory steps. . . . (1) By issuing each semester or oftener reports on the health and habits of the children. (2) By printing on this report card, or distributing in some other manner, simple rules of health for school children. (3) By printing and distributing leaflets relative to the care of the teeth."

MAXWELL, William Henry. The necessity for Departments of health within Boards of education. *In* American school hygiene association, meeting with the Department of school superintendents, National education association of the United States, 1909. Proceedings of the First, second and third congresses. Published November, 1910, by the American school hygiene association. Springfield [Mass.] American physical education review, 1910. p. 207–12.

Also in National education association of the United States. Department of superintendence. Proceedings, 1909. Published by the association, 1909. p. 98–103; *in* National education association of the United States. Journal of proceedings and addresses, 1909. p. 252–257; *and in* American physical education review, 14:301–307, May 1909.

"So far . . . as medical inspection deals with physical defects and with building up the constitution of children through their school work, it will be most efficiently conducted under the supervision of the school authorities. . . .

"Some of the problems, which the physician equipped with the resources of modern science may help us to solve, are the following: (a) *Problems of posture;* (b) *problems of vision;* (c) *problems of nose and throat;* (d) *problems of nutrition and growth.*

"The problem of instructing parents in the feeding of children . . . can be accomplished only through a well-organized corps of medical experts and nurses.

"A department of hygiene is necessary because teachers stand in constant need of the skilled physician's advice in the treatment and training of children. . . . The crowning reason for placing this work under the supervision of the board of education is that the work of mind-training is so interwoven with the work of physical training that the work of the teacher and the work of the physician cannot be disassociated without loss to both."

See also opinion of the New York City superintendent of schools. A department of school hygiene. *In his* Annual report, year ending July 31, 1907. p. 133–43.

"Dual responsibility in the school—that of the board of education and that of the department of health—always has resulted and always will result in confusion and inefficiency in the work affected. It is owing to this dual responsibility that the large annual appropriation made by the city for the physical examination of school children is to a great degree wasted. Efficient service will be obtained only when the board of education is made solely responsible for all the work that goes on in the schools. . . . The school nurses would do much more and better work if they were made responsible to the educational authorities."

New England association of school superintendents. A report on the Physical welfare of the public school child. . . May 1909. Hartford, Connecticut, Printed by R. S. Peck & co. 43 p. tables.

A résumé, with tables, of various medical inspection reports, showing association of physical defects with retardation; i. e., South Manchester, Conn.; Medford, Mass.; Camden, N. J.; New York, N. Y.;

New Haven, Conn.; and other cities; with special showings, also, of eye, nose, ear, throat, and teeth conditions in reports.

"The means taken to protect the health of the school children in the New Haven schools are:

"1. Children having contagious diseases, others in the same family, and those living in the same house must remain out of school until given permission by the health officer to return.

"2. All books and school material used by a child after the beginning of a contagious disease are promptly burned.

"3. Schoolrooms in which there have been cases of contagious diseases are closed and thoroughly fumigated. . . .

"4. School physicians, local practicing physicians, are at their offices ready to respond to school calls every morning, if summoned by the school principal, to decide such cases as the principal does not feel competent to pass judgment upon. If the physician finds it necessary, he immediately dismisses the child temporarily from school. Bi-weekly visits are also made by the school physicians to every school building for purposes of general inspection and consultation.

"5. A school nurse spends all her time in school assisting the physician, treating simple cases, and visiting the home to give parents necessary information about treatment to be continued there.

"6. The newer school buildings and many old ones are provided with the best systems of practical ventilation. . . .

"7. Drinking fountains are being installed in increasing numbers in our schools and drinking cups are being abandoned.

"8. Paper towels are replacing the cloth towel."

NEWTON, Richard Cole. Medical and sanitary inspection of schools. Medical record, 75: 480–82, March 20, 1909.

Résumé of the history of medical inspection, and of some inspections made in Brookline, Mass., and in Chicopee, Mass., where one child out of 500 examined had perfect teeth—but had also spinal disease. Not one child out of the 500 was without defects.

"Perhaps the greatest need in the educational world at present is for medical men, sanitarians, and architects on the boards of education. . . . The plan now in vogue in Boston of hiring the best available architect, engineer, etc., in the city to supervise and construct all the school buildings, should be adopted in every city and should be extended to the employment of at least one thoroughly competent chief medical and sanitary inspector. This man should be responsible to the board of education . . . and should have complete control of the sanitation and hygiene of the school buildings and of all the scholars. In the matter of ventilation, heating, drainage, playground space, control of athletic sports, hiring and discharge of physical and gymnasium directors and teachers, he should be subordinate only to the superintendent of schools and the board of education. . . .

"Every town having 2,000 or more school children should employ medical officer of instruction, at a yearly salary of not less than $3,500, who should give his entire time to the schools during the school year, and should supervise the playgrounds, and the out-of-door physical instruction during the summer. He should be allowed to employ as many nurses as might be needed at a compensation of $75 a month, and as many physical instructors, both male and female, as might be required. He should have charge of all the records and statistics bearing upon the physical condition of the children and of the sanitation of the buildings."

Part of a report presented to the New Jersey State sanitary association, December 5, 1908.

QUIK, F. H. Die prophylaxe der taubheit bei schulkindern. *In* III^e Congrès international d'hygiene scolaire, 1910. Rapports. Paris, A. Maloine, éditeur, 1910. v. 1. p. 679–83.

Literaturverzeichnis: p. 683.

Also in Internationales archiv für schulhygiene, 6: 422–28, July 1910.

Literaturverzeichnis: p. 427–28.

In no country have statistics been established by school physicians, showing the percentage of deafness among school children, preventable by judicious prophylaxis.

Ear specialist should test the school child's hearing at beginning of his school life, and to its close make annual examinations, to take place on school premises. Teachers should not be allowed to make these examinations.

In the study of the prophylaxis of deafness, the diseases to be examined are: (a) Adenoids; (b) infectious diseases, measles, diphtheria, influenza, scarlet fever, meningitis, typhoid fever, mumps; (c) catarrh and tuberculosis of the superior air passages; (d) ear conditions.

RAPEER, Louis W. Medical supervision of schools. American education, 15: 352–57, April 1912.

Contains a tentative standard classification of school ailments, with the following divisions: (1) Physical defects; (2) noncontagious ailments; (3) parasitic ailments (transmissible); (4) infectious diseases. Also symptoms of children's ailments, as follows: For teacher, nurse, and parent—(1) Teeth defects; (2) nose, throat, and ear disorders; (3) eye ailments and defects; (4) nervous ailments; (5) digestive system disorders; (6) deformities and bad posture; (7) infectious and parasitic ailments.

RAPEER, Louis W. Tentative standard plan for medical supervision of schools. Some summary suggestions. School and home education, 31: 367-72, May 1912.

Also with verbal difference in Journal of education, 75: 583-84, May 23, 1912.

"1. Medical supervision and all other provisions for public health through the public schools should be administered by the boards of education.

"2. All school health provisions should be correlated in a department of hygiene with the following divisions: Medical supervision, school sanitation, physical education, health teaching, and the hygiene of instruction.

"3. The supervisor of hygiene should be a physical educator with special medical knowledge of school children. . . . His whole time should be devoted to the work of the schools and his salary should be about $3,000 a year, for 12 months. . . .

"4. Most of the work of inspection, examination and follow-up of school children should be done by specially trained and selected school nurses working 12 months in the year and not by part-time physicians working a few hours or minutes each week.

"5. Where a supervisor for full time can not be employed a supervising nurse or part-time physician should direct and train the nurses for the school work, with the help of the superintendent of schools.

"6. In cities under 15,000 population medical supervision should begin with the employment of nurses and a physician for consultation or examination only. . . .

"7. The salary of $2,500 or $3,000 for the hygiene supervisor will mean in many cities very little extra outlay of money; the elementary supervisor of physical training may in certain cases be dispensed with; few or no physicians need be employed except on the nurse's basis; and the work of the school nurses can be made very much more efficient. The need is for men and women specially trained for school health work. . . .

"11. The schools may well start with a nurse for each 1,500 elementary school pupils. . . . They should be employed 12 months in the year with a few weeks vacation, and receive a beginning salary somewhere between $70 and $100 a month. . . .

"12. The year's work should begin with a preliminary *room*-inspection of all pupils from the lowest grades up; the nurse standing with her back toward a good light and having the pupils file slowly past her while she calls out by the code numbers ailments and defects observed - the teacher at her desk writing down the nurse's findings on each pupil's historical health-record card, and properly checking those to be referred to parents, excluded, given corrective exercises, and the like. . . . Forty or fifty children can be room inspected in an hour in average rooms.

"13. The nurse should call at each of her schools each morning for the individual inspection of suspicious cases referred to her by the teachers . . . and at the last school she should spend the remainder of her morning in making physical examinations, or helping the physician examiner, if any.

"14. About 10 children can be examined in an hour. . . .

"15. In the two lower drawers of the filing case the health record cards for the school may be arranged by sexes, left and right, and by rooms, alphabetically for each room, and the lowest grades in front. . . .

"16. A simple standard set of blank forms should be used. Most blanks now used . . . are woefully inefficient. . . . The New York bureau of municipal research and the Sage foundation are exceedingly helpful. . . .

"17. A simple school[1] classification and nomenclature of children's disorders should be adopted. Both the popular and the scientific names should be used. . . .

"19. The school nurse with practice can inspect for contagious diseases. . . .

"20. The final test of medical supervision and educational hygiene is prevention and cure. . . .

"21. Daily reports throughout the year should be made by the nurse and physician while employed. These reports of cases found, referred, excluded, cured or improved should be summarised weekly and printed in the newspapers."

RAYCROFT, Joseph E. Function and administration of medical supervision in the school. Hygiene and physical education, 1: 38-42, 257-59, April, May 1909.

"The plan for medical supervision should provide for: (1) Careful consideration of all phases of the school environment. . . . (2) Regular *physical examinations*. . . . (3) *Physical training*. . . . (4) *Medical inspection* which should be regular and systematic."

RUSSELL SAGE foundation. Department of child hygiene. What American cities are doing for the health of school children; Report covering conditions in 1,038 cities. New York City, Russell Sage foundation, Dept. of child hygiene [1911] 43 p. tables. diagr. 8°. (Health, education, recreation, no. 101)

Pt. I. Medical inspection. Pt. II. Hygiene of the schoolroom.

[1] *See his* Medical supervision of schools. American education, 15: 52-57, April 1912 (preceding reference).

Summary of provisions for health of children in public schools, 1911.

States.	Number of cities reporting.	Having medical inspection.	Inspection for contagious diseases.	Vision and hearing tests by teachers.	Vision and hearing tests by doctors.	Physical examination by doctors.	System under board of health.	System under board of education.	Number of school doctors.	Number of school nurses.	Inspection by dentists
United States	1,038	443	406	552	258	214	106	337	1,415	415	69
North Atlantic Division	411	236	224	261	125	135	58	178	852	261	24
South Atlantic Division	74	23	23	29	12	10	7	16	48	11	3
South Central Division	101	35	34	43	23	12	12	23	41	5	3
North Central Division	382	109	93	182	73	38	21	88	417	114	30
Western Division	70	40	31	37	25	19	8	32	57	24	4
North Atlantic Division:											
Maine	19	8	6	18	4	4		8	13		2
New Hampshire	12	3	2	7	3	2	1	2	11	1	1
Vermont	7		1	7							
Massachusetts	108	107	103	104	2	37	23	84	348	49	9
Rhode Island	10	8	7	5	6	22	3	5	20	1	1
Connecticut	25	15	15	21	7	5	11	4	26	7	1
New York	77	20	22	51	17	13	12	8	197	160	4
New Jersey	47	47	47	12	45	40		47	117	30	2
Pennsylvania	100	28	21	36	21	12	8	20	120	13	4
South Atlantic Division:											
Delaware	1	1	1	1	1		1		18		1
Maryland	5	1	1		1	1	1		5	5	
Virginia	13	4	4	8	2	2	1	3	12	1	1
West Virginia	10	2	3	2		1		2	1	1	
North Carolina	15	5	4	12	1	1		5	3		4
South Carolina	11	4	4	1	3	4	1	3	5		1
Georgia	13	6	5	2	3	1	2	3	4	4	
Florida	6	1	1	3	1		1				1
South Central Division:											
Kentucky	19	7	6	7	5	1	2	6	9	2	2
Tennessee	6	4	3	4	3	2	2	2	2		1
Alabama	9	3	3	3	3	3		3	3	2	
Mississippi	6			2							
Louisiana	8	3	3	4	2	1	1	2	6		
Texas	31	10	11	14	5	2	3	7	8		
Arkansas	9	3	3	3	1		2	1	4	1	
Oklahoma	13	5	5	6	4	3	2	3	9		
North Central Division:											
Ohio	68	12	9	28	9	5	1	11	67	24	8
Indiana	51	12	10	31	7	4	4	8	41		4
Illinois	53	14	12	22	9	5	4	10	113	45	3
Michigan	42	19	16	24	12	5	3	16	78	14	5
Wisconsin	41	14	10	27	9	6	3	11	32	6	3
Minnesota	24	9	8	10	8	5	2	7	23	13	
Iowa	29	6	8	15	4	1		6	3	6	
Missouri	24	10	8	7	7	4	1	9	50	5	3
North Dakota	6	1	1	3	1			1			
South Dakota	6	2	2	3	1		1	1			2
Nebraska	12	4	4	4	4	2		4	3	1	
Kansas	26	6	5	8	2	1	2	4	2		1
Western Division:											
Montana	6			2							1
Wyoming	3	1		1	1		1				
Colorado	12	9	4	11	3	3		9	1	1	
New Mexico	3	2	2	1	1		1	1	3		
Arizona	4	2	2	3			1	1	1		
Utah	4	3	3	3	2	2		3	3		
Nevada	1	1	1	1	1			1	1		
Idaho	3			3							
Washington	10	3	6	3	5	3	1	6	22	8	1
Oregon	5	2	2	2	1	1	2		5	1	1
California	19	13	11	7	11	10	2	11	21	14	1

SHAFER, George H. Health inspection of schools in the United States. Pedagogical seminary, 18: 279-314, September 1911. tables.

Bibliography: p. 301-302.

Appendix. School medical inspection in New York City, p. 303-14.

"In general it may be said, that in the older and larger cities of the East and Middle West the board of health controls, whereas in the smaller cities of the East and the newer cities of the South and West the board of education controls. . . .

"It seems to be the general opinion that all matters pertaining to infectious and contagious diseases should remain under the control of the board of health, but with respect to the more complete health

supervision of school children there is a difference of opinion. . . . The present tendency seems to be in the direction of a division of the work, leaving to boards of health the control of all matters pertaining to infectious and contagious diseases, and assigning the boards of education those health problems which more vitally concern the educator."

Representative results: Percentages of number examined.

	Year.	Defective teeth.	Defective vision.	Hypertrophied tonsils.	Adenoids.	Defective hearing.
Pasadena, Cal.	1909	30.0	17	6.0	5.0	3.0
Lowell, Mass.	1909	.....	10	7.0	3.0	3.0
Newark, N. J.	1909	8.5	15	4.0	5.0	1.4
Harrisburg, Pa.	1909	8.0	30	36.0	19.0	7.0
New York City.	1909	54.0	17	23.0	19.0	.....
Cleveland, Ohio.	1910	27.0	27	15.4	8.0	2.5
School of observation, University of Pennsylvania.	1909	38.5	26	5.1	13.5	5.1

SOBEL, Jacob. The home as a factor in the medical inspection of school children. New York medical journal, 91: 1157-65, June 4, 1910. illus. tables.

Describes the conditions among the poor of New York City.

"The medical inspection *at* the school is but a mere beginning; . . . the solution of accomplishment lies in the home. . . . There is hardly a single defect . . . found by us in school work, which is not materially influenced by home conditions of the tenement. . . . During the year of 1909, 231,081 children were examined physically, and of these 173,311 were tested for vision, the remainder being in lower grades where vision tests were unreliable and impracticable. Of these 173,311, 17.6 per cent were found defective, 30,408. From my personal observation and examination of several thousand cases I should place the percentage of defective vision as about 30."

Adenoids, malnutrition, teeth, etc. Dr. Sobel, in his statements regarding housing conditions and children's growth and welfare, presents Glasgow, Scotland, tables. *For which subject, if further reading is desired, see:*

Crowley, Ralph H. The physical conditions of school children. School government chronicle, 77: 78-81, January 12, 1907. supplement. tables.

London county council. Report of the Medical inspector, year ended March 31, 1905. School government chronicle, 75: 17[illegible], February 17, 1906.

Mackenzie, W. Leslie and Foster, A. Report . . . on a collection of statistics as to the physical condition of children attending the public schools of the school board for Glasgow with relative tables and diagrams. School government chronicle, 78: 145-46, August 17, 1907.

Returns were made for 36,683 boys and 35,974 girls. The mentally defective have been omitted.

"The grouping followed is confirmed by the distribution of one, two, and three-roomed houses, . . .

"These figures show that the one-roomed child, whether boy or girl, is always on the average distinctly smaller and lighter than the two-roomed; and the two-roomed than the three-roomed; and the three-roomed than the four-roomed. The numbers examined are so large and the results are so uniform. . . It cannot be an accident that boys from two-roomed houses should be 11.7 lb. lighter on an average than boys from four-roomed houses and 4.7 inches smaller. Neither is it an accident that girls from one-roomed houses are, on the average, 14 lb. lighter and 5.3 inches shorter than the girls from four-roomed houses.

"This is the most extensive investigation ever undertaken in Britain as to the heights and weights of school children in primary and higher grade schools. The tables and diagrams . . may legitimately be held to be a provisional standard for future investigations."

STEWART, James. Medical inspection of school children. *In* National conference of charities and correction. Proceedings, 1910. Fort Wayne, Ind., Press of the Archer printing co. p. 194-200.

"I. As it affects the educational progress of the child. II. As it affects the home and the family. III. As it affects society in general. IV. As it affects the family physician in his practice. V. As to conduct of medical inspection—whether by boards of education or by boards of health."

STILES, Charles Wardell. [Hookworm disease among Southern factory and school children] *In his* Hookworm disease among cotton-mill operatives. Washington, Government printing office, 1912. p. 12; 16-20; 33; 36-37 (the "Typical cotton-mill child"), 37-38. tables. statistics. (U. S. [Department of Commerce and Labor] Report on condition of woman and child wage-earners in the United States. vol. XVII)

The various mills and factories, schools, and other institutions inspected, in these States, numbered 177.

"It appears that about 1 in every 4 children under 16, about 1 in every 5 hands from 16 to 20 . . . came within the suspect class. During the year 1911 microscopic examination of 37,267 children of school age (6 to 18 years) has been made in 87 counties in all by the State boards of health of Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. The percentage of infection by counties ranges from 2.5" to 90.2" (footnote, p. 18).

STILES, Charles Wardell. Some recent investigations into the prevalence of hookworm disease among children. *In* Child conference for research and welfare, 1910. Proceedings. New York City, G. E. Stechert & co. [c1910] 2: 211–15.

Observations made in 5 different States, on 2,271 white children.

First series. Of 70 boys and 91 girls, the microscopical examination revealed hookworm infection in 133; before the examinations were made, according to the judgment of local physicians, the apparent age of these children, 29 boys and 28 girls were estimated as underdeveloped from one to eight years each, as indicated by physical development. After the examinations were made, it was found that 49 of these 57 children were infected. Of these 49 infected, underdeveloped children (29 boys and 20 girls) the figures were as follows:

Under-development.	Boys.	Girls.
One year	9	6
Two years	10	13
Three years	6	1
Four years	3	.....
Eight years	1	.....

All these children live on farms. Of the total, 161 farm children, 94 are living on farms which have no toilet of any kind; the remaining 67, on farms having the ordinary disease-spreading surface toilet, open at the back. For about 200 different localities, in 6 States, the same conditions are found—records of about 4,645 farm houses show 55.2 per cent having no toilet of any kind.

Second series. Observations made in 4 States, covering 2,110 children in 15 schools and orphanages located in 12 cities, towns, and villages. Of these children, 822 were classed as suspects.

Supplementing the medical inspection come the open-air schools, the better preparation of food, and the playgrounds. "In addition to all the other points thus far mentioned at this conference, the question of the sanitary arrangements in the backyards to the homes in which our children live is a factor second to none that has been discussed, and in those sanitary arrangements we often find the explanation of much of the sickness and death among our rural, village, and suburban children, the explanation of the underdevelopment of many a child, and the backwardness of many a pupil in our schools."

STOREY, Thomas A. Medical inspection in schools from the standpoint of the educator. Medical review of reviews, 18: 466–72, July 1912.

Reprinted.

Also in American academy of medicine. Bulletin, 13: 432–41, December 1912; *and in* American academy of medicine. Conservation of school children.

The value of medical inspection when under control of educational authority. "If it is to take a place in the school curriculum it should be under the same responsible control that covers the other members of that curriculum. . . . If medical inspection must follow up cases . . . the 'follow up' must be made through the regular school channels and in the regular way. If medical inspection must have an educational influence upon the hygienic habits of the school child, then its plan of instruction should be pedagogical and under the supervision of the school authorities. . . . It should be a part of the very organization of the school itself.

"From the point of view of the educator, medical inspection carried out in school by a department of the school has a far greater probability of success and efficiency than a system applied in the schools by a department outside the school and without responsibility to a control from the school."

STRAW, Zatae L. Medical inspection of schools. *In* New Hampshire medical society. Transactions, 1911. Penacook, N. H., W. B. Ranney, printer, 1911. p. 154–66.

A general résumé.

Qualifications demanded in the work of medical inspectors: "1. Skill in diagnosis. . . . 2. In no other field of practice is so much general pathological knowledge required. . . . 3. The medical inspector must have a broad and practical knowledge of hygiene.

"He must have special and technical knowledge with regard to heating and lighting and ventilation—the proper construction of methods of drainage, of disinfectants, of the powers of endurance in the child, length of time of safe confinement for it in the schoolroom."

TOWNSEND, John F. Medical inspection of schools and school children. South Carolina medical association. Journal, 7: 334–39, September 1911.

Also in Pediatrics, 23: 410-18, July 1911. *Title:* Medical inspection of school children.

"Medical inspection to be effective, must embrace in its scope the following:

"First. The relation of the school child to its fellow children as to the communicable diseases, ringworm, pediculosis and various forms of skin diseases.

"Second. The relation of the school child to the community in which it lives, as to the infectious diseases, measles, scarlet fever and diphtheria.

"Third. The relation of the *educating* of a child to its physical life as to the effect of the school life upon its health. Illustrated by the physical wrecks from overstudy, cases of great mental development with physical deterioration, the effects of poor school hygiene on the child's physique.

"Fourth. The school child with reference to its ability to gain an education, or the influence of physical defects upon the educational side of the child's school life. . . . The discovery of these defects and their removal consequently is of supreme importance to the child.

"The results of medical inspection have been extremely satisfactory. First. In the promotion of efficiency in the schools. Second. In the protection of the community. Third. In the preservation of the lives of the children, and promotion of a healthy spirit among them."

United States. Bureau of labor. Retardation, repeating, and elimination. *In its* Conditions under which children leave school to go to work. Washington, Government printing office, 1910. p. 245–303. tables. (*Its* Report on condition of woman and child wage-earners in the United States. vol. VII)

Statistical study of six cities: Pawtucket and Woonsocket, R. I.; Columbus Ga.; Columbia, S. C.; Plymouth and Hazleton, Pa.

Number and per cent of boys and girls repeating for specified leading causes (in part, here given).

Cause.	Boys.		Girls.	
	Number.	Per cent.	Number.	Per cent.
Lack of ability, slowness, dulness, or immaturity	203	20.0	164	21.2
Poor health and physical defects	131	12.9	115	14.9

"Poor health and physical defects [account] for 13.7 per cent. This does not tell the whole story, for in many cases the irregular attendance was probably due to or accompanied by poor health, but it is a sufficiently impressive total as it is."

It is for such children a medical inspector is of vital value.

VAN DERSLICE, James Warren. Medical inspection of public schools. Detroit medical journal, 10: 130–44, April 15, 1910.

Conclusion:

"The medical inspection of public schools is of vast importance to the welfare of the race, and of great economic value if it be properly executed. The controlling body should be a body of physicians vested with the police powers of the State, and to be the final arbiters in all matters of hygiene and sanitation regarding the school child. The medical inspectors should be competent medical men having special training for this work. They should be medical inspection specialists. School nurses should . . . follow up the cases and aid in carrying out of the work. . . . All notices regarding the physical condition of the child should refer the child to the family physician."

Dr. Van Derslice considers the prominence given to free dispensaries in these notices, to be ill advised. But since the very poor can be reached in this way only, they should be first considered, and not the income of "family physicians."

VAN DERSLICE, James Warren. The status of the school child. Pediatrics, 21: 653–61, December 1909. tables.

Data gathered in 26 cities, from 904 schools.

A statistical study of the school child: Retardation, grades and overage, causes of deficiency, defects according to ages, defects by grades.

"It may be taken as an axiom that the nearer a child is to the normal age for grade, the greater the probability of the pupil's continuance. Thus . . . an overaged child in the fourth grade has 1 chance in 25 of continuing through the eighth grade, while a child of normal age has 1 chance in 3. . . . The number of pupils compelled to leave school because of general ill-health was but 1 in 200. While there

is a loss of 80 per cent between the eighth grade and the high school, the artificial separation of the two is largely accountable for the loss. . . .

"Physical examinations were made of these pupils . . . .

Cases examined	153,603
Poor nutrition	8,856
Enlarged glands	38,177
Nervous diseases	1,541
Cardiac diseases	1,846
Pulmonary diseases	1,235
Skin diseases	3,107
Orthopedic diseases	2,965
Defective vision	45,577
Defective hearing	3,320
Nasal breathing	11,991
Defective teeth	85,174
Defective palate	1,169
Hypertrophied tonsils	31,640
Adenoids	10,049
Defective mentality	2,051

"These examinations were made by the school medical inspectors and under the rules laid down by the various school boards . . The incidence of the commoner infections—scarlet fever, diphtheria, measles—was noted in 6,764 cases. In these it was found that in 78 per cent of the cases occurring as initial cases in the family it affected the school child."

WELCH, J. H. The importance of medical inspection of schools and its present status. Kentucky medical journal, 9 : 749–52, October 1, 1911.

General statistical résumé.

"Experience of medical examiners thus far has shown that 7 out of every 10 children are in need of physical examination; 3 out of 10 show defective vision; 2 out of 10 are defective in breathing; and 7 out of 10 have defective teeth.

"What is the penalty for physical defects? Retardation, discouragement, dropping out of school, and annual waste estimated at $12,000,000. If only 50 per cent of these evils could be eliminated by medical inspection, would it not pay? I believe that all school children, teachers, janitors, school buildings, grounds, in all school districts, public, parochial, private, rural and urban should be subjected to examination by experts at least once a year."

WHEELER, R. M. A plea for medical inspection of schools. Journal of the Minnesota State medical association and The Northwestern lancet, 29 : 505–509, December 1, 1909.

"It is appalling to note the incompetency of most teachers to assist in this campaign for the betterment of school hygiene. . . .

"The plan of a system of medical inspection should . . include the proper education of teachers along the lines of physiology and hygiene. A State commission of medical inspectors should . . . lay down certain simple rules of school hygiene, which should be mastered by every teacher and inculcated into the mind of every pupil. Such lessons might include instruction in bodily and mental cleanliness, personal habits, injurious exercises, proper time of eating and studying, effects of narcotics and alcohol, simple methods of preventing the spread of disease, etc."

Scheme of inspection as outlined to be made by physician, "appointed according to State laws," upon child's first enrollment at school and afterwards; upon the first opening days to be in attendance at school and make a report as to each child's condition, record to be kept at the school. The physician to make, or confirm, all vaccinations; to submit written report to the educational authorities "as to what he considered the existing evils of the schoolroom and building, and make suggestions as to how this part of school sanitation may be improved. Poor lighting, bad ventilation, defective plumbing, dangerous stairways, insufficient heating might all be considered matters which would come within his sphere of supervision."

WILE, Ira S. School lunches and medical inspection. Medical review of reviews, 18:593–98, September 1912. tables.

Also in Journal of home economics, 4:345–52, October 1912.

"Twenty-five per cent of our public school children fail to attend school 75 per cent of the time. . . . Preventable disease is a large factor in this . . . and malnutrition plays no small part in preparing soil for such preventable diseases. . . . The total absence of the term 'malnutrition' in many statistical tables shows that this phase of the problem is entirely omitted in a consideration of medical inspection. . . .

"The relation between school lunches and medical inspection is potent. Medical inspection should be so thorough as to indicate not merely the names of various symptoms and conditions, but should suggest whether or not malnutrition could possibly be an underlying factor. Under such conditions school lunches could serve in a curative way to assist in the relief of the conditions reported by the medical inspection. Frequently medical inspectors would also suggest those children not possessing marked

defects, but who are very close to the health poverty line, and for them school lunches could be instituted as part of the preventive measures . . . increasing mental acuity and building up the physical health of our school children."

WILE, Ira S. School lunches. Their relative physical advantages in elementary and secondary schools. New York medical journal, 96:422–25, August 31, 1912.

Reprinted.

Résumé of reports: New York, St. Louis, etc., showing the relation between nourished children and undernourished growth, mentality, dentition, and school progress.

"A edical inspection as related to the public school system makes note of many symptoms which are apparent among the children, but all too frequently fails to get down to the factors responsible for them."

WOOD, Thomas Denison. Health examination. *In* National society for the study of education. Ninth yearbook. Chicago, The University of Chicago press, 1910. Part 1:13–42. tables.

Bibliography: Health examinations, p 105

The cities in the United States having the best organized systems are: Boston, Chicago, Cleveland, Los Angeles, Milwaukee, New York, and Philadelphia.

"The State cannot afford on economic grounds even, to educate a child who is handicapped by removable obstacles or whose personality or character is being distorted in any preventable manner."

WOOD, Thomas Denison. Health problems in education. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical educational review, 1912. p. 125–30.

Also read before the National council of education, National education association of the United States, meeting, 1912; *and in* U. S. Bureau of education. Current educational topics no. III. p. 13–19 (Bulletin no. 24, 1912)

"There are in the schools of the United States to-day approximately 20,000,000 pupils. Careful study of statistics and estimation of all conditions lead to the following personal conclusions:

"From (1½ 2 per cent) 300,000 to 400,000 of these have organic heart disease.

"Probably (5 per cent) 1,000,000 at least have now; or have had, tuberculous disease of the lungs.

"About (5 per cent) 1,000,000 have spinal curvature, flat foot or some other moderate deformity serious enough to interfere to some degree with health.

"Over (5 per cent) 1,000,000 have defective hearing.

"About (25 per cent) 5,000,000 have defective vision.

"About (25 per cent) 5,000,000 are suffering from malnutrition, in many cases due in part at least to one or more of the other defects enumerated.

"Over (30 per cent) 6,000,000 have enlarged tonsils, adenoids or enlarged cervical glands which need attention.

"Over (50 per cent) 10,000,000 (in some schools as high as 98 per cent) have defective teeth which are potentially if not actually detrimental to health.

"Several millions of the children possess each, two or more of the handicapping defects.

"About (75 per cent) 15,000,000 of the school children in this country need attention to-day for physical defects, which are partially or completely remediable.

"Of essential importance in the health field are the following: (a) Maintenance of sanitary, healthful school environment with clean schoolhouses, abundant light, good air, etc. (b) Hygienic instruction and school management, with particular attention to influence of teacher upon nervous health of pupils. (c) Effective teaching of health and hygiene to all pupils in the schools. (d) Rational supervision and direction of play, games, athletics and all healthful and satisfying forms of physical education.

"Special features . . . which have direct bearing on health include the following: (a) Homes of the pupils. (b) Playgrounds and gymnasiums. (c) Dental clinics and other medical clinics for children. (d) Classes for defectives and cripples. (e) Open-air schools.

"Improvement in school hygiene involves prominently these factors:

"1. Recognition of extraordinary value of work of school nurses, and employment of nurses in the schools.

"2. More comprehensive and thorough training in school hygiene in all normal schools and other institutions for professional education of teachers.

"3. Better technical training for school physicians, school nurses, teachers of hygiene and physical education, and other special officers in this field.

"4. Requirements of tests of knowledge and skill in various phases of school hygiene for teachers in general, and certification of health specialists of different types."

INSPECTION FOR COMMUNICABLE DISEASES.

GENERAL REFERENCES.

DIXON, Samuel G. The medical and sanitary inspections of schools and their relation to the tuberculosis problem. *In* American school hygiene association. Proceedings of the first, second and third congresses. Published November, 1910. Springfield [Mass.] American physical education review, 1910. p. 35–42.

Read at the second congress, 1908.

"The decrease in mortality from tuberculosis has apparently been greatest in those States where systematic popular education for its restriction has been most active and general. There is no other known cause capable of producing such a gradually decreasing effect as is shown to have occurred. . . .

"Is there not reason to suppose the systematic education of our school children in the essential facts . . . would be followed by a still more noteworthy reduction in the next generation? Should it not be a part of the regular curriculum of every school in the country?"

FELL, A. S. The prevention of the spread of contagious diseases, particularly among children. American journal of public hygiene, 20: 82–91, February 1910.

"There should be a thorough system of medical inspection of all the school children in the city, State, public, private and parochial."

International municipal congress and exposition. First. Contagion and school inspection. Discussion. *In* Municipal advance. Extracts from papers read. Chicago, September 18–30, 1911. p. 117–19.

The conference as a whole voted in the affirmative on the following questions:

1. Should carriers be excluded from school? 2. Should vaccination be required for school children in cities, in small towns, in the country? 3. Should schools have physical examinations? 4. Should schools have dental examinations?

United States. Department of commerce and labor. Bureau of the census. [Mortality from children's diseases in Registration area, 1910: Ages 5 to 14] *In its* Bulletin, 109: 118.

	Ages 5 to 9.	Ages 10 to 14.	
Diphtheria and croup	2,938	700	3,638
Measles	588	152	740
Scarlet fever	1,731	442	2,173
Whooping cough	228	17	245
Total			6,796

WILE, Ira S. The social plagues and the public schools. New York medical journal, 92: 501–504, September 10, 1910. tables.

Reprinted.

Also in American academy of medicine. Bulletin, 11: 496–505, October 1910.

"The school throws no mantle of protection, educationally or physically, about children, when they most require it.

"In 1900, there were 446,123 teachers in the United States, of whom 118,519 were males and 327,614 were females. If . . . it is a 'conservative estimate that in this country the morbidity from gonorrhoea would represent 60 per cent of the adult male population and that of syphilis from 10 to 15 per cent,' are these teachers a possible source of infection of public school children? Are the janitors, scrubwomen, school attendants a source of possible infection of the children? . . .

"Venereal diseases among the colored children are said to be unusually common according to Southern physicians, and there are 872,244 negro children between the ages of 5 and 14 in the elementary schools. . . .

"The prevention of the social plagues is one of the intrinsic problems of our present school system."

Dr. Wile's statistics give some idea of the extent of the diseases among school children. He emphasizes existent evils and makes a plea for the fullest effectual work of the medical inspectors of school children, that the disease when found be specifically called by name, and that preventive means be radically enforced. He says, further:

"Prophylaxis means increased attention to school hygiene. Drinking fountains must supplant the foul drinking cups. Individual towels are absolutely necessary. Pencils, sponges, books must be interdicted; and the children must be impressively instructed not to lend them to each other and not to be seen putting such articles in their mouths. Toilet facilities should be improved. The toilets

of the two sexes must not be . . . within earshot of each other. . . . Complete physical examinations should be required. . . .

"Manifestly, children who are a source of contagion to others must be excluded from school . . . until they are no longer a menace to the health of their fellow school children.

"Boston, Philadelphia, Chicago exclude the children when the diseases are . . . recognized by the medical inspectors. . . .

"Medical inspection must progress so as to be of greater value. The classification of the defects of school children should . . . be placed upon an etiological basis."

WILLSON, Robert N. The economic relations of social diseases. Pennsylvania medical journal, 15: 843–55, August 1912.

Has the public "a right to demand instruction regarding the many more than 100,000 infected sufferers supposedly intermingling in the homes and lives in every city . . . ?

"The richest and the poorest strata of society [are] the two most thoroughly saturated with these poisons. . . .

"What do we hear of the blind asylums, 20 per cent of whose inmates are there because of gonococcus birth infection; . . . of the insane asylums with 85 per cent and upward of the cases of paresis due to syphilis; and over in the nervous wards a very like percentage of cases of locomotor-ataxia due to the same disease? . . . What of the children's wards in hospitals, never free from little children who are infected; . . . of the general wards . . . full of the debilities . . . the marasmus, the idiocies, the apoplexies, the epilepsies, the club feet, the hare lips, the malmed and crippled special senses. . . .

"We are officially informed that in our army of about 60,000 men not less than 20 per cent of all upon the sick list are instances of venereal infection. . . . For the navy and marine corps . . . for all venereal diseases the primary admission ratio was 199.17 per 1,000."

"In the Public health and marine hospital service . . . about 1,200,000 [patients have been treated] in the last 20 years. Of these, 106,090 were cases of syphilis; . . . 4,420 constituting the average per year; . . . 117,3[illegible]ses of gonorrhea, with an annual average of 4,889 cases. . . .

"No reference has been made to the new wave of venereal infection brought to this country each year from the continent. . . . Last year 223,453 immigrants came from Italy alone, 123,348 from Poland, 84,000 Jews, 71,000 Germans, 52,000 Scandinavians, and many others: . . . not one of the entire number having been examined for the presence of venereal disease—and all admitted through a wide-open physical gate."

IN REPRESENTATIVE CITIES.

BERKELEY, CAL.

HOAG, Ernest Bryant *and* **HALL, Ivan C.** A preliminary report on contagious diseases in schools. American academy of medicine. Bulletin, 13: 81–87, April 1912. charts.

Reprinted.

"The necessity for the correction or control of such physical defects as those of hearing, sight, circulatory disorders, obstruction of the nose and throat, as well as certain deformities, such as those of the spine, chest, feet and legs, might often be avoided, if proper attention to the contagious diseases of childhood were given serious consideration during school life.

"The principal points then to be considered in relation to contagious diseases in schools are:

"1. The direct effects of the diseases themselves.

"2. The direct or indirect effects of such diseases in producing physical 'defects.'

"3. The relation of these diseases to retardation and elimination.

"4. The cost to the school department through decrease of average daily attendance, on which appropriations are often in part based.

"5. The cost to the family for medical treatment, nurses, etc.

"6. The cost to the individual through general lowered vitality or direct physical disability of one sort or another.

"In order to study with any degree of accuracy the effects of contagious diseases in schools, certain accurate methods for keeping records must be devised and carefully followed. For the purpose of illustration the following method is presented as having proved satisfactory in the schools of Berkeley.

"1. Every case of contagious disease is reported to the city health department and here recorded by the card-index system.

"2. The health department notifies the school department in each case, and a similar record is made here.

"3. The school department notifies every principal of a school in whose district a contagious disease is reported.

"4. Every principal inquires carefully into the cause of continued absence on the part of the pupil, and notifies the school department of every contagious or suspicious disease which [illegible] to his attention.

"By this cross-checking method there remains very little chance for any contagious children's disease to fail to be reported and properly recorded.

"5. A *contagious disease map* is made of the entire city and arranged by school districts, thus indicating at a glance where the *focus of infection* for any given disease exists.

"6. Various tables and curves are made indicating the contagious status of each school.

"7. Other tables and curves may be made to any extent desired, showing such points as age distribution of contagious diseases, mortality rate, time lost, cost of sickness to family or school, relation to weather or season, relation to ventilation in home or school, relation to vacations, and relations to any other things which may be deemed important or interesting.

"The relation between physical defects and contagious diseases is a problem which will prove of value if followed out carefully, but it is very difficult to obtain accurate data. . . .

"By means of the method indicated I have with the aid of Mr. Ivan C. Hall . . . been able to determine some interesting data in respect to contagious diseases in the Berkeley schools. It will be possible . . . to summarize only a portion of our results, in the hope that this may prove suggestive to other localities. Our numerous tables and curves will have to be mostly omitted. . . .

"The death rate from all causes in Berkeley from 1906 to 1910, inclusive shows an average of 11.8 per 1,000 of population. The total rate has fallen from 15.1 per 1,000 in 1906 to 9.4 per 1,000 in 1910, a reduction of 37.7 per cent. The death rate in Berkeley for 1910 was lower than the average for the state, which was 13.6 per 1,000. . . .

"This paper would particularly emphasize the importance of accurately collecting data and exhibiting it as far as possible in a graphic form by means of charts and the plotting of curves. By this means information can be instantly grasped and the problem much more easily solved. Once facing the situation in any community in respect to transmissible diseases in schools the prophylactic or other measures necessary to put into use may be easily applied."

BOSTON, MASS.

Boston. School committee. Report of the Commission appointed . . . to investigate the problem of tuberculosis among school children. Boston, Printing department, 1909. 11 p. illus. 8°. (School document no. 2, 1909)

"Five thousand is a conservative estimate of the total number of tuberculous children in the public schools of Boston."

HARRINGTON, Thomas F. The superintendence of infected children when out of school and the conditions of their readmission to school. *In* III^e Congrès international d'hygiène scolaire, 1910. Rapports. v. 1. Paris, A. Maloine, éditeur, 1910. p. 272–82. charts. tables.

Chiefly, in Boston.

"The communicable diseases that are of special consideration in school life fall into three general classes: (1) Zymotic diseases; (2) tubercular affections; (3) contagious skin diseases.

"Medical inspectors and school nurses have done much to detect, exclude, and follow up these foci of infection. Board of health inspection has not availed much in controlling the quarantined cases in the homes. . . . A system which promises high results in measures to control infected children excluded from school has been inaugurated in Boston by the district nursing association. Nurses have been appointed for the specific purpose of supervising in the homes supervised cases. . . . She keeps in close touch with the home by repeated regular visits—instructing, observing, and guiding the family during the entire period of quarantine. . . . This special corps of nurses does not enter the schools but keeps closely informed about school diseases in the district. . . .

"In diphtheria quarantine the problem is more difficult.[1] One per cent of well persons carry typical diphtheria bacilli of the morphological type which give a positive laboratory diagnosis. . . .

"The belief that scarlet fever and diphtheria are spread by school attendance principally is not supported by reliable data. . . . The decline in the morbidity . . . starts before the school closure and the increase in the number of cases begins before the opening of the fall term of school. . . .

"Tuberculosis is seldom of such a quantity as to require supervision out of school. . . . In an examination of more than 90,000 children in the Boston public schools showing more than 5,000 anaemics, glandular, and tindersised children, there were only 156 cases of tuberculosis. . . . Genuine pulmonary tuberculosis, as well as open tuberculosis of bones or skin, should be excluded from regular schools. . . . In Boston such cases are segregated into a hospital school which permits the child to return to his home each evening."

SLACK, Francis Harvey *and others.* Diphtheria bacillus-carriers in the public schools. American medical association. Journal, 54: 951–54, March 1910. tables. map.

"An entirely new procedure . . . when, acting on the suggestion of Dr. Richard C. Cabot, the school board suggested, under advice of its committee of physicians, the taking of cultures at the beginning

[1] See Slack, Francis Harvey and others (following reference).

of the school year from all the pupils in the Brighton district, and the keeping from school of those found to be bacillus-carriers."

The estimated number of pupils was about 4,500, just 99 cases, or 1.16 per cent (positive). The author gives the following conclusions:

"1. At least 1 per cent of all healthy school children are carriers of morphologically typical diphtheria bacilli (Westbrook's A, C and D types) 2. Such bacilli are communicable . . . and the condition is usually a transient one. 3. The organisms are ordinarily of little or no virulence. 4. While it is possible that by passing through a susceptible individual their virulence might be raised to cause the disease, this is not a frequent occurrence. 5. The disease is kept alive in a community rather by virulent organisms in immune persons than by these non-virulent bacilli. 6. Where virulent diphtheria bacilli are present, as shown by outbreaks of the disease, . . isolation of those showing positive cultures is a duty owed to the community. 7. Where the disease does not exist, isolation of carriers of probable non-virulent bacilli is of no proved benefit. . . . 8. The attempt to control diphtheria in a city by a round of cultures from all school children at the beginning of the school year does not seem encouraging from this series of tests. 9. The proposition to stamp diphtheria out of a city by cultural tests of all the inhabitants and isolation of all carriers is impossible from any practical standpoint."

CHICAGO, ILL.

Chicago. Department of health. Municipal laboratory. Diphtheria carriers in schools. *In its* Report, 1907–1910. p. 11–12. table.

"Of 6,468 school children examined during the year 1910, during the diphtheria epidemic of November and December, 744 or 11.96 per cent were at the time of culturing nonsick carriers of morphologically typical Klebs-Loeffler bacilli. . . . The largest number of positives found in a single room was 22, including the teacher, out of 25 persons. . . . The longest duration of a single case was six weeks. The average time in which the bacilli disappeared from the throat was 8.23 days."

All positive cases were placed in quarantine, and a placard marked "Diphtheria carrier here" was posted on the premises. "The effectiveness of the control of diphtheria by isolation of carrier cases may be judged from the fact that after about five weeks . . . the epidemic was effectually stamped out."

CINCINNATI, OHIO.

BOUDREAU, Frank G. Epidemic poliomyelitis. Ohio. State board of health. Monthly bulletin, 2: 71–78, March 1912.

"The measures adopted by the health department of Cincinnati seemed to me to be particularly well adapted to our knowledge of the disease and what we can with justice enforce, without being too arbitrary or too lenient I commend them to your attention.

"'PREVENTIVE MEASURES.

"'All cases are required to be reported to the health office. Any case of any meningeal affection is investigated, lest it might be a case of infantile paralysis, and any such case that in the opinion of the investigator seems suspicious, is treated as a case of infantile paralysis.

"'The house in which such cases occur are placarded with a sign, stating that there is a contagious disease within.

"'All children connected with a school are removed from school for a period of three weeks.

"'The patients are isolated as much as possible, and especially are children kept away from a case.

"'Those who have been exposed are kept away from children as much as possible, and isolated, with the exception that "bread winners" are not kept away from their work.

"'In case of death the funeral is required to be private and must take place within 24 hours. . . .'"

CLAIRTON BOROUGH, PA.

COLCORD, A. W. Diphtheria epidemics and the public school. American medicine, n. s., 7: 245–52, May 1912. illus.

Epidemic in Clairton Borough, Pa., of 22 cases, of which 18 were pupils of the public schools. Features of the epidemic:

"1. Schools were not closed, but children were daily assembled and kept under observation. 2. Systematic and frequent examination of all throats in the public schools. 3. Cultures taken of all suspicious throats . . . examined at the expense of board of health. 4. Finding of 'diphtheria carriers' and the quarantine and giving of antitoxin to the same. 5. Both cases of 'carriers' occurred in families where several children had been sick and no physician had been in attendance. . . . 6. No case occurred in room after the finding and isolation of the 'carriers.' Whole epidemic was soon stopped."

EAST ST. LOUIS, ILL.

East St. Louis. Board of education. Medical inspection. *In its* Annual report, 1910–11. p. 47–48.

"We hope that we may have medical supervision in our schools in the near future. It seems fair and right and the consequent advancement of children when relieved is so much greater and the time spent in school so much less, that the board of education really gains from a money point of view.

"A complete plan of inspection would include (a) an annual or semiannual examination of every school child, with especial reference to: (1) Defects in eyes, ears, nose, mouth, and throat; (2) lungs and chest; (3) spinal system; (4) general strength; (5) nervous force. (b) Daily examination of children who give signs of illness, to prevent the spread of contagious diseases. (c) An annual inspection of the sanitary condition of each school building. Trained nurses to visit the homes of poor children, who are ill, would be a logical part of such a system."

A table of contagious diseases. For teachers and parents, p. 76-77.

Contagious diseases.—Table for teachers and parents.

[NOTE.—Pupils having any of these diseases are by law excluded from school. A board of health certificate is required for the first four diseases. In other cases admit to school with physician's certificate, or sometimes with mother's certificate, in accordance with the time given in this table.]

Disease.	Period of—		Quarantine.			Symptoms.
	Incubation.	Invasion.	After exposure.	After attack.	Do not admit to school until—	
	Days.	*Days.*	*Days.*	*Days.*		
Diphtheria	2-7	.....	12	12	.....	Gray or brown patches on tonsils, white membrane in throat, bloody or irritating nasal discharge, enlarged glands at side of neck, fever sometimes croupy cough; some say may be carried in clothing.
Scarlet fever	2-7	1-2	14	30	After sore throat and scaling of skin disappears.	Vomiting, sudden fever, red sore throat, red tonsils, enlarged papillæ on tongue, flushed skin, fine scarlet rash on chest and neck in from 12 to 36 hours, sometimes pale ring about mouth. Most contagious from scales of skin from ninth to forty-second day. Often carried in clothing.
Smallpox	9-12	2-3	18	18	All scabs have disappeared.	Chill, headache, vomiting, pains in back, rash like scarlet fever or like measles fourth day rash on forehead. May be carried in clothing.
German measles	8-16	Few hours.	7-10	12	Three days after recovery of last case, with certificate; 14 days without.	Rash, catarrh, slight fever. Mild scarlet fever resembles this; be careful.
Measles	8-14	4	16	12		Watering eyes, sneezing, nasal discharge, cough, sometimes sore throat, rash on back of neck and forehead, small dark red spots, fourth till seventh day; skin peels eighth till thirteenth or eighteenth day. May be carried in clothing.
Chicken pox	13-16	Few hours.	12	14	All scabs have disappeared, 14 days after recovery of last case in family.	Small red pimples on face; vesicles filled with turbid serum changing to black or brownish crusts on body or scalp. Smallpox may be mistaken for this disease.
Mumps	14-21	.....	.....	20	Seven days after swelling and tenderness disappear.	Neck glands swollen, lobe of ear raised chewing and sour tastes painful, headache, vomiting, depression. Seldom contagious before symptoms appear. Rarely, if ever, carried in clothing.

Contagious diseases.—Table for teachers and parents.

Disease.	Period of—		Quarantine.			Symptoms.
	Incubation.	Invasion.	After exposure.	After attck.	Do not admit to school until—	
	Days.	*Days.*	*Days.*	*Days.*		
Whooping cough	6-10	1-4	.....	42	After end of spasmodic coughing.	A hard cold for 10 days, spasmodic cough whooping tenth to fortieth day, thick nasal discharge, vomiting, nosebleed. Rarely, if ever, carried in clothing.
Influenza (grip)	1-7	.....	.....	.....	.....	Chill, fever, vomiting, more sudden onset and slower recovery than common colds; contagious. Usually send home children with fresh sudden sneezing colds; if not sent home, children with colds should be seated in front row.
Sore eyes, pink eyes.	.....	.....	.....	.....	Till cured or certificate.	NOTE.—Many eye diseases are contagious; do not take risks; beware of towels and handkerchiefs.
Ringworm	.....	.....	.....	.....	....do.....	Parasitic, bald patches on scalp, scabby patches on body. Recommend that a physician be consulted.
Impetigo, contagiosa.	.....	.....	.....	.....	....do.....	Parasitic, rough, scabby sores, especially when skin has been broken; beware of towels. Recommend that a physician be consulted.
Lice (pediculosis)	.....	.....	.....	.....	Till cured.....	Recommend three applications of lard and sulphur, or crude petroleum, soap suds following; fine comb with vinegar for nits.
Itch (scabies)	.....	.....	.....	.....	....do.....	Parasitic, itching sores on wrists, back of hand, and between fingers. Recommend applications of lard and sulphur, or crude petroleum.
Tuberculosis	.....	.....	.....	.....	Till cured or certificate.	"Loss of appetite, weakness, languor, listlessness, are among the early signs. Pallor, marked anaemia, loss of weight, excessive emaciation, the presence of enlarged glands in the neck, are indications that there is something wrong. If in addition to this there is a cough, with or without sputum, the child should most certainly be examined by a physician."
Tonsilitis	.....	.....	.....	.....	Till cured.....	

Incubation is the time between exposure and first symptoms. Invasion is from first symptoms to eruption or marked disease.

Please notify the superintendent and school physician in writing of all known cases of tuberculosis, epilepsy, St. Vitus dance, and eczema. In center schools require a certificate from the superintendent or a physician in all cases of peeling hands. Colds and influenza are probably contagious. Exclude pupils with sore throat until cured or until they bring a certificate.

Look out for second crop of measles in school eight days after the first outbreak.

Pupils exposed to mumps or whooping cough may attend school provided watch is kept for symptoms.

Pupils exposed to diseases "carried in clothing" may not attend school until after the days of quarantine as above, without a physician's certificate. Approved by East St. Louis board of health, July, 1911.

GREENSBURG, IND.

BLAND, Curtis. Report of diphtheria epidemic in Greensburg [Ind.] during the months of September and October, 1911. Indiana. State board of health. Monthly bulletin, 14: 147–49, December 1911.

"Out of a total of 872 cultures taken from grade and high-school pupils, September 30–October 6, 1911, 288, or 33 per cent, came back positive. This high percentage of 'carriers' . . . and the large number of contacts under quarantine . . . made us feel justified in keeping the schools closed."

All parts of the town were found to be about equally infested with "carriers." Without douht the street carnival, held by the Eagles from September 11 to 16, inclusive, had served to distribute the diphtheria bacilli.

As soon as positive reports were received the "carriers" were quarantined. Eventually, 260 homes were quarantined, containing about 1,200 persons, and this in a town of 6,000. Out of 400 "carriers" found only 4 developed clinical symptoms of the disease.

Conclusions:

"1. To fight successfully an epidemic of diphtheria 'carriers' must be found and . . . with contact cases must be isolated. 2. A bacteriological examination of the throat must be made in order to discover the 'carriers.' This makes absolutely necessary the maintenance of a bacteriological laboratory of the State board of health. 3. That antitoxin bears the same relation to clinical diphtheria that water does to fire. If the antitoxin is used in time and in sufficient quantities . . . in the first 24 hours of the disease, the death rate is practically nil and there are no persistent bad after effects of the disease."

NEW YORK, N. Y.

BAKER, Sara Josephine. Inspection for the detection of cases of contagious diseases. *In her* The Division of child hygiene of the Department of health of the city of New York. 1912. p. 64–70. tables. insert. illus.

1. Each nurse visits each school in her charge before 10 o'clock each morning and inspects in a room set apart for this purpose all children referred by the teachers. 2. Children manifesting any signs or symptoms of an acute contagious nature, such as smallpox, diphtheria, scarlet fever, measles, chickenpox, whooping-cough or mumps, are referred by the nurse to the principal. Cultures are taken in every case of sore throat. If the child is not suffering from a contagious disease, it is notified to return to school and is given an official certificate to that effect. If a confirmatory diagnosis of contagious disease is made the patient is isolated, the apartment placarded with a notice of the character of the disease, and the case immediately reported to the division of contagious diseases, which thereafter assumes supervision and control. 3. Children affected with a contagious eye or skin disease are given a notice to take home to their parents.

HERRMANN, Charles. The prevention of the spread of contagious diseases in public schools. Internationales archiv für schulhygiene, 6: 1–15, October 1909. forms. tables.

Describes the method in New York City. The medical inspector visits each school every morning between 9 and 10 o'clock and examines: "1. Those pupils presenting any indication of contagious disease. 2. Those pupils previously excluded on account of contagious disease, who have returned. 3. Those pupils who have been absent for 3 or more days on account of sickness. Every morning each principal receives a list of all the cases of contagious disease which have been reported on the previous day. This list is sent to every classroom."

New York (City) Association of tuberculosis clinics. Significant features. *In its* Fourth annual report, 1911. p. 18–19, 35 (table).

In 1910 there were under observation 500 children. In January, 1911, there were 1,243 children under observation, an increase of 149 per cent. In addition, there were treated during the year 4,272 new cases and 1,293 old, making in all a total of 6,808 children treated, an increase of 2,103, or 45 per cent over the number treated in 1910. The establishment of additional children's classes is strongly urged.

PHILADELPHIA, PA.

ROACH, Walter W. The rôle of the school in the spread of scarlet fever. A lesson from one school in Philadelphia. American journal of public health, 2: 450–51, June 1912. diagram. map.

Reprinted.

Epidemic in the T. M. Pierce public school.

First case reported January, 1912; 6 cases followed in February. "There was no classroom inspection during this time, the school doctor under the rule calling each morning at the principal's office to examine

children referred to him by the teachers, who in the last analysis were the only medical inspectors in the classrooms, with the whole system depending upon their ability to primarily detect disease.

"The 'carriers' were undoubtedly in the school, hidden and unrecognized. Twelve more cases followed in March and . . . when the medical man began classroom inspections he picked up 7 cases in the school desquamating. If it had been a neighborhood epidemic, other cases would unquestionably have occurred among pupils attending the Walton and Belview Schools, but the cases point to one focus. The Pierce school building was fumigated, inspectors stationed at each entrance and the 1,400 pupils carefully examined. Suspicious ones were refused admission and investigated. . . . The whole situation was cleared up in a short time."

PROVIDENCE, R. I.

CHAPIN, Charles Value. The spread of scarlet fever and diphtheria in schools. American journal of public hygiene, 20: 813–17, November 1910. tables.

For the purpose of studying the incidence of these diseases in schools in Providence, R. I., sets of cards are kept—one set for scarlet fever and one set for diphtheria, with a card for each school. A table on page 816 shows the age distribution of the reported cases of scarlet fever and diphtheria in Providence for 21 years. The amount of disease increases until the first year of school attendance when it begins to fall off.

"While it appears to be true that the diseases under consideration rarely spread in schools, and that the schools are safer than the streets . . . it is probable that the rules in regard to the school attendance of children from families where these diseases exist, are in most of our cities, amply sufficient to prevent extension from reported cases. Disinfection of the school is, generally speaking, a useless procedure. The trouble comes not from the recognized cases but from the 'missed cases' and healthy 'carriers.' . . .

"The common drinking cup must go. The use of the slate encourages carelessness with the saliva. . . . The roller towel is almost as bad as the common drinking cup. . . . The use of modeling clay and sand, and much other kindergarten work, encourages personal uncleanliness. . . . If, however, the child is taught to wash its hands, and wipe them on its own towel, before touching the clay, and to keep the fingers out of the mouth while modeling he will learn that it is wrong to inflict his own saliva on another. By such teaching the spread of contagious diseases in school may be made even less than it is."

VALPARAISO, IND.

NESBIT, Otis B. Books as carriers of scarlet fever. American medical association. Journal, 59: 1526–28, October 26, 1912. table.

Conclusions:

"1. If books act as carriers, it is only immediately after being contaminated with the discharges of the patient; yet this investigation has failed to reveal a single instance of this kind. 2. Books that have been used by scarlet fever patients do not long contain the infection in such a way as to transmit the disease to man. 3. Any book which has been handled by a scarlet fever patient should be burned or fumigated."

Regarding epidemic of scarlet fever Valparaiso Ind. September 1908–June 1911, during which time "there were 400 cases, of which only 255 were reported to the city board of health, 145 were not reported and most of them were not subjected to quarantine regulations. Beginning in February, 1911, a special study of the epidemic was begun."

MEDICAL INSPECTION OF THE EYES, EARS, NOSE, AND THROAT.

GENERAL REFERENCES.

ALLEN, William Harvey. Eye strain. *In his* Civics and health. Boston [etc.] Ginn and company [°1909] p. 72–82. illus.

"For some time to come eye tests will find eye troubles by the wholesale in every industrial and social class, in country as well as city schools. In 415 New York villages 48.7 per cent of school children had defects of vision—this without testing children under 7—while 11.3 per cent had sore eyes."

ALLPORT, Frank. The examination of children's eyes, ears and throats. American school board journal, 41: 2, November 1910.

"This is a field that can be efficiently covered by the teacher, for . . . sufficient data will have been obtained to enable him or her to know that the child has passed either a satisfactory examination, or has some defect. . . . Examination consists in the ascertaining of a few simple facts as follows:

"1. Does the pupil habitually suffer from inflamed lids or eyes? 2. Does the pupil fail to read a majority of the letters in the No. XX line of the Snellen's test type with either eye? 3. Do the eyes

and head habitually grow heavy and painful after study? 4. Does the pupil appear to be cross-eyed? 5. Does the pupil complain of earache in either ear? 6. Does pus or a foul odor proceed from either ear? 7. Does the pupil fail to hear an ordinary voice at 20 feet, in a quiet room, with either ear? 8. Is the pupil frequently subject to 'colds in the head' and discharges from the nose and throat? 9. Is the pupil an habitual 'mouth breather?' If an affirmative answer is found to any of these questions, the pupil should be given a printed card of warning to be handed to the parent."

ALLPORT, Frank. The eyes and ears of school children. Medicine, 12: 258–68, April 1906.

Also in Vermont medical monthly, June 15, 1906; *in* Pediatrics, 18: 465–81, August 1906; *in* Internationales archiv für schulhygiene, 3:20-36, October 1906; *and in* American school hygiene association. Proceedings of the first, second, and third congresses. Published November, 1910. Springfield [Mass.] American physical education review, 1910, p. 218-31.

Read at third congress, 190 . Reprinted.

"In order to facilitate the work and bring it more fully before the profession, I secured at the New Orleans meeting of the American medical association the passage of the following resolution, both in the ophthalmological section and the house of delegates:

"Whereas the value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore, be it

"*Resolved*, That it is the sense of the American medical association that measures be taken by boards of health, boards of education, and school authorities, and, where possible, legislation be secured looking to the examination of the eyes and ears of all school children, that disease in its incipiency may be discovered and corrected.

"Since then these resolutions have been adopted by the Mississippi valley medical association and by the State medical societies of the following States: Minnesota, Colorado, Illinois, Montana, New York, Indiana, North Dakota, Rhode Island, Alabama, Michigan, Utah, South Dakota, Delaware, California, Massachusetts, Arizona, West Virginia, Kentucky, Louisiana, Nebraska, and Washington.

"The resolutions have also been adopted by the American public health association, by the State and provincial boards of health of North America and by the State boards of health of the following States: Kansas, Minnesota, Colorado, Wisconsin, North Carolina, Vermont, Illinois, Montana, New York, Indiana, Connecticut, Ohio, North Dakota, Rhode Island, Alabama, Pennsylvania, Maine, New Hampshire, Michigan and Utah. The resolutions have also been adopted by the State boards of education of the following States: Texas, Kansas, Minnesota, Colorado, Wisconsin, North Carolina, Vermont and Connecticut. Four State legislatures, Connecticut, Vermont, Colorado and Massachusetts, have incorporated this movement in a public law. . .

"Besides this the tests are being placed in operation . . . in hundreds of schools in America where they are not required by school authorities.

"Let me then ask you, and through you all boards of health and education, all legislatures, and all who are interested in the physical and moral welfare of our children, do you believe that bad vision and hearing constitute an important barrier to the reasonable and easy acquirement of an education? Do you believe that a vast number of children are thus embarrassed? Do you believe that a great benefit to the children, to society at large and mankind in general, would be effected if such physical defects could be detected and relieved? Do you believe that some such plan as I have proposed would be instrumental in largely relieving such defects. Do you believe such a plan to be practical, unobjectionable and inexpensive? . . . Then may I ask you still another question: Why do you not take up this work and carry it through?"

ALLPORT, Frank. A plea for the systematic annual and universal examination of school children's eyes, noses, and throats. *In* National education association of the United States. Department of superintendence. Proceedings, 1909. Published by the association, 1909. p. 112–16.

Discussion: p. 117–119 (Herbert Dana Schenck—New York State conditions regarding examinations)

Also in National education association of the United States. Journal of proceedings and addresses, 1909, p. 266-270; *in* Hygiene and physical education, 1: 228–33, May 1909; *in* Psychological clinic, 3: 67-70, May 15, 1909; *and in* Journal of the Minnesota State medical association and Northwestern lancet, 29: 347–50, August 15, 1909.

"About 50,000 American children are annually removed from school on account of physical inability to continue at work. . . . About 8,000,000 school children suffer from some eye defect, and about 8,000,000 from some ear, nose, or throat defect."

AYRES, S. C. Civic medical inspection of school children, with special reference to diseases of the eye, ear, and throat. Journal of ophthalmology and oto-laryngology, 6: 1–6, January 1911.

Also in Lancet-clinic (Cincinnati) 106: 652–54, December 23, 1911.

Brief historical references; and the work in Cincinnati, of medical inspectors (26 physicians) and the three school nurses who have supervision of 13 schools.

CHEATLE, Arthur H. The ears, nose, and throat of school children. *In* Kelynack, T. N., *ed.* Medical examination of schools and scholars . . . 1910. p. 179–91. tables.

Table given by Dr. Thomas Barr, of Glasgow, who was the first to draw attention to the subject in Great Britain. Shows the various results obtained by skilled observers in different countries up to September, 1889.

Statistics of defective hearing among school children.

Surgeon.	Place.	Children examined.	Found defective.	
			Number.	*Per cent.*
Sexton	New York	570	74	13
Weil	Stuttgart	4,500	1,501	33.4
Moore	Bordeaux	1,768	300	17
Bezold	Munich	1,885	414	22
Barr	Glasgow	600	166	27.7
Rohrer	Canton Zurich, 1899–1900	[1] 108,297		[2] 11.7
Cheatle	Hanwell, England, district schools, 1902.	[3] 1,000		about 50
Taussig	St. Louis County, Mo., 1909	2,000		7.3

[1] Who had reached school age.
[2] Having ears in some way affected.
[3] Ages 3–16. Adenoids present in 434 children; 57 had permanent perforation of drum of ear.

NOTE:—Use in conjunction with this table, the table of Dr. Taussig, Psychological clinic, 3: 152, Nov. 15, 1909.

CORNELL, Walter Stewart. The prevalence of eye defects [in school children] *In his* Health and medical inspection of school children . . . 1912. p. 578–84. tables.

Bibliography on the eyes: p. 584.

Contains data showing the progressive increase of myopia through the higher grades. Statistics of Boston and Philadelphia schools, University of Pennsylvania, and the German city schools.

CORNELL, Walter Stewart. The prevalence of eyestrain in children. Monthly cyclopaedia and medical bulletin, 1: 114–19, March 1908. tables.

Reprinted.

The reports of examinations of the eyes of school children in Philadelphia, New York, Boston, London (England) compared.

CORNELL, Walter Stewart. Prevalence of nose and throat defects and defective hearing. *In his* Health and medical inspection of school children . . . 1912. p. 584–90. tables. fig.

From review of about 6,000 children, the following table may be formed:

Table showing prevalence of nasal obstruction.

	Children of the well-to-do.	Children of the poor.
	Per cent.	*Per cent.*
Young children	12	25
Children over 10 years	6	12

"Probably from the local irritation of ill-ventilated rooms, and partly from the flabby tissues resulting from poor food, the children of the slums suffer from nose and throat defects in at least twice the proportion of the children of the better classes."

New York (State) Department of health. Eye, ear, throat, and teeth examinations in schools. *Its* Monthly bulletin, n. s. 7: 70–71, March 1912.

"In rural districts it is not feasible as yet to employ physicians to make the inspection, but . . . the department of health has sent out the necessary test cards and report blanks for distribution among

the teachers, 13,854 all told. Full directions for making a test of eyesight and of hearing, and for inspecting and reporting upon the condition of the mouth, throat, and teeth accompany each set of cards. Whenever a defect is discovered it is properly recorded and the parent of the child is notified . . . and advised to consult a physician. A full record is kept at the school, and duplicates are sent to the health department. These examinations are to be made during school hours and the district superintendents are to be held responsible to see that teachers carry out the printed instructions."

SHAWAN, Jacob Albright. School activities in relation to children's eyes. *See* Appendix B.

STANDISH, Myles. Should the examination of the eyes of school children be conducted by the teacher or the school physician? *In* American school hygiene association. Proceedings, 1911. Springfield, Mass., American physical education review, 1911. p. 98–101.

Also in American physical education review. 16: 243–46, April 1911. *Title:* Should the examination of school children be conducted by the teacher or the school physician?

"The examination by the school physician if limited to the card-letter test would be of very little more value than where it is conducted by the teacher. . . . If the doctor's examination is to be better than the teacher's, it must be conducted with belladonna in the eyes to prevent accommodation. Such an examination . . . has no certain relationship to the question in hand, viz, Are the child's eyes exerting a deleterious effect upon the child's school life?

"If then neither the examination with the test-letter card, nor an accurate scientific examination . . . is to be relied upon as indicating what children should be advised to use glasses, to what shall we look for the most important factor in this decision? In no other direction than to the symptoms."

WHITE, Daniel W. *and* Treibly, Charles E. A brochure on trachoma. Ophthalmic record, 21: 223–51, May 1912. figs.

Bibliography: p. 251.

"A comparative estimate of the number of known cases of trachoma amongst the Indians of Oklahoma could safely be placed at 60,000 to 70,000, or about 60 to 70 per cent of the entire population (Indian) of the State. It can also be safely estimated that from 60 to 80 per cent of the Indian population of the United States have trachoma.

During December, 1910, there were over 600 examinations made of eyes of the pupils at the United States Indian school at Carlisle, Pa. Of this number, there were 414 cases free of trachoma, 37 suspicious cases, and 149 known cases of trachoma. Males under 10 are more susceptible than females. Females over 10 have shown more susceptibility than males. This has been found to be the case in all Indian schools.

IN REPRESENTATIVE LOCALITIES AND INSTITUTIONS.

ARIZONA.

MARTIN, Alice. A year's work at the Eye hospital of the United States Indian school, Phoenix, Arizona. Southern California practitioner, 25: 410–12, September 1910. tables.

There were 444 boys, and 390 girls examined. The following table shows the results obtained:

	Boys.	Girls.
Normal	65	50
Suspicious	56	32
Acute trachoma	167	137
Subacute trachoma	145	141
Old trachoma	11	24

The number of pupils suffering from complications was 17. Two hundred and sixty-five operations were performed on boys; 269 on girls. Of the total number of boys and girls in the school, 75 per cent had trachoma.

CALIFORNIA.

REINHARDT, G. F. The Infirmary and the Department of hygiene. *In* California. University. Biennial report of the President 1908–1910. Berkeley, The University press, 1910. p. 125–29. (University of California bulletin, 3d ser. vol. IV, no. 4, January 1911)

Tabulation of the eye conditions of 850 students; eye-examination, 1909-10, has become a part of the regular physical examination given to all matriculants at the university.

	Men.	Women.	Total.
Normal	125	64	189
Hyperopia	172	73	245
Simple hyperopic astigmatism	165	95	260
Compound hyperopic astigmatism	11	11	22
Myopia	39	21	60
Simple myopic astigmatism	36	17	53
Compound myopic astigmatism	16	5	21
	564	286	850

From the above table it will be seen that only 22 per cent of the students examined were normal.

CONNECTICUT.

Bristol. Board of school visitors. Eye test. *In its* Annual report, year ending July 14, 1911. p. xxix. table.

Pupils tested	1,927
High-school pupils tested	220
Per cent defective	7
Per cent of high-school pupils defective	11

"Once in three years the eyes of the pupils in the public schools are tested according to directions furnished by the Connecticut board of education."

MASSACHUSETTS.

COUES, William Pearce. The results of the clinical throat examination of 212 school children. Boston medical and surgical journal, 162: 215, February 17, 1910.

The children examined were in 4 different buildings and 6 different rooms. The ages were from 6 to 15 years. About 50 per cent were native born, a large percentage being girls. Of the 212 children, 153, or over 72 per cent, showed marked chronic tonsillar hypertrophy—so marked in a number of cases that the tonsils practically met in the central line. Of the whole number examined, 103, or about 50 per cent, showed markedly carious teeth. Of the whole number, 141, or 66 per cent, showed enlarged submaxillary glands.

Of the 153 children with chronic hypertrophic tonsils, 89, or 58.8 per cent, showed marked dental caries; 120, or 77 per cent, exhibited marked enlargement of the submaxillary glands.

"In the large percentage of chronic tonsil cases . . . three factors act to a large extent as predisposing causes: 1. Poor home surroundings; lack of fresh air and sunlight. 2. Improper and insufficient food and neglect of the teeth. 3. The wretchedly unhygienic conditions existing in some of our public schools."

Fall River. School committee. Medical inspection [1907–1911] *In its* Annual school report, 1911. p. 15–18. table.

Year.	Examined.	Found defective in sight.		Found defective in hearing.	
		Number.	*Per cent.*	*Number.*	*Per cent.*
1907	13,225	2,637	20.6	543	4.1
1908	14,452	2,526	17.5	477	3.3
1909	15,371	2,209	14.4	442	2.9
1910	14,782	2,291	15.5	396	2.9
1911	14,523	2,164	14.3	333	2.2

"The most important occurrence of the year in this line was the establishment of free clinics at the Union Hospital."

Massachusetts. State board of health. Directions for testing sight and hearing (in accordance with Chap. 502, Acts of 1906, as amended by Chap. 257, Acts of 1910)

"1. Tests will be made as early in the school year as possible, preferably in September.

"2. Made under the most favorable conditions, as nearly as possible under the same conditions, preferably in well lighted rooms, in the early part of the day.

"3. Testing done by the teacher of the class, and supervised by the principal to see that the conditions of the test are as uniform as possible for the different classes.

"4. Children wearing glasses will be tested *with the glasses*, and if found normal will be so recorded.

"5. Examine all children, but record as defective only those whose vision is 20/40 or less, in either eye.

"6. Report to the State board of education the whole number of children examined and the number found defective according to the standard given in No. 5."

MISSOURI.

SNEED, C. M. A report upon medical inspection in the Jefferson City public schools. Missouri school journal, 25: 535–39, December 1908. tables.

An examination of the eyes, ears, throat and nose conditions of 1,000 white children and 100 negro children.

	Normal.	Defective in vision.
White	635	365
Negro	81	19

A comparison was made between the percentage of defects found in the 116 examined in the high school and in 147 in the lower grades. The children of the high school showed visual defects in 40.51 per cent, while the children of the lower grades 29.43 per cent. Other defects were found in the 1,000 white and 100 negro children, as exhibited in the following table:

Defects.	Of 1,000 white children.		Of 100 negro children.	
	No.	*Per cent.*	*No.*	*Per cent.*
Mouth breathing	242	24.2	16	16
Frequent colds, etc.	387	38.7	22	22
Pain after study	295	29.5	34	34
Wearing glasses	38	3.8	5	5
Eye defective:				
1 eye	138	13.8	7	7
2 eyes	227	22.7	12	12
Ear defective:				
1 ear	64	6.4	4	4
2 ears	13	1.3	3	3
Inflamed iris	175	17.5	11	11
Trachoma	83	8.3	1	1
Discharging ears	40	4.0		
Earache	113	11.3	17	17
Cross-eyed	30	3.0	2	2
Tonsils large	86	22.8	1	1
Abnormalities	10	2.6	6	6
Goitre	13	3.6	1	1

Careful throat inspection was made upon only 377 children. The tonsils were considered enlarged if they were somewhat larger than an almond.

There were 551 cards of warning issued to pupils for the various defects found—74 out of 433, or 17⅛ per cent, who reported having received cards, had consulted a physician.

This study, differently arranged and credited to Dr. Sneed and Guy Montrose Whipple, is also in Psychological clinic, 2: 234-38, January 15, 1909. The following table is from the latter publication:

	School work satisfactory.	School work unsatisfactory.
Vision good	469	166
Vision defective	228	137

TAUSSIG, Albert E. An investigation as to the prevalence of visual and aural defects among the public school children of St. Louis County, Mo. Interstate medical journal, 16: 721–31, November 1909. tables.

Also in Psychological clinic, 3: 149-60, November 15, 1909. Title: "The prevalence of visual and aural defects," etc.

Two thousand children were examined, about 30.6 per cent of whom had vision that was below normal in one or both eyes. A little over 14 per cent showed vision that was less than two-thirds of the normal in both eyes, children with vision less than half the normal in both eyes being a little less than 3 per cent of the total number examined.

Defective sight and hearing of public-school children (tables combined).

Year.		Visual defects.	Defective hearing.
		Per cent.	*Per cent.*
1870	Heidelberg	35.0	.....
1904	Edinburgh, Scotland	43.2	12.2
1907	Dunfermline	17.0	4.0
1907	Cleveland, Ohio:		
	Well-to-do district	22.4	5.2
	Congested district	71.7	1.8
1907	Massachusetts (omitting Boston)	19.9	5.8
1907	Boston and environment	30.7	7.7
1908	Boston	23.0	7.6
1906	New York City	31.3	2.0
1908	New York City, Borough of Manhattan	10.2	1.0
1909	Chicago	19.4	2.7
1908	Jefferson City, Mo.:		
	Either eye	38.5	7.7
	Both eyes	22.7	1.3
1909	St. Louis County, Mo.:		
	Either eye less than 20/30	30.6	[1] 7.3
	Both eyes less than 20/30	14.3	[2] 2.3
	Both eyes less than 20/40	2.8	.....

		Sex ratio.		Sex ratio.	
		Boys.	Girls.	Boys.	Girls.
1908	New York City	15.7	20.8	.....	.....
1909	St. Louis County	29.1	31.1	5.7	6.0
	Seriously defective	13.5	15.1	.....	.....

[1] Either ear. [2] Both ears seriously defective.

Conclusions derived from data of the children examined:

"1. Unrecognised or at least untreated defects of vision and hearing are nearly as common in our suburban communities as in large cities. Both call urgently for systematic medical inspection.

"2. Unrecognised adenoids, so extreme as to cause serious interference . . . were not found to be very common. In nearly 1 per cent of the children, however, the adenoids imperatively demanded operation. . . .

"3. Defective vision seems a little commoner among girls and defective hearing among boys. . . .

"4. In other communities a progressive increase in the prevalence of impaired vision was noted as the children grew older, whereas in St. Louis County the reverse was found to be true, both as regards slight and grave defects. . . . It does not, however, furnish an argument against inspection. . . . The fact that one-third of the children with spectacles wore unsuitable glasses is also suggestive in this respect.

"5. Our data show that to a certain, though not very great extent, the children with impaired vision or hearing progress more slowly in their school work than their normal fellow students. The evil effects of unrecognised physical defects go, however, far deeper than this. . . . Adequate medical school inspection would lead to the recognition and to a great extent, to the correction of such defects. . . .

"6. The marked divergence between the data obtained in different cities, or, in the same city, by different investigators, indicates the need for greater uniformity in methods of tabulating these statistics. . . . For statistical purposes it is important for the investigator to state just where he draws the line between defective and normal. As regards vision, hearing and adenoids, a division into slight and serious defects is to be recommended.

"7. In estimating the value of medical inspection of school children . . . the greatest benefit to be derived from inspection consists in the early recognition of contagious diseases and the prevention of school epidemics."

NEW HAMPSHIRE.

Manchester. School committee. [Medical inspection of elementary school children] *In its* Report, year ending December 31, 1909. p. 17–18.

Teachers annually test the eyes and ears, records being preserved.

Total tested	4,635
Defective vision	1,106
No vision in one eye	27
With one eye defective	359
Both eyes defective	720
With defective hearing	746
Deaf in one year	29
With one ear defective	364
Both ears defective	353

Of these 1,852 pupils found defective in vision and hearing, 823 are over age for their grades and 491 have failed one or more times to be advanced with their classes.

NEW YORK.

DRESBACH, M. Examinations of the eyes of college students. Medical record, 82: 190–95, August 3, 1912.

References: p. 195.

Cornell University. Examination of 3,126 enrolled men, and 360 examinations of women.

Men.

Percentage wearing glasses	27
Percentage wearing glasses constantly	3 or 4
Percentage of 842 wearing glasses needing change of lenses	40
Number blind or practically so in one eye	15
Number totally blind in both eyes (year 1911–12)	6
Percentage with weak accommodation (no glasses worn)	4
Total per cent with subnormal acuity	30
Percentage who have never consulted a specialist	40
Percentage with symptoms of eye strain (no glasses worn) approximately	25
Percentage showing symptoms, and glasses worn	22
Muscular imbalance of 5° or more (no glasses worn)	2
Nystagmus	1 case.
Diplopia	Several cases.

Women (360 examinations)

	Per cent.
Vision normal, both eyes	70
Hyperopic astigmatism	88
Myopic astigmatism	7
Unclassified astigmatism	3

Defects of 155 students from rural districts, attending for 12 weeks only.

	Per cent.
Hyperopic astigmatism	40
Myopic astigmatism	50
Unclassified	10

A questionnaire was sent out, and replies received from 106 institutions of learning, with the following results: Not requiring eye examinations, 22. Among these were 3 prominent schools of technology, 2 well known schools for women, and 1 great university. In about a dozen only is an eye specialist engaged. In 17 institutions estimates of students needing glasses ranged from 10 to nearly 100 per cent, the latter figure being from a Government school, "where, it is stated, practically every student wears glasses before he finishes his course."

SCHENCK, Herbert Dana. [Inspection in New York State of the eyes, ears, noses, and throats of public-school children] *In* National education association of the United States. Department of superintendence. Proceedings, 1909. Published by the association, 1909. p. 117–19.

"No systematic effort . . . for an annual record of the condition of the sight, hearing, and nasal operations has been made by even the most progressive cities [of New York State]. . . . At a conference of the health officers in the fall of 1906 . . . a plan, essentially that in vogue for ten years in Connecticut, for four years in Vermont, and for the last two years in Massachusetts, where the examinations are compulsory, was adopted."

Examinations were made by the teachers, and confined for that first year, to the incorporated villages. Of the 446 such villages, 425 made the tests.

"The number of pupils having their eyes, ears, nose, and throat examined in the 425 villages of the State was 105,767; 5,045 of these children were under 7 years of age and did not have their eyes tested. They, however, had their hearing tested and their nose and throat examined; 100,722 then had their eyes tested as well as their hearing and an examination of their nose and throat. A little less than 10 per cent of the 105,767 examined had defective hearing and earache or both with discharge from the ears." (Corrected from letter of Dr. Schenck of Jan. 22, 1912.)

VON SHOLLY, Anna I. Trachoma: Its prevalence and treatment, especially in relation to the New York City school children. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 115–24.

The school children of New York since 1902 "have been under constant and careful examination for this disease. Twice a year, an inspection is made of all the children of the public schools. All children whose eyes show an abnormal condition of the lower lids with lymphatic dilations and follicles (the upper lids are not examined by the school inspectors) are obliged to put themselves under the treatment of a physician and continue under treatment until discharged by him. They must show to the school nurse, twice a week, satisfactory evidence in the form of a dated dispensary card or a physician's certificate that they are under treatment. Children whose eyes show muco-purulent discharge are excluded from school until this has disappeared. . . . In 1902, the health department opened a free clinic and hospital for infectious eye diseases in the lower East Side—the district most infected. Since then, three additional free infectious eye disease clinics have been opened by the department. . . .

"The statistical report of the child hygiene division of the New York City health department is as follows: In 1902, 20 per cent of the children were affected; in 1908, 7 per cent; in 1909, 6 per cent; in 1910, 3 per cent.

"Depending on what we call by the name of trachoma, we may take our choice as to whether, for example, in 1910, there were 20,915 cases of trachoma or whether they were approximately 408 cases of trachoma and acute catarrhal conjunctivitis and 20,417 cases of varying degrees of folliculosis and follicular conjunctivitis.

"About two months ago, we started, experimentally, a free clinic in a room in one of the public school buildings . . . and twice a week all the children with infectious eyes from this school and the neighboring schools are brought for treatment in squads at an appointed hour during the school session."

PENNSYLVANIA

Pennsylvania. Medical society. Report of the Committee on trachoma. Pennsylvania medical journal, 13:58–59, October 1909.

Chairman, C. P. Franklin.

To about three hundred ophthalmologists a set of questions was submitted regarding trachoma. The following was included: "Is there, in your community, systematic examination of school children, or of employees in large establishments engaging recent immigrants?"

The answers showed that each ophthalmologist sees annually from 1 to 200 cases. Answers revealed the fact "that there was then no systematic examination of either children in the schools or adults in employment, particularly in the regions where so many alien-born exist."

Recommendations: "1. That medical inspection of schools and homes be established. 2. That medical inspection of alien employees be undertaken. 3. The introduction of a bill into the next legislature, declaring trachoma a disease requiring quarantine, such quarantine to be at the discretion of the proper medical authorities. 4. The subsequent introduction, in the same legislature, of a bill to establish a State trachoma hospital in or near Philadelphia. . . . 5. That this committee be continued, with power to act in carrying out the above recommendations."

POSEY, William Campbell *and* **McKENZIE, Robert Tait:** Results of the examination of students' eyes in the Department of physical education, University of Pennsylvania. American medical association. Journal, 48: 1010–13, March 23, 1907. figs.

Examination of 933 students, by "the ophthalmologist of the department . . . nine physicians, all trained ophthalmologists, and his assistants in various hospital services. . . .

"With the various classes divided into squads, these gentlemen prepared a short sketch of the ocular history of each student . . . regarding the existence of any known visual defect, headaches, ocular pain or fatigue after studying, or other symptoms which might be of ocular origin. Special inquiry was made regarding the wearing of glasses. . . . After these facts had been recorded on a card . . . the student passed to another assistant, who determined the range of accommodation and the degree of visual acuity . . . by the Snellen type. Another examiner then noted the external configuration of the eyes and the presence of any inflammatory condition or anomaly in their movements. On the same

position of these tests the student entered a dark room, where . . . the ophthalmologist to the department carefully estimated . . . the state of the refraction and studied the condition of the interior of each eye.

"Of this total, 14.70 per cent were . . . myopic, while the remaining 85.30 per cent were either hypermetropic or emmetropic. Among 633 students in the two lower classes, 87.25 per cent were hypermetropic and 12.75 per cent were myopic, while of 261 students in the upper classes, 80.25 per cent were hypermetropic and 19.75 were myopic.

"Five per cent more of myopia was found in the professional department in scholars of a similar age than in the college department. . . . The average age of all . . . was 21.4 years, and the statistics showed an increase of about 2.5 per cent of myopia for each year during the four years of college life.

"Six hundred and nine had full visual acuity in each eye, 94 in but one eye, while 180 had subnormal vision in both. Three hundred and three students wore glasses; of these, 217 were hypermetropic and 86 myopic. Eighty-seven complained of headache. Of this number, 47 wore glasses and 40 did not. Of those complaining of headache, 7.59 per cent had subnormal vision, while the remaining 92.41 per cent had full visual acuity. . .

"Of the 883 students examined, 58, or 6.68 per cent, had spinal curvature or scoliosis, and this condition was found 45 times among hypertropes and 10 times among myopes. Of the total number of students with spinal curvature, this vision of one eye was perceptibly lower than its fellow in 13.79 per cent. . . .

"As weak eyes are often associated with a physical condition which is below par, suitable exercise of a general nature is . . . insisted on for those who are so handicapped. . . . Violent exercises are forbidden myopes, and the endeavor is made in this class of subjects particularly to develop the chest and to impart a correct standing posture for the avoidance of scoliosis."

WESSELS, Lewis C. The standing in class of children with defective vision. Teacher, 16: 299–300, December 1912. chart.

The work of the Municipal eye dispensary, Department of public health and charities of Philadelphia.

There were examined for eye defects, "in the past four years, 5,146 children; . . . 3,695 or 72 per cent were backward, due principally to their defective vision, as the majority . . . started to progress after receiving proper glasses.

"The following table graphically shows the ages and grades of the children refracted at the Municipal eye dispensary.

Ages and grades of children.

Grade.	Age of pupils.												Above normal average age.	
	6	7	8	9	10	11	12	13	14	15	16	Total.		
													No.	*Per ct*
8	.....	.....	.....	.....	.....	.....	.....	8	12	7	6	33	13	40
7	.....	.....	.....	.....	.....	.....	7	21	20	10	1	59	31	53
6	.....	.....	.....	.....	1	16	54	82	39	10	3	205	134	65
5	.....	.....	.....	1	39	112	183	141	55	21	.....	552	400	72
4	.....	.....	.....	56	196	235	264	224	69	15	1	1,060	808	76
3	.....	1	88	218	291	279	227	135	47	17	1	1,294	997	77
2	1	68	248	278	276	150	110	62	36	8	1	1,236	921	74
1	134	182	159	90	69	37	19	11	7	1	6	707	391	55
Total	135	251	499	638	863	829	864	684	285	89	19	5,146	3,695	72
Above normal	.....	.....	160	368	637	701	893	655	273	89	19	3,695	.....	.....
Average age per centage	.....	.....	32	57	73	85	93	96	97	100	100	72	.....	.....

Figures on the broken lines represent the position of the normal average school child.

"There are many interesting features connected with this table that are worthy of study. The 3,695 backward children represent a collective or a composite loss of 8,434 years or a money loss of $295,190, based on the actual cost of education, $35 per annum in Philadelphia. The cost to the child was considerably more.

"1,170, or 23 per cent, were in the average grades, and only 281, or 5 per cent, were above the average grades.

"The majority of the children were below the fourth grade; 4,297, or over 83 per cent, were below the fifth grade; only 1,009, or 27 per cent, were above the third grade; only 849, or 16.5 per cent, were above the fourth grade; only 297, or 5.75 per cent, were above the fifth grade; only 92, or 1.78 per cent, were above the sixth grade; only 33, or 0.64 per cent, were above the seventh grade."

TENNESSEE.

MINOR, James L. Some impressions of certain eye affections in the negro, as compared with the white race. Ophthalmology, 7: 36–38, October 1910.

Examination of the eyes of 1,849 negro, and 3,181 white pupils of the public schools of Memphis, Tenn. Results showed that refractive errors were just one-half as frequent in the negro as in the white pupils; proportion of normally seeing blacks 2½ times greater than whites; badly seeing negroes 1 to 15, badly-seeing whites 1 to 6; omitting uncorrected myopic whites, badly seeing whites were 1 to 10; no case of myopia found in the negroes.

UTAH.

BATES, Edgar. Eye strain among public school children. Ophthalmology, 8: 188–92, January 1912. chart.

Of two schools of Ogden, Utah, 890 were examined for eye defects. Those suffering from eyestrain, sufficient for glasses, numbered 184, of whom 134 complained of headaches; 57 of blurring words; 20 of sensory symptoms, as "smarting"; 21 of frequent lachrymation; 2 of seeing double; 3 of dizziness; 2 of spots before the eyes; 11 of difficulty of reading from blackboard; 17 of blepharitis; 17 of scales at roots of eyelashes.

"The question is not settled even with the wearing of appropriate lenses. It is really a question of preventive medicine . . the question as to the necessity of medical examination of all public school children."

MEDICAL INSPECTION OF TEETH—DENTAL CLINICS.

GENERAL REFERENCES.

CORLEY, J. P. Oral hygiene. Inauguration of the present movement. Dental cosmos, 52: 1117–20, October 1910.

Describes the work of the National dental association's oral hygiene committee, which was commissioned to go into the public schools of the land and instruct the teachers and pupils in the care of the teeth and mouth. The writer says: "We undertook to put the work into cooperation of the dentists throughout the land; and . . . sent letters . . . to men who were conspicuous in their associations and asked if they would go into the public schools and present the matter to teachers and pupils, but we found that not one man out of ten would volunteer to to so. . .

"The general plan consisted, first, of having dental inspection made in the schools throughout the land . . . . Many of the State associations have volunteered to do this. A triple chart record of the conditions which they find is to be made, one to be given to the National association's committee, one to the school board, and the third to the child, to be taken home to his parents. These charts show the actual conditions of the mouth.

"The examinations which have been made so far show that between 96 and 97 per cent of the mouths of school children need dental attention.

"After the inspection is made, the next thing is to establish a free course of lectures . . . . There are three sets of lectures—one for children, one for mothers, and one for the general public. After these lectures, free dental clinics are established where all children of the indigent poor can have free dental attention.

"The National committee has placed in my hands, as chairman of the southern branch hygiene committee, some funds, together with three clinical equipments to be used in this territory. These cost from $750 to $1,000 each, and consist of a complete dental office outfit . . . . Material is furnished, and to each child is given a tooth-brush and a package of dentifrice, and shown how to use the same."

GALLIE, D. M. The time, the place, and the work. Dental review, 25: 563–74, June 1911.

List of cities giving attention to school children's teeth: p. 566. Results of a questionnaire.

McCREARY, J. P. Dental inspection of public school children—the need of education of the masses along dental lines. South Carolina medical association. Journal, 6: 457–61, September 1910.

"The child's health, mental and physical, is a national asset . . . . Nothing can stop the adoption of dental inspection. It must come."

The writer says it is estimated that 4 children only in 100 have good teeth. "These estimates and statistics are alarming. A wise plan . . . would be to give these facts the widest publicity possible. This can be accomplished by (1) lectures, (2) pamphlets, (3) through newspapers, (4) examination of children's teeth in the schools."

National dental association—Southern branch. Report of committee on oral hygiene. Dental cosmos, 52: 1103–05, October 1910.

Chairman, J. P. Corley.

"Our committee proposed to establish hygiene headquarters in one representative city, in as many of the cities in the southern territory as we could reach . . . . To this end the chairman was commissioned to visit these cities and endeavor to get the local societies to undertake the work of organizing their cities after the Cleveland plan.[1] This plan consists in making a dental inspection of all the public schools, delivering a course of lectures in the schools, and establishing and maintaining a free dental clinic where all the children of the indigent poor who are public school pupils can have free dental service. . . .

"It is the intention of the committee to submit at the Denver meeting, a plan whereby every section of the country can be effectively and systematically reached with the gospel of oral hygiene."

WOODRUFF, Clinton Rogers. The city and the children's teeth. American city, 6: 479–81, February 1912.

Philadelphia's school dental clinic, city hall, has one chair; opened in October, 1910. More than 3,500 children were treated during its first year. Newark dentists maintain 2 dental chairs. Rochester, N. Y., dispensary was maintained in a public school, treating in one year, 1,700 children. New York City has 18 clinics distributed through the 5 boroughs; of these, 3 are maintained by the Children's aid society and the others are connected with general dispensaries or dental colleges. In recent examination of 400,000 pupils, New York City schools, it was found that nearly 300,000 needed dental treatment.

IN REPRESENTATIVE CITIES.

CONNECTICUT.

WATERBURY. Board of education. Inspection of teeth. *In its* Annual report, January 1, 1910–January 1, 1911. p. 17–21. tables (of eight public schools)

Begun in June, 1910, by the Waterbury dental society, systematic inspection of teeth of all public school children of Waterbury.

Summary: Grades 2–9.

Total pupils		3,736
Condition of mouth	(good)	2,007
Do	(bad)	1,735
Condition of gums	(good)	2,906
Do	(bad)	853
Use of brush	(yes)	1,646
Do	(no)	2,100
Teeth filled	(yes)	589
Mal-occlusion	(yes)	1,679
Teeth decayed		19,912

(5½ per cent to each pupil.)

ILLINOIS.

East St. Louis. Board of education. Dental inspection. *In its* Annual report, 1910–11. p. 48–52.

The East St. Louis dental society, through its committee on oral hygiene and prophylaxis, reports its initial examination of 4,796 white children, and 432 colored.

Rules and requirements for examination (p. 49–51):

"First. Men must report at schools at 8 a. m. that they may get ready for the work before school opens, it being necessary to explain to the teacher what we expect and how they can aid you.

"Second. Each examiner must have an assistant to help keep records and care for instruments.

"Third. Each examiner must provide the following: (1) Only three mouth mirrors. (2) Two pairs pliers and lead pencil. (3) Cotton holder and cotton. (4) One alcohol lamp for warming mirrors for use. (Dries off alcohol and also prevents condensation of breath.) (5) Two glass tumblers, one for carbolic solution and the other for alcohol. (6) One dish for soap and water for scrubbing mirrors. (7) One cake of toilet soap. (8) Towels and napkins. (9) Carbolic acid and alcohol. (Furnished by the board.) (10) Files will be furnished for filing blanks when finished by assistant. (By the board.)

"Fourth. Examinations must be made by mirror only.

"Fifth. No examination with explorers will be permitted.

"Sixth. In marking the records, follow the chart.

"Seventh. If fair, mark the letter 'F'; if in bad condition, mark the letter 'B'. Mark same for the condition of the gums. If they use toothbrush, the word 'yes' or 'no'.

"Eighth. In marking diagram, start at upper right hand side of mouth, which corresponds with No. 1 of the permanent teeth and letter 'A' of the deciduous teeth. If cavity is found, simply draw a

[1] See under Medical inspection of teeth and dental clinics.

line through tooth on the chart. If two or three cavities are found, draw a line through tooth lines through tooth on the chart.

"Ninth. Instruments must be cleaned in soap and water, and immersed in carbolic solution until needed; then dip in alcohol bath and pass through flame of lamp to dry and warm, but not hot enough to burn the child's mouth.

"Tenth. The blanks are to be placed in the hands of all children when starting work, for them to fill in name, age, school, and grade."

Number of white children examined		4,796
Those having brush	45 per cent	2,196
Not having brush	55 per cent	2,600
General condition of mouth:		
Good	33 per cent	1,683
Bad	11 per cent	547
Fair	56 per cent	2,568
Teeth needing cleaning	75 per cent	3,531
Irregular	18½ per cent	893
Previous attention	7 per cent	336
Permanent teeth extracted		102
Teeth needing attention		10,913
Temporary teeth needing extraction		1,816

A number of Hutchinson teeth, teeth with erosion, cleft palate, bad tonsils, and adenoids.

Lincoln School.

Number of colored children examined		432
Those having brush	30 per cent	132
Not having brush	70 per cent	300
General condition of mouth:		
Good	25 per cent	100
Bad	20 per cent	98
Fair	55 per cent	234
Teeth needing cleaning	85 per cent	384
Irregular	53 per cent	.....
Teeth needing attention		1,276
Permanent teeth extracted		31
Temporary teeth needing extraction		113
Hutchinson teeth		13

INDIANA.

NESBIT, Otis B. Dental inspection at Valparaiso, Indiana. Oral hygiene, February 1911. figs. tables.

Reprinted.

Inspection of kindergarten, grade, and high school pupils, made by the dentists without compensation. Results were tabulated. A dental hygiene exhibit was installed in each school. The dentists put the teeth of children of one grade in condition free, for those unable to pay.

TABLE 3.—*Showing number of cavities in permanent teeth and teeth in which they occur.*

Age.	Total.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	22
First molar	1,3[illegible]	36	49	127	159	166	151	113	142	149	99	91	62	32	11	1
Second molar	564	....	....	....	....	2	10	23	77	96	103	115	79	40	18	1
Third molar	14	....	....	....	....	....	....	....	....	....	....	1	2	7	4	....
Incisors	289	....	....	8	5	8	24	21	30	55	49	44	26	17	3	....
Bicuspids	320	....	1	4	9	4	4	17	43	49	51	56	45	29	5	....
Cuspids	23	....	....	....	....	....	....	....	....	4	2	10	6	10	2	....

By the middle of December, "The latest teachers' reports show that, of 772 pupils, 288 have had all work finished; 123 are being treated now, but their work is not completed. When it is, 411 pupils, or 53 per cent, will have hygienic mouths, and there are five school months yet to come."

NOTE:—The following is of interest regarding Dr. Nesbit's experimental work:

Scarlet fever and dental hygiene in Valparaiso, Ind. Indiana State board of health. Monthly bulletin, 15: 33, March, 1912.

During the epidemic of scarlet fever in Valparaiso, Ind., Dr. Otis B. Nesbit undertook to control its spread by the care of the school children's mouths and teeth; inspection was made without pay by the local dentists. In 875 mouths inspected, 4,796 cavities were found: 3,197 in the temporary teeth, 1,579

in the permanent, and but 116 of the 978 pupils, free from decayed teeth. The cleaning of the mouths of the school children was followed by a subsidence of the epidemic and a notable improvement in efficiency and general health. Work for teeth free to pupils too poor to make payment.

MASSACHUSETTS.

Boston. The Forsyth dental infirmary for children. Washington, The International congress for hygiene and demography, September 1912. [Boston, Massachusetts, The Wood, Clarke press] n. p. illus. tables. plans. 8°.

Founded by John Hamilton Forsyth and Thomas Alexander Forsyth, in memory of their brothers. Incorporated, 1910, by a special act of legislature; it "represents the first attempt on adequate scale to satisfy the requirements" [of the acute dental needs of children]. "It will offer opportunity to all deserving children under the age of 16 to obtain freely expert advice and care for their mouths. . . . Its functions will include not only care of the teeth, but also related oral conditions, including defective palates, adenoids, etc. . . . It will have to do in great part with the prevention of defects by oral prophylaxis. . . . It is expected to furnish valuable practical teaching in oral hygiene. . . . A research fellowship has been established."

Brookline. School committee. [Work done in dental hygiene during the year 1910] *In its* Report for the year ending December 31, 1910. p. 32–34. .

Pupils of primary and grammar schools, Brookline, Mass. An increase of 12 per cent in the number of mouths rated in good condition, and a decrease in number of mouths rated in poor condition, of 30 per cent as compared with the first examination held January 28, 1907 (Dr. W. M. Potter).

KEYES, Frederick A. Institutional dentistry. Methods. Results. Boston medical and surgical journal, 167: 118–20, July 25, 1912. tables.

Dr. Keyes was requested by the Mother Superior of St. Vincent's orphan asylum, Boston, in November, 1910, to establish a dental infirmary for the care of the children's teeth. Two children were installed as assistants, a great aid in inspiring confidence in the children needing treatment. Monthly lectures were given to the upper grade children, in the schoolroom, and they were required to write compositions after lectures, as aid to the hygienic teachings. Morning and evening tooth drill was instituted, prize given to child with cleanest mouth at end of month, separate brushes and tooth powder placed in cabinet containing 250 compartments. These were inspected monthly. Every three months the children were lined up and inspected by the dentist, a separate mouth stick being used for each child—just taking two hours to inspect the children in this manner.

The following statistical table shows the "relation of oral prophylaxis to infectious diseases:

Record of infectious diseases in St. Vincent's Asylum.

	1907-8	1908-9	1909-Nov., 1910	Nov., 1910-Apr., 1911	Apr., 1911-May, 1912
Diphtheria	6	2	1	0	0
Mumps	8	3	10	4	0
Scarlet fever	17	8	12	8	0
Pneumonia	3	5	4	6	0
Measles	24	50	40	25	0
Tonsilitis	19	16	8	3	0
Whooping cough	7	2	2	0	0
Chicken pox	15	17	10	6	0
Typhoid	0	0	0	0	0
Croup	4	0	0	0	0
Spinal meningitis	0	0	0	0	0
Scarlatina			0	0	0
Bright's disease (acute)					0
Hemorrhage					0
Tuberculosis of eye					1
Tuberculosis of lungs					1
Total	103	103	87	52	2

"In the year 1908-9 the home was in quarantine for over three months—an epidemic of scarlet fever of over 75 cases.

"A comparison . . . will show that in six months after work was begun . . . the ratio of infectious diseases was reduced 59 per cent; and that in the subsequent year this ratio was reduced to approximately 2 per cent. . . .

"Is this absolute elimination of disease for a period of twelve months a coincidence? It may be so. . . . But certainly no such condition ever existed in St. Vincent's asylum prior to the installation of a dental infirmary."

MICHIGAN.

BUNTING, Russell W. Report of the examination of the mouths of 1,500 school children in the public schools of Ann Arbor, Michigan. Dental cosmos, 51: 310–22, March 1909. tables.

A report of examination made in 1906, 1907, for the compilation of various dental statistics in connection with anthropological measurements made upon the same children by Dr. Robert Bean. Examinations were made of 1,525 children, from 5 to 17 years of age. Two kinds of records were taken, a dental chart and an anthropological chart.

"From the data thus collected we endeavored to ascertain whether or not there were any correlations between the child's physical or mental development and the time of eruption of the teeth or the amount of dental caries present; also whether the caries and the teeth eruption were influenced by the type of the individual."

The distribution in the mouth of the 2,068 carious teeth noted (negroes omitted) is shown, there being in the lower jaw 1,167 cases of caries as against 901 in the upper jaw; "in the lower right first molar, 10 per cent of the number erupted at 6 years of age were found to be carious. The percentages steadily increase . . . until in the sixteenth year there are in the upper jaw from 25 to 40 per cent of carious first molars . . . more than one in every three examined, and in the lower jaw the same tooth at that age has 70 per cent affected, or two out of every three examined. . . .

"The upper incisors show a steady increase in their percentage of caries from the eleventh to the sixteenth year, and at the latter age the centrals have the very high percentage of 35, while the laterals show about half that number. The lower incisors exhibit but little caries at any of the ages examined.

"In the bicuspids there appears to be decided advance in the number decayed between the fifteenth and the sixteenth year, and the upper bicuspids at all ages exhibit about twice as many cases of caries as are found in the same teeth in the lower jaw.

"The canine is seldom decayed in either upper or lower jaw, but the second molar at the age of 16 has between 20 and 30 per cent of the total number affected by caries."

A special study of the 60 negro children of Ann Arbor, and the 112 negro children and 61 white children of Detroit, was made. In the whites, 9.2 per cent of the teeth erupted were decayed; in the negroes, 6.2 per cent.

Percentage of caries in the various types.

Types.	Boys.	Girls.
Blondes	8.1	6.8
Intermediates	7.5	11.7
Brunettes	7.7	9.2
Negroes	2.3	1.4

Other tables are: Stature weight in relation to eruption: Boys, girls. Stature weight in relation to caries: Boys, girls. Brain weight in relation to eruption: Boys, girls. Brain weight in relation to caries: Boys, girls.

Teeth of girls erupt earlier than boys. In both sexes, individuals large for their age have more teeth present than the undersized or normal. The increase in the caries of the large children over that of the small is so marked, that it is probable there is some cause other than the presence of more teeth.

A great many children with large heads, who were said to be very advanced mentally, were found upon examination, often with mouths full of caries and irregularities. There were 142 cases of malocclusion; 18 cases of very badly developed teeth, and between 30 and 40 cases showing pits or grooves in the incisors and bicuspids.

NEW YORK.

BARLOW, Peter C. Free dental clinic for children in the city of New York. Oral hygiene, 1: 859–62, November 1911.

Out of 266,426 children examined during 1910, in the public schools, 94,630 were found to have defective temporary teeth, while 69,620 had more or less serious defects of the permanent teeth. Over 20,000 cases have been treated.

FAIRCHILD, Beatrice C. The origin, history and progress of some of the dental clinics in New York City. Items of interest, 32:524–29, July 1910.

Prominent dental clinics are the St. Bartholomew's, Children's aid society, Industrial school, and Sullivan street school. At 449 East One hundred and twenty-first street, January 15, 1910, was inaugurated the first free dental clinic for public school children in the city of New York. Up to the present time the work is confined to public schools Nos. 89, 120, and 78.

KNOPF, Siegmund Adolphus. Dental hygiene for the pupils of public schools. New York medical journal, 96: 617–21, September 28, 1912. tables.

Reprinted.

A report on the facilities offered by New York public dispensaries for the dental care of school children. Letter sent to superintendents of the 34 important general and special dispensaries, asked four questions as follows:

"1. Does your dispensary have a dental department?

"2. If so, how many dental surgeons are in attendance, and for how many hours a week and at what time are they engaged in giving their services?

"3. Do the patients have to pay for the material for filling teeth, etc., or is it given gratuitously?

"4. If there is no dental service attached to your dispensary, would you be willing to establish one and arrange special hours for school children so that the time for visiting the dispensary may not conflict with school hours?"

The 33 answers appear in full in the report, of which the following is a summary:

Have dental facilities	15
Have no dental facilities	18
Are willing to establish dental department	8
Are unwilling or unable to establish one	9
Have asked for suggestions with a view to establishing one	2
Do only extracting	5
Do also filling	7
Do work gratuitously, or charge those able to pay	8
Charge for material used	7
Have hours suitable for school children	7
Have hours unsuitable	7
Are willing to increase or change hours	6
Are unwilling or unable to change hours	2
	2

To the report comprising sixteen dispensaries independent or attached to hospitals, we must add that there exist three dental clinics maintained by the Children's aid society, kept fully employed with the care of the teeth of the children attending the society's schools. There is also one free dental clinic, being the health department's institution.

Rochester. Board of education. [Dental clinic established in the school building no. 14, by the Rochester dental association] *In its* Report, 1908–1910. p. 21, 22, 73.

In operation since February 23, 1910; probably the only school dental clinic in the world, in a school building. For the benefit of children of parents unable to pay for dental work. Permission granted to the society to open a second dispensary at school No. 26.

OHIO.

Cleveland. Board of education. [Report of the oral hygiene experiment made in the Marion school] *In its* Official proceedings, February 27, 1911. p. 44–59.

See also p. 42-43.

Reports of the oral hygiene committee of the National dental association, and others.

"With 97 per cent of the public school children in need of care and treatment, and with the worst oral conditions showing an improvement of from 37½ to 50 per cent in working efficiency, would it not be conservative to consider that with all . . . the mouths in good first class condition that there might be an average increase of at least 10 per cent in working efficiency for all the children in the schools? . . .

"The records of 1909 and 1910 show a registration of practically 65,000 pupils in the elementary schools and . . . we would show an expenditure of $170,625 a year to educate children handicapped by faulty oral conditions; but, in making the above estimate, our committees placed their percentage at a figure which they are positive is less than half of what actual tests would show. And, if we double the above amount we find that we are spending $341,250 per year to overcome the handicap of faulty oral conditions."

See also: Tabulations of the effect of dental care on the mental powers of the dental class, in Marion school, Cleveland, Ohio. Dental brief, 16: 779-782, October 1911.

EBERSOLE, W. G. A school "educational campaign" for oral hygiene of the National dental association.

Abstract of a lecture.

Abstract in American school board journal, 41:17, 18, 32, 34-35, 38, November 1910. Report form.

"In the public school, our educational system proposes, first, to make a cursory examination of each child, sending into the home a record of that examination, and bringing the parent or guardian a knowledge of a faulty oral condition. . . .

"The second step . . . is to put into the schools, when the examiner has finished and the parents and pupils are prepared for them, a system of lectures which explains the purpose, use, care and and treatment of the mouth.

"Third . . . is the establishment of the dental clinic . . . to make possible the securing of data which will show the value of the healthy oral conditions as related to the working efficiency of the child from the economic side of the question . . . from the school reports of the pupils, preceding and following treatment."

In the Cleveland, Ohio, Marion school, an experimental class was formed, of 40 boys and girls selected as having the worst oral conditions of all the pupils. Their school records for the six months preceding the test were taken, two psychological tests made before we began our work; the children furnished with toothbrush and powder and a dental nurse placed over them. Test meals given, the teeth all treated and filled, and a $5 gold piece offered as prize to each child faithfully carrying through the conditions of the test. Two psychological tests will be made during the time of test; and two will be made during the six months following treatment, with the school records, "and from these records it is expected to secure evidence which will show the value of dental service in dollars and cents."

NOTE:—For results, see following references.

Report of scientific experiments conducted in the Cleveland public schools for the purpose of ascertaining the value of healthy conditions of the mouth. Experiments conducted under the auspices of the National dental association, the Ohio State dental society, the Cleveland dental society and the Cleveland board of education. Cleveland, Ohio, Published and distributed by the National mouth hygiene association, April 1, 1912. 35 p. illus. tables. 8°.

Chairman of Oral hygiene committee of the National dental association, W. G. Ebersole, M. D.

In June 1909, 10 dentists and 10 nurses or attendants, began the inspection of the mouth conditions of the 846 children of the Marion school, Cleveland; out of the 846, but 3 were found to have teeth in perfect condition. Out of the entire number of dental charts, 40 were selected, as representing the worst mouth conditions, for the experiment. (1) They were to have their teeth put into perfect condition. (2) They were to brush their teeth carefully three times a day. (3) They were to masticate their food properly, not using liquid with solid food. (4) They were to attend any and every meeting of the class called and to conform to regulations laid down.

In mental efficiency the children made gain of 99.8 per cent shown by psychological tests; one given in May, one in June, one in August and one in September, 1910; last two given on the 4th and 10th of May 1911. Longest time spent on one phase of the work during a test, was less than three minutes. The children who needed the improvement most were the ones who made the greatest gains.

Individual records given.

WALLIN, John Edward Wallace. Experimental oral euthenics: An attempt objectively to measure the relation between community mouth hygiene and the intellectual efficiency and educational progress of elementary school children. Dental cosmos, 54: 404–13, 545–66, April, May 1912. tables. graphs.

Reprinted.

"The conclusion is strongly suggested that the desirability of establishing dental clinics in the public schools, for free inspection and treatment, should present itself to the taxpayer as a plain business proposition; . . . the paying of proper dividends on the capital invested in the schools. . . .

"We started out with a class of retardates and repeaters. During the experimental year only one of the 27 pupils failed of promotion. According to the best estimates there are 6,000,000 retardates (pupils over age for their grades) in the public schools of the United States. . . . About one-sixth are repeaters (pupils who must spend more than one year in one grade). It costs the country annually $27,000,000 to educate every sixth child over again; i. e., a second, third, or fourth time in the same grade. (Ayres)

"During the experimental year not a single truancy card was made out to these 27 pupils. . . . On the psychological side, the class showed an improvement . . . which amounted on the average to about 50 per cent. That a large part of this increased efficiency was *directly due to the mouth orthogenics* is attested by the parallel pedagogical improvement made by the pupils. . . . An efficiency improvement of 10 per cent . . . would amount to one school year in ten . . . and in the aggregate would save millions of dollars annually to the taxpayer."

WALLIN, John Edward Wallace. Experimental oral orthogenics: An experimental investigation of the effects of dental treatment on mental efficiency. Journal of philosophy, psychology and scientific methods, 9: 290–98, May 23, 1912.

The Cleveland experiment annotated elsewhere.

PENNSYLVANIA.

HARPER, W. F. Oral conditions in children as causative factors in disease. Dental cosmos, 51: 196–200, February 1909.

Examination of 247 public school children, Montoursville, Pa. Of 51, ages 6 and 7 years, but 8 had absolutely perfect first permanent molars. Of a total of 1,036 deciduous and permanent teeth, 636 were

defective; in 25 children the number of defective teeth exceeded the intact teeth; 8 children used toothbrush daily, and 4, occasionally.

In the 86 children, ages 8 to 11 years, of a total of 1,781 teeth, 627 were carious; about 1 pupil out of every 7 used the toothbrush daily.

In the 110 children, ages 11 to 15 years, of a total of 2,516 teeth, 636 were defective; toothbrush used occasionally by the majority of the children. In 25 of them, from 2 to 4 first permanent molars were decayed beyond help; 15 had good first permanent molars, nearly all filled, as well as the full number of teeth for their respective ages.

Those children whose deciduous teeth had received attention, showed healthy mouths, and "as far as could be learned, they possessed keen mental development. . . .

"In the children examined a number gave evidence of toxic infections. They were pale, listless, apathetic, gave a history of headache, and were unable to cope with their studies. In some pupils . . . from 1 to 3 years behind their proper grade, actually repulsive conditions of the mouth existed. These unfortunates were being deprived of their measure of education, besides endangering the health of the school by reason of their susceptibility to infectious disease."

McCULLOUGH, Piercy B. The Southwark school dental dispensary. Teacher, 16: 133–35, May 1912. illus.

Opened January 22, 1912, a "municipally operated dental dispensary" in the school. The volunteer organization of dentists, rendering service for 15 months at the city hall (opened Oct. 5, 1910) were succeeded on January 1, 1912, by a paid corps of eight legally qualified dentists, each serving one-half of every working day.

[Pittsburgh] Dental and oral hygiene in our public schools. Pittsburgh school bulletin, 3:24–25, May 1910.

Of the 732 children examined in two public schools, 9 mouths found in good condition; 2,909 diseased teeth; 3 children who used toothbrushes.

Reading. Board of education. Dental inspection. *In its* Annual report, 1910–1911. p. 11–12.

The Reading dental society, 1910, detailed 25 of its members for the inspection—8,925 pupils being examined. Less than 3 per cent were found to have perfect teeth, only 4,849 had ever used a toothbrush, but 1,209 had ever been to a dentist, and 1,094 had had permanent teeth extracted. Permanent teeth cavities to the number of 28,548 were found.

In 18 months the free clinic treated the teeth of 275 pupils.

The Reading free dental dispensary is the first reported in the State of Pennsylvania.

Work of the Reading dental society, operating successfully for three years, a free dental dispensary. Examination was made of the mouths of the first grade public school children, with results as follows:

Number examined	2,010
Green stain	1,436
Gums abnormal	93
Mouth breathers	140
Cavities in permanent teeth	2,907
Number of putrescent pulps	1,162
Number of exposed pulps	580
Use of toothbrush	706

(Tables with letter from Dr. H. W. Bohn, dated August 21, 1912, U. S. Bureau of education, Division of school hygiene and sanitation.)

SCHLEGEL, George S. The Reading free dental dispensary. Psychological clinic, 3: 249–54, February 15, 1910.

Organized by the Reading dental society, the first man reporting for duty on June 2, 1909. In less than five months, with two of unavoidable delay, the Free dental dispensary was founded, equipped and paid for. Equipment is modern in every particular. The patients are received through the Associated charities, from the public schools, and the general public, the teachers being provided with blanks to be filled out by them for school children. Hours, 9 to 12; 2 to 5; Saturday afternoons excepted.

Dental inspection to begin in the public schools with the September session, 1910.

PHILIPPINE ISLANDS.

OTTOFY, Louis. Dental clinics in Manila: Schools, prison hospital, and orphanage. Dental cosmos, 52: 887–93, August 1910. tables.

Bibliography: p. 893 (of author's own papers and reports).

First free dental clinic in Manila, January 1904 (Report in Fourth international dental congress. Transactions, 1904) maintained in connection with St. Luke's hospital.

The school clinic, begun January 10, 1910, "is conducted absolutely without cost to the pupils and the school authorities. . . . The work is commenced at half-past seven or eight in the morning, when

I enter a schoolroom and ask the teacher to request all the children who have the toothache to rise. . . . These go to the operating room and are attended to. . . .

"The reports of the work as it progresses are daily brought to me by the assistant, who occupies a vacant room in the school building, and who operates from 7.30 until 12, and sometimes until 1 o'clock.

"All these clinics, except the one in the schools—and that lives by reason of the others—are connected in violation of law, but . . . under a provisional sanction. . . . I have made repeated efforts since 1903 to have the law amended so that (at first) such clinics might be established, and (since 1905) when they were established, that they might continue—but without success. . . . The donations to the clinic are valued at about $900. . . . My own services are given without remuneration. . . . The hospital gives quarters to the clinic free of rent."

See also Dental cosmos, October 1911 and November 1912.

Philippine general hospital is establishing a dental clinic to be in charge of author.

RHODE ISLAND.

COLTON, James C. The dental condition of children in the Providence public schools. Dental cosmos, 51: 876–80, July 1909.

"Of 1203 children examined, 1161, or 96.6 per cent had decayed teeth and 557 or 46.3 per cent had suffered from aching teeth within two weeks. . . . In the technical high school, where 100 young men were examined, 96 were found to have decayed teeth. . . . Of the 1203 examined, only 19.2 per cent used a toothbrush at least once a day; 37.7 per cent used a brush not less than once a week but not as often as once a day, and 43.1 per cent never used a toothbrush.

"Believing that nervous diseases and lowered vitality (due to abnormal oral conditions) contribute to a low standard of scholarship, I visited the ungraded rooms at the Benefit Street and the Chalkstone Avenue primary schools and there examined 39. . . . I found that every child had decayed teeth ranging in number from one to ten; 23 had aching teeth; 19 had been disturbed while sleeping by aching teeth within two weeks, and 14 could not eat without pain from carious teeth.

"I believe . . . there are over 27,000 public school children [in Providence] in need of immediate attention, and if 46.3 per cent of the public school children are suffering from toothache, there are 13,000 whose nerve condition is abnormal and who cannot reasonably be expected to attain a satisfactory standard of scholarship."

Providence. School committee. [Report of the Dental inspector] *In its* [Proceedings] no. 40 [Series E] February 23, 1912. p. 434–35.

The first year's work, ending January 26.

An examination of 4,418 children, "of whom 4,131, or 93 per cent, were found to have decayed teeth; 289, or 6.5 per cent, had sound teeth; 1,083, or 24.5 per cent, were found with aching teeth. Only 189 children out of 4,418, or 4.3 per cent, had received dental treatment previous to the examination. As a result of the examination and recommendation to the parents, 1,009 children, or nearly 24.4 per cent of all those whose teeth needed attention, have received 3,430 dental treatments—an average of over three treatments to each child."

THE SCHOOL NURSE.

GENERAL REFERENCES.

ALLPORT, Frank. The school nurse. American academy of medicine. Bulletin, 13: 145–50, June 1912.

"It is, of course, desirable that each nurse shall have but few schools to care for, in order that individual necessities shall be relieved in the best manner possible. No nurse should have under her care more than 1,000 pupils, indeed, one nurse can hardly care for more than one school and do her work satisfactorily, and I greatly question whether even this is not too much labor to expect of any one woman.

"This opinion can perhaps be better understood, if an effort is made to acquire some idea of the multitudinous duties of the average school nurse. In the first place she shall act as first assistant to the medical inspector, and shall always be in attendance when he makes his visits to the school. By observation and consultation with the teachers, she finds sick and ailing children and submits them to the inspector. The carrying out of the inspector's orders is placed in her hands, whether this is done at the school, home, or hospital. Many cases of skin diseases, lice, filthiness, etc., are cared for at the school by the school nurse, under orders from the medical inspector, and in schools possessing bath tanks, etc., they are operated under the supervision of the school nurse. One of the principal functions of the school nurse is to see that the doctor's orders are carried out. The doctor may diagnose and prescribe, but unless his advice is followed his work is useless. This important duty is performed by the school nurse. It must be remembered that many public school children are poor children, whose parents are either busy, negligent, impoverished, dissipated or ignorant. They probably have no money with which to purchase medicines, appliances, glasses, medical, surgical and hospital services, etc., and all these things the school

nurse undertakes to supply by drawing upon the resources of charitable funds, charitable people, charitable hospitals and charitable doctors. These poor people are sometimes apparently devoid of energy, and have to be cared for with but little confidence in their intelligence. The school nurse then has to secure the medicine and see that it is properly administered. Cleanliness, bathing, properly prepared food, sanitation, ventilation, plumbing and warmth come under her supervision. She takes children to doctor's offices, dispensaries, hospitals, etc., and sees that they get home again. She carries out the doctor's orders at home, such as giving medicines, syringing ears, using eye-drops, making surgical dressings, etc., she cooperates and works with the truant officer in keeping children in school. In short, through her assistance the doctor is able to prescribe or operate with the confident feeling that . . . his directions will be followed as far as is humanly possible by the already over-worked school nurse, in cooperation with her equally praiseworthy but overburdened sister, the visiting nurse of the district. Before these commendable institutions came into existence thousands of able operations were virtually thrown to the winds by poor post-operative attendance, and enormous stores of good medical advice nullified by neglect and improper living. The school and visiting nurse have become, then, the element which has transformed doubtful results into reasonably certain good results.

"The school nurse not only comes into contact with the school child, but also naturally and inevitably mingles with the school child's family, and here she performs a most important function, not only to the child, but to the family and to the community as well. By calling upon the family to look after the welfare of the school child, she and the district visiting nurse, if necessary, will endeavor to educate the family to ideas of cleanliness, honesty, sobriety, industry, kindness, cooking, ventilation, infant welfare, etc., in all of which departments of proper living there is abundant opportunity for missionary work among the thickly populated tenement districts of our large cities. This is a department of charity which, unfortunately, will never be overdone, and the extent of its usefulness is only outlined by the amount of money that is eligible for the purpose. I believe there is no charity which furnishes such extensive results for the money subscribed as the visiting and school nurse, and no object for which people may so safely and blindly contribute financial support as the one under consideration; every dollar given helps to make individuals and communities better, healthier and happier."

CARLEY, Margaret H. The school nurse as a link in the chain of preventive medicine. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 33–40. table. insert.

Contains an outline of a plan for the development of school nurses' work, prepared by the writer, Dr. Carley, Department of hygiene, Boston public schools.

CORNELL, Walter Stewart. The nurse as a municipal officer. Psychological clinic, 4: 181–88, December 15, 1910.

Reprinted with some omissions and some new paragraphs and nurses' records *in his* Health and medical inspection of school children . . . 1912. p. 83–87. *Title:* The school nurse.

Article is chiefly the work accomplished in Philadelphia.

"There is no question as to the value and propriety of the nurse's services in treating minor skin diseases of a contagious character. . . .

"It is a fact, however, that the major portion of the nurse's work in the school building has come to be the treatment of minor cuts, bruises, and infections. . . . This relief so freely and so gracefully given is in reality dispensary work. . . .

"The chief business of the nurse is (a) to shorten or obviate the period of exclusion from school of children suffering from minor contagious diseases, and (b) to secure the correction of physical defects by reason of personal interview with parents. . . . A certain proportion of the nurse's work as at present carried on is unnecessary and, therefore, an extravagance. Thousands of bruises and scratches are 'treated' which are so trifling and superficial that the act is a travesty on medicine. . . .

"Similarly, the 'treatment' of pediculosis, recorded as almost a third of the nurse's work, is seldom actual treatment at all. It is simply advice. Probably not 1 case in 20 requires a home visit and not 1 case in 50 an actual head scrubbing."

Doctor Cornell says further:

"The results of the school nurse's work are remarkable. Contrasting the work of the medical inspector working without a nurse with that of an inspector working with a nurse, the economy . . . in employing the nurse is easily manifest."

See regarding New York City, p. 76, of the book.

"There are 261 nurses employed in the division of child hygiene of the department of health, [New York City] and there are 56 additional nurses employed for five months during the summer, working from the 1st of May until the 1st of October.

"There are, however, a number of nurses employed in the division of communicable diseases and the division of contagious diseases of this department." (Excerpt from letter, dated Aug. 19, 1912, signed by John J. Cronin, M. D., assistant and acting director of child hygiene, to U. S. Bureau of education, Division of school hygiene)

STEWART, Isabel M. *and* NUTTING, M. Adelaide. The educational value of the nurse in the public school. *In* National society for the study of education. Ninth yearbook. Chicago, Illinois, The University of Chicago press [°1911] Part 2: 14–60.

Bibliography: p. 72–76.

"There is increasing accumulation of school functions relating to health. These may be cited briefly:

"(a) Sanitary inspection of school buildings, systems of ventilation, etc., with special attention to the daily cleaning and the disinfection of schoolrooms and lavatories.

"(b) Medical inspection for detection of contagious diseases and physical defects.

"(c) Personal health examination.

"(d) Hygiene of instruction.

"(e) Emergency service and treatment of minor chronic complaints.

"(f) Instruction of children in personal, home, and community hygiene and sanitation, and the practical application of the laws of health.

"(g) Instruction of, and cooperation with, parents.

"(h) Physical education."

Historical sketch of school nursing in New York City, and elsewhere, following the London work. In 1903, New York, $30,000 appropriation was made to extend the school nurse service and put it on a definite basis. This provided a staff of 27 nurses at $900 per year. These nurses attended 125 local and 4 parochial schools; since then, the staff has been increased to 141 nurses, including supervisors, all giving their entire time to the work.

Los Angeles was the second city to adopt the system; the work begun by the Visiting nurse society and taken over by the city, 3 nurses being appointed for 80 schools; begun in San Francisco in 1904 by the nurses' settlement, in 1908 was established with staff of 5 nurses. In 1908, Philadelphia Board of Education appointed 6 nurses.

The functions of the school nurse are as follows:

"(a) Assistant to the school doctor in his visits of inspection—preparing children for examination, recording data, testing vision, hearing, etc.

"(b) Routine daily, weekly, or monthly inspection in classrooms.

"(c) Keeping of records, sending out reports to parents, cards to principals, etc.

"(d) Treatment of routine cases in the school—bathing eyes, irrigating ears, dressing wounds, etc.

"(e) Emergency service—caring for accidents, fainting, convulsions, etc.

"(f) Instruction of children in personal hygiene and sanitation—practical demonstrations and talks.

"(g) Follow-up work in the homes—notifying physicians, instruction of mothers in the care of children, taking children to dispensaries, dental clinics, etc., for treatment, when necessary.

"(h) Sanitary inspection of homes—discovering and reporting contagious diseases to board of health.

"(i) Reporting of truancy cases.

"(j) Teachers' and mothers' meetings.

"(k) Summer work in prevention of infant mortality—playground supervision, fresh-air excursions, etc.

"In no one system are all these functions incorporated. . . . The staff of nurses is usually so entirely inadequate that only the most needy and pressing cases can be attended to. . . .

"The need now is for an institution or organization that will give the preparation required. . . . The one significant attempt to meet this problem is that undertaken by Teachers college at Columbia university, . . . a one-year course under the control of the department of nursing and health. . . . Its distinct aim is to prepare 'teacher nurses.' . . . A high-school certificate, or its equivalent, and a diploma from a recognized training school for nurses are required for entrance."

WATERS, Ysabella. Municipalities employing public school nurses. *In her* Visiting nursing in the United States . . . New York, Charities publication committee, 1909. p. 367 (Table V)

Municipalities employing public school nurses.

	Established.	Number of nurses.
California:		
Berkeley board of education	1909	1
Los Angeles board of health	1903	4
San Francisco department of health	1908	4
Colorado, Pueblo department of education	1909	1
Georgia, Atlanta department of education	1909	1
Illinois, Chicago department of health	1908	41
Iowa, Des Moines board of education	1905	2
Maryland, Baltimore department of health	1905	5
Massachusetts:		
Boston department of education	1905	34
Brookline department of education	1909	1
Cambridge department of health	1907	1
Michigan:		
Detroit board of health	1906	2
Grand Rapids board of education	1905	3
New Jersey:		
Jersey City board of health	1907	2
Orange board of education	1906	2
New York:		
New York department of health	1902	141
Syracuse board of health	1908	2
Ohio:		
Cincinnati board of health	1909	2
Cleveland board of education	1908	2
Oregon, Portland, city of Portland	1908	1
Pennsylvania:		
Harrisburg board of education	1908	1
Philadelphia board of education	1908	6
Washington:		
Seattle board of education	1908	2
Tacoma board of education	1908	1

WOOD, Thomas Denison *and others.* The nurse in education. Chicago, Ill., University of Chicago press [1911] 76 p. 8°. (National society for the study of education. Ninth yearbook. Part 2)

Bibliography: p. 72-76.

See also The educational value of the nurse in the public school, p. 14-60 (Stewart, Isabel M. and Nutting, M. Adelaide). The professional training of children's nurses, p. 61-71 (Read, Mary L.).

IN REPRESENTATIVE CITIES.

BROOKLINE, MASS.

LEWIS, Ida M. [The school nurse system of Brookline, Mass.] *In* Brookline, Mass. School committee. Report for the year ending December 31, 1910. p. 34-36.

A plan for the daily visiting of schools, homes, or dispensaries, establishing the school-nursing system, begun January 4, 1909. Number of eye glasses procured, 49; operations for adenoids and enlarged tonsils, 18; other operations, 5; cases treated at dental infirmaries, 397; number of dressings for relief of impetigo, discharging glands, and wounds, 285.

CHICAGO, ILL.

Chicago. Department of health. Rules and instructions for school nurses.

"1. The hours for work for nurses are from 8.30 a. m. to 5 p. m. with time off for luncheon.

"2. Nurses will visit schools and make routine inspections of hair, eyes, skin, and throats of pupils, and find out from the school inspector's record cards the names and addresses of pupils excluded on account of some contagious disease and those found defective who have been advised to seek treatment.

"3. The nurse will refer all cases except pediculosis to the school medical inspector for diagnosis and disposal. A list is to be left for the medical inspector each day.

"4. A failure on the part of the medical inspector to make a diagnosis on his next visit should be reported to the health department.

"5. Treat no case until diagnosis is made.

"6. Emergency treatment as for cuts burns, or skin wounds may be treated once by the nurse if necessary, and the parents then advised to continue treatment, or have the child placed in care of a doctor.

"7. Children with marked physical defects, such as those requiring glasses, or suffering from enlarged tonsils, adenoids, or nervous diseases, who have been advised by the medical inspector to seek medical advice, will be visited by the nurse at their homes, and in case treatment has not been begun will advise medical attention. Treatment for favus, scabies, and pediculosis can be advised or administered by the nurse at the home.

"8. Where operation or treatment is indicated and the family not able to pay for treatment, the child's father or mother should go to a free dispensary or hospital with the child. If not possible for them to do so, the nurse can accompany the child if the parents give a written request that she may do so. Nurses may visit homes of those reported absent from school on account of sickness, but must not enter the home if a contagious disease is found."

Instructions for treating minor contagious diseases follow—"provided the parents are not able to employ a doctor or fail to place the child under treatment."

WOODRUFF, Thomas A. The value of the nurse in the public schools. American academy of medicine. Bulletin, 10: 527–33, October, 1909, tables.

Also in American school board journal, 41: 4, 22, November 1910.

In Chicago, where the history of school nursing dates back some eight years, before school nursing was thought of elsewhere in the United States, a small group of workers from the Visiting nurses association were delegated by request of the city school to four special schools. The work grew so rapidly that in the spring of 1908, the nurses found themselves with more than 75 schools on their regular visiting list.

In October, 1908, when the health department of Chicago decided to put on school nurses, the Visiting nurses' association proffered its services. It donated ten of its best nurses to supervise and direct the ten school districts into which the city is divided. It was able to furnish in 48 hours 30 nurses.

The school nurses are under the joint supervision of the department of health and the Visiting nurses' association. They are paid by the city. Each has charge of a certain number of schools. She visits these schools each day.

A summary of the benefits derived from work of the school nurse shows:

"1. A decrease in the spread of contagion by a close observation of the children . . . and the supervision of all excluded cases in their homes. 2. They teach the parents, family, and children cleanliness and personal hygiene. 3. They instruct the mother in the care of her children and impress upon her the benefits to be derived from cleanliness, fresh air, and right living. 4. They render more effective the efforts of the medical inspector by visiting the homes of the children and reporting back information of the conditions found there. 5. They frequently find cases of deprivation and disease in the home which would otherwise go undiscovered, and the work of the medical inspector would be of little advantage in the school. 6. They make it possible to treat cases of minor ailments in school."

DETROIT, MICH.

KIEFER, Guy L. The school nurse as an aid to medical inspection of schools. American journal of public hygiene, 20: 279–81, June 1910.

The school-nurse work in Detroit. Two nurses granted in 1909, one added in 1910; each attends four schools daily. During the past year the two nurses made 1,169 visits to the schools and 2,723 home visits. Gave personal attention and such treatment as was possible at the school clinic in 4,651 different instances, and took 158 children to free clinics for treatment. Of the 461 cases of physical defects 289, or a little over 60 per cent, were corrected. Of these 461 cases, 152 had defective eyesight. Of the cases of physical defects not followed up by the nurses, only about 20 per cent received attention.

PHILADELPHIA, PA.

NEWMAYER, S. W. Evidence that the school nurse pays. *In* American school hygiene association. Proceedings, 1911. Springfield, Mass. American physical education review, 1911, p. 44–51, tables.

Also in New York medical journal, 93: 718–21, April 15, 1911. Reprinted.

Report of the work of the school nurses of Philadelphia for the year ending December 31, 1910.

CITY OF PHILADELPHIA.

Results obtained by a medical inspector when not aided by a nurse.

[Number of individual children reported upon, 751.]

Cases needing treatment reported upon as terminated.		Results reported.			
		Action.		No action.	
Kind.	Number.	Number.	Percentage.	Number.	Percentage.
Defective vision	272	70	25.8	202	74.8
Hypertrophied tonsils	338	62	18.4	276	81.6
Adenoids	36	5	13.9	31	86.1
Defective teeth	152	31	20.4	121	79.6
Total	798	168	21.1	630	78.9

Results obtained during the same period by the same medical inspector when aided by a school nurse.

[Number of individual children reported upon, 704.]

Cases needing treatment reported upon as terminated.		Results reported.			
		Action.		No action.	
Kind.	Number.	Number.	Percentage.	Number.	Percentage.
Defective vision	441	355	80.5	86	19.5
Hypertrophied tonsils	104	68	65.4	36	34.6
Adenoids	62	45	72.6	17	27.4
Defective teeth	150	138	92.0	12	8.0
Total	757	606	80.0	151	20.0

Results obtained by medical inspector aided by a nurse.

School.	Nurse.	Recommendations.			Per cent acted upon.
		Number.	Acted upon.	Not acted upon.	
1	Nurse	324	262	62	80.86
2	do	445	434	68	97.53
3	do	320	282	38	88.12
4	do	265	226	39	85.28
	Total	1,354	1,204	150	88.9

Results obtained by medical inspector not aided by a nurse.

School.	Nurse.	Recommendations.			Per cent acted upon.
		Number.	Acted upon.	Not acted upon.	
5	None	283	83	200	29.32
6	....do	582	152	430	26.12
7	....do	441	94	347	21.31
8	....do	474	91	383	19.2
	Total	1,780	420	1,360	23.6

Schools	29
Nurses	9
Old cases	42,869
New cases	16,341
Cases cured	10,969
Visits to schools	5,108
Visits to home (old)	3,096
Visits to home (new)	1,928
Total number of visits to homes	5,024
Visits to dispensary (old)	3,139
Visits to dispensary (new)	2,007
Total visits to dispensary	5,146
School consultations (parents)	754
School consultations (pupils)	2,687
Total school consultations	3,441
Examinations for uncleanliness	30,099
Examinations for bureau of municipal research	737

NEWMAYER, S. W. A practical system of medical inspection with trained nurses, adapted for public schools of large cities. New York medical journal; 87: 637–39, April 4, 1908. forms.

Reprinted.

Discusses the medical inspection system devised by Dr. Newmayer for use in Philadelphia schools. The chief factors considered were:

"1. The elimination of useless clerical work.

"2. Methods which would secure cooperation between medical inspector, nurse, principal and teacher, and parents.

"3. The unnecessary exclusion of pupils, and, when excluded, their return in the shortest possible time.

"4. Each party concerned assumes his or her share of the responsibilities, and errors can easily be traced to their source.

"5. Records and reports are few and can readily be referred to for practical purposes."

Philadelphia. Superintendent of public schools. School nurses. *In his* Annual report, year ending December 31, 1910. p. 44–45. table.

"The nurse teaches both the pupils and the parents the value of practical hygiene and *accomplishes results.* She thus becomes . . . an invaluable adjunct to medical inspection."

Record of results in schools where nurses are employed as compared with schools without nurses. A comparative study by the Department of health and charities.

SCHOOLS HAVING NURSES.

Schools.	Recommendations.		Per cent acted upon.
	Number.	Acted upon.	
James Forten	324	262	80.9
Wharton	445	434	97.5
Catto	330	283	86.1
Wood	265	226	85.3
Total	1,364	1,205	88.3

SCHOOLS WITHOUT NURSES.

McDaniel	283	83	29.3
Lynd	582	152	26.1
Wyoming	441	94	21.3
Reynolds	474	91	19.2
Total	1,780	420	23.6

ST. LOUIS, MO.

St. Louis. Board of education. Department of school hygiene. *In its* Annual report, year ending June 30, 1911. p. 141–48.

At the beginning of the year, a corps of six nurses was added to the Department. Duties and lines along which their work was carried on:

"1. To assist inspector of hygiene in his examinations and to carry out his instructions.

"2. To keep records of children examined, making special notes as to what treatment has been obtained.

"3. To examine all absentees returning to school before they enter rooms, with a view of detecting evidence of infectious or contagious diseases, excluding or holding children in suitable quarters for further examination by inspector of hygiene.

"4. To visit homes of all excluded children or children whose parents do not respond to repeated notices from the inspector of hygiene of the existence of some physical defects, which materially impedes the child's progress in school.

"5. To interview and advise parents, getting information of the social and hygienic conditions of the home of pupils incorrigible or morally weak, suggesting proper clothing, food and cleanliness.

"6. Advising parents or guardians of the need of certain medical or surgical treatment, also advising them where the free medical and dental clinics are, also where the free childrens hospitals are located.

"7. When the time will permit, they can make eye and ear tests of children selected by the inspector of hygiene.

"8. To be responsible for the personal hygiene and cleanliness of all children under their care.

"9. To observe the matter of ventilation, light, heat, and proper seating of children, and bring to the attention of the principal and supervisor of hygiene.

"10. To assist in caring for children who are in need of emergency medical or surgical treatment while in school, having an emergency chest at her disposal.

"11. To assist principals, teachers and inspectors in determining the matter of unfitness or fatigue among the school children, especially in the matter of physical training.

"12. Their visits to the homes of excluded and sick, absent children will be the direct means of having them returned to school at the very earliest possible moment."

Nurse record blanks, p. 143–46. Other blanks, p. 147, 149.

Summary of district nurses' reports.

Visits to homes of pupils	1,560
Visits to hospitals	55
Visits to clinics	934
Operations secured through visits	253
Fitted with glasses through visits	191
Emergency attentions at school	1,003
Dental treatments	196

TRAINING OF MEDICAL INSPECTORS, SCHOOL NURSES, AND SCHOOL TEACHERS.

American academy of medicine. Report of Committee for teaching preventive medicine in universities and normal schools. *Its* Bulletin, 13: 20–22, February 1912.

Chairman, Henry B. Hemenway.

A preliminary report.

"Preventive medicine is not taught in a thorough manner by most medical schools. Very few hours are devoted to this branch in the advised curriculum. . . .

Secondly, there are few competent to take positions as professors of public health in universities. . . . At the University of Wisconsin, under . . . Prof. Ravenal, a course in public health has been inaugurated. Columbia and Cornell universities and the Massachusetts institute of technology are doing the same. Judging from results, the Massachusetts institute of technology is today giving better instruc-

tion in this line than any medical school in America." The Harris lecturer at the Northwestern university for 1912 will be Dr. Milton J. Rosenau.

Discussion: p. 22-26.

BURNETT, James. The teaching of school hygiene. Medical record, 79: 711-12, April 22, 1911.

Courses of instruction before a candidate for diploma in school hygiene is admitted to examination, in: "1. Practical instruction in children's diseases (three months). 2. Examination of the eye, ear, nose, and throat (three months). 3. School hygiene, as outlined above (six months), the course to include practical examination of school children under a specially recognized teacher."

The diploma would require but a year's additional special training. "If such a diploma were instituted, and satisfactory instruction given in school hygiene, the standard of the school physician would be raised."

DITMAN, Norman Edward. Education and its economic value in the field of preventive medicine. The need for a School of sanitary science and public health. Columbia university quarterly, 10, June 1908, supplement. 70 p. diagrs. map. tables. (Appendix I, II)

Bibliography: p. 69-70. Reprinted.

A school of preventive medicine should be planned to give instruction to the following groups: 1. Students preparing for the practice of medicine. 2. Students preparing for offices of health boards and sanitary inspectors. 3. Students preparing for sanitary engineering—civil, military and naval. 4. Students preparing for work as school and college teachers, school nurses and school inspectors. 5. Students preparing for work as officers of charity societies and institutions, visiting nurses and "social workers." 6. Students preparing for the ministry. 7. Students preparing for the work of legislators. 8. The public.

Subjects of instruction proposed for school nurses and school teachers.

Conditions concerned in the causation and occurrences of disease in individuals, groups of individuals, and communities.

+Modes of transmission, portals of infection, geographical and seasonal distribution of transmittable and epidemic diseases, and the approved methods of prevention of these and other diseases.

+Legal aspects of methods of isolation, quarantine, medical and sanitary inspection; compulsory vaccination and inoculation, school attendance, notification, and of methods for preventing the transmission of communicable and epidemic diseases.

+The liquor problem; insanity, pauperism and crime dependent on disease and intemperance.

+American social conditions (including immigration, the growth and concentration of population in cities, with the attendant dangers).

+Sanitary legislation and organization.

Principles of relief; organized charities.

Social and moral prophylaxis.

+Diseases of animals transmittable to man; relation of insects to disease.

+Hygiene of the child and the adult, the school and the tenement house, hygiene of ventilating, heating, atmospheric pollutions, and their influence on health and disease.

+Theory and practice of physical education.

+Correction of conditions which interfere with the physical welfare of school children.

+Social and vital statistics.

+Adulterated and unwholesome food; markets, bakeries, hotels, restaurants, infected food, ice, canned goods and water supplies.

+Dairy products; milk, etc.; inspection of herds and dairies; use of tuberculin test, pasteurization, milk analysis and laws.

*Dangerous occupations and preventable accidents.

+Excursions for sick children, fresh air funds, visiting nursing, etc.

+Sanitary museum exhibits (see Park's Museum catalogue).

Compiler's note: Cross mark (+) indicates subjects included in training of school inspectors; to which author adds: Medical and sanitary inspection.

Subjects marked with a star (*) may be omitted in training of school teachers; to which training the author adds:

Municipal, State, and National Government.

Municipal sanitation: (1) Pollution of water and ice supplies, methods of purification and relation to health and disease. (2) Construction of reservoirs, filtration plants, sewage and water systems; methods of sewage and refuse disposal; street cleaning. (3) Public baths, parks, and comfort stations. (4) Public nuisances, offensive trades, smoke, stables, noises and filth.

FORCE, John Nivison. Standardization of the health and development requirement. California. State board of health. Monthly bulletin, 5: 190-91, February 1910.

Medical inspectors in California.

"At the last session of the legislature a bill was passed authorizing school boards 'to establish health and development supervision in the public schools of this State.' The law further provides that the examining staff for health and development supervision shall consist of persons holding a life diploma of the high school or grammar grade, and persons holding a certificate to practice medicine and surgery.

In addition persons so qualified must have a health and development certificate issued by county boards of education on presentation of a 'recommendation from the State board of education certifying special fitness for the work.' The law provides no standard of requirement by which the State board of education shall act in determining 'special fitness,' and the suggestion has been made that in choosing the medical members of the staff, the endorsement of the candidate by his county medical association be secured by the State board of education. This is a most excellent idea as an additional safeguard with regard to medical fitness, but takes no account of the 'special fitness' desirable in dealing with problems of the public health. . . . The following is an attempt to suggest a plan of procedure which will serve to standardize this requirement.

"Recommendations from the State board of education certifying special fitness for health and development supervision in the public schools of this State will be granted only to:

"(a) Persons certified by the University of California or other institution of like standing as having completed a course in hygiene covering the following subjects:

"1. *Sanitary engineering.* Elementary knowledge of the construction and sanitation of water supplies, the disposal of sewage and sewerage systems, and the disposal of refuse.

"2. *Sanitary architecture.* The plumbing, lighting, heating, and ventilation of buildings.

"3. *Food inspection.* The sanitation of the meat, milk, vegetable, and grocery supply and the detection of adulterants.

"4. *Personal hygiene.* The essentials of personal hygiene including anthropometry and the prescription of exercise.

"5. *Vital statistics.* The application of statistical methods to the conservation of the public health.

"6. *Epidemiology.* The hygiene of transmissible diseases.

"7. *Sanitary law.* The health laws of the State, the school laws of the State, and the Federal laws designed to conserve the public health.

"(b) Persons otherwise qualified, passing an examination in the above mentioned topics to be given by the State board of health.

"The examination mentioned in section (b) could be given either by the State board of education, by the State board of health, by the State board of medical examiners, or by the State board of examiners for registration of nurses appointed by the regents of the university."

HECHE, Arthur. A report on the teaching and practice of hygiene in the public normal schools of the United States. Journal of educational psychology, 2: 429–39, October 1911. tables.

Questionnaire sent to 191 of the 203 most important normal schools listed in v. 1 of the Bureau of education report for 1909, elicited returns from 84. "*Exactly one-half of the 84 heard from offer no hygiene courses aside from the hygiene given with physiology or incidentally in courses on school management, methods of classes, psychology, etc.*" Nine schools give neither physiology nor hygiene, and only one school attempts to train special teachers of hygiene.

HILL, David Spence. The cooperation of educational and of medical departments of American universities. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 136–51. tables.

Also in Science, n. s. 36: 647–59, November 15, 1912. *Title:* The need of practical cooperation of educational and of medical departments in modern universities.

Reprinted.

Questionnaire sent to medical colleges and departments embraces the following questions:

"I. (a) What courses intended specifically for teachers or prospective teachers are being offered by your medical department? (b) Duration of courses? (c) Number enrolled this year? (d) Any certificate or diploma awarded for completion of same by teachers or prospective teachers?

"II. (a) What courses in pedagogy are offered by your department of pedagogy or education for the benefit of physicians or medical students or nurses who are or intend to become inspectors of schools? (b) Duration of courses? (c) Number enrolled this year? (d) Any certificate or diploma awarded for completion of same by physicians, medical students or nurses?

"III. Please write any other relevant information or practical suggestion regarding possible need for cooperation between medical and pedagogical departments."

Of the 112 inquiries sent to the medical colleges, 69 responses were received; of the 160 sent to departments and schools of education, 106 responses were received.

Most of the responses from medical colleges indicate: "No work whatever for the benefit of prospective teachers"; from educational departments, "no work especially intended for medical inspectors, school nurses or school sanitarians"; from medical and from educational departments of certain universities; "no active affiliation reported." Scarcely half a dozen universities report a reasonably effective scheme for cooperation of medical and educational departments. The cooperation of trained workers in the medico-pedagogical field has gained headway against difficulties. . . .

"1. With reference to the need of the schools, provisions should be made for senior medical students, and especially for graduates, in the educational department for instruction and training in the essentials of pedagogy. . . . In hand study of psychology of common interest to teacher and physician, the

majority of medical students obtain no systematic training whatever . . . since, according to Flexner's report,[1] half or more of the medical schools require less than a good high school course for admission. . . .

"Medical students who undertake the work in pedagogy as prospective school inspectors or school physicians should undertake the extra training either in a graduate year or elect a minimum during the senior year of the medical course. . . .

"2. Appropriate courses in education should be offered prospective school nurses.

"3. The college student who desires to become a specialist in school hygiene or a public sanitarian may omit the regular medical course and proceed from the bachelor's degree to the doctor of philosophy in hygiene or to the new degree of doctor of public health . . . candidates for the bachelor of arts in education should be permitted to follow hygiene as a major subject, extending through at least three years. . . . In the courses in hygiene, preventive medicine, physiology and psychiatry, the medical department may be utilized. . . .

"4. In the study of the school problems of elimination, retardation, repeating, and of the exceptional child, the department of education should lead. The educational laboratory and pathological clinic, an adjunct to the laboratory of psychology, is one point for concentration of effort upon these problems, by cooperation of psychologist, physician, sociologist, and teacher."

KOBER, George M. Hygiene and dietetics. American academy of medicine. Bulletin, 11: 779–86, December 1910.

Outlines lectures for a course intended to give to students such knowledge "as may enable them to differentiate between wholesome articles of food and drink. . . . The examination of air in rooms, the velocity, condition and quality of air currents are considered. . . . The organic analyses of water and its various forms of pollution, together with the examination of soils."

Under "List of lectures" are: The alcohol and tobacco question. Importance of good teeth. House sanitation. Lighting. Hygiene of schools—Medical inspection of school children and the prevention of permanent disabilities in childhood. Social and moral prophylaxis.

LANKFORD, J. S. The public school and the prevention of tuberculosis. Texas State journal of medicine, 5: 403–405, March 1910.

Reprinted.

"A careful study of tuberculosis should be made a part of the curriculum of every school, beginning at the fourth grade and extending through the grammar school. . . .

"First. It is the duty of the officials to see that buildings are located on ample grounds and in airy places, so far as possible; that the premises are kept clean and sanitary; that the buildings are arranged to the best advantage for heating, lighting and ventilation, that extremes may be avoided; that seats are adjustable and that everything is done to protect children from disease and to promote good health and development. The course of study . . . should be . . . lightened; the mental strain should be relieved and more attention given to the physical side of life. . . .

"Second in importance is the health and preparation of the teacher. She must be free from tuberculosis . . . [and] must be deeply impressed that the prevention of tuberculosis stands first in any system of education. . . . She should have a keen insight into the general condition of her pupils, as well as a wide scope of information concerning illness. . . . She should urge that every practice promoting general health in school life is carried out.

"Third. Practical courses of instruction should follow this equipment."

PALMER, George Thomas. The short-comings of municipal public health administration. American city, 5: 64–68, August 1911.

"In but seven of the [44 Illinois] cities have the health officers been permitted to serve sufficiently long to become thoroughly conversant with the sanitary requirements of the city or to work out sanitary and public health reforms. In 15 cities changes have been made every two years, and in six . . . every year."

ROSENAU, Milton Joseph. The department of preventive medicine and hygiene and the new degree of doctor of public health. Boston medical and surgical journal, 166: 886–87, June 13, 1912.

Course authorized by the faculty of medicine on June 22, 1910, by Harvard university president and fellows, leading to the degree Dr. P. H.

"While candidates for the degree of doctor of public health are advised first to take the medical course, the medical degree is not a prerequisite. Those who desire to specialize in sanitary engineering, sanitary architecture, sanitary chemistry, vital statistics or other branches of public health work may receive the degree after four years of work following the bachelor's degree. . . . In any case a minimum of one year of residence is required."

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[1] Flexner, Abraham. Medical education in the United States and Canada; a Report . . . New York City [c. 1910] 346 p. maps. tables. 8°. (Carnegie foundation for the advancement of teaching. Bulletin, no. 4)

BUCKER, William Colby. The making of a health officer. California State journal of medicine, 9: 155–56, April 1911.

The course to be "offered by the Oakland (California) college of medicine will cover one year and . . . will include general and personal hygiene, sanitary engineering, especial stress being laid on the collection, storage, purification and delivery of water, and the collection, purification and disposal of sewage; theoretical plumbing; sanitary architecture; sanitary law, bacteriology, parasitology including medical entomology, sanitary chemistry and food inspection.

Discussion: p. 156-58.

SHIPLEY, Alfred E. Training for public health. New York medical journal, 93: 985–87, May 20, 1911.

"Training for public health service involves the preparation of physicians and of nurses. . . . Such a course should include:

"Hygiene studied from public, semipublic, and personal standpoints. Public hygiene includes municipal, State, and Federal hygiene. . . . State hygiene attends to the health affairs of towns and rural communities. . . . Municipal hygiene . . . will require the services of a vast number of medical men. . . . Consideration must be given to sewage, garbage, cleanliness of streets, water supply, food supply, sanitation of dwellings, including ventilation, lighting and plumbing, air pollution, transmissible diseases, and child hygiene.

"School hygiene is developing very rapidly, its phases already being so many that it should have the entire time service of medical men.

"In the proper consideration, therefore, of the many problems arising in the field of preventive medicine, social, industrial, economic, and medical factors must be given their due proportions."

SMALL, Willard S. School hygiene in the training of teachers: The organizing principle. *In* American school hygiene association. Proceedings, 1910. Springfield [Mass.] American physical education review, 1910. p. 124–31.

Also in American physical education review, 15: 586–92, November 1910; *and in* Atlantic educational journal, 6: 5–6, 40, September 1910.

"Health as an end in education requires that the various factors of the school life and environment shall be adequately understood. . . .

"The three factors I have chosen as illustrative examples, would be acknowledged . . . as of essential importance.

"1. *Ventilation.* The point of attack is the relation between air and life. This should be a matter of intimate knowledge on the part of teachers. As a matter of fact, this relation is little understood. . . .

"2. *Eye hygiene.* . . . The development of the eye must be understood. The specific strains and degenerations to which each important part is liable must be made clear. . . . The principles of lighting . . . the vicious effects of improper position; the dangers of too prolonged near work and of home study; improper methods in writing. . . . Above all, it is essential that there should be a thorough study of the hygiene of reading and definition of the hygienic requirements for text books. . . .

"3. *Physical defects.* . . . The statistics of retardation show relatively little retardation associated with visual defects, whereas the common defects . . . e. g., adenoids, enlarged tonsils, are attended by a relatively large amount of retardation. The same is true of defective hearing. . . . Such defects inevitably mean retardation and perversion of development in the ordinary school environment. . . . Teachers in training should study the more important physical defects—their physiological character, their specific effects upon psycho-physical development, their relations to school practices and conditions, and their remedies or alleviations."

STEWART, Elsa. Sex hygiene. 9 p. 8°. (Cheney, Washington. Department of school hygiene. Bulletin H., no. 1, Sept. 27, 1911)

The Washington State board of education passed resolution, in January 1911, making sex hygiene a part of the curriculum of the State normal schools.

The course was first given at the Cheney State normal, summer session 1911. Frequent bulletins are to be sent out, detailing the plan and progress of the work.

The course "is concerned first with the primary principles of biology, (a) protoplasm, (b) life, (c) the cell theory, (d) germ cells and their life cycle; 2d, the evolution of sex; 3d, human reproduction presenting the (a) anatomical and (b) physiological phases briefly, (c) embryological development touching upon prenatal influences, (d) birth; 4th, the phenomena of adolescence physical and psychical, the boy and girl problem and its solution, adolescent reading and amusements; 5th, the pathology of sex onanism among school children, causation and treatment, social diseases and the social evil. This phase of the subject will be treated briefly . . . 6th, sociological aspects of sex, (a) recognized social conventions, what they are for and their meaning, (b) the nature and obligations of the family and the sanctity of the home, (c) the centripetal tendencies of family life against the centrifugal tendencies of industrial life, (d) studies of the theories of inheritance and environment, (e) eugenics, (f) infant mortality, causes and prevention, (g) race suicide and the duties of educators in the preservation of the race."

THRMAN, Lewis M. Professional training for child hygiene. Popular science monthly, 80: 289–97, March 1912.

"The situation may be summed up in a sentence: *The physician's training does not qualify him for the many sided task of adapting the program and environment of the school to the health and growth needs of the pupil.* The main purpose of this article is to suggest tentatively . . . some of the more important lines of professional preparation necessary for those who are to work in any field of child hygiene in the public schools.

"Educational hygiene has four chief aspects: (1) 'Medical Inspection,' including routine examinations for physical defects and consequent follow-up service; (2) supervision of physical training, including free play, gymnastics, and athletic sports; and (3) child psychology, including clinical work with mentally and morally atypical children, the hygiene of instruction, etc.; (4) researches in school heating, lighting, ventilation, seating, sanitation and other externals affecting the health of the child. Each of these divisions has of course its logical subdivisions but as only the very largest cities could employ a more specialized staff than this scheme calls for it is unnecessary to carry the classification further. On the other hand, the majority of school health officers will probably for some years to come have to serve more or less in all these capacities. Assuming, however, the four separate lines of specialization above designated let us examine the general and special courses of study which would be necessary for their successful pursuit.

"To begin with, it would seem that the time requirement could not reasonably be placed below seven years in addition to a four year high school course. This corresponds to the usual allotment for the doctorate of philosophy and to that for the doctorate of medicine in our sixteen best medical schools. Using the seven-year basis for our calculation, the course falls naturally into three divisions. The first three years would be given to regular college work in which the elements of physics, chemistry, biology, physiology, psychology, paidology, sociology and at least one modern language would be taught. The next three years would be ample time in which to give all that is needful *for the school health officer* out of the present medical curriculum, besides leaving a fair margin for collateral work in psychology, paidology, and the technical aspects of education. The last year would be reserved for carefully supervised clinical practise in the public schools. Proof of ability to read both French and German should be required a year before the end of the course, for most of the important researches in school hygiene are in these languages.

"Physicians will of course object to the time allotment for the second division. How, they will ask, can you condense a medical course into three years, to say nothing of a margin to be left for psychology and paidology? The answer is more in terms of elimination than of condensation. Pharmacology, materia medica and therapeutics can be discarded in a lump, with a consequent saving of a full half year. Doing the same for the obstetrics, gynecology and most of the surgery effects a further saving of three-quarters of a year. This makes a year and a quarter off the present medical course. Further, for the purpose here in question, minor savings could be effected in several subjects, as, for example, anatomy, in which the minimum of 400 hours required by the best medical schools could here be taken for the maximum. Finally, the additional year of clinical experience in the schools would take the place of most of the usual courses in the hospital and dispensary, so that almost half of the second three years would be left for psychology, paidology, education, sociology, school hygiene, gymnastic sports, etc., the amount of each being dependent upon the student's choice among the four special lines above named: medical inspection, clinical child psychology, physical training and school sanitation. Throughout the course time would be saved and effectiveness promoted by never losing sight of the professional nature of the courses. Physiology, pathology and bacteriology, as well as psychology and sociology, would have to be taught in their relations to the ultimate work to be done, not as so many unitary and complete sciences. Even the first three years ought to be conscious of the professional end.

"A school health officer, the product of such a school, would be of far greater service to education than is the usual school physician and would probably be worth more to society in the long run than a dozen well-trained practitioners. At least one such specialist in child hygiene is needed for every 2,000 school children. California needs 200, the United States at least 7,000. What university will be the first to undertake their production?"

WHIPPLE, Guy Montrose. The instruction of teachers in school hygiene. Pedagogical seminary, 17: 44–50, March 1910.

Status of the teaching of school hygiene to teachers: Course outlined; time needed.

WINSLOW, Charles Edward Amory. The rôle of the visiting-nurse in the campaign for public health. American journal of nursing, 11: 909–20, August 1911.

Establishment and value of school-nurse work; and the service in homes, teaching "public health."

"Most hospital training schools are not prepared to meet these new needs. . . . It is absurd to attempt to train the nurses . . . for the public health campaign by a course which involves two or three hours a week of theory and 50 or 60 hours in the wards, not hours of clinical instruction, but for the most part a routine of unenlightening and exhausting manual work. . . .

"The instructive visiting nurse in the public health campaign . . . must have a sound grasp of the biological principles which underlie her work so that she ought to have as good a grounding as the medical man in the fundamentals of physiology and bacteriology and hygiene; and . . . she must be an

quainted with the broad outlines of sanitation and sociology. . . . We may emphasize as necessary the provision of special graduate instruction for nurses specialising in these various lines."

WITMER, Lightner. Clinical psychology and the professional training of teachers (and others interested in child welfare) *In his* The special class for backward children. . . Philadelphia, The Psychological clinic press, 1911. p. 262–75.

See also under The teaching of health and hygiene. Meylan, George L. Report of the committee, 1910.

SALARIES OF SCHOOL MEDICAL INSPECTORS.

AYRES, Leonard P. Salaries of medical inspectors in America and in England. Journal of education, 70: 149–50, August 19, 1909.

[GULICK, Luther Halsey] Salaries of medical inspectors. Pedagogical seminary, 19: 225–27, June 1912. chart v.

No salary, 75; $1 to $100, 47; $101 to $200, 50; $201 to $300, 44; $301 to $400, 25; $401 to $500, 24; $501 to $600, 18; $601 to $700, 2; $701 to $800, 12; $801 to $900, 6; $901 to $1,000, 13; $1,001 to $1,500, 18; $1,501 to $2,500, 7; $3,501 to $4,000, 3. Fee according to service, 19. *From article by* Louis B. Blan.

GULICK, Luther Halsey *and* AYRES, Leonard P. Salaries of medical inspectors and the number of pupils per inspector. *In their* Medical inspection of schools. New York, Charities publication committee, 1908. p. 1, 23, 139–49. table.

Statistical.

Facts in regard to medical inspection in seventeen cities.

	Average attendance.	Medical inspectors.	Children per inspector.	Salaries of inspectors.	Total of salaries.	Per capita cost for salaries only.
Boston, Mass.	86,839	80	1,085	$200	$16,000	$0.184
Brockton, Mass.	7,781	7	1,111	200	1,400	.179
Camden, N. J.	9,718	1	9,718	2,400	2,400	.247
Chelsea, Mass.	6,047	3	2,015	200	600	.099
Detroit, Mich.	37,757	27	1,398	250	6,750	.178
Lawrence, Mass.	7,539	1	7,447	1,500	1,500	.201
Montclair, N. J.	2,503	4	625	305	1,220	.487
Newark, N. J.	38,562	16	2,410	400	6,400	.165
New Haven, Conn.	18,135	5	3,627	240	1,200	.066
New York, N. Y.	523,084	166	3,151	1,200	199,200	.350
Paterson, N. J.	15,238	3	5,168	[1] 1,500 [2] 1,200	3,900	.251
Seattle, Wash.	16,174	11	1,470	[1] 1,200 [3] 600	7,200	.445
Somerville, Mass.	11,166	7	1,581	200	1,400	.126
Springfield, Mass.	10,605	11	964	250	2,750	.259
Woonsocket, R. I.	2,862	6	477	50	300	.104
Worcester, Mass.	18,273	15	1,218	200	3,000	.164

[1] One. [2] Two. [3] Ten.

TERMAN, Lewis M. [Salaries of California school physicians] Psychological clinic, 5: 58, May 15, 1911.

Pay of school health officer varies from $100 to $3,600 per year. Half-time workers (excluding nurses) receive from $400 to $1,600, full-time workers from $1,500 to $3,600. Two of the smaller cities pay the physician for each individual pupil, 50 cents in one case, $1 in the other.

MEDICAL INSPECTION IN INDIVIDUAL LOCALITIES AND INSTITUTIONS.

ALABAMA.

Birmingham public schools. [Superintendent] Report of Medical director. *In his* Annual report, 1911. p. 27–37. illus.

Signed: James S. McLester, M. D.

Each teacher keeps upon her desk blank cards (fig. 1) upon which she notes anything unusual she detects in a child; when these cards are filled, she gives them to the principal who keeps them until the next visit of the medical director, who in a room set apart for the purpose, examines all those pupils

whose record cards have been given him. Communication with attached return postal is sent the parent explaining case and advising that physician be consulted, or the child taken for free treatment to the dispensary at the Hillman hospital; parent is requested to take this notification to the physician or hospital as case may be, and a reply from the physician is to be written upon the return postal card. This reply is noted on the child's original card, which is then filed in an index system. In cases where no physician's reply is received, the nurse visits the child's home, and her data are added on the record card, before its final filing.

Study of 10 elementary white schools (enrollment of 5,343) was begun in March 1911. Results—I. Temporarily subnormal, 192. II. Permanently subnormal: (1) Morons, 33; (2) imbeciles, 10; (3) idiots, 4. III. Truant and incorrigible class: (1) Defective mentality, 16; (2) fair mentality, 51. IV. Epileptic class, 4. V. Physically defective: (1) Physical trouble, temporary or permanent, 347; (2) the blind, 3; (3) the deaf-mute, 0.

In the Paul Hayne school a dental clinic cares for the defective teeth. Central high school has an emergency hospital (see picture. p. 28).

Samples of cards used by the department of medical inspection, p. 35–36.

ARIZONA.

[LOPER, John D.] Medical inspection of school children. Made by competent physician, employed by the board of education.

Letter, signed John D. Loper, superintendent, to U. S. Bureau of education. Division of school hygiene.

If child is found to have any infectious or contagious disease, he is sent home with a notice to parent stating the case and asking that he be given treatment by physician of their own choice; readmitted to school only upon certificate of school physician. "About 8 per cent of our pupils have trachoma. Eighty per cent of the children so affected are among our Mexican population and fully 90 per cent of these children have no means of securing treatment. Hence, our greatest problem in this connection is to provide some means by which our indigent children may be treated for this disease."

CALIFORNIA.

California. University. Statistics of the infirmary. Medical examination of new students, 1908–9, 1909–10. *In* Biennial report of the President, 1908–1910. Berkeley, The University press, 1910. p. 329–61 (tables only).

	In 1908–9, men examined, 607; women, 375.		In 1909–10, men examined, 791; women, 468.	
	Men.	Women.	Men.	Women.
Chest deformity	145	91	60	126
Ears, defective	33	13	.....	.....
Eyes, defective	126	115	.....	.....
Feet, weak arches	173	246	193	218
Heart, abnormal	79	22	58	8
Hernia	36	1	23	.....
Lungs, abnormal	11	5	3	10
Nose, diseased	54	54	96	13
Shoulders:				
Right lower	308	143	185	111
Left lower	25	96	26	34
Stooped	52	94	67	118
Skin, diseased	178	47	218	27
Spine:				
Antero-posterior curve	102	79	71	14
Lateral curve	46	98	52	113
Teeth, poor	115	17	237	150
Throat, diseased	106	48	180	179
Thyroid, enlarged	2	57	7	56
Varicocele	91	.....	128	.....
General condition:				
Excellent	39	26	26	21
Good	324	156	343	171
Average	169	83	419	181
Fair	61	45	85	78
Poor	4	66	18	17

Days lost in excuses issued on account of illness.

	1908–9 (Aug.–May).		1909–10 (Aug.–May).	
	Men.	Women.	Men.	Women.
Total	6,530	3,012	7,326	4,046
Excuses	2,328	.....	2,817	1,568
Counted more than once	680	323	908	547
Individuals receiving excuses	838	508	977	609

LESLIE, George L. Health and development supervision of the public schools of California. Western journal of education, 15:17–25, January 1910.

Assembly bill No. 303, p. 25–26.

Also in Sierra educational news, 6:27–34, February 1910; and with some verbal changes, *in* Psychological clinic, 4:33–39, April 15, 1910.

TERMAN, Lewis M. Medical inspection of schools in California. Psychological clinic, 5:57–62, May 15, 1911.

Legislature, March 1909, "passed bill authorizing (not compelling) cities to make expenditures for carrying out an elaborate system of health supervision in the schools."

BERKELEY.

HOAG, Ernest Bryant. The cooperation of school health departments with other health agencies. California State journal of medicine, 9:18–19, January 1911.

Also in American academy of medicine. Bulletin, 12:36–39, February 1911.

The medical clinic organized in Berkeley after the San Francisco fire of 1906, was reorganized with staff of 15 representative physicians. The Berkeley charity organization joined with the medical clinic, and the two associations housed in a building near the school and city health department. The Alameda county dental society organized two dental dispensaries, one for Oakland and one for Berkeley, completely equipped in modern dental necessities. The board of education at once placed at the disposal of the Berkeley dental dispensary, offices in connection with those of the medical director of schools. The Red Cross and Tuberculosis societies will also cooperate with the others, and Berkeley will have united toward one common end the efforts of the following health agencies: (1) The school health department; (2) the city health department; (3) the charity organization; (4) the medical dispensary; (5) the dental dispensary; (6) the city charity commission; (7) the Red Cross society; (8) the tuberculosis society.

HOAG, Ernest Bryant. A general plan for health supervision in schools. California. State board of health. Monthly bulletin, 5: 173–78, February 1910.

Of the first 750 children referred to the school physician by the teachers in Berkeley, Cal., nearly 70 per cent were found to be in need of medical or dental attention. Of 493 children in the third to the eighth grades inclusive, 53 per cent used tea or coffee or both daily. Of the 493 children, 25 per cent habitually slept in unventilated bedrooms.

LOS ANGELES.

LESLIE, George L. Department of health and development—Los Angeles city schools. California. State board of health. Monthly bulletin, 5: 180–85, February 1910.

"(a) All matters pertaining to contagious diseases are under the direction of the city board of health, which employs a staff of physicians and school nurses to attend to this work.

"(b) All matters pertaining to non-contagious defects—to health, growth and development of pupils and teachers, are under the control and direction of the board of education, and conducted in accordance with the health and development law of California."

Los Angeles staff examines approximately 50 per cent of the pupils of each school building, selecting: *First*—Pupils who failed to be promoted. *Second*—Pupils, two, three or more years behind school grade. *Third*—All pupils selected by principals and teachers as needing medical aid (glasses, surgery, etc.). *Fourth*—All pupils of low vitality, unduly nervous, pupils not getting on well in their schoolwork, pupils who need an unusual amount of discipline, of those with criminal tendencies, etc. *Five*—All applicants for positions as teachers in the city schools undergo physical examination by the staff. All

teachers in the schools report for examination when requested by the superintendent's office. *Sixth*—Especial examination is given to exceptional children. *Seventh*—School buildings are inspected by the staff. *Eighth*—Follow-up-work is carried on by the staff, by principals and teachers of the schools.

The following is a summary of examinations of Los Angeles city schools:

Approximate summary of ten months' examinations.

A. All pupils examined by staff.

Enrollment of schools when examined	6,647
Number hastily passed upon by examining staff	2,808
Number thorough physical examinations	3,846

Report of physical examination.

Number defective in eyesight	3,013
Notices sent to parents	900

1,112 to be watched by teachers and examined further if pupil's health or school work indicates further examination.

Number defective in hearing	862
Notices sent to parents	175

Most of the defective hearing is due to adenoids and diseased tonsils and lack of care of the nose and throat. For this reason special notices of defective hearing were not sent to parents where the cause was otherwise clearly indicated.

Number defective sets of teeth	1,395
Notices sent to parents	1,395
Adenoids present	1,322
Notices sent to parents	6,670

652 to be watched by teachers and reëxamined if defective hearing or lowered vitality indicate such examination.

Number abnormal and diseased tonsils	1,517
Notices sent to parents	669

668 cases to be watched as in case of adenoids.

Poor lung action and chest development; hard to judge accurately.

Functional heart insufficiency	314
Notices sent to parents	70
Organic heart disease	66

B. Special pupils only examined.

Report of physical examinations of pupils, selected by teachers and examiners, because the need of examination was indicated by poor health, lowered vitality, or poor school work—all pupils undergoing the physical examination by examining staff. Notices sent to parents in almost all cases.

Number examined	1,129
Defective in eyesight	434
Defective in hearing	259
Defective teeth	446
Adenoids present	319
Abnormal and diseased tonsils	332
Functional heart insufficiency	144
Organic heart disease	33

The above pupils were pupils especially selected from different buildings, or pupils of ungraded rooms, or of the special schools, or of the deaf school, or office examinations.

Total number examined for the year, 7,776.

Report of defective growth and vitality and school work accompanying these defective pupils is hard to make. It is mostly measured by the number of repeaters in the schools, by considerable sickness and disease, and by more or less inefficiency and degeneracy.

Report of health examinations of teachers for positions in the city schools.

Number of teachers examined	107

General health below average; hard to judge accurately.

Error in vision uncorrected, 25; wearing glasses, 23	48
Hearing below normal (slightly)	13
Throat only fairly healthy	29
Functional heart disturbances	12
Organic heart disease	2
Lung action below normal	13
Disturbed digestion	10
Slight pelvic weakness	5
Nerve force reduced (somewhat)	15

Sooner or later the main data which enter into the intelligent handling of pupils must depend to a greater or less degree upon physiological age, the physical and mental endurance of children and youths; the character and kind of work should be adjusted primarily to physiological, not chronological age.

OAKLAND.

Oakland. [Superintendent of schools] The Department of health development and sanitation. *In his* Annual report, 1909–1910. p. 61–64. (Director, N. K. Foster)

"It was impossible to examine every child; hence only those who were defective enough to be observed by the teacher were examined." Number examined, 1,965; not tabulated, 97.

Defective vision	641
Defective teeth	635
Defective breathing	369
Diseased tonsils	369
Diseased glands	327
Adenoids	290
Defective hearing	263
Malnutrition	87
Skin diseases	20
Nervous diseases	11
Orthopedic defects	9
Heart disease	7
Lung disease	7
Defective palate	4
Number with 1 defect	711
Number with 2 defects	739
Number with 3 defects	336
Number with 4 defects	62
Number with 5 defects	16
Number with 6 defects	3

PALO ALTO.

PAYNE, I. D. [The Palo Alto, California, elementary school children: Physical defects and grade retardation] Psychological clinic, 5: 145–47, October 15, 1911. tables.

Of 487 enrolled, 110 reported as having no physical defect.

"Among the 38 children retarded two or more years there are only three who have no reported physical defects. . . . Four are confirmed cigarette smokers. . . . Twenty-six have one or more serious physical defects."

PASADENA.

HOAG, Ernest Bryant. Some new problems in school hygiene. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 205–208.

In the schools of Pasadena, California.

"The plan consists of two parts or features: 1. A scheme for a partial health survey to be made by the pupils themselves. 2. A scheme for a more extensive health survey on the part of the teachers."

"The questions given . . . in the sixth, seventh and eighth grades . . . with a general summary of the answers: 1. Have you ever had much sickness? Yes, 88. 2. Are you feeling well now? No, 9. 3. Do you eat lunch every day? No, 8. 4. Do you eat lunch at school? Yes, 79. 5. Do you drink coffee? Yes, 128. 6. Do you drink tea? Yes, 125. 7. Do you have a ventilated bedroom (open window)? Yes, 263. 8. Have you ever been to a dentist? No, 71. 9. Do you ever use a toothbrush? No, 53. 10. Do your eyes smart in school? Yes, 57. 11. Do they trouble you in any other way? Yes, 71. 12. Can you read writing on the blackboard easily from your seat? No, 39. 13. Do you often have headache? Yes, 65. 14. Do you notice any blurring of the print? Yes, 50. 15. Do you have earache? Yes, 38. 16. Can you hear the teacher easily? No, 60. 17. Do you tire easily? Yes, 82. 18. Do you work any out of school hours?' Yes, 122 (Average 1½ hours per day). 19. How much do you study at home? (Average 40 minutes.) 20. Do you take regular exercise? Yes, 238.

"Total number of pupils questioned, 270. Average age of pupils in eighth grade, 15 years. Average age of pupils in seventh grade, 14½ years Average age of pupils in sixth grade, 14½ years."

Pasadena. [Board of education]. Report of medical examiner. *In its* Annual report, year ending June 30, 1910. p. 36–38, 41. table. p. 41.

Signed: R. C. Olmstead, M. D.

"Practically every child in the kindergarten and grades receives a physical examination. All high school students receive attention when necessary."

Total number examined	4,036
Defective in eyes	685
Defective in ears	117
With nose defects	202
With throat defects	240
With defective teeth	1,230
Malnutrition	196
Nervous defects	480

COLORADO.

BATES, Mary Elizabeth. The Colorado method for the examination and care of public school children. *In* [American academy of medicine] Conservation of school children. Being the papers and discussions of a Conference at Lehigh university, April 3 and 4, 1912 . . . Easton, Pa., Printed for the American academy of medicine, 1912. p. 216–37.

Reprinted.

Requires teacher or principal in every public school, or county superintendent, during the first month of each school year, to test the sight, hearing and breathing of all pupils under his charge; examinations to be made without using drugs or instruments, or coming in contact with said child; and shall keep a record and make written report of such examinations to the State superintendent of public instruction as he may require. Every teacher shall report the mental, moral and physical defectiveness of any child under his supervision, to the principal or county superintendent.

[CALLICOTTE, William Riley] Physical examination required first month [of each school year] Colorado school journal, 27: 25–27, September 1911.

Colorado law:

"It shall be unlawful for any person having the care or custody of any child willfully to cause or permit the life of such child to be endangered, or the health of such child to be injured, or willfully to cause or permit such child to be placed in such a situation that its life or health may be endangered, or in any other manner injure such child."

For violation of this act, a fine of $100 or a three-months imprisonment may be imposed. It is the duty of county and city superintendents to enforce the law for physical examinations and report the results to the Superintendent of public instruction.

Colorado. State superintendent of public instruction. Physical examination [of school children]. *In her* Report, 1909–1910. Denver, Colorado, The Smith-Brooks printing co., State printers, 1910. p. 14–17.

Law enacted by the Seventeenth General Assembly.

In 54 counties complying with the law, 92,427 were examined; 41,546 were found defective, physically, mentally or morally to a degree sufficient to warrant reporting their condition. Defects in sight in 26,978, hearing in 6,155, breathing in 8,045, and other unclassified defects, 21,825. There were 3,071 mental defectives and 746 moral defectives.

WIXSON, Helen Marsh. Health of school-children. *In* National association for the study and prevention of tuberculosis. Transactions, 1911. Philadelphia, Pa., Press of Wm. F. Fell company, 1911. p. 95–101.

"It is time for us to have a little sane legislation regarding physical examinations in the schools—time for us to relieve overburdened teachers by giving this work to specialists and trained nurses, and and while about it, why not set up a minimum standard of clothing, cleanliness, nutrition, and education, and if the standard is not maintained by the child, make the parents responsible?"

[COMPILER'S NOTE.—Since medical inspection and care are for those school children whose *parents are not able financially or educationally to do these necessary things for these children*, how could a "standard" be compelled? Why not say, rather, "make the municipality or State that *is* able, do these things"]

CONNECTICUT.

GOODENOUGH, Edward Winchester. Some problems connected with the medical inspection in schools. *In* Connecticut State medical society. Proceedings, 1911. Published by the Society. p. 203–13. table.

In Waterbury, Conn.

Up to 1910, Waterbury had no permanent records of school inspection, either for department of education or department of health.

"My first duty was to observe the heating, ventilation and sanitation of the different school buildings. . . .

"I have attempted to inspect all the children up to and including the fifth grade each month; . . . to inspect the grammar grades in some manner each term. . . .

"The Waterbury dental society has done . . . an enormous amount of work in tabulating the condition of the children's teeth."

Discussion: p. 214–221.

New Haven. Board of education. Medical inspection. *In its* Annual report, year ending December 31st, 1910. p. 37–39.

Five school physicians and three school nurses.

Main effort of the physicians is to prevent the development of contagious disease. Whenever a pupil in school appears to the teacher to have symptoms of a contagious disease, the principal immediately summons the school physician. School physicians do not prescribe in any case.

SLOAN, Thomas G. The medical supervision of school children in South Manchester, Conn. Medical record, 82: 339–42, August 24, 1912. tables.

In the fall of 1906, out of over 1,600 school children, 72 were found to be a year or more behind grade, 51 whose backwardness could not be explained; on examination, 50 of the 51 had one or more defects. In 1907, 1,437 were examined for eye defects, and 91 were found needing treatment. In 1908, 204 were examined for nose and throat troubles, 126 found needing operations or treatment. In January 1910, a special examination was made of 1,564 pupils, all who were at that time in attendance; results as follows:

Number examined	1,564
Defective teeth (needing extraction)	295
Enlarged tonsils	113
Adenoids	73
Adenoids and teeth	71
Tonsils and adenoids	62
Tonsils and teeth	44
Adenoids, tonsils and teeth	39
Teeth and markedly enlarged cervical glands	15
Enlarged cervical glands	4
Miscellaneous	16

In October 1911, 1,739 children were examined and defects found as follows:

Teeth (including those needing extraction and those needing filling)	707
Tonsils, needing operation	83
Tonsils moderately enlarged	123
Adenoids (marked)	37
Cervical glands	23

The medical inspector is in his office at the school, with the school nurse in attendance at 10 a. m., two mornings a week. All children the teachers think need attention are sent to him. No child he sends home is permitted to attend school until seen by medical examiner.

In 1910–11 South Manchester suffered from a long-lasting epidemic of scarlet fever, starting before the opening of schools in the fall. The time lost by ill children amounted to 3,696 days; excluded children, 4,394 days. Total cost of time lost, about $2,500; with medical inspection cost, etc., and cost to families, total about $15,000. Open-air school was opened January 25, 1911.

Therapeutic value of medical inspection of school children. American medical association. Journal, 55: 596–99, August 13, 1910. tables.

Presents three view-points of the relation of the child to the matter in hand: "(1) Has the child, while in attendance at school, any need of medical supervision? (2) The relation of the child to the community at large. (3) The consideration of the child as an individual" (Kenna, W. Matthew. Regarding medical inspection of school children in New Haven. Table of results, also included in the excerpt given at length in this article).

Table of results of examination of 400 school children, New Haven, Conn. "A" denotes defect present, not requiring treatment; "B," treatment advisable; "C," treatment imperative:

	Good.	Fair.	Poor.
Apparent physical condition	171	104	125
	A	B	C
Adenoids	19	35	2
Anemia	31	16	0
Cardiac disease	5	10	0
Defect of nasal breathing	23	4	0
Defect of palate	0	0	1
Defect of teeth	60	68	89
Skin:			
Contagious	0	0	1
Parasitic	0	2	5
Vermin	2	2	52
Hypertrophied tonsils	64	46	1
Orthopedic defect	9	3	0
Pulmonary disease or tuberculous condition	1	4	0
Enlarged glands	15	2	0
Vision:			
Myopic or astigmatism	8	63	11
Conjunctivitis	7	0	1
Granular lids	8	1	0
Nervous diseases	13	7	1
Malnutrition	22	11	0
Defect of hearing	1	5	0
Backwardness	47	0	0

These statistics "have not been long announced," states the Writer.

DISTRICT OF COLUMBIA.

MACATEE, H. C. School laggards. Some comments on the local situation. Washington medical annals, 10: 149–59, June 1911. tables (from Ayres, L. P.)

Reprinted.

Conclusions:

"1. The public schools here exhibit the same problems of retardation and elimination as do those of other cities.

"2. The schools here are no better adapted to the average child with the average health history than are those in other cities.

"3. Educators should modify the school course so as to allow for the factor of illness; physicians should endeavor to restore children to the schools as soon as possible so as to avoid elimination from age and grade disparity.

"4. Special schools have been established here for the care of incorrigible and mentally defective children; other special ungraded schools ought to be established to care for normal children during temporary retardation, in order that they may be restored to their grades, and for physically defective children so as to adapt the schooling to the capacity of each child. Such schools should perform the same relative function in the schools as the convalescent hospital is designed to subserve in the care of the sick.

"5. The problems of retardation carry new things for the physician engaged in work among children to know.

"6. Adequate medical inspection is essential to the reduction of retardation in healthy children and in physically defective ones.

"7. Medical inspection as now provided is inadequate.

"8. School nurses are indispensable for the best results of medical inspection.

"9. Congress is not willing to give to this city what is everywhere recognized as an essential weapon against retardation of school children, having at the last session reduced the medical inspection service and having failed to provide for school nurses.

"10. The Dillingham bill providing for the establishment and maintenance of a laboratory for the study of defectives in the District of Columbia should be enacted, both for its broad general purposes and also for the proper study and classification of defective school children.

"11. Retardation is in part brought about by repeated failures to succeed and thus may be a causative factor in the neurasthenias and psychasthenias so frequent in American life. The problem should engage the attention of physicians."

FLORIDA.

BYRD, Hiram. Medical inspection of schools. *In* Florida. State board of health. Annual report, 1911. Deland, Florida, The E. O. Painter printing co., 1912. p. 331–41. (State board of health of Florida. Publication 96, June 1912)

Largely, the extent of hookworm disease in Florida and the need for medical inspection as a factor in its eradication.

"Let us pause here long enough to see if we can get the full import of this one disease.

"White people suffer from it more than negroes.

"Children suffer from it more than adults.

"The rural population suffers from it more than the urban.

"Our inquiry will be then to determine the cost in dollars and cents that hookworm disease entails upon our rural white children.

"Fifty-five per cent of our people are white. Seventy per cent of our people live in the country. Therefore 38 per cent of our white school children live in the country.

"A canvass was made by the State board of health covering 6,000 rural school children and it was found that 52 per cent of them were hookworm sufferers.

"From which it is seen that 15 per cent of the total school children of the State are suffering from hookworms.

"The extent to which the sufferer's vitality is lowered varies. But it can be measured with a fair degree of accuracy by the color of the blood. That is to say, rich, healthy, deep red blood is indexed at 100. The hookworm sufferer's blood becomes pale and watery in proportion to his infection. And as the infection gets worse and worse the color index of the blood runs down and down, 90, 80, 60, and even to 30 per cent of the normal. Perhaps an average color would be 70 per cent. But, to be especially conservative, we will assume that it is not so low as that. We will assume that it is 80 per cent. That means that the sufferer is off 20 per cent in strength, 20 per cent in intellectual energy, 20 per cent in power of learning.

"Now if 15 per cent of our school children are off 20 per cent in power of development, that lowers the whole power of development of the school children of the State by 3 per cent.

"We expend upon our public education now, about $2,000,000 a year. Three per cent of $2,000,000 is $60,000.

"Are these figures facts? Verify them for yourselves. Sixty thousand dollars of our all too scant educational fund wasted annually—literally devoted to the maintenance of hookworms. Sixty thousand dollars for hookworms, and we haven't taken into account any of the negro population. Sixty thousand dollars' loss, and we haven't taken into account any children under or over school age. Sixty thousand dollars' loss annually."

Florida. Committee on sanitation and public health for the schools of Florida. Report and recommendations. *In* Florida. State board of health. Annual report, 1911. Deland, Florida, The E. O. Painter printing co., 1912, p. 325–27.

Chairman, Hiram Byrd.

Recommendations:

"(a) That 'Medical inspection of schools' be defined as a systematic effort to protect improve the health of any or all pupils. With this in mind we would recommend—

"(b) That the time is ripe for the medical inspection of schools.

"(c) That the individual school, whether large or small, must of necessity be the unit of operation.

"(d) That medical inspection may be as complete or as partial as the individual school desires or can afford.

"(e) That it may be carried out either by the board of education or the board of health. (This refers strictly to the local board of education and local board of health.)

"(f) That it may be undertaken by any school in the State, however large, or however small.

"(g) That the larger schools can make it more thorough and complete than the smaller one; but

"(h) That no school is too small to introduce some definite systematic regime looking to some form of protection of the health of the pupils.

"NOTE.—In many schools, particularly in the rural districts, the most important public health problem is hookworm eradication. This can be accomplished by the teacher, pupils, and parents, without any further advice than they can get from the State board of health.

"(i) That where it can be afforded medical inspection should be carried out by the combined efforts of the teacher, the doctor, and the nurse.

"(j) That where all three can not be afforded, by the teacher and doctor without the nurse.

"(k) That where a doctor can not be had, it can be carried on by the teacher.

"NOTE.—There is a considerable amount of work that the teacher can do without the assistance of a doctor. In Massachusetts the teachers examine the eyes of the pupils, not to determine what ails them, but to determine whether they are normal or abnormal. If any marked deviation from the normal is found, the pupil is referred to a physician.

"(l) This presupposes a certain amount of definite information of a more or less technical character, that in the ordinary course of events the teacher does not get, [illegible] which end we believe that the teachers should receive definite instructions as to how to conduct such examinations as may be deemed advisable.

"(m) That the meeting of the teachers in the several county institutes, and at the State teachers association, and the summer normals, and the colleges, afford convenient fora from which the necessary instructions can be given.

"(n) That the State board of health is the logical body to undertake the instruction of the teachers for this work, hence we believe

"(o) That the immediate need is for the State superintendent of public instruction, and the State health officer, to cooperate in providing for a course of demonstrations in all the summer normals and similarly in all the colleges which have normal departments, and

"(p) That these demonstrations shall cover such features as may be adjudged of vital importance by the State health officer and the State superintendent of public instruction."

STILES, Charles Wardell. Frequency of hookworm disease or ground itch anemia among public school children in Southern Florida. Public health reports, 25: 351–54, March 25, 1910.

"Summary of 1,[illegible] pupils in 8 schools in 6 towns in 3 counties.

	Number seen.	Number of suspects.	Per cent of suspects.
Boys	[illegible]	[illegible]	68.6
Girls	710	322	45.3
	1,306	731	55.9

"These statistics of school children are exceedingly significant, from various points of view:

"First. These children are growing up under a severe physical handicap. If they do not undergo medical treatment, not only will this handicap be appreciable in deaths due directly to hookworm infection, but this infection will so reduce their vitality that they will more readily fall a prey to other diseases, such as tuberculosis, pneumonia, malaria, etc.

"Second. Their physical development is of necessity inhibited, and many of them may reach maturity stunted in their growth.

"Third. Children in this condition can not possibly be expected fully to assimilate the education which is being given to them, and as a result the money being spent on education is not giving to these towns full returns. . . .

"Fourth. Not only these three counties but all other parts of the South visited by winter tourists should awaken promptly to the self-evident fact that the danger is present that such tourists will soon avoid those rural portions of the South in which the soil pollution is so extensive as to lead to 55.9 per cent hookworm infection among the school children. . . .

"At least five of the teachers in the schools visited showed clear and pronounced effects of hookworm infection."

GEORGIA.

Atlanta. Board of education. Department of medical inspection. *In its* Report, January 1912. p. 231–32.

Signed: Robert C. Stephens, M. D.

Medical inspection established in Atlanta, winter of 1909. Force, to date, consists of chief examiner, one white assistant, one colored, four white nurses and one colored.

"Method pursued is that of routine examination. A school is visited daily by an examiner and nurse until each child in that school has received a physical examination." Defects are noted on individual cards. "If the defect is remediable a notice card is sent to the parents suggesting that dental or medical attention be given. . . .

"Out of 5,838 recommended for treatment in 1910–1911, 50.9 per cent received treatment, but in order to get this number treated the nurses made 4,814 visits to homes.

"Schools examined for the first time furnish in every instance from 60 to 94 per cent of the children defective."

Augusta and Richmond County, Georgia. [Board of education] Medical inspection of schools. *In its* Annual report, 1910. p. 22–23; 111.

"During the past year we have had a very satisfactory experiment with . . . district nurse visitation and inspection at the John Milledge school. The district nurse of the fifth ward has attended that school for two or three hours each week, has visited all the grades, and has had referred to her all suspected cases of disorder or disease. She then refers the cases to the regular physician of the city, or to specialists. . . .

"There is also a movement on the part of the board [of education] to engage the cooperation of the board of health by which . . . at least one nurse and one physician shall be especially set apart for school inspection . . . as a part of the regular work of the board of health . . . by which a complete system of medical inspection can be inaugurated for all the schools."

FORT, A. G. Examination of county school children. Medical association of Georgia. Journal, 2: 7, May 1912. table.

"The combined results of the inspection of three rural counties in Georgia are as follows:

	White.	Colored.	Total.
Anemia	894	774	1,668
Defective vision	292	28	320
Defective teeth	596	368	964
Enlarged tonsils	406	252	658
Adenoids	400	144	544
Defective heart sounds	77	20	97
Sounds indicative of pathological conditions in lungs	33	72	105
Diseases of ears	110	2	112
Number examined	1,663	1,556	3,219

"In the inspection of the sanitary surroundings of 59 of these schools, we found 17 privies only, and all of these poorly constructed. Is it any wonder then that 1,668 gave clinical evidence of hookworm infection and microscopical examination revealed that an average of 74.7 per cent of the suspects were infected?"

FORT, A. G. [Hookworm disease among Georgia school children] American school board journal, 43: 39, October 1911.

Defectives among the children of Stewart, Webster and Tift counties, Georgia.

	White children.	Negro children.
Number examined	1,663	1,55[illegible]
Number defective	1,348	888
Normal	315	668
Number of defects	3,460	1,721
Hookworm suspects	894	774
Defective eyes	292	28
Enlarged glands	470	168
Defective teeth	596	368
Enlarged tonsils	406	252
Adenoids	400	144
Skin defects	6	15
Heart disease	77	20
Lung diseases	33	7[illegible]
Bone diseases	5	5
Ear diseases	110	2

Savannah and County of Chatham. [Board of education] Health and sanitation. *In its* Annual report, year ending June 30th, 1910. p. 16–18.

"Whenever in the judgment of the principal a pupil of the public schools needs medical treatment . . . he shall notify the parent or guardian. . . . Such pupil shall not be permitted to continue in attendance upon the public schools until a certificate from the attending physician shall have been presented to the principal."

This plan has been in operation since January 1, 1910. Cases reported, 191.

[Stephens, Robert G.] Medical inspection of school children. *In* Georgia educational association. Proceedings and addresses, 1911. Atlanta, Ga., Bennett printing house. p. 65–73.

General résumé, by the medical examiner of schools, Atlanta, Ga.

"Out of a group of 2,375 examined in Atlanta in 1909, 1,452 were defective, or 61.1 per cent; out of 2,160 in Atlanta examined in fall of 1910, 1,653 or 76.2 per cent were defective."

Defects: Atlanta, 1910.

Nutrition	50
Anæmia	28
Glands	192
Heart	11
Skin	42
Nervous	6
Teeth	1,372
Tonsils	375
Adenoids	257
Eyes	189
Lungs	9

Two medical inspectors and four nurses work under control of board of education. Two weeks are allowed to elapse following notification to parents of defects, after which time a nurse visits the home of each defective child who has not returned a card signed by physician or dentist.

IDAHO.

HYDE, George E. Medical inspection of schools. Northwest medicine, n. s. 3: 340–43, December 1911.

Rule V, of the State board of health of Idaho, requires the county physician to "report, on or about September 1 of each year, the sanitary condition of the public schools of the county in which he resides."

The author receiving permission to examine the school children in his home town, Rexburg, "to see if the findings of inspection in other parts of the county could be bourne out" by his personal investigation. Teachers tested the eyes with Snellen's chart, took records of heights and weights, ages, grades, number of years attending school, and history of contagious diseases; Dr. Hyde examining the ears, nose, throat, and teeth.

Results.	Cases.	Per cent.
Deafness	16	4
Adenoids	8	2
Hypertrophied tonsils	54	14
Mild eye defect:		
Ranging from 20/30 to 20/40	58	
Ranging 20/50 to 6/200	41	11
(31 of these pupils had headaches on reading; 12 had change of posture at desk in order to be able to write their lessons; 11 could not see the lesson written on the blackboard, from where they sat in their room.)		
Defective teeth (of these, 25 per cent in very bad condition)		55
Mitral regurgitation (histories of rheumatism in 4 cases)	5	
No discoverable defects in		28

"These results . . . show that the children in this western country have not nearly the same number of physical defects among them as examination shows exists among the schools of the East."

ILLINOIS.

Chicago. Board of education. Department of child-study and educational research. Child-study and educational research. *In its* Report of the Superintendent of schools for the year ending June 30, 1912. p. 44–50. table.

From Report of directors, D. P. MacMillan.

"Of the whole number of children, 2,095, examined during the year . . . with the exception of truants and incorrigibles . . . the maximum number, 469, falls in that group which is made up of children with nervous disorders, particular physical defects or general constitutional depletion. In the majority of cases they proved to be extremely backward pupils."

Children examined from July 1, 1911, to June 30, 1912.

Blind or defective vision	115
Deaf or defective hearing	125
Crippled	58
Truants and incorrigibles, at office	34
Truants and incorrigibles, parental school	466
Subnormals	259
Defective in speech (persistent cases only)	66
Tuberculous (not including anaemics)	12
Epileptics (most aggravated cases only)	13
Children with constitutional depletion or nervous disorders or specific physical defects	469
Special cases: Unusually bright children, moral delinquents, mental aberrants	278

Chicago. Department of health. Bureau of contagious diseases. Medical school inspection. *In its* Report, 1907–1910. p. 22–33, 39. tables. chart. forms.

"For the supervision of approximately 400,000 school pupils in the public and parochial schools . . . the city employs 100 medical health officers and 41 nurses, all of whom secure their appointments by competitive civil service examinations. For administrative purposes 5 medical health officers are selected to supervise without extra pay, the other 95; and 2 nurses, one receiving $15 per month more than the others, supervise the other 39. The city is divided into 95 districts, to each of which is assigned a medical health officer, whose duty it is to inspect the pupils in the schools of the district. In addition, he has control and supervision of all contagious diseases in the territory to which he is assigned. . . .

"The medical health officer makes daily visits to each school assigned him, commencing work at 9 a. m. At the beginning of the term he makes a rapid inspection of all pupils to determine if any . . . bear evidence of a contagious disease.

"For this preliminary inspection the health officer visits each room, stands with his back to a window, and has all pupils in the room file past him. . . . The pupil . . . exposes to view palms of hands and wrists; with the fingers of one hand pulls down the eyelid, exposing the conjunctiva; opens the mouth and puts out the tongue. This hurried inspection is made by the physician without touching the pupil. . . . After the completion of this preliminary inspection . . . the regular forenoon inspection is taken up.

"Inspections and examinations at high schools are done only on request or . . . emergency. Parochial schools desiring . . . have the same service as the public schools. Inspection for contagious disease in parochial schools is enforced. In making physical examinations, we begin with the pupils in highest grade, completing one school before beginning 'physicals' in another.

"The daily routine is as follows:

"Inspection is first made for contagious diseases, after which ten or more physical examinations are made.

"The health officers request principals to have all pupils in readiness for inspection who have been absent four consecutive days . . .

"All children to be examined are sent to a room by themselves. . . . Inspection is made with reference to communicable diseases and vaccinal status of pupils.

"Pupils with marked defects needing immediate attention . . . referred by the principal, teacher or nurse, are examined without delay. If agreeable to the principal, Friday is [the] . . . day for such emergency examinations.

"Health officers are forbidden to make any suggestions as to the treatment or management of pupils who are sick. This command is imperative.

"Beginning November 1, each year, medical officers vaccinate free of charge any child or pupil who may apply to them for vaccination; . . . vaccinate no child without the consent of parent or guardian.

"Health officers carry with them the following supplies Circulars on Prevention of consumption; The vaccination creed; special circulars on each of the infectious diseases, and warning slips to distribute and post in public places; wood spatulas for tongue depressors [Each tongue depressor is used only once and then burned]; culture media and outfits for Widal test."

The blanks follow in the order in which they are used: Family history; physical record; medical inspection of schools exclusion; non-exclusion notification of abnormal condition; health officer's daily report; card for child to take to physician and return to school nurse; health officer's monthly report;

A summary of the reports of the school medical inspectors of the Department of Health, of Chicago, for the year 1909, gives the following statistics:

Of the total number of children examined, 123,897 (51 per cent) were defective.

Defects.	Per cent of the total defects.	Defects.	Per cent of the total defects.
Teeth defects	32.3	Skin diseases	1.8
Tonsils hypertrophied	20.0	Orthopedic defects	1.0
Vision defective	15.9	Heart diseases	.6
Glandular enlargement	12.3	Mentality defective	.5
Nasal affections	4.8	Nervous diseases	.4
Adenoids	3.0	Pulmonary diseases	.3
Anemia	2.6	Palate defects	.2
Nutrition imperfect	2.2	All other defects	.1
Hearing defective	2.0		

East St. Louis. Board of education. Retardation. *In its* Annual report, 1910–11. p. 34–46. tables (Grades 1–12)

"Of 534 pupils marked to repeat the work of next term," 48 suffered from physical defects; 44, mental defects.

In all white schools, pupils, 6,842; over age, 676, or 39 per cent. In all colored schools, pupils, 1,082; over age, 714, or 09 per cent.

HEDGER, Caroline. Physical examination of below-grade children. Illinois medical journal, 15: 433–39, April 1909. tables.

Examination of 208 (125 boys; 83 girls) below-grade public school children in Chicago.

	Boys.	Girls.
	Per cent.	*Per cent.*
Cervical glands	89.6	95.1
Goitre	23.2	25.3
Hypertrophied tonsil	55.2	65
Irregular pulse	23.2	19
Hemic murmurs	50.4	86.1
Transmitted apical murmurs	11.2	10.8
Lateral curvature	29	39.7
Negative lungs	41.6	43.3
Suspicious lung findings	40	43.3
Positive lung findings	18.4	13.4
Cough	8	19
Pediculosis	40	72.3
Bad teeth	25.6	25.2
Tea and coffee	99.1	100

Quincy. [Board of education] Medical inspection. *In its* Annual report of the public schools, school year ending June 30, 1911. p. 31–38. tables.

Total number inspected	3,018
Defective	1,191
With defective eyes	284
With defective hearing	87
With throat defects	770
With nasal defects	336
With defective teeth	292
With malnutrition	5
With nervous trouble	23
With kidney trouble	2

Physicians assigned to the various schools, for the inspection, at a joint meeting of the committee of the Adams County medical society and the board of education.

Signed by Committee of board of education, *and* Superintendent of city schools Edward G. Bauman.

KENTUCKY.

HANCOCK, D. O. School sanitation. Kentucky medical journal, 9: 724–26, October 1, 1911.

Proposes a "Health committee for each school, composed of four members, the teacher, a physician, and a woman and a man who are each patrons of the school. . . .

"That this committee have immediate charge of health matters in the school and district; that it be organized, president, secretary and medical inspector; that it have meetings once each month and oftener if needed; that it keep records of its doings; . . . that this committee see to it that the schoolhouse is properly constructed and kept; that conditions are such as will insure the comfort and health of teachers and pupils; that contagious diseases are immediately controlled; that infectious diseases are not carried to the school.

"There is a useless and criminal sacrifice of time, comfort, health and life in our schools which should not exist. . . . The remedy is immediate supervision by those who are on the field and who have personal interest at stake."

Following this address of Dr. Hancock before the Henderson county teachers' institute, August 24, 1911, a resolution was adopted:

"*Resolved*, That the county superintendent of schools is hereby requested by the institute to appoint a health committee as suggested by the paper of Dr. Hancock, in each school district in Henderson County; that the teacher and trustee of each school are hereby requested to organize the committee thus appointed and to assist it in doing the work contemplated; that the county superintendent have printed a list of these committees for use in organizing for school sanitation."

LOUISIANA.

New Orleans. Superintendent of schools. [Report of the] Department of hygiene. *In his* Annual report, 1910–1911. p. 85–142. tables.

Reported as defective by grammar and primary grade teachers, 2,339 pupils; and 85 kindergarten pupils.

	Boys.	Girls.
Total examined, 1,303:		
Defective hearing	22	20
Enlarged glands	454	823
Defective vision	193	280
Defective breathing	156	91
Defective teeth	499	360
Hypertrophied tonsils	161	151
Adenoids	77	50
Other defects	96	50

From September 26 to June 16, the total was:

Scarlatina	231
Diphtheria	145
Measles	660
Smallpox	12

Among nonquarantinable exclusions were:

Impetigo	57
Scabies	215
Pediculosis	197
Eczema (chronic)	27

Applicants for teachers' positions and pupils entering normal school required to stand a physical examination.

MAINE.

Augusta, Maine. Board of education. Medical inspection. *In its* Annual report, 1910–11. p. 29–33. tables.

"Organization of this department is as follows: First, the employment of two physicians. . . . Second, an annual ear and eye test, conducted by the teachers. . . . Third, an annual inspection of the teeth by the dental inspector. . . . Fourth, the distribution of the health leaflets issued by the State board of health. . . .

"Medical inspectors shall visit and inspect monthly each building assigned to them; shall examine any teacher or school employee whenever such examination is necessary; . . . shall visit each schoolroom at least once a year and make a general examination of the pupils; . . . shall examine all pupils referred by the board, the superintendent, principals, or teachers; . . . and shall exclude from school any employee or pupil whose presence is dangerous to the health of the school. They shall furnish teachers such information and instruction as they may deem necessary in the interest of health. They shall report to the superintendent any insanitary condition in or around school buildings. . . . Medical inspectors, and school employees acting as such, shall give no treatment."

TABLE III.—*Eye and ear test.*

	2d grade.	3d grade.	4th grade.	5th grade.	6th grade.	7th grade.	8th grade.	9th grade.	High	Rural.	Total.
Number examined	157	156	167	117	131	121	115	76	255	163	1,458
Number having eye trouble	44	32	29	13	11	9	11	6	28	25	208
Number having ear trouble	12	9	5	2	.....	10	2	1	2	6	49
Total number defectives	40	35	27	12	11	15	13	7	29	25	214
Per cent of defectives, all kinds	25.5	22.4	16.2	10.2	8.4	12.4	11.3	9.2	11.2	15.3	14.6

TABLE IV.—*Showing results of dental inspection in the schools.*

	Kindergarten.	Grade. 1	2	3	4	5	6	7	8	9	First year high.	Rural.	Total.
Number examined	60	173	135	142	157	115	116	110	98	83	84	135	1,390
Number who received dental attention	16	19	30	22	35	33	39	50	60	48	57	22	431
Number of cases teeth need cleaning	50	156	132	104	142	93	92	76	64	43	49	118	1,119
Number of cases decayed teeth	46	151	127	97	145	88	88	68	61	34	50	123	1,078
Per cent having defective teeth	76.7	87.2	94.0	68.3	92.3	76.5	73.9	61.8	63.5	50.0	61.7	91.1	77.3
Per cent who had received dental attention	26.6	10.9	22.2	15.0	22.3	28.7	33.9	45.4	62.5	70.6	70.4	16.0	31.0

Maine. State superintendent of public schools. Medical inspection. *In his* Report, 1910. Augusta, Kennebec journal print, 1910. p. 105–14. map.

Map showing States having medical inspection, p. 114.
Law in effect, in Maine, July 1, 1909.

MASSACHUSETTS.

HANSON, Justice G. Medical inspection in public schools. Boston medical and surgical journal, 163:242–43, August 11, 1910.

"If careful systematic inspection is carried on throughout the State, succeeding generations because of it will be less burdened by physical and mental cripples, will be more free from contagious and infectious diseases, and will have a more intelligent conception of disease, and its cause and effect."

Discussion: p. 243–45 (Dr. Thomas F. Harrington.)

MARTIN, George H. Medical inspection in the public schools of Massachusetts. *In* Massachusetts. Board of education. Annual report, January 1911. Boston, Wright & Potter printing co., State printers, 1911. p. 164–193. tables.

Reprinted.

"All of the 33 cities and 297 of the 321 towns report in the annual school returns for 1909 that school physicians have been appointed. . . .

"In other words, 98 per cent of the school pupils in cities and towns are having nominal medical inspection. . . .

"From the returns received at the office of the board of education and the published reports of city boards of health, it appears that during the year 1909 there was spent for the medical inspection of school children the sum of $101,745.59. This is an average of about 20 cents per child. But as in some cities, where the inspection is in the hands of the board of health, the parochial schools are inspected as well as the public schools, and in Boston, which has about one-fifth of all the enrolled children in the State, the cost of inspection is much above 20 cents, the actual average cost outside of Boston is much below 20 cents.

"What school authorities should do is stated by the statutes . . . to be twofold:

"First, to provide for a general examination of all the children in the public schools at least once a year for any defect or disability tending to interfere with their school work.

"Second, a special examination of children (*a*) who show signs of being in ill health or of suffering from infectious or contagious disease; (*b*) who are returning to school after absence on account of illness or from unknown cause. . . .

"There is another function of the school physician. . . . The law says he shall make 'such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require.' . . .

"Dental clinics for school children have been established in a number of localities.

"In Lynn a dental dispensary was carried on in 1910 in connection with a neighborhood house. Fifteen Lynn dentists and 10 out-of-town dentists gave their services. A nominal charge was made of 15 cents for cleaning, 10 cents for extraction and 25 cents for fillings. One thousand and ten operations were performed upon children. . . .

"In Winchester . . . the dentists in town, nine in number, each give one-half day a week to work with needy cases, at a nominal charge of 25 cents per case. . . . The school nurse works in cooperation with the dentists. . . .

"The school returns show that the eye and ear tests have been given as required by law in all the towns and cities, excepting Otis and Mount Washington. Four annual examinations have been made since the law was passed. . . .

	1907	1908	1909	1910
Number of pupils examined	432,464	437,435	441,463	454,058
Number defective in vision	96,607	81,158	73,129	71,902
Number defective in hearing	27,387	29,601	20,167	17,329
Per cent of defectives in vision	22.3	18.5	16.5	15.8
Per cent of defectives in hearing	6.3	6.1	4.5	3.8

"One or more nurses are now employed in the schools of Amherst, Boston, Brocton, Brookline, Cambridge, Canton, Holyoke, Lancaster, Leominster, Lowell, Northampton, Northborough, Walpole, Waltham and Winchester."

SNEDDEN, David [Samuel] Problems of health supervision in Massachusetts. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 18–26.

Also in Journal of education, 75: 458–60, April 25, 1912.

"I. Legislative provisions.

"II. Application of laws.

"III. Problems of health supervision: A. How can health supervision be planned and organized so as to promote effective administration? B. What should be the distribution of the functions of health supervision among various possible agencies, such as teachers, nurses, physicians, physical trainers, and the home? C. What must be the character and training of those cooperating in this work? D. What shall be their relation to the existing school authorities? E. What will be the necessary financial cost of such service? F. What shall be the control of health supervision over the actions of parents and other non-school agencies affecting the children; and G. Is there needed provision of facilities for investigation and supervision by state authorities?"

BOSTON.

AYER, S. H. Medical inspection of schools in Boston, Mass. Boston medical and surgical journal, 164: 456–60, March 30, 1911.

Historical sketch; salaries, etc., Boston and New York.

Read at the Boston health conference, 1915, February 20, 1911.

COUES, William Pearce. The medical inspection of schools in Boston, the present limitations and future possibilities. Boston medical and surgical journal, 160: 746–48, June 10, 1909.

"The teachers in the various rooms send a slip down to some central place with the child's name, number of the room and symptoms of trouble. . . . The inspector summons the children to be examined . . . [and] examines them, writing on the slip the diagnosis and advice. He sees only the children whom the teacher sends slips for, that is, the primary necessity for medical inspection devolves on the judgment of the teacher. . . .

"One of the conditions which should be changed . . . so that the teacher can be freed from responsibility and care in this matter."

COUES, William Pearce. Some problems of school inspection. Boston medical and surgical journal, 164: 814–16, June 8, 1911.

Result of examination of 158 retarded pupils.

	Number.	Per cent.
Defective vision	41	25.9
Defective hearing	2	1.2
Chronic enlarged tonsils	122	77.2
Defective or carious teeth	127	80.3
Marked pallor	34	21.5
Markedly undersized	3	1.8
Extremely nervous	1	.63

"It is of interest to compare the result . . . with that of [1] 212 children of normal mental caliber; . . . 72 per cent of these children showed chronic enlarged tonsils; 50 per cent showed carious teeth. . . . It would seem from these statistics that chronically enlarged tonsils and the generally accompanying adenoids had little to do with the mental backwardness of these children, but that carious teeth might play a considerable rôle in the causation of this condition."

GALLIVAN, William J. Child hygiene. Monthly bulletin of the Health department of the city of Boston, 1: 29–36, 50, February 1912. tables.

Division of child hygiene "was created in March, 1910. It is concerned with the physical welfare of every child in Boston from the time of conception up to the age of 16 years. The work is classified . . . as follows: 1. Pre-natal and post-natal work. 2. Medical inspection of schools. 3. Physical examination of licensed minors.

"Medical inspection of schools begins at the kindergarten class and ends with the high schools. Of equal importance are the three objects . . . in view, as follows: 1. The detection of communicable diseases and the exclusion from school of every pupil so afflicted. 2. The protection of every pupil in the schools from contagion unrecognized by parent or teacher. 3. The detection of such defects which if untreated would result in permanent injury to the pupil.

"The board of health is emphatic in its stand against prescribing for any disease or defect discovered. . . . Every case requiring medical or dental aid is referred to the family physician or to the family dentist. Those who are unable to employ professional services are referred to reputable hospitals or dental clinics.

"Under the present system, the school physicians are under the authority of the board of health; the school nurses are under the authority of the school committee. The number of nurses employed is altogether inadequate for the work required. The board of health is ready to employ a corps of nurses to assist in school inspection, but up to the present time, they have not been willing to duplicate a system maintained by the school committee. A transfer, then, of the nurses from the school committee to the board of health would render medical inspection of schools as nearly perfect as human endeavor can accomplish.

"The school population at this date is [illegible]. This includes attendance in public and parochial schools. For this work there are employed [illegible] physicians, who are required to visit every school building on every school morning of the year."

[1] [illegible], February 17, 1912.

Result of the physical examination of school children in Boston for the year 1911–1912.

Total number of children examined	118,781
Total number of pupils without defects	40,889
Total number of pupils with defects	77,931
Defects noted as follows:	
Mental deficiency	501
Defective nasal breathing	9,693
Hypertrophied tonsils	25,121
Defective teeth	51,340
Defective palate	371
Cervical glands	13,711
Pulmonary disease:	
Pulmonary tuberculosis	133
Acute bronchitis	1,169
Asthma	63
Pleurisy	42
Miscellaneous	987
Cardiac disease	3,091
Nervous disease	505
Orthopedic defects:	
Tuberculous	693
Nontuberculous	1,181
Skin	5,243
Rickets	1,019
Malnutrition	3,891

SMITH, C. Morton. Diseases of the skin. Boston medical and surgical journal, 166: 623–24, April 25, 1912.

A complete physical examination, September 13 to December 31, 1911, showed 11,691 children in the Boston schools, having skin diseases. The number was exceeded only by decayed teeth, hypertrophied tonsils, defective nasal breathing and enlarged cervical glands. The common diseases are scabies, pediculosis, impetigo, and ringworm; these four were found in the schools no less than 6,428 times, or 55 per cent of all the skin affections reported. There were 5,257 children with pediculosis.

CAMBRIDGE.

Cambridge. Board of health. School inspection. *In its* Annual report, year ending December 31, 1910. p. 37–41:

Signed: Bradford H. Pelree, M. D.

Concerning the school nurse see p. 40–41.

Six public school and 5 parochial inspectors; and 2 school nurses.

Number of pupils ill and defective, 1,870.

Chicken pox	22
Diphtheria	2
Eczema	35
Gonorrhea	0
Laryngitis	5
Measles	4
German	0
Mumps	6
Scarlet fever	2
Syphilis	0
Tonsilitis	71
Tuberculosis, pulmonary	3
Tuberculosis, other forms	1
Whooping cough	0

Eyes.

Conjunctivitis	79
Corneal ulcer or opacity	4
Keratitis	1
Strabismus	15
Imperfect sight	27

In two schools located in the same section of the city, one, rather closely surrounded, and not well ventilated, has had many cases of scarlet fever and diphtheria for several years. The other school, older and in an open space, has had but two cases of diphtheria and one of scarlet fever in more than a year.

CANTON.

CABOT, Arthur Tracy. School inspection in small towns. *In* American school hygiene association. Proceedings, 1911. Springfield, Mass., American physical education review, 1911. p. 40–43.

Also in Boston medical and surgical journal, 164: 633–34, May 4, 1911.

The town's appropriation being too small for payment for systematic medical inspection, at a town meeting in 1908, a school nurse appropriation of $500 was made, a trained nurse to begin at the opening of the next school year. The work, which also included the parochial school, was found to be so satisfactory that for the year following, $950 was appropriated.

The nurse looks after 900 children; makes examinations at beginning of year, keeping card record; keeps record of any illness they have; children with any infirmity of eyes, ears, throat or general condition, are referred to their physicians; children requiring specialist's aid are taken by her to a public clinic in Boston. She gives hygiene talks in the schools, and visits the homes. "We have found the work of the school nurse thoroughly satisfactory in giving the town what seems adequate inspection and control of contagious disease."

The neighboring town of Norwood adopted same system; Milton, planning the same.

WELLESLEY.

CANAVAN, Myrtelle M. Medical data of the examination of 2,333 supposedly normal adult young women. *In* American school hygiene association. Proceedings, 1912. Springfield [Mass.] American physical education review, 1912. p. 76–91. tables. record blanks.

The physical examination system of Wellesley college; data covering examinations from 1906 to 1911; average age of students, 19 years.

Percentages of orthopedic defects.

	Per cent.
1. Back, curvature	35
2. Shoulders, uneven	53
3. Hips, uneven	43½
4. Legs:	
(a) Knock-kneed	21
(b) Bow-leg	8½
(c) Unequal	8
5. Ankles pronated	70½
6. Longitudinal arches:	
(a) Flat	12
(b) High	5
7. Anterior arches, flat	11½
8. Toe joints enlarged	3½
Deaf or partly so	2½
Nose, hypertrophy of turbinate	13
Tonsils enlarged	28½

While 17½ per cent had had throat operations, and 15 per cent of these, for removal of tonsils or adenoids, tonsils were found enlarged in 28 per cent.

	Per cent.
Eye lesions	12½
Glasses worn	37
Nutrition poor	19
Teeth:	
(a) Missing	12½
(b) Cavities	4
(c) Poor or irregular	1
Menstrual disorders	23
Enlarged lymph nodes	12
Heart lesions:	
(a) Organic	3
(b) Murmurs, no symptoms	17½
(c) Other lesions	5
Sports:	
(a) Qualified	86
(b) Disqualified	3

Unusual lesions for the most part are stigmata of degeneration, 74 different sorts.

WORCESTER.

EMERY, George E. Medical inspection in two Worcester schools. Pedagogical seminary, 17: 111–18, March 1910. tables.

"Fifteen inspectors were appointed in Worcester by the board of health and began work in October, 1906.

"Our duties were to inspect such children as were referred to us by the teachers, and make weekly reports of such inspection.

"October of this year [1909] blanks were furnished by the board . . . and a systematic inspection of all the pupils was begun The tests for sight and hearing are conducted by the teachers, but . . . they are by no means complete and many of the record cards show normal vision when serious defects are really present. . . . There is no test card for astigmatism. . . .

"In the fifth grade only 34 per cent had enlarged glands. . . . In the sixth grade 80 per cent . . . and for the whole school 55 per cent. . . . The general nutrition of the pupils is . . . 63 per cent good, 32 per cent medium and only 4 per cent poor. . . .

"I was not surprised that a large number should have poor teeth; but I was surprised that the average number per pupil should be so high; that is eight in the first grade and nearly four in the ninth grade. . . .

"The school nurse should be the link between the school and the home, but in Worcester that link is missing. . . . The district nurses do help but . . . can give but little time to this work."

MICHIGAN.

Grand Rapids. Board of health and Poor commissioners. Report of School examiner. *In their* Annual reports, year ending March 31, 1911. tables.

Inspection for physical defects was ordered discontinued by the board of health, on December 6, 1910, and inspection is now made for contagious diseases only.

The following is a report of work from May 1, 1910 to April 1, 1911:

Contagious diseases discovered.

Itch	7
Whooping cough	23
Measles	418
Typhoid fever	1
Scarlet fever	17
German measles	52
Mumps	26
Chickenpox	23
Smallpox	2
Total	570

Physical defects discovered (May 1, 1910, to December 1, 1910.)

Glandular	1
Nervous	3
Stomach	1
Hernia	1
Defective teeth	11
Deformities	1
Hypertrophied tonsils	43
Ear trouble	1
Adenoids	3
Skin trouble	4
Total	70

The total number vaccinated was 245. The acting school examiner is Leland H. Gilleland.

KIEFER, Guy L. Medical inspection of school children. Dental summary, 31: 264–68, April 1911.

In Detroit, 50,501 children were examined by the medical school inspectors; 3,499 excluded for contagious diseases; 818 cases of tonsilitis; 12, of scarlet fever. Physical defects were found in 2,118 pupils: Of these 508 had defective eyesight; 204, diseased eyes; 136, defective hearing; 906, enlarged tonsils or adenoids, or both, and 210 had defective teeth.

Beginning October 23, 1909, to May 7, 1910, the Detroit district dental society, in its free dental clinic, attended to 234 children.

MARTINDALE, W. C. How Detroit cares for her backward children. Psychological clinic, 6: 125–30, October 15, 1912.

In the fall of 1910 the department of special education was organized and the nine special rooms, the classes for cripples and schools for stammerers, were placed under the direct supervision of the general supervisor.

Binet-Simon tests are used to determine the mentality. If no results follow notification to parents the school principal calls upon the regular school physician to make a physical examination of the child, to ascertain if the backwardness be due to defective vision, defective hearing, adenoids, enlarged tonsils, or nervousness. The principal reports result to parents; if parents are unable to provide the needed medical attention, the principal reports the case to the child study committee; upon note from the secretary of the committee, Detroit's best specialists give free assistance to the children. Where children can not afford spectacles, they are provided through fund set aside by the Detroit teachers' association.

Since September, 1911, 215 pupils have been tested for defective vision and provided with glasses.

After the child's physical defects have been remedied, if his mental condition still remains unchanged, the Binet examiner, appointed by the board of education, then visits the school and gives him the Binet test. The special physician, appointed by the board of health to work under the direction of the board of education, visits the school and makes a physical examination of the child. "The statement of the parent as given in the report sent to the secretary of the child study committee by the principal, together with the child's school history, reports of the Binet examiner and of the school physician are then passed upon by the child study committee.

"In the cases of low grade children whom the committee thinks it advisable to exclude, a second examination is made . . . by one of the mental specialists of the child study committee consultation staff . . . and usually results in the exclusion of the child. . . . Since September, 1911, 488 cases have been examined. The committee recommended 190 of this number to the special rooms."

MAY, George A. The result of one thousand nose and throat examinations. American physical education review, 14: 636-44, December 1909.

Examinations made at the Waterman gymnasium, University of Michigan.

There were found in 1,000 students, mostly freshmen, 157 deviated septa; nasal spurs and ridges, 398; adenoids large, 36, moderate, 145; chronic tonsilitis, 4; lacunar, 8; chronic tonsillar inflammation with hypertrophy, 191 cases; symptoms of frequent nasal bleeding, 170; 85 without accountable etiology; simple chronic rhinitis, 54 cases; atrophic rhinitis, 12; larynx, acute inflammatory conditions, 105. Eighty-three complained of more or less chronic hoarseness. There were 38 hay fever cases. Seventy-six gave a history of some nose and throat operation.

The main object of the paper is to point out the necessity of an examination of this character. The ideal time for such would be the childhood period.

WARTHIN, Aldred Scott. Thy physical health of the University. Michigan alumnus, 16: 70-73, November 1909.

The University of Michigan.

"At the beginning of the present college year the department of medicine and surgery adopted methods tending towards a better physical knowledge of the medical students particularly with reference to the occurrence of tuberculosis. Each medical student is to report once a semester to the department of internal medicine for an examination. . . . The need for such systematic examinations has been strikingly shown in the medical department. For the last four or five years 3 to 6 cases of tuberculosis have been discovered annually in the junior and senior medical classes—about 4 per cent of the class on an average. . . . Very few cases are discovered in the freshman or sophomore years. . . .

"Out of 200 women examined [in the gymnasium] the examiner discovered 8 suspicious cases, 6 of which gave positive evidence of incipient tuberculosis."

MINNESOTA.

MINNEAPOLIS.

Minneapolis. Board of education. Report of the Supervisor of hygiene and physical training. *In its* Annual report, year ending June 30, 1911. p. 89-94 (98)

Signed: Charles H. Keene, M. D.

January 1, 1911, a system of medical inspection was inaugurated, conducted by seven physicians and seven nurses. During the five months medical inspection has been in operation, 19,082 inspections made, 7,102 being physical examinations. Of these, 72 per cent were found defective; most common defect, hypertrophied tonsil, 35 per cent of those examined having this defect; 33 per cent, defective teeth; 28 per cent, adenoids; 24 per cent, enlarged glands; 18 per cent, defective vision; 11½ per cent of anemia; 6½ per cent, malnutrition; 2,873 cases have been treated, "who would not otherwise have received treatment."

ST. PAUL.

MEYERDING, E. A. School health. St. Paul medical journal, 14: 246–55, May 1912.

General summary. Medical inspection in St. Paul, p. 248–250, 253. Page 253 contrasts conditions between two schools; one among a foreign-born and laboring-class population and the other "one of the best from a social standpoint."

	Hill school (good social class).	Harrison school (labor class).
	Per cent.	*Per cent.*
Requiring dental attention	40	82
Malnutrition	[1] 9	20
Uncleanliness	2	10
Skin disease	[1] 1	5

[1] Less than.

St. Paul. Board of school inspectors. Medical inspection. *In its* Annual reports, school years ending June 9, 1909, and June 10, 1910. p. 57–59. illus.

Department of medical inspection established along lines outlined by the superintendent of schools. One physician employed to give three hours each day from 9 to 12 to the schools and to maintain office hours from 9 to 12 on Saturdays at the school board rooms. He began his work with one nurse assistant and later three nurses were assigned. Medical inspection entirely under the school authorities' supervision. "Our experience strengthens the conviction that it should always be so. . . .

"The medical inspector shall make recommendations on matters affecting the physical environment of children such as the building lot, the drainage, heating, plumbing, ventilating, water supply, drinking facilities, sweeping, scrubbing, use of disinfectants, deodorizing, fumigating, etc.

"He shall go from building to building and shall make systematic examination of all pupils in the elementary schools reported to him by teachers and principals and such other pupils as may appear to him physically defective.

"He shall be accompanied and assisted in all his work by a school nurse who shall record all findings, and report to parents. The medical inspector shall not be permitted to give any treatment to children except temporary assistance, or in cases of emergency. . . . The medical inspector shall also send notice to the parents or guardians of pupils lacking in cleanliness or needing treatment; he shall be authorized to exclude pupils. . . .

"He shall give such instructions to principals and teachers as will make them familiar with the more conspicuous symptoms of physical and mental deficiency, to the end that they may suggest only those who are really abnormal to the inspector for examination. He shall give instruction to teachers, respecting vision and hearing tests, and on such matters relating to the physical inspection of children as will promise the assistance and cooperation of teachers and principals in the work of his department."

During the school year 1909–10, a systematic examination of 3,245 found 2,085 behind grade; 28 per cent of them backward in studies because of physical conditions.

The following is a summary of the work of two nurses:

	Total.
Rooms inspected	343
Contagious diseases discovered	170
Communicable diseases (not contagious)	243
Surgical dressings and treatments	182
Pediculosis	609
(Cured, 442.)	
Taken to dispensary or doctor	482
Defective vision, attention received	203
Defective vision, glasses secured	144
Defective nose and throat, attention received	270
Defective nose and throat, operated upon	103
Malnutrition	118
Enlarged cervical glands	26
Pulmonary diseases, attention received	9
Tubercular diseases, attention received	8
Heart disease, attention received	20
Teeth, use of brush taught	2,000
Teeth, attention received	220

MISSOURI.

St. Louis. Board of education. Department of school hygiene. *In its* Annual report, 1909. p. 176–88.

History of the St. Louis department of school hygiene. Work to begin opening of school year, September, 1909.

The supervisor of hygiene is required to be a skilled physician. He must devote his entire time to the work of the department. The inspectors must be graduates of medical colleges of recognized standing, and devote themselves to this work for ten months in each year. They must during all school hours be engaged in their investigations in the school buildings, and during the school term use such further time as shall be required for making the necessary examinations and reports. Supervisor and inspectors must not treat any case of physical defect or disease that has been discovered by them while engaged in the work of the department. The work must be conducted under such further regulations as may be prescribed by the superintendent of instruction with the approval of the board of education. Bacteriological laboratory to be opened in board of education, or in some school building, and to be equipped with necessary instruments and supplies.

St. Louis. Board of education. Department of school hygiene. *In its* Annual report, 1910. p. 199–213; 314–16. tables.

The school year of 1909-10 saw the first actual work of the department of hygiene. A supervisor and five inspectors were authorized by the board of education on February 9, 1909.

"When the inspector arrives at a school, he at once notifies the principal, who, in turn, through a monitor, informs the teachers that the inspector has arrived and he is ready to care for reported cases.

"The teacher having previously filled out the teacher's diagnosis card, Form 11-C [form follows], sends the child with this card to the inspector. The inspector makes his examination and enters his diagnosis on this card and fills out, in duplicate, Form H-A [form follows]. He instructs the child to deliver the card . . . to the parent or guardian.

"If a child is found to be suffering from a contagious or infectious disease, he is at once excluded and the city health department is notified on the form . . . [form follows]. This terminates the relation of the department of hygiene with the child until he or she is ready to reenter school, at which time the health department notifies us . . . that quarantine restrictions have been raised. The child is reexamined by the inspector of hygiene. . . .

"In case of . . . physical defect, the diagnosis card [Form 11-C] is set back a certain number of days in a follow-up file and at that time the pupil is reexamined and his condition . . . entered upon the card.

"The cases of noncommunicable disease are handled in the same manner as the cases of physical defects except where . . . a menace to the other children. The pupil suffering from such a disease is excluded until, in the opinion of the inspector, he may properly return to school."

Each school in the city has an emergency surgical chest. For absence of three days, the teacher reports to the inspector of hygiene for her school; he tabulates all the reports from the same school and reports them to the health department, filing a duplicate with department of hygiene. On receipt, the health department district inspectors visit the homes of children so reported and report back, to the principal and inspector, the cause of the child's absence; the case is followed up by the attendance department, if the cause is other than illness. The health department makes a daily report to the department of hygiene of all contagious diseases reported to it. During the summer of 1909 a record of all such cases was kept by the supervisor of hygiene, and a letter was sent to the infected homes and to the principal of the school in the district in which these homes were located, requiring the children to be examined by the assistant health commissioner, or by the department of hygiene, before admission to school. Principals were directed to refuse admission unless the child brings a certificate from one of the two examining officers. The inspector makes thorough examination of all suspected contact cases for contagious diseases and these are under daily inspection. All children are examined in a school where scarlet fever has been found, the case is at once excluded, health department and the building commissioner are notified, and fumigation is made after school dismissal (p. 205-209).

See also Report, 1911; p. 141-180 (Regulations and work of the six school nurses added to the department of school hygiene, and cards).

NEW JERSEY.

HOLMES, George J. Educational hygiene and prophylaxis. New Jersey Journal of the medical society, 9: 229–31, October 1912.

Newark requires the medical inspector "to devote two hours each day, the hours of service to be at the convenience of the school authorities."

Cost to the city department of medical inspection in 1909-10 was 21 cents per pupil; in 1910-11, 41 cents per capita. The increased cost was justified by results. Forty thousand fewer days were lost by quarantine in 1910-11 than in the previous year, and a decrease of 38 per cent in the number of buildings in the city quarantined in 1910-11 than in 1909-10. In 1910-11 there were 24,000 more inspections

made by the department, with 843 fewer exclusions, and the 15,625 more physical examinations show a gain in amount of work and character of same.

"During 1910–11, 24,310 physical examinations were performed—61½ per cent of this number were found to have one or more defects and 38½ per cent were found normal.

"Chief among the defects are:

	Per cent.
Enlarged glands	2
Defective vision	20
Defective hearing	2
Defective nasal breathing	7
Defective teeth	47
Enlarged tonsils	30
Adenoids	12
Mentality (percentage based on number found defective)	2

"Were I asked to establish medical inspection in a city . . . I would employ first of all, sufficient trained nurses to carry on the major part of the work. The only part of medical inspection that cannot be conducted by nurses trained in school work is the examination of the heart and lungs. . . .

"I would have these nurses under the direction of a trained physician who should be expected to devote the entire day, from 9 to 5, to school work. Medical inspection should not be carried on in public schools as a necessary evil, but as an indispensable benefit."

LAMSON, William J. The medical inspection of schools. Medical society of New Jersey. Journal, 7: 569–72, April 1911. tables. form.

Duties of a medical inspector, as adopted by the New Jersey State board of education, October 5, 1909, are as follows:

"1. He shall use the same skill in examining pupils as he would in the case of private patients.

"2. He shall arrange his visits to the school to suit the convenience of the school authorities and his own private work. He shall respond to emergency calls as quickly as possible.

"3. He shall make regular inspections: (*a*) In rural districts at each school at least twice a month; (*b*) in villages and small towns at least once a week; (*c*) in towns and cities at least three times a week, and in crowded cities daily.

"4. At the commencement of each school year he shall make a thorough physical examination of each pupil; and record his findings on cards assigned for this purpose: (*a*) Eyes, for farsightedness or nearsightedness, color blindness, squint and roughly for astigmatism, also the condition of the eyelids; (*b*) ears, for acuteness of hearing, adenoids, discharge; (*c*) throat, for enlarged tonsils, adenoids, nasal deformities or discharges; (*d*) teeth, condition and care; (*e*) deformities, spine, limbs, etc.; (*f*) skin, eruption, condition of scalp; (*g*) when practicable measurements, height, weight and chest measures; examination of heart and lungs.

"5. He shall exclude cases of contagious diseases, and send a written statement of conditions found.

"6. He shall from time to time examine into the sanitary conditions of all schools in his district.

"7. Any special work, such as frequent extra visits, vaccination or fumigation, shall be arranged for by mutual agreement between the board of education and the inspector."

MACDONALD, Joseph, jr. The object and intent of medical inspection of school children. New Jersey. Journal of the medical society, 9: 231–34, October 1912.

To be accomplished—

"First. By the appointment of a State medical school inspector as a member of the State board of education.

"Second. By the preparation of uniform blanks by the State board covering individual record cards for yearly examination; recommendation cards for treatment and exclusion cards for infectious or communicable diseases.

"Third. By requiring that duplicate reports shall be sent by the school inspectors to the school boards they are serving, and to the State board at Trenton; thus with other essential details . . . a most important department could be built up that would prove not only a great saving in expense to the community, now expended in carrying along physically deficient pupils, but would give us a stronger race of men and women physically and mentally."

Newark. Board of education. Report of Supervisor of medical inspection. *In its* Annual report, year ending June 30, 1911. p. 211–21. tables.

Comparative table of medical inspection in Newark public schools from 1901 to 1911, inclusive, p. 212.

	Total examined.	Physical examination.
1901	5,585	
1902	9,819	
1903	6,803	
1904	8,529	
1905	8,078	
1906	43,546	
1907	21,299	
1908	37,937	
1909	58,267	4,582
1910	172,550	9,045
1911	208,209	24,670

	1909–10	1910–11
Defective vision	1,380	3,003
Defective hearing	359	396
Defective teeth	2,255	7,124
Hypertrophied tonsils	1,869	4,588
Post nasal growth	596	1,866
Mentality	166	339
Total defective	5,903	14,954

Paterson. Board of education. Report of the Visiting nurse. *In its* Annual report, year ending June 30, 1910. p. 72–73. tables.

Inspection of School no. 4: Inspection begun of each child in the first fifteen classes of this school, April 12, 1910. Total number examined, 579.

Defective teeth treated ..... None.

(72 per cent had defective teeth.)

Pediculosis	210
Hypertrophied tonsils	45
Minor skin diseases	25
Defective nasal breathing	23
Defective vision	16
Trachoma	3
Defective hearing	13
Bad nutrition	7

REBER, C. E. Abnormal school children. School exchange, 3: 25–29, October 1908. tables.

A statistical résumé of examinations, 1908, made on various types of school children, both normal and feeble-minded. Discusses chiefly the retarding effects of adenoids upon body-growth, spine, vocal organs, teeth, palate, and mentality—"feeble-mindedness is more likely to be the effect of adenoids, and the causes that bring them about than that adenoids are the effect of feeble-mindedness. . . . Adenoids are a defect of civilization."

Trenton. Board of education. Medical inspection. *In its* Report, year ending August 31, 1909. p. 45–47.

Begun, January 1909. Six physicians and a school nurse appointed. Each pupil made the subject of a thorough yearly examination. A sanitary inspection of the school buildings, classrooms, grounds once each month.

Reports for six months give the numbers examined as 6,346; called to inspect different cases, 3,000.

Examined by teachers.

		Defective.
Vision	3,122	1,252
Hearing	1,462	152

	Examined by inspectors.	Defective.
Heart	5,664	92
Lungs	5,676	80
Throat	5,345	853
Naso-pharynx	5,337	677
Nasal septum	5,347	204
Teeth	6,346	2,174
Adenoids		229
Enlarged tonsils		916
Anemic		63
Debility		100
Catarrh		100
Eczema		41
Impetigo		63
Conjunctivitis		55
Strabismus		29

NEW YORK.

BAKER, Sara Josephine. Medical inspection and examination of school children. . . *In her* The Division of child hygiene of the Department of health of the city of New York. p. 61–93. illus. charts. tables. (City of New York. Department of health. Monograph series, no. 4, September 1912)

Vaccination of school children, p. 89–93:

"The conditions revealed as a result of these physical examinations were of sufficient importance to attract the attention of the health authorities to the necessity of more complete control of the health of the child during its school life. The postal card notifications resulted in obtaining medical care for only about 6 per cent of the physically defective children. It may readily be seen that, while such a system has value in definitely determining the physical condition of the children in the schools, the records soon amount to little more than the mere compiling of statistical data unless some definite and systematized effort be made to see that the children obtain proper medical care.

"It was the recognition of this fact that instigated the studies which resulted in the organization of the division of child hygiene. With its formation, and the appointment of a largely increased staff of trained nurses, it became possible to have the nurses visit the physically defective children in their homes in order to induce parents to provide proper treatment. This system of home visits by the nurses was inaugurated on September 15, 1908. As a result of their efforts, during 1909 83 per cent of the physically defective children obtained treatment, as opposed to the 6 per cent under the former system. The entire system as outlined was carried on with excellent results until January 1, 1912.

"Previous to this time it was recognized that, with a visit to each school each day by a medical inspector and a nurse, there was a certain duplication of time spent which might be eliminated with resulting financial economy. Experiments were carried on in two groups of schools during a period of three months in the spring of 1911 to determine the relative economy and efficiency of placing the control of contagious diseases in the schools in the hands of the school nurse, leaving the medical inspector free to devote his entire time in the schools to making physical examinations of the children. The experimental study having shown that such a system was feasible, it was inaugurated on January 1, 1912.

"The complete system of school medical inspection is carried on in 517 public schools with a registered attendance of 684,[illegible]7 pupils. In addition, 151 other free schools of the city receive a more or less complete series of inspections for the purpose of detecting contagious diseases. Seventy-four medical inspectors and 179 nurses are detailed to the work of school medical inspection under the immediate supervision of the staff of supervising inspectors and supervising nurses in each borough. Each inspector is assigned to duty in a group of schools with an average registration of 9,000 pupils. Each nurse is assigned to duty in a group of schools with an average registration of 4,000 pupils.

"Each public school in the city is visited each day by a nurse, except in certain outlying and sparsely populated districts where visits are made at less frequent intervals. Other free schools are visited upon request, or regularly once or twice weekly.

"*Routine inspection.*—1. At the beginning of each term each medical inspector makes a routine classroom inspection of each child in the schools under his charge.

"Thereafter the nurse makes a continuous routine class inspection of each child in the schools under her charge, following the same procedure.

"2. All cases of disease found are recorded on a special class index card, with the data in appropriate columns. A card or cards is made out for classroom, and the index kept in an accessible place in each school. Further data regarding each case is recorded on this class index card. Code numbers are used to indicate the kind of disease.

"3. All contagious diseases found are dealt with as described under the heading 'Morning inspection.'

"4. When a child is found to be affected with a marked form of physical defect, the particular defect is noted and the child referred to the medical inspector for a physical examination.

"5. All children ordered under treatment are referred to the school nurse and are thereafter controlled as described under the heading 'Morning inspection.'

"*Emergency cases.*—In the absence of the inspector all emergency cases are treated by the nurse in the school whenever other treatment is not available. Such cases are thereafter referred to the parents for future care.

"THE DIAGNOSIS AND CORRECTION OF NON-CONTAGIOUS UNTREATED PHYSICAL DEFECTS.

"1. The medical inspector visits each school under his jurisdiction for two successive days. A regular schedule is maintained, and the principals of the schools are thus informed of the dates of the inspector's visits. The principals are requested to instruct the children to report, in small squads, to the inspector for physical examination.

"2. Examinations are made in the following order: First. Children entering school for the first time; Second. Children especially referred by the principals or teachers; Third. Children belonging to the class to be graduated; Fourth. In the regular course, beginning with children of the lowest grades, and proceeding to the higher grades in regular order; Fifth. Classes of the same grade are examined in regular order in each school of the group.

"3. Each child is thoroughly examined for the following conditions: Defective vision, defective hearing, defective nasal breathing, hypertrophied tonsils, tuberculous lymph nodes, defective teeth, malnutrition, pulmonary disease, cardiac disease, chorea, orthopedic defects.

"4. A complete record of each physical examination is made on a special form. If a child is normal, the inspector sends such a report to the borough office of the division. If abnormalities are found, the record form is given to the school nurse.

"A duplicate record of each child's condition is also placed on file with the child's school record, thus affording to the educational authorities the fullest information in regard to the child's physical condition, and enabling them to take advantage of this information in adjusting the individual curriculum.

"The nature and results of the treatment obtained for each defect are thereafter noted upon this school record form by the nurse.

"5. Each defective child is given a copy of an appropriate form, properly filled out, to take home to its parents.

"6. If at the end of three days no notice has been received from the parents that the child is under medical care, and if the child shows no evidence of such care, a notice is signed by the principal and sent to the parents.

"7. If the parent calls at the school, as suggested, the inspector or nurse explains the nature of the defect and the need of treatment; if the parents do not respond within three days, the nurse visits the home and explains to the parent the character of the defect, the need of treatment and the beneficial results that may reasonably be expected to result from medical care. Repeated home visits are made by the nurse until treatment is provided or an absolute refusal is encountered.

"8. When parents are willing to have their children treated but are unable to pay a private physician and by reason of home duties or occupation cannot spare the necessary time to obtain treatment, the nurse takes the child to a dispensary, after the parent has signed a request to that effect.

"9. When treatment is obtained or refusal is met, the nurse records on the regular physical examination form and the school record form the character of the treatment. The first form is mailed to the borough office of the division, the second remains on file in the school.

"10. After the child has obtained treatment, it is again examined by the inspector, who records the improvement or non-improvement on the school record form and on the special form forwarded to the borough office of the division.

"Every effort is made primarily to refer those children who require treatment to the private family physician. If there is no private family physician and if, furthermore, the family is unable or unwilling to employ a private physician, the child is then referred to a dispensary or hospital for treatment.

"Inspectors and nurses are required to consult with the school authorities regarding the matters pertaining to school environment or the curricula which may have a bearing upon the health of the child.

"There are in the city of New York only 19 free dental clinics. Of these, only one is maintained wholly for the treatment of school children. This clinic is supported by a group of philanthropic citizens. The remainder of the clinics are connected with dental colleges or dispensaries, and provide treatment for adults as well as children. Only a few of these clinics fill teeth, and extraction is done in the majority of the cases of children who are able to obtain treatment.

"The need of free dental clinics is acute, and the department of health has asked the board of estimate to include in the departmental budget for 1913 an appropriation sufficient to employ 15 dentists and 8 nurses to allow the establishment of school dental clinics under the supervision of the division of child hygiene.

"*Clinics for School Children.*—It has been felt by the department that the test of the value of the system of school medical inspection was the character and results of the treatment obtained by the children. In order that the existing need for more facilities for treating the children might be met, and that the character of treatment given and the adequacy of results might be under control, the department has obtained in its budget for 1913 funds for the establishment of six clinics under the supervision of the division of child hygiene, exclusively for the treatment of school children. Statistical data of these clinics can not yet be given, owing to the short time they have been in operation.

"The location of the clinics is as follows: *Borough of Manhattan*—341 Pleasant Avenue; Gouverneur Slip. *Borough of Brooklyn*—330 Throop Avenue; 1249 Herkimer Street; 124 Lawrence Street. *Borough of the Bronx*—580 East One hundred and sixty-ninth Street.

"These clinics are open from 2 to 5 p. m. on school days, and from 9 to 12 a. m. on Saturdays. Each clinic has the following service: (1) Eye diseases: (a) Contagious eye diseases; (b) refraction. (2) Nose and throat diseases. (3) General medical diseases. (4) Skin diseases.

"The service at 341 Pleasant Avenue includes hospital wards of 14 beds and facilities for operations on trachoma, adenoids, and hypertrophied tonsils. Similar hospital service will shortly be ready at 330 Throop Avenue, 1249 Herkimer Street, and 580 East One hundred and sixty-ninth Street.

"The children are referred by the school nurse directly to the clinic, a special form of reference card being used. After the child reports at the clinic, the nurse assigned to duty at the clinic follows up the case, making home visits whenever necessary to see that the child remains under treatment until discharged."

BAKER, Sarah Josephine. The value of the municipal control of child hygiene. American journal of obstetrics and diseases of women and children, 65:1061–68, June 1912.

"In New York City since 1908, 727,750 children in the public schools have received a complete physical examination. . . . An average of 40 per cent were found to have one or more associated physical defects . . . with or without the most common defect that we find, namely, defective teeth. Thirty-five per cent of the remainder . . . were found to have defective teeth as the only physical defect. . . . In the schools alone the efforts of the division of child hygiene have resulted in an immense gain in school time for those children who were affected with contagious eye and skin diseases, the necessary exclusions: . . . for these reasons being reduced from over 57,000 in 1903 to slightly over 3,000 in 1911. . . .

"It has been alleged that the assumption by the city of the responsibility for the health of school children has made serious inroads upon the practice and income of private physicians. In order to ascertain the exact conditions . . . I have had tabulated for . . . 1911 the various sources from which children have received treatment. During that year, of the 65,150 children, 37,986, or 58 per cent, were treated by private physicians or dentists, while the remainder 27,164, or 42 per cent, were under the care of hospitals and dispensaries. . . .

"This work in the schools, with its control of the contagious disease situation, with the elimination of the school as the main focus of infection; the physical examination of each child as soon as it enters school, before it is allowed to graduate and as nearly as possible every two years in the interim; the instruction of the parents . . . and the follow-up work . . . was performed during 1911 at a per capita cost of $0.43."

BLAN, Louis B. Are we taking proper care of the health of our school children? Pedagogical seminary, 19:220–27, June 1912. tables. chart.

Writer records visit made in company with a school physician on a routine round in New York City.

"In one school, attended by 2,000 pupils, the visiting physician waited patiently for a report of sickness from the various classes. There was not one report of illness or a single case for medical investigation. This seems almost incredible. If this number of children had been previously examined surely some of them would need medical attention. . . . In another school . . . not one case of cardiac ailment was reported. In point of fact . . . two of these children had heart disease.

"In one case . . . 'pulmonary trouble' was registered on the health card but no medical attention . . . had been given. This case had been recorded three weeks prior. . . .

"In none of the schools of New York City has there ever been recorded a complete general history of the child.

"Bronchitis cases are never examined or attended. . . .

"There is not time enough to make adequate physical examinations. Each physician covers the ground assigned . . . in less than three hours and is paid little for the work he is doing.

"No complete physical examination of the entering or enrolled elementary school pupils to ascertain the health conditions of their vital organs has as yet been suggested.

"Actual number of deaths among New York City school children between ages 5–18, during year 1910–11 (*in part only tabulated*):

	Male.	Female.	Per cent of total deaths.	
			Male.	Female.
Tubercular disease (pulmonary)	123	208	9.1	14.6
Cancer	6	8		
Nervous (sense organs)	69	75	5.1	5.4
Circulatory (heart)	127	181	9.3	12.8
Respiratory	144	199	10.6	14.1
Digestive (intestines, stomach, etc.)	113	104	8.4	7.3

"This pitiful list of victims . . . demands serious and immediate attention. All entering pupils should be required to present certificates of medical examination as to the general and specific organic condition of their health, or else be compelled to undergo such examination before they are admitted to school."

In an emphasizing paragraph to this report, Dr. Luther Halsey Gulick says: "In general the medical inspection of school children in the United States is not having adequate results. A rather wide observation indicates that not one-quarter of the children who need medical attention get it. In most of the cases examinations are made and the diagnosis recorded on a card and filed away for future reference, but nothing actually happens to the child as a result of the examination." The writer sets forth a number of causes for this trouble In the first place the doctors are young and inexperienced. "In practically all cases, medical inspection is a doctor's secondary interest. . . . He has no intention of finding a career in medical inspection of school children. . . . The salaries . . . are absurdly small; the mean salary being about $300 per annum. . . .

"The work demanded of a medical examiner . . . is not the work for a beginner in medicine. It is the work of a highly trained, long experienced specialist. . . . There are not enough doctors to give either adequate or sufficiently frequent examinations. . . . There are not enough nurses to see to it that the prescriptions of the doctors are carried out. Without school nurses, medical inspection is of relatively little value."

New York academy of medicine. A Report upon the health conditions in the public schools of New York City. By the Committee on Public health, hospitals and budget of the New York academy of medicine. Medical record, 82:406–12, August 31, 1912. tables.

Executive-secretary, E. H. Lewinski-Corwin.

Reprinted.

Study made: "1. To summarise the present methods of safeguarding the health of school children. . . . 2. To analyse these methods and their results from a strictly medical point of view. 3. To enlist the interest and cooperation of the medical profession as a whole in the problem of school hygiene. 4. To give medical advice and assistance to the Departments of health and education in their efforts to solve these problems. 5. To support the reasonable demands of these departments for sufficient city funds to maintain proper health conditions in the public schools."

Physical examination for noncontagious defects.

Number examined:

1911	230,243
1910	266,426
1909	231,081

	1911		1910		1909[1]	
	Found defective.	Per cent.	Found defective.	Per cent.	Found defective.	Per cent.
Needing treatment	166,368	72.2	196,664	73.8	172,112	74.4
Found with defects other than teeth alone	75,857	32.9	101,602	38.1	102,150	44.2
With defects of teeth as only defect	90,511	39.3	95,062	35.6	69,962	30.2
With defective vision	24,514	10.6	29,634	11.1	30,408	13.1
With defective hearing	1,491	.6	1,519	.5	2,340	1.0
With defective nasal breathing	27,316	11.8	40,946	15.3	43,393	18.7
With hypertrophied tonsils	34,639	15.0	50,012	18.7	50,934	22.0
With defective nutrition	5,845	2.5	8,691	3.2	7,249	3.1
With pulmonary disease	483	.2	656	.2	744	.3
With cardiac disease	1,661	.7	2,370	.8	1,503	.6
With orthopedic defects	1,190	.5	1,683	.5	1,401	.6
With chorea	861	.3	961	.6	940	.4
With defective teeth	135,843	58.1	164,259	61.6	131,747	57.0
With defective palate	85	.....	153	.....	324	.1
With tuberculous lymph nodes	418	.2	759	.3	810	.3
Reported treated[2]	65,150	86.0	64,861	64.0	84,968	83.0

[1] Monthly bulletin of the department of health for April, 1912, p. 101.

[2] These figure do not include children reported with defective teeth as the only defect, whose treatment consisted only of instruction in oral hygiene.

Communicable diseases of the eyes and skin.

Year.	Trachoma.	Conjunctivitis.	Ringworm.	Impetigo.	Scabies.	Favus.	Pediculosis.	Molluscum contagiosum.	Miscellaneous.	Total.
1909	45,615	49,807	7,738	12,516	4,006	409	151,585	154	14,621	286,591
1910	20,888	26,855	9,067	2,251	.....	290	153,797	143	41,660	263,828
1911	15,245	25,941	4,083	7,713	1,768	220	162,045	98	11,660	248,771

Attention is called by the committee to the elements of the health conditions in public schools. The health work in the schools consists in: (1) Medical examination of school children for contagious and noncontagious defects. (2) The elimination of children found suffering from contagious diseases. (3) Calling of parents' attention to the defects of their children. (4) Direction of children to physicians and dispensaries. (5) Following the children up to see whether they received treatment. (6) Treatment in schools. (7) Instruction in personal hygiene. (8) Physical training instruction. (9) Segregation of backward and mentally defective children. (10) Sanitary care of schools.

The cost of inspection for the detection of contagious diseases amounted to $0.57 per 1,000 children inspected; the cost of each physical examination amounted, on an average, to $0.097, and the cost of the home visits of the nurses averaged as high as $0.00 for each case.

School work, 1912.

76 medical inspectors, at $1,200 per annum	$91,200
172 nurses, at $900 per annum	154,800
6 additional inspectors, i. e., supervisors, at $1,200 per annum	7,200
10 additional nurses, i. e., supervisors, at $900 per annum	9,000
4 medical inspectors (for physical examination of children for employment certificates), at $1,200 per annum	4,800
	267,000

The following is a summary of the reports of four borough chiefs, 15 medical supervisors, and 14 supervising nurses with regard to the present system of medical inspection of school children. The disadvantages of the 1912 system are discussed at length.

"*Morning inspection for contagious diseases.*—The reports are unanimous in disapproving of nurses diagnosing and excluding contagious cases, for the following reasons:

"(1) Their training has not fitted them for it physically or mentally.

"(2) They are overworked and unable, for lack of time, to perform their other duties, especially home visits, which is the essential part of their work. According to the statement of the board of health based on 300 cards selected at random, the amount of time devoted to home visits last year averaged three hours per nurse per day; this year the average is 43 minutes.

"(3) There is a duplication of work, because the inspectors have to visit each case excluded.

"(4) The nurses exclude many false cases, thereby causing the inspectors to waste much time in making unnecessary visits. . . . In 100 days they excluded 1,595 cases, or 16 cases a day, for 150 schools, and in 1912, 17 cases a day for 150 schools. . . .

"(5) The medical inspector is not able to keep in close touch with the school on account of the infrequency of his visits, so the 'school physician' no longer exists and the nurse can not take his place. Principals and parents naturally do not have the same confidence in her judgment that they have in the physician's."

"HIGH SCHOOLS.—With regard to medical inspection in high schools the following is a summary of the facts obtained, in answer to a questionnaire sent out to all the high schools of the city, some of which were visited in this connection by the executive secretary of the committee.

"(1) *For contagious diseases.*—Of the 11 schools reporting medical inspection for contagious diseases examinations are made by physicians in 5, and by teachers or nurses in the others. In a few instances inspections are made daily and in the others only in suspected cases. Most of the schools keep no records of the number of cases detected. One, however, reports from 25 to 50, and another 81 for last year. A number of schools send the suspected cases home, only 2 reporting that the board of health is notified. On the whole, responsibility is left with the class teachers, who are often indifferent and ignorant in this respect.

"The daily list of contagious sick reported to the board of health is too long for the teachers to go over every morning, and as a rule little attention is paid to it.

"(2) *For vision and hearing.*—Five schools report that examinations take place either by a physician or physical training teachers once a year or once a term. All others report that no examinations are made. Only 3 of the schools reporting examinations keep records, and in them 710 cases were found defective last year. In all of the schools where examinations are made, the pupils are advised to consult a physician, or go to a dispensary. Only three schools require the students to bring from their parents an acknowledgment of the school notice as to their defects.

"(3) *For defects other than those of eye and ear.*—In 7 schools no examinations are made. In 2 only are general examinations made by a physician. In others they are made by physical training teachers. In one school the examination applies to candidates for athletics only. In the 12 schools report-

ing examinations, some inspect the students once or twice a year, some once during the school course. One school reports that examinations are made for teeth; another (Wadleigh), where a physician is employed permanently, inspects for teeth, glands, nose, throat, heart, lungs, back, skin, nervous disorders, digestion, and nutrition. Other schools do not specify the kind of examinations made. No special rooms for examinations, outside of the offices of the physical training teachers, are provided. Records are kept in all but one school. Six schools notify the parents of the defects and advise them to have the children treated by physicians and dispensaries. Seven schools give corrective gymnastic exercises.

"The number of remediable defective cases found last year was 764 out of a registration of 7,255.

"Only two schools examine for tuberculosis, and three for parasitic skin diseases. Only one school (DeWitt Clinton) keeps a record of what is being done after the defects are pointed out to the students and their parents. This school reports 59 cases of flat foot, 59 cases of scoliosis, 8 cases of hernia, 27 of bad teeth, and 8 miscellaneous ailments rectified.

"NEED OF MEDICAL INSPECTION IN PAROCHIAL AND OTHER FREE SCHOOLS.—There are more than 209 parochial and other free schools existing in this city, which are either entirely out of the pale of the department of health control, or the control is minimized, owing to the lack of funds for carrying on this work. The Catholic parochial schools alone have, according to the statement of the superintendent of the schools, made at one of the conferences on the health condition of children arranged by the committee, a registration of about 130,000. The schools do not have their own physicians, and the health control existing in them is very unsatisfactory.

"SUMMARY.

"The matters pertaining to the health and comfort of the school children are confided partly to the care of the city health department and partly to that of the department of education. The health department does this work through the bureau of child hygiene; the department of education through a number of committees.

"I. *The department of health.*

"1. The work of the child hygiene division is carried on by physicians and nurses. (1) The duties of the physicians.—The physicians make physical examinations, diagnose suspected contagious disease cases excluded from school, make absentee and other home visits. (2) The duties of the nurses.—The nurses exclude suspected contagious disease cases, make class inspections, and do follow up work in the homes.

"2. The present system differs from the original plan in several particulars: (1) The nurses exclude suspected cases daily, instead of the physicians who used to visit the assigned schools every morning for that purpose. (2) The routine class inspections are made by the nurse once a month instead of by the physician once a term as formerly. (3) The physician visits each school for two days in succession, at an average interval of about 10 days, making physical examinations and visiting the excluded and absentee cases, while last year he devoted only the time that was left after the morning inspections to physical examinations in the school last visited.

"3. Advantages of the present system: (1) It has brought about some economy of money. (2) It has markedly increased the total working hours of the staff by substituting nurses working seven hours for physicians working three or four hours daily. (3) It resulted in an increase of physical examinations made by inspectors almost double that of last year. (4) The number of treatments for physical defects received by children has increased, due to the better supervision by the increased corps of nurses. (5) The total number of home visits made by nurses has increased, although the average number of visits per nurse has decreased.

"4. Disadvantages of the present system: (1) The dissatisfaction on the part of some physicians, nurses and school principals with the innovation of having nurses exclude children for contagious diseases. (2) The loss of school work occasioned by unnecessary exclusions due to faulty diagnosis. (3) The duplication of work caused by the inspectors visiting excluded cases at their homes to confirm diagnoses.[1] (4) The infrequent visits of the medical inspector to the school instead of former daily visits. (5) The discontinuance of physicians' consultations with parents. (6) The discontinuance of medical examinations for 'working papers' at the school.[2] (7) The overlooking of cases of tuberculosis by nurses in class inspections. (8) The markedly decreased amount of time devoted to home-visits by nurses. (9) The diminished control of the contagious eye and skin diseases, especially trachoma.

"5. The per cent of New York school children needing treatment for physical defects is over 70, about 40 per cent are found with defects other than teeth, and as large a number suffer from communicable eye and skin diseases.

"6. The proportion of children to one nurse is 3,968, and to one school physician 8,124.

"7. The physical examinations are not thorough. The children's clothing is not removed.

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[1] This is not actually very great, as during the 5 months, Jan.-June, 1911, 16 cases were excluded daily from 150 schools in Manhattan, while in 1912 during the same period the daily average was 17 for 150 schools, or 1 case to every 4 or 5 inspectors.

[2] Five and six entail considerable loss in the efficiency of the system.

"8. There is almost a total lack of free dental facilities for poor children.[1]

"9. The cooperation of parents in following the advice of the physicians is fairly satisfactory.

"10. There is very little cooperation on the part of medical practitioners and dispensaries.

"11. The cooperation of teachers and principals varies greatly, according to the individual school. It is largely a matter of the personal interest of the teachers and principals.

"12. The high schools have almost no medical inspection or supervision for their students.

"13. The parochial and other free schools have no, or very little, medical supervision.

"II. *The department of education.*

"1. The control of the factors affecting the health of school children which are under the care of the department of education are scattered among a number of committees, so that there is no concentration of responsibility, which interferes with efficiency of administration.

"2. The various matters pertaining to the health of the school child for which the department of education is responsible are as follows: (1) The sanitary conditions of the school rooms, i. e., cleanliness, light, ventilation, and temperature. (2) Proper janitor service. (3) The detection of and provision for backward and defective children. (4) Intelligent cooperation on the part of the teachers in the detection and correction of physical or mental defects. (5) Physical training.

"3. With the exception of physical training the control of these factors influencing the health of the child is at present unsatisfactory.

"4. Physical training in the schools and the gymnasium equipment may be considered satisfactory.

"RECOMMENDATIONS.

"1. The present system of medical inspection in the schools by the department of health has not had a fair trial and should be continued for another year at least, before any definite judgment as to its efficacy can be safely reached. Meanwhile the possibility of an arrangement by which the physician, rather than the nurse, could see the suspected cases every day and also have frequent consultations with parents should be seriously considered.

"2. In addition to their present work, the school inspectors should make a routine inspection of every class at the beginning of each term in order that the control of tuberculosis and some contagious eye and skin diseases may be stricter.

"3. The average number of children per nurse and per inspector is too large at the present time. Efforts should be made to make the budget estimates on a basis of school population. In view of the prevalence of physical defects, the average proportion at the present time should be one nurse to every 2,500 children and one physician to every 7,500.

"4. Physical examinations should be made more thorough and more frequent. The children, or at least the boys at first, should be stripped to the waist at physical examinations. The present plan of examining the child when it enters school, when it graduates and once in the interim should be changed. A child should be examined when it enters school and then every two years. The examination just before graduation does not have any particular importance.

"5. In the nurses' work special emphasis should be laid on the follow up work. The burden of clerical work should be lightened. The unnecessary copying of the nurses' and physicians' record on the class card of the child should be eliminated.

"6. The salaries of the nurses should be graded. Instead of their receiving, as a uniform wage, $900 a year, the initial wage should be $800, after a certain period of time increased to $900 and then again to $1,000. The gradation will act as a stimulus to efficient work.

"7. Medical inspection should be instituted in the high schools which are entirely deprived of it at the present time.

"8. The city should appropriate money for the enlargement of the force of the child hygiene department so as to enable them to undertake the inspection of parochial and other free schools.

"9. The medical practitioners and the dispensaries should be impressed with the importance of this work to the community and be urged to cooperate. Provision for dental clinics should be made, this being done if possible through the existing dispensaries.

"10. In the department of education the responsibility for the conditions affecting the health of the school child should be concentrated. An improved organization should be worked out which would bring under the jurisdiction of one committee the sanitary conditions in schools, the instruction of children in physical training and personal hygiene, the segregation and treatment of backward and mentally defective children, the instruction of teachers in matters of hygiene, mental defects and the commoner diseases in children, and cooperation with the health department which is a condition sine qua non for successful medical work in the schools.

"It is suggested that this might be done by extending the scope of the present division of physical training so as to include in it all of these activities, thus forming a special bureau of school hygiene.

"11. There is an urgent need of a larger corps of physicians in order to extend the facilities for the examination and study of backward children.

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[1] Dr. S. A. Knopf made an investigation of the dental facilities of the dispensaries of New York City for the public health committee of the City club. He found that over 16 dispensaries have dental departments with the average number of dentists in attendance 1-3. In only three dispensaries are special hours for school children arranged so as not to conflict with school hours.

"12. An effort should be made to so modify the present system of employing and supervising janitors of school buildings that the principal of each school should have full authority over and responsibility for the work of the janitor."

New York City. City superintendent of schools. Medical examination of school children. *In his* Annual report, year ending July 31, 1911. pp. 154–57, tables.

"Only 287,871, or considerably less than one-half of the total number of pupils in average daily attendance were examined at all. Of the 299,184 defects found, only 152,941 are reported as remedied.

"As I have frequently pointed out in former reports, the medical service rendered to the department of health is inadequate. The figures given above sustain this assertion. Only about one-fourth of the children in the schools derive substantial benefit from this service. The facts fully warrant me in again recommending that legislation be sought to enable the board of education to organize its own bureau of child hygiene. . . . Physicians employed by your board should be constantly on hand to advise regarding the school training of children suffering from physical defects, particularly nervous disorders and those resulting from malnutrition, and also with regard to the direction which the education even of normal children should take. The advice of a competent physician as to the physical ability of a boy or girl to accomplish any particular line of school work or to undertake the preparation for vocational work . . . would be of incalculable value to parents, pupils, and teachers."

SCHENCK, Herbert Dana. Medical inspection in schools and its status in New York State. North American journal of homoeopathy, 58: 644–51, October 1910.

"Of the 48 cities in the State outside of Greater New York, 31 sent in answers. Buffalo is the only city of the first class. In the second class are 7 cities, Albany, Rochester, Schenectady, Syracuse, Troy, Utica, and Yonkers, all but Syracuse reporting. Albany made so meager a report . . . it cannot be reckoned with, on most questions. Of the other 40 cities having less than 50,000 inhabitants each, comprising cities of the third class, 24 answered the 30 questions sent out by the [American School Hygiene Association] Of these 17 cities reported 383 schools under supervision. . . . Twelve of these cities have an organized system of medical inspection and in 9 the inspection is made for both contagious diseases and physical and hygienic defects, while in 2 others the vision alone is tested. In 2 others, contagious diseases are the only things for which an inspection is made; 12 cities follow up both cases of contagious diseases and of physical defects . . . and 6 more follow up only . . . contagious disease. In 10 cities it is reported that from 80 to 100 per cent are treated by reputable physicians. The inspection does not average more than one visit per week in most cities. . . .

"In 7 cities the parochial and private schools are also inspected for contagious diseases, and in several places for physical defects. . . .

"In four places the inspector is required to visit the houses to find out the cause of absence. . . .

"In 6 cities the books are fumigated once or twice a year. . . . In 14 of the cities the books and other materials of children ill with contagious diseases or in families where there have been contagious diseases are destroyed and in 14 they are disinfected. . . .

"Eight cities provide one or more nurses. . . . In 5 cities they perform the duties of a medical inspector in a limited way. In three cities the teachers are expected to do this. In seven cities a permanent [record of the] physical condition of the child is kept; 15 report none.

"The school authorities in 20 of these cities say that medical inspection has improved the hygienic condition of the schools, the efficiency of the children and the attendance. There are none reporting against it."

Summary:

"1. In no sphere has preventive medicine a better field than in correcting the physical and hygienic defects of school children, which are largely undiscovered until school life begins.

"2. The most economical, comprehensive and complete inspection must include examinations by the teachers, by medical inspectors and by nurses in 'follow up' work.

"3. Efficiency and cooperation will be better secured by having physicians employed by the boards of education examine for physical and hygienic defects as well as contagious diseases. As soon as the latter are excluded from school they should fall under the jurisdiction of the board of health.

"4. In New York State medical inspection is rapidly extending and widening its sphere. . . .

"5. As physicians and citizens it is incumbent upon every member to urge the necessity of comprehensive and accurate medical inspection for defects that impede progress as well as diseases which endanger others."

SHAFER, George H. School medical inspection in New York City. Pedagogical seminary, 18: 303–14. September 1911.

Cases of major contagious diseases are at once excluded. The inspector immediately telephones the name and address to the borough office of the division of contagious diseases, and duplicates this by a notice through the mail and again includes the case in his daily report. The division of contagious diseases at once sends a diagnostician; except in case of diphtheria or pulmonary tuberculosis. If the diagnosis is confirmed the case remains under the control of the division of contagious diseases.

Cases of tuberculosis are referred for treatment to the family physician, or to the department of health clinic and a special report is made to the chief of the division of child hygiene.

A few weeks after school opens in the fall, a general routine inspection of all children is made by the medical inspector. This routine is made at the beginning of each term, and is repeated by the nurse at least once a month.

Contagious diseases are designated according to a certain code as follows: (1) Diphtheria, (2) pediculosis, (3) tonsilitis, (4) pediculosis,[1] (5) acute conjunctivitis, (6) pediculosis,[1] (7) trachoma, (8) pediculosis,[1] (9) scarlet fever, (10) measles, (11) varicella, (12) pertussis, (13) mumps, (14) scabies, (15) ringworm, (16) impetigo, (17) favus, (18) molluscum contagiosum, (19) acute coryza.

When the physician diagnoses a case he calls out the code number, and the teacher puts down the name of the child with the code number.

There are three classes of physical examinations. 1. Routine physicals. 2. Work paper physicals. 3. Physicals for athletics.

Each morning as soon as the inspector has made his tour of inspections, he stops at one of his schools to make regular physical examinations. These cover the following points: Defective vision, defective hearing, defective nasal breathing, hypertrophied tonsils, tuberculous lymphnodes, pulmonary disease, cardiac disease, chorea, orthopaedic defects, malnutrition, defective teeth, defective palate. A measurement of height is also made.

The examinations are made in the following order: First the children entering school for the first time. Second, beginning with children of the lower grades and proceeding to the higher grades in regular order.

SMART, Isabelle Thompson. Examination of subnormal children. Women's medical journal, 22: 57-59, March 1912.

"Medical examination of school children should be included in every city, town and district in the State, and the *special examination of all children thought to be mentally backward or deficient should be in evidence everywhere.*"

Gives some statistics gathered in the course of the author's medical work, 1910-11, as special examiner of the mentally unfit in the public schools of Greater New York.

Of one group, numbering 2,500, there were 204 who needed actual hospital care. There were 627 requiring general medical care; and 90 cases in such poor physical condition as to make an outdoor class imperative. There were 145 cases of epilepsy, the major number of them of the more serious form known as grandmal; 947 cases of masturbation; 946 cases of speech defect; cases needing dental care, 1,560. "The eye defects," says the writer, "were appalling, and ranged . . . all the way from a simple, slight strabismus to congential cataract of *both* eyes and tuberculosis of the eyeball. . . . I found 1,608 children suffering from aural defects; [and] 1,716 cases who had adenoids, or enlarged tonsils. . . . Eighty-one children had chorea, or St. Vitus Dance, while there were 876 cases showing various other forms of nervous diseases. In addition . . . there were 446 hearts in a pathologic state . . .

"Is it any wonder that such children are seldom promoted; that they are reported as nervous and irritable; that they are with difficulty controlled, and that so many of them become truant?"

SMART, Isabelle Thompson *and* **MACY, Mary S.** On the medical examination of children reported as mentally defective in the public schools. Pediatrics, 23: 665-71, November 1911. tables. charts.

Reprinted.

Data collected in the course of routine examination of 6,245 school children in the public elementary schools of New York City. The children were all backward.

Result of examination of 6,245 backward children in New York City.

	Percentage of examined.
Eye defects	88.6
Ear diseases or deaf	67.7
Defective teeth	72.7
Tonsils alone enlarged	32.2
Adenoids alone enlarged	29.6
Tonsils and adenoids	30.1
Speech defects	41.3
Epilepsy	6.4
Chorea	4.4
Other neuroses	33.7
Tubercular suspects	8.2
Cardiac weakness	17.5
Nutritional disorders	68.7

[1] The repetition of Pediculosis "was originally intended to shield the pupil. In the examination the pupils file past the physician who calls out the code number to the teacher or nurse as the diagnosis is made. Any one of the four numbers was recorded as pediculosis." (Letter of author, U. S. Bu. educ., Div. sch. hyg.)

65.6 per cent of all examined were boys and 67.4 per cent of all assigned for treatment were boys.

"The problem is a good one, and fraught with serious consequences if public sentiment is not aroused to the magnitude of the increase in defective mentality, and if some definite legislation is not speedily enacted along the line of eugenics."

NORTH CAROLINA.

FERRELL, John A. Report. Status of hookworm disease in North Carolina. *In* North Carolina. State board of health. Thirteenth biennial report, 1909-1910. Raleigh, N. C., Edwards & Broughton printing co., 1911. p. 53–55.

Of more than 600 North Carolina college students examined for hookworm disease, residents of 50 counties, one-third were found to be infected. Probably one-fourth of the rural population are infected, the highest infection percentage being among school children.

The plan of campaign is as follows: 1. The State will be divided into 16 or 18 sanitary districts. 2. Five practical physicians of experience will be appointed as field agents. They will devote their entire time to the campaign against hookworm disease. 3. Each field agent will be assigned to a sanitary district. He will be expected to cooperate with the doctors, teachers and "all other forces which may lend a helping hand toward making the facts and methods for eradication, common knowledge. Wherever practicable examinations will be made free."

A conservative estimate gives the annual loss occasioned by hookworm disease, in the State appropriation for public schools, as $187,500.

HAYWOOD, Hubert, *jr.* Results of the examination and treatment for hookworm disease of the pupils at the State blind school for the white. *In* North Carolina. State board of health. Bulletin, 26: 175–78, August 1911.

Out of 172 pupils examined, 83 were infected with hookworm disease; about 56 per cent of the boys and about 42 per cent of the girls, with one or two exceptions all being from country districts, largely from farms; not a single case from a city or town where there was a sanitary sewerage system.

RANKIN, W. S. What County boards of health are doing. *In* North Carolina. State board of health. Bulletin, 26: 334–43, January 1912.

Board of health rules:

"That all children attending schools shall be vaccinated or be excluded from school after January 1, 1912. (*See* Exhibit A.)

"That the county superintendent of health shall be provided with a suitable stereopticon lantern and a full collection of lantern slides, and that he shall give illustrated lectures in all of the public schools of the county on important phases of sanitation.

"That the teachers in the public schools shall examine the children for the common physical defects, and report on suitable blank forms furnished them by the county superintendent of health. Probably defective children shall be examined by the county superintendent of health, who shall notify the parent of the condition of the child and of the proper course to pursue to secure the necessary treatment. (*See* Exhibits B, C, and D.)

"That the public school teacher shall report to the county superintendent of health all absences from school on a post card furnished them by the said superintendent. (*See* Guilford County Exhibit E.)

"That the county superintendent of health shall notify the teachers of public schools of the presence of infectious diseases in the families that have children attending their school. (*See* Exhibit F). . . . [He] shall visit and make examination of all school buildings and grounds during the school vacation every year; . . . shall keep a record on file in his office showing the physical condition, recommendations, and effects of treatment of defective school children that have been referred to him by the teacher." (*See* Exhibit G.)

STROSNIDER, C. F. The frequency of hookworm infection among the whites as compared with the negroes. *In* North Carolina. State board of health. Bulletin, 26: 167–69, August 1911. table.

In the examination of 3,429 school children, 2,092 of whom are whites and 1,337 negroes, 34 per cent of the whites are infected against 15 per cent among the negroes. The infection among the rural whites is three times as frequent as among the semi-rural and those whose homes have sewer connection; and the rural negroes were found five times as commonly infected as were those in the large towns. The percentage was always lower, excepting one case, among the negroes.

The infection was found to be higher among mulattoes than among full-blooded Africans.

NORTH DAKOTA.

North Dakota. State board of health. [The medical inspection of school children in North Dakota] *Its* Bulletin, 4: 3–5, September 1911. (*Caption:* Back to school)

Section 236 of the 1911 session laws reads as follows:

"The board of any school corporation may employ one or more physicians as medical inspector of schools. It shall be the duty of the medical inspector to examine, at least once annually, all children enrolled in the public schools of the district, except those who present a certificate of health from a licensed physician, and to make out suitable records for each child, one copy of which shall be filed with the county or city superintendent of schools. Notice of physical defects of abnormal or diseased children shall be sent to the parents, with recommendations for the parent's guidance in conserving the child's health. The medical inspector shall co-operate with the state, county, and township boards of health in dealing with contagious and infectious diseases and to secure medical treatment for indigent children. It shall be the duty of the county and city superintendents of schools to co-operate with school boards in promoting medical inspection. He may arrange schools by groups, especially in the rural districts, for the purpose of inspection, and shall advise school boards with a view to securing the most efficient and economical administration of this law. The school board or board of education shall furnish all blanks and other needed supplies for this purpose."

The last legislature passed the following law:

"Each local board of health, at least once every thirty days, in such manner as it shall direct, cause to be adequately disinfected each school house, within its jurisdiction; provided this act shall not apply to school houses during vacation; provided, that except in case of emergency, the disinfection of school houses shall be made after school on Friday afternoon or on Saturday."

"Summing matters up we would respectfully recommend for the consideration of school boards all this time the following: 1. Medical inspection of schools. 2. Where this is not practical, engaging teachers who are competent to recognize the ordinary contagious diseases as well as the common physical defects. 3. That the attention of parents be directed to such physical defects as may be detected and suggestions made as to how they may be remedied. 4. Provide adequate sanitary accommodations for all pupils. 5. Abolish the common drinking cup. 6. Prohibit spitting."

See same: p. 6–7, October 1911.

"The last legislature passed a law making monthly disinfection compulsory. . . .

"In the opinion of Attorney General Miller this law is null and void on account of a discrepancy between the title and the body of the bill. He says:

"'I have traced the course of this measure through the legislature and find that it was several times amended and that, as finally passed, the title of the bill covered sufficiently the subject matter embraced within the body of the bill. It appears therefore that an error was made in the enrollment of the bill, so that when submitted to the governor for his signature it was a different measure than when passed by the legislature.'

"From this you will note that the legislature was right and that the bill fails through a technical clerical error."

OHIO.

AYRES, S. C. Civic medical inspection of school children, with special references to diseases of the eye, ear and throat. Journal of ophthalmology and otolaryngology, 6: 1–6, January 1912.

General; and Cincinnati, Ohio, in particular.

"The work done by the school nurses has been of the greatest benefit. Three nurses . . . had supervision of 13 schools. The following figures will give you some idea of what they did in 1910:

"They made 1,425 visits to the schools and inspected 3,676 cases. They gave 1,191 treatments at the homes of the children, and 7,900 at the schools, and made 11,434 reinspections. They held 1,455 consultations with the parents."

Cincinnati. [Board of education] Medical inspection. *In its* Report of the public schools, school year ending August 31, 1911. p. 84–88. tables.

Under "supervision of the department of health by the district physicians. Primarily, its aim is the . . . detection of infectious and contagious diseases . . . School inspection includes also the detection of those physical defects which interfere with the child's ability to do his school work. . . .

"One hundred and two public and parochial schools were included in school hygiene, and in the congested districts 5 nurses were employed to look after the physical welfare of the children in 21 schools. . . .

"Three additional nurses were appointed for the present year. A daily notice is sent to every school in the city by the board of health, giving information concerning all the children of the city who are excluded for contagious diseases, and also a list of those who are permitted to return."

Total number of medical inspections for 1911, 11,811.

Diphtheria exclusions	8
Scarlet fever exclusions	67
Measles exclusions	11
Mumps exclusions	75
Chickenpox exclusions	143
Whooping cough exclusions	21
Impetigo contagiosa exclusions	56
Tinea exclusions	28
Scabies exclusions	76
Pediculosis exclusions	256
Other diseases exclusions	298
Total excluded	1,039

Examined but not excluded, 1,374.

Recommended for treatment.

Defective eyesight	800
Diseases of the eyes	303
Defective hearing	115
Otitis media	84
Hypert. tonsils	864
Adenoids	318
Eczema	266
Other skin diseases	314
Tonsilitis	510
Other diseases	1,577
Total	5,151

Examined but not recommended for treatment, 4,854. Total number examined, 24,229.

Defects of the eye, ear, nose, throat, in children of five public schools in congested districts:

Total examined	1,437
Defects of vision (33.36 per cent)	813
Defects of ear, nose, and throat (64.13 per cent)	1,563

Dental inspections have been held for three years; 14,886 school children have been examined, of whom 12,205, or 90 per cent, required dental attention. Inspections are carried on by volunteers from the Cincinnati Dental Society. A permanent lecture committee addresses mothers' clubs, school children, and other organizations desiring its services.

In September, 1910, a free dental clinic was established in one of the school buildings; expense of operating the clinic about $2,000 for every 1,000 children.

"The most notable innovation is the so-called 'experimental class,' which is being conducted at the sixth district school—certain psychological, physical, sociological, and dental tests instituted: behavior, attendance, scholarship, etc., recorded, and dental treatment given—the object being to demonstrate that through proper hygienic mouth conditions, scholarship, attendance, behavior, manner, etc., will be radically improved, thereby saving the municipality in actual money more than the cost of maintaining proper conditions. At the end of the year these tests will be repeated. . . . This is the first time that this experiment has been attempted with an entire classroom and the results should be of great scientific importance."

Cleveland. Board of education. Second annual report of the Division of medical inspection of schools, Cleveland, 1911–1912. 8 p. tables. 8°.

Number of cases fully corrected during the year 1911–1912 was 3,580, as compared with 1,793 for 1910–11. "Of the corrected cases, approximately two-thirds of the number were repeaters, presumably by reason of correctable defects."

	1910–11	1911–12
Inspectors	15	12
Nurses	15	18
Inspectors in special work	1	3
Hours		14,110½
Inspections		10,323
Examined	50,864	41,514
Defective	31,787	31,177
Not defective	19,177	10,337
Per cent defective	62.55	75.1
Exclusions	891	817
Treatments	12,132	12,766
Home visits	8,663	9,855
Dispensary visits	789	909
Eye clinic visits	762	833
Baths		4,237
Dressings		4,322
Cases corrected	1,793	3,580
Home investigations	495	1,009

	1910–11		1911–12	
	Found.	Corrected.	Found.	Corrected.
Number of defects	51,186	2,451	63,592	5,398
Teeth	16,464	248	21,784	1,813
Tonsils	7,776	563	7,212	1,016
Adenoids	3,434	494	11,343	825
Glands	5,010	17	7,577	111
Nasal obstruction	2,051	18	3,089	89
Hearing	1,320	33	1,276	92
Vision	10,709	1,026	5,912	1,378
Anaemia	987	3	1,119	21
Scoliosis	91	6	267	4
Nutrition	606	2	2,065	8
Mentality	334	.....	333	.....
Chorea	64	1	52	2
Extremities	93	.....	80	2
Chest	38	.....	22	.....
Discharging nose	451	.....	521	11
Discharging ear	176	3	98	12
Heart	216	13	173	2
Lungs	31	.....	38	1
Others	1,335	17	172	4
Goitre (included in others)	.....	6	479	7

Major communicable diseases.

	Found and excluded by school inspectors.		Reported to central office and reported to schools.	
	1910–11	1911–12	1910–11	1911–12
Tuberculosis	16	32	.....	.....
Tonsilitis	70	85	.....	.....
Trachoma	5	1	.....	.....
Diphtheria	3	3	850	1,125
Scarlet fever	11	24	1,927	1,108
Measles	10	7	1,429	1,310
Smallpox	.....	.....	1	1
Chicken pox	20	14	751	.....
Mumps	24	17	.....	.....
Pertussis	5	6	206	.....

Report of medical inspection of backward, defective, and mentally defective children of the public schools of Cleveland, Ohio.

Classification.	Chronological age.	Psychological age.	Number examined.	Per cent.
Idiots and low imbeciles	7 to 16	2 to 4	40	3.10
Middle and high imbeciles	9 to 17	5 to 7	140	10.92
Low and middle grade morons	12 to 16	8 to 10	267	20.84
High grade morons	16 to 17	11 to 12	22	1.71
Three years retarded	6 to 15	3 to 12	281	21.92
Two years retarded	6 to 14	4 to 12	275	21.46
One year retarded:				
Chronologically normal	6 to 13	5 to 12	213	16.62
Psychologically normal	6 to 11	6 to 11	41	3.20
Above normal	.....	.....	2	.15

Total number examined	1,281
Total number of feeble-minded	469
Total number of feeble-minded and border-line cases	750
Number now in special classes	303
Number now in boys' school	121

Cleveland. Superintendent of schools. Medical and dental inspection. *In his* Annual report, 1909. p. 70–72, table (results in two contrasted schools).

Examination of 30,000 children in grades III to VII, year 1906–7, by the Department of physical training, with respect to condition of eyes, ears, nose, and teeth.

In one school in "congested" district contrasted with results in "East End" school.

	East End.	Congested district.
Number examined	668	618
Defective vision ..... per cent..	32.4	17.1
Defective hearing ..... do....	5.2	1.8
Diseased ears ..... do....	8.9	12.8
Habitual mouth breathers ..... do....	12.1	14.7
Teeth very defective ..... do....	1.3	15.7
Teeth very dirty ..... do....	27.8	46.4

In March, 1909, of 36,403 children examined, the teeth were found to be defective of 27,918.

"Though the Cleveland schools have never enjoyed a complete system of medical inspection, the department of health, through its ward physicians, protects the schools from infectious diseases. . . . In addition, under the general direction of the school physicians, there have been located in schools in foreign districts, six school dispensaries, five of these being established this year. . . . At each is stationed a school nurse; . . . a new feature of this year."

Cleveland chamber of commerce. Report of the Municipal sanitation committee on medical inspection in the schools. 10 p. 8°.

Approved by the Cleveland chamber of commerce, February 23d, 1909.

Historical sketch, and argument for medical inspection based on Superintendent's report for Cleveland schools, 1907: "That the schools are suffering a great economic and moral waste. . . . 8,595 children, 13.3 per cent of last year's enrollment, were three or more years behind their grade. At the estimated tuition cost of $26 per enrolled pupil per year, this number represents a dead loss per annum of $223,470. It is estimated that less than one-tenth of this sum will provide an adequate system of medical supervision. If such a system resulted in the saving of only one grade to not more than one in ten of these backward children each year, it would prevent a greater waste than it would cost."

McHENRY, Junius H. Medical school inspection in Cleveland. Cleveland medical journal, 8: 338–46, June 1909.

Also in Ohio State medical journal, 6: 641–45, December 15, 1910., *Title:* Medical inspection of schools.

In March 1906, the board of health appointed 26 physicians to attend the indigent sick and to inspect the public and parochial schools. The ward physicians organized themselves into the Cleveland medical school inspectors association; redistributed assignments of schools, effective in 1907.

Each inspector visits each of his schools daily. During school session, monthly meetings are held by the inspectors and representative medical men and specialists, to discuss conditions and present addresses.

"Cleveland has installed a system which, I believe, does not exist in other cities, namely school dispensaries. These are situated in the congested foreign element districts of the city. Two such dispensaries are now used and others are being equipped. It is the intention of the board of education to establish others . . . where they are most needed. A graduate nurse of the visiting nurses association is in charge . . . and is under the instructions of the school inspector. . . . After school hours the nurses are required to visit those children who were absent, on account of exclusion. . . . As a result 90 per cent of the children that otherwise would have been excluded, are enabled to continue in attendance . . . without exposing any of the associated children to the dangers of infection."

Treatment is given at these dispensaries for emergency cases only. A card system is in operation, "intended to follow the child through its school life and the information is confidential for the boards of health and education," regarding the home and health conditions found in investigation.

WALLIN, John Edward Wallace. Medical and dental inspection in the Cleveland schools. Psychological clinic, 4: 93–108, June 15, 1910.

Bibliography: p. 108.

Between the school nurse and the dispensary of one school alone, 1,871 days in school were saved for children who otherwise would have been excluded. "As a result of this hygienic and medical work the attendance records have reached unprecedented heights in these irregular stations."

OKLAHOMA.

CLOUDMAN, H. H. Medical inspection in the public schools. Oklahoma school herald, 19: 14–16, May 1911.

The department of medical inspection was organized about October 18, 1910.

About 8,000 pupils were inspected. They were presented with cards which they filled out. They gave their personal history relative to contagious diseases and other ailments; and stated if they had had any trouble with eyes, ears, nose, throat or teeth, and if these had been treated.

The findings were about the same as those of other cities. Fifty per cent or more had defective teeth; 30 per cent had some type of throat trouble, mostly enlarged tonsils; 9 per cent had eye trouble; and 3 per cent had ear troubles.

The board of health reports "all cases quarantined for any contagious disease and this in turn is reported to the principal of the school to which the child belongs and instructions given to exclude all others from this same family unless they have a certificate . . . that there is no danger of further spread through them as disease carriers. The principals in turn report all cases of which they learn and these cases are reported to the board of health."

PENNSYLVANIA.

DIXON, Samuel G. Medical inspection of school children. Pennsylvania medical journal, 15: 939–41, September 1912.

Also in Pennsylvania school journal, 61: 216–18, November 1912.

State law for medical inspection of school children in Pennsylvania passed in 1911; responsibility placed "upon the school authorities with the exception of the districts of the fourth class which were allotted to the State department of health providing the school directors see fit not to vote against it each year. . . .

"The result of the influence of the efforts of the National league for medical freedom was as follows:

"The directors decided that 139 districts should not have examinations, which defrauded 214,000 children of help. In the fourth class 1,617 districts, representing 408,000 pupils, were also defrauded by the acts of the school directors. Therefore 622,000 children were left to go without the medical care given in other counties. This, however, left 652,000 who did reap the benefit of medical examination and of these, 207,000 were examined by the State department of health.

"As the result of this inspection, approximately 105,000 children were found to have one or more of the defects enumerated, 255,000 defects having been found by the inspectors. The returns from the teachers at the end of the school year would indicate that thousands of our children have been directly benefited by the inspection made last year."

HAMILTON, S., *jr.* Medical inspection of schools. Hahnemannian monthly, 47:110–17, February 1912.

"Medical inspection in Pittsburgh has in view two objects:

"1. Routine class room inspection, which is solely for the detection of communicable diseases, and which relates, primarily, to the immediate protection of the community.

"2. The physical examination of each child, which aims to discover defects, diseases and physical condition, thus looking to the securing and maintaining of the health and vitality of the individual. Physical examinations, to be effective, must follow the child from grade to grade and from year to year."

Harrisburg. Department of medical inspection. Report. *In* Annual report of the public schools, for the year ending June 1910. p. 51–53.

Total number routine examinations	7,504
Total number showing some defect	2,423
Defective vision	677
Defective hearing	143
Defective teeth	187
Hypertrophied tonsils	806
Adenoids	432

Johnstown. [Board of school directors] Instructions to school physicians relative to medical examination of school children in Johnstown, Pa. *In its* Report and manual, 1912. p. 27–31.

Each inspector must "make frequent examination of the general conditions of the buildings, noting cleanliness, toilets, heating, ventilating, lighting, condition of blackboards, and all things that may affect the general health of the school inmates. . . .

"Each school physician shall also from time to time make such examination of teachers and janitors as the health of the pupils may require."

KEEN, Edwin L. Medical inspection and precaution in the schools. Pennsylvania school journal, 60: 407–408, March 1912.

Reprinted in Pennsylvania educational association. Directors' department. Proceedings, 1912. p. 121-22.

"The Harrisburg school district, on the advice of our superintendent, created a voluntary department of medical inspection, with one physician and one nurse, without cost to the district, in the year 1907–8. After one year's work the results were so gratifying that the district decided to continue the department the next year by the employment, on a fixed salary, of one physician and one nurse. The following year, an additional nurse was employed. . . . A complete card system was instituted . . . and a full set of blanks was provided. . . . The following will show some of the most important defects: . . . Malnutrition, 2.83 per cent; chorea, 0.162; heart disease, 0.473; pulmonary disease, 0.286; skin disease, 5.06; defective spine, 0.261; defective vision, 14.83; defective nasal breathing, 5.27; defective hearing, 1.38; defective teeth, 2.15; hypertrophied tonsils, 12.80; adenoids, 3.11. . . .

"Out of 1,416 pupils reexamined at the end of the first year, 448, or 31 per cent, had consulted the family physician."

LAFFER, Cornelius C. The results of the examination of the school children of Meadville and its importance. Pennsylvania medical journal, 15: 941-44, September 1912.

Some 75 per cent of the children have bad teeth; from 15 to 20 per cent, enlarged tonsils or adenoids; about 10 per cent have defective vision.

Philadelphia. Board of public education. [Health rules for infectious and contagious diseases in the public schools] *In its* Annual report, year ending December 31, 1910. p. 313.

"SEC. 2. It shall be the duty of the principals to report quarterly, to the superintendent of schools, the number of nonvaccinated children applying for admittance to their respective schools.

"SEC. 3. When smallpox, scarlet fever, diphtheria, diphtheritic croup, membranous croup, cerebrospinal meningitis, cholera, yellow fever, bubonic plague, glanders or anthrax shall exist in the family of any pupil or teacher, or any person connected with, any of the public schools of this district, or in the house in which any of said pupils, teachers or other persons reside, all such pupils, teachers or other persons shall be excluded from school and the school building, and shall not be permitted to return until he, she, or they shall present the written approval of the bureau of health.

"SEC. 4. When measles, german measles, chickenpox, mumps, or whooping cough shall exist in the family of any pupil or teacher, or of any person connected with, any of the public schools of this district, or in the house in which any of said pupils, teachers, or other persons reside, no such pupil, teacher or other person shall be permitted to attend school or enter the school building, without the written approval of the bureau of health; such approval to be based upon careful examination of all the circumstances surrounding the case.

"SEC. 5. Any pupil suffering from tonsilitis, contagious eye diseases, or parasitic diseases of the head or body, must be excluded from school until the bureau of health shall have certified that all liability to communicate the disease to others has passed."

Reading. Board of education. Medical inspection. *In its* Annual report, 1910–1911. p. 10–12.

"The sanitation committee of the school board has conducted experimental medical inspection for several years. . . . Of 8,331 pupils examined, up to June, 1910, 4,372 suffered with defects."

Defective vision	1,526
Defective hearing	733
Enlarged tonsils	1,954
Adenoids	351

About 6,108 separate defects were found.

The school nurse assists in the medical inspection. In addition to medical inspection by a physician, pupils suffering from stuttering are treated.

In 1910 the Reading dental society detailed 25 of its members to inspect the teeth of the public school pupils. Of 8,925 examined, less than 3 per cent had perfect teeth. Of nearly 9,000 examined in the winter of 1909–10, only 4,849 had ever used a tooth brush, 3,369 had ever been to a dentist, and 1,094 had had permanent teeth extracted.

Permanent teeth cavities	28,548
Temporary teeth cavities	14,707
Green stain	5,910
Abnormal gums	925
Tartar	1,866
Abnormal occlusion	1,554
Atrophy of teeth	306
Mouth breathing	236
Permanent pulps	1,894
Exposed pulps	1,717

A free dental clinic was organized and in eighteen months treated the teeth of 275 pupils.

RHODE ISLAND.

CHAPIN, Charles V. Medical inspection of schools in Providence. [Ansonia, Conn., The Emerson publishing co., 1909] 15 p. 8°.

Begun, in Providence, R. I., 1894, following Dr. Durgin's work in Boston; teachers and parents of pupils in large grammar school subscribed a sum of money and hired a physician as school physician for one month. Appropriation of $1,000 for school inspection followed the results obtained—two inspectors, a man and a woman were appointed.

In Providence, the children come to the inspector. On every school day in the year an inspector is on duty at the city hall, between 12 and 1 o'clock; he examines the children sent by the teachers; to them he gives a note stating his findings, which the children take to their teachers. Teachers are "expected to see that the child's parents are notified, and if any treatment is necessary to see that it is carried out."

Providence. School committee. [Medical inspection] *In its* Report, 1909–1910. p. 126–28.

Signed: Ellen Le Garde.

"In the spring of 1904, medical inspection was inaugurated in the Providence schools. Since March 1, 1909, three inspectors have been employed, and on April 1, of the same year, this inspection was extended to the parochial schools. . . . In 1906 a school oculist was employed. . . . The great part of the work of the school inspectors is with contagious skin diseases and pediculosis. These cases are treated at the city hall and the material needed furnished by the board of health.

"In February, of 1909, a school nurse was introduced. She follows up the cases from the school to the home; . . . also sees that children sent to the oculist and to the hospital get there. School baths have been in existance since 1905. . . . Four school matrons attend to the daily baths in the different buildings."

SOUTH CAROLINA.

GANTT, L. Rosa H., Medical inspection of schools in Spartanburg, S. C. South Carolina medical association. Journal, 7: 329–34, September 1911. tables.

Reprinted in Pediatrics, 23: 337–42, June 1911.

Following the work of Dr. Hines in Seneca, S. C., the Spartanburg County, S. C., Medical society undertook the examination of Spartanburg city school children, 1910–11, without charge.

Scope of work: (1) The detection of parasitic, infectious and contagious diseases; (2) exclusion from school of all children affected with acute contagious diseases; (3) inspection of each school child for physical defects and noncontagious infection; (4) inspection of the hygienic and sanitary condition of the school buildings and premises.

In each case, the inspectors made complete record on three blanks: (1) A history card kept by the examiners; (2) a record card kept by the school authorities; (3) a notification card sent to the parent.

	Children examined.	Defective.	Per cent.	Teeth defective.	Hypertrophied tonsils.
				Per cent.	*Per cent.*
Whites	1,891	822	42.5	19	21
Colored	676	355	56.0	30	41

Colored.

	First grade.	Second grade.	Third grade.	Fourth grade.	Fifth grade.	Sixth grade.	Seventh grade.	Eighth grade.	Total.	Percentage.
Number examined	243	89	109	94	34	28	28	9	678	.....
Total defects	167	114	84	60	41	25	27	17	544	56
Total defectives	116	70	60	43	25	18	14	9	355	56
With 1 defect	74	38	42	27	12	11	5	6	215	.....
With 2 defects	36	22	11	11	11	7	5	4	100	.....
With 3 defects	4	8	6	4	1	0	4	1	28	.....
With 4 defects	1	2	1	2	1	0	0	0	7	.....
With 5 defects	1	0	0	0	0	0	0	0	1	.....
Adenoids	4	1	1	1	0	0	0	0	7	.....
Tonsils	58	31	22	18	10	5	2	2	147	41
Vision	21	24	6	11	7	1	9	7	86	24
Hearing	17	15	12	8	6	0	2	0	67	19
Eyelids	2	3	4	4	2	1	1	0	16	4
Teeth	26	17	23	13	7	7	9	6	107	30
Skin	20	9	9	5	5	3	0	0	51	14
Anemia	10	6	3	4	3	1	2	1	29	8
Pediculosis	0	7	4	0	0	0	0	0	11	11
Enlarged glands	6	1	0	3	2	0	1	1	13	.....
Other defects	4	0	3	2	9	1	1	0	11	.....
Per cent defectives	47.7	78	55	45	73	64	50	100	.....	56

HINES, E. A. A plea for medical inspection of school children in South Carolina—Report of the work at Seneca. South Carolina medical association. Journal. 6: 454–57, September 1910.

"The Seneca schools are the first in South Carolina to put in operation the modern idea of medical inspection," beginning September 23, 1909. Staff of examiners: Two competent dentists, an eye and ear, nose and throat specialist, two general practitioners, and a secretary; 200 children, ages 6 to 18, pupils first to tenth grades, examined.

Children having—	Number.
Defective teeth	153
(Number of teeth, 600.)	
Defective tonsils	32
Enlarged glands	24
Adenoids	3
(Number of suspects.)	
Eye defects	19
Nasal defects	3
Skin lesions	2
Orthopedic defects	4
Teeth brushed daily	170

"I can not find any report on the negro school child in the South. I examined a representative number and found in general faulty nutrition, practically all with teeth defects—contrary to the idea that prevails. Fewer serious tonsil defects compared to the whites, more skin lesions. I did not examine for adenoids. A fair proportion had used the tooth brush.

"I also examined a representative number of cotton-mill children among the whites. Ninety per cent had bad teeth—not one used a toothbrush."

South Carolina. State board of health. Hookworm disease. *In its* Thirty-first annual report, 1910. p. 15–18. table.

From October 1 to December 10, 1910, in five counties, 4,695 children were examined clinically; 80, microscopically; 165 cases treated; 47 per cent gave clinical evidence of being infected with the hookworm.

South Carolina. State board of health. Medical inspection of schools. *Its* Monthly bulletin, 1: 3–29, October 1910. tables.

"The Southern States have been behind almost all the rest of the countries of the civilized world in introducing medical inspection of schools. . . .

"New Orleans was the first Southern city to take active steps in this direction in 1908, and Atlanta, in 1908 and 1909. In South Carolina the complete modern idea of medical inspection of schools was inaugurated in the Seneca graded and high schools, September 23, 1909. . . . The examination [was] conducted by two general practitioners of medicine and surgery, two dental surgeons and one eye and ear, nose and throat specialist, a secretary and the teacher of each grade."

Of the defects discovered among 200 pupils, "children of the very best and most prosperous citizens of the Piedmont section," were:

Glands enlarged	24
Eye defects	19
Teeth defects	153
Tonsil defects	32
Not vaccinated	168

"A representative number of children of the cotton mill and negro schools disclosed a much greater number of defects."

[South Carolina] The veto of the Medical inspection bill. South Carolina medical association. Journal, 8: 62–63, March 1912.

Passed, with some amendments by the General assembly, and vetoed by the governor.

WARD, J. La Bruce. Hookworm disease; its eradication in South Carolina. South Carolina medical association. Journal, 7: 341–43, September 1911.

Work in the schools of 11 counties in South Carolina, chiefly the southern and southeastern parts; of the 1,100 children examined, 37½ per cent were infected.

"That is, they gave clinical evidence of the disease. A microscopical examination would show a much heavier infection. Following that we examined about 4,500 children in Kershaw, York, and Abbeville. The lightest infection was in Abbeville County. We believe the adjoining counties will have as light an infection. Dr. Weinbery examined 1,180 children, and found only 7 suspects; whereas in some other parts of the State we found at least 75 per cent of the children showing clinical evidence; . . . and I am satisfied, from the microscopical findings so far . . . would have shown an infection of 100 per cent. . . . At Furman university, where 100 specimens were examined, without examining the men at all until after . . . 38 per cent were found infected; . . . and I should not have made a single diagnosis on clinical findings.

"At Clemson College we found 33 per cent of 65 men examined infected, and I would not have made a clinical diagnosis of any of those cases.

"Taking the 9,000 children examined in the State, we find an infection of over 25 per cent, clinically; . . . microscopical findings would have run much higher."

TENNESSEE.

HILL, David Spence. The status of school hygiene in Tennessee. *In* American school hygiene association. Proceedings, 1911. Springfield [Mass.] 1911. p. 155–63.

There is little teaching of school hygiene in its technical aspects in Tennessee. The State has no general law requiring medical inspection of school children. In Knoxville, Memphis, Chattanooga, and Nashville encouraging beginnings have been made, but "no full-fledged system with sufficient nurses, trained physicians and thorough organization supported by the city or State exists in Tennessee." During 1909–10 examination of throat and teeth was undertaken in Nashville. The following summary was presented by the inspector, Dr. E. L. Roberts, on December 26, 1910:

Pupils examined	2,453
Defective vision	148
Crossed eyes	36
Trachoma	117
Other eye inflammations	68
Discharge from ear	24
Frequent earache	123
Enlarged tonsils	199
Defective teeth	698

TEXAS.

Fort Worth. [Superintendent of schools] Report of the medical supervisor. *In his* Annual report, September 1910. p. 35–47.

"Physical examination of school children was begun April 1. . . . In all, over 1,000 children were examined, of these 710 were referred for treatment—medical, surgical, or dental. (It was not possible to examine systematically each child so near end of school year.)"

The first to fourth grades inclusive in all schools were inspected, and in most of the districts all grades. The 710 cases referred may be summarized as follows:

Eye	309
Throat	300
Adenoids	128
Ears	77
Enlarged glands of the neck	123
Anemia	73
Tuberculosis	19

Teeth	203
Speech	15
Nervous disorders	33
Acute throat trouble	31
Mentality	8
Kidney and urinary	10
Miscellaneous (about)	25

"The water tanks now in use are never sterilized, or even cleaned with brush and water. The drinking cup problem is unsolved."

Houston. [School board] Report of medical inspector, June 15, 1911. *In its* Annual report, 1910–1911. p. 59–60.

Signed: W. Wallace Ralston, M. D.

Thirty-eight children, with trachoma, excluded; 74 with symptoms of trachoma.

Houston dental society gave lectures to the children on "The care of the mouth and teeth."

Free eye, ear, nose, and throat clinic established in connection with the city health office, and free dental service offered by the Texas dental college for poor children.

STILES, Charles W. Special report on a preliminary survey of Texas to determine the distribution of hookworm disease. 13 p. table. mimeographed.

Institution.	Number examined.	Positive.
		Per cent.
State university	28	25.0
Agricultural college	30	10.0
Sam Houston college	94	27.5
State medical	86	9.3
State blind	16	43.7
State deaf and dumb	10	20.0

Geographical distribution by counties, p. 5–9 (found in at least 45 counties. Most of the infection thus far known was in the eastern part of the State).

School children: p. 9–13. table.

"Of a total of 1,776 school children seen in 11 different schools and orphanages, 21.5 per cent showed symptoms upon a quick inspection which justified the suspicion that they had hookworm disease. Of 876 boys, 30.7 per cent, and of 900 girls, 12.6, came into the suspect category.

"Of these 1,776 children . . . about 46 per cent . . . were clearly below par, physically. . . . This does not mean that 46 per cent were classified as hookworm suspects. . . . These figures show that nearly half were below normal and that in that condition they can not possibly digest all of the education offered them. . . .

"In some regions about 30 per cent of the school children harbor the disease. . . .

"A campaign against the disease ought to be undertaken without unnecessary delay.

"The public schools of Texas are badly in need of a medical inspection system. . . .

"The sanitation of the school yards is in sad need of attention; . . . their present condition makes them centers from which the various soil-pollution diseases may be spread. . . . In several school yards examined as to sanitation the grading was only 10 on a scale of 100. According to information obtained from one county superintendent of education the index [healthful condition] of 90 per cent of the rural schools in his county is zero (0) on a scale of 100."

VIRGINIA.

PLECKER, W. A. The economic phase of hookworm disease. Virginia medical semi-monthly, 16: 213–15, August 11, 1911.

"In the four counties of Southside Virginia . . . I find an extremely serious phase of the subject. . . . The rural schools in which these examinations have been made show about 50 per cent of infections. . . . In one badly infected portion of my territory there live 20 families with 35 or 40 children of school age. This whole community supplies just two pupils, little girls, to the nearby school. In not one of these families is there the slightest semblance of toilet arrangements. . . . Not one-fourth of these adults possess even the rudiments of an education."

"Foonsom.—In reports from seven teachers of Richmond County, statement is made that from 20 to 60 per cent of their labor is lost on account of the presence of hookworm disease, the average of all being 40 per cent."

Richmond. Superintendent of public schools. Medical and dental inspection. *In his* Annual report, year ending June 30, 1911,

South Richmond physicians, session 1910-11, completed examination of 1,380 pupils. Results: Defective eyes, 580 cases; enlarged tonsils, 327; adenoids, 111; defective hearing, 18.

Examination of mouth conditions made by the Dental association of Richmond, elementary school pupils. Total examined, 10,919. Pupils having perfect teeth, 1,125; total number of cavities, 20,684.

The city council, by appropriation in March 1911, provided for two physicians and five nurses, including the nurse already at the John Marshall high school; appropriation available, September 15, 1911.

Virginia. [State] Commissioner of health. Hookworm disease. *In his* Annual report, year ending September 30, 1911. p. 19–31. tables.

In Mecklenburg County, of 279 rural school children "taken at random, 133, or 47.7 per cent had hookworm."

WASHINGTON.

Spokane. [Board of education] Medical inspection. *In its* Biennial report; for the two years ending June 30, 1910. p. 37–39.

Department of medical inspection organized at opening of school year 1909–10; chief inspector and four assistants. Regular inspection began September 1909. All schools shall be inspected at least once a week (conditioned). Monthly report to be made by the chief medical inspector, of all work done, copy given board of health, and board of education. Each school principal to make weekly report to superintendent of schools.

Summary of chief medical inspector's monthly reports.

Total individual inspections of pupils, 84,232.

"In addition to the work . . . designed for protection of the schools and communities against contagion and infection, there was a thorough inspection of all the school children for defective vision and other eye troubles, for enlarged tonsils, adenoid growths, defective teeth, and other forms of physical infirmity."

THOMPSON, N. L. Medical inspection of schools. Northwest medicine, n. s. 3: 134–37, May 1911.

Bibliography: p. 137.

"Replies received from nine cities showing that medical inspection to a greater or less extent was utilized in Seattle, Spokane, Tacoma, Everett, North Yakima, Olympia, and Aberdeen; negative replies were received from Walla Walla and Wenatchee, and no reply from Vancouver and Bellingham. . . .

"Educational agencies must employ expert medical inspectors who shall see that the health of the school child is conserved.

"It ought not to be an incidental activity of some department but must eventually outrank all others in power as it does in importance. It should aim to accomplish the following: (1) Prevention of infectious and contagious diseases. (2) Scientific supervision of sanitary condition of premises, school buildings, furniture, etc. (3) Teaching of hygiene to teachers and children and through them to the community. (4) Physical education, including supervision of manual training, gymnastic exercises, organized games, etc. (5) Physiology and psychology of ordinary educational methods, including fatigue, neurasthenia, hysteria, questions of sex, etc. (6) Special educational methods for abnormal children—the mentally and physically defective, the dull and backward, the blind, the deaf, etc. . . .

"The medical inspector must, therefore, be broad minded, with sound and extensive medical knowledge, interested in child life, sympathetic, tactful, an investigator; in short, a medical man, a psychologist and a pedagogue."

WISCONSIN.

BARTH, G. P. Medical inspection of schools in Milwaukee. Wisconsin medical journal, 9:151–62, August 1910.

Begun Fall of 1907.

The city is divided into nine geographical districts; eight, approximately equal in size and contain about the same number of schools; the ninth in the central, or slum district, covers less area because conditions are worse. Each district is under the care of one Assistant medical inspector. For the work of the nurses, the city is divided into four districts, the three outlying territories about equal in size, the central one, smaller.

"Backward" cases are reported by teacher to the chief medical inspector, on the psychological examination blank, on which she records all the family and school history of the child she can collect. When found below par, mentally, by the chief medical inspector, the child is transferred to the "exceptional" school. Classes for the stammerers have been opened; three classes for the blind, in the public schools; the deaf and dumb segregated into a school. No provision has been made for the weak, the anæmic, or the crippled.

JONES, Richard W. Medical inspection of schools. Wisconsin medical journal, 10:319–27, October 1911.

Inaugurated in Wausau, Wis., following scarletina epidemic 1909–10. First intention simply to examine for contagious diseases, but work was extended to cover physical examinations.

During the year, up to May 1, 6,677 children were examined for contagious diseases, and about 1,600 given physical examinations. Among defects found were: Scabies, 33; impetigo contagiosa, 35; enlarged tonsils, 744; adenoids, 176; defective vision, 43.

"The effect of medical inspection has been to increase the average daily attendance in the schools. With practically the same total enrollment this year [to date April 1, 1911] that there was last year, there have been 8,277½ days more attendance than for the corresponding months of last year . . . at no additional expense for instruction. . . .

"The fallacy of our system has been that we have not had enough authority to enforce our rulings. Many parents refuse to have their children examined or to follow the instructions of the examiners. . . . We should have legislation to cover this point. . . . We should have compulsory examinations of the school children, at least for contagious diseases and eye and ear diseases with possibly diseases of the nervous system. . . . This law should provide for the control locally of the examining bodies, and . . . examining physicians should be trained along these special lines."

Discussion: p. 327–35. In Milwaukee: p. 327–29 (Barth, George P.). In Madison: p. 329–31 (Bardeen, C. R.).

MADISON.

Madison. Superintendent of public schools. Medical inspection in Madison. *In his* Annual report, 1910–1911. p. 44–51. chart. p. 47.

Made under direction of the Madison antituberculosis association, W. D. Frost, president; assistant nurse, Miss L. Dietrichson; 6 of the 11 city schools, pupils examined and eyes tested. There were examined 1,152 children; but 422 had been vaccinated.

	Cases.		Cases.
Defective vision	340	Defective teeth	604
Disease of the eye	41	Skin disease	17
Defective hearing	99	Cough	118
Ear disease	96	Throat trouble	281
Defective breathing	246	Lung trouble	58
Adenoids, known cases	20	Anemic	108

Milwaukee. Board of school directors. The dental clinic [and medical inspection] *In its* Annual report, year ending June 30, 1911. p. 82–94. tables. diagr.

The Free dental clinic established in the quarters of the department of medical inspection, under charge of the Milwaukee public school free dental clinic association; members of the clinic pledged to serve one-half day each month; all the expenses except the rent of room, borne by the association. Work began February 20, 1911: Number of treatments given, 349; number of permanent teeth filled, 384; number of permanent teeth extracted, 41.

"It is sometimes desirable that a medical examination be had in certain cases in order to determine (*a*) the advisability of school attendance, (*b*) the necessity for temporary absence from school, (*c*) the limitation of the amount of school work to be done, (*d*) attendance at special schools or classes, (*e*) medical or surgical procedures necessary or advisable to promote good health or to promote school progress by the removal of physical disabilities, and the department of medical inspection has been freely consulted by other departments in these matters. The following cases were submitted: (1) the truancy department referred 51 cases for nonattendance. (2) By the superintendent's department, 5. (3) by teachers and principals, 42. (4) By the State factory inspector for advice as to the kind of employment permissible to the child, 2. (5) By parents, 19. (6) By doctors and nurses, 129.

On October 24, 1910, The common council passed the ordinance, the text of which is as follows:

"An Ordinance to protect the health of school children. . . .

"SEC. 1. No parent or other person having charge or control of any child between the ages of seven (7) and sixteen (16) years shall permit or allow such child to attend school in a filthy or neglected state, or affected with pediculosis, ringworm of the body or scalp, scabies, impetigo contagiosa, molluscum contagiosa, or infectious dermatitis, or any other contagious or infectious diseases; and any parent or other person having charge or control of any such child so affected shall, after receiving notice given under authority of the board of school directors that such child is so affected, remedy such condition within the following time:

Ringworm of the body (*Tinea circinata*)	days	30
Impetigo contagiosa	do	30
Molluscum contagiosa	do	21
Infectious dermatitis	do	30
Pediculosis of any part of the body	do	14
Ringworm of the scalp (*Tinea tonsurans*)	months	3
Favus	year	1
Scabies of any part of the body	days	14

And any other contagious or infectious disease within a reasonable time.

"SEC. 2. Any person violating any of the provisions of this ordinance shall be punished by a fine of not less than $1, nor more than $50 for each and every offense, and in default of payment thereof shall be confined in the house of correction of Milwaukee County for not less than ten days or more than sixty days.

"SEC. 3. This ordinance shall take effect and be in force from and after its passage and publication."

See also p. 28–36 (Elementary grades).

Number withdrawn from school on account of personal illness, 56; mental inability, 13. Failure of promotion because of personal illness, 335; physical defects, 169; inability, 1,900.

TOBEY, Silas B. A successful plan for medical inspection. American school board journal, 42: 9, May 1911.

Established, September 1910. Seven physicians are employed, one for each school center—eight schools, two of which are within half a block of each other. Each physician visits his school at 9 a. m. on each of the five school days of the week, receiving $1 for each visit. The parochial school children are also sent to the examining physicians

Every child who has been absent one-half day without prior knowledge and consent of teacher must obtain from physician of his school, a clean bill of health before he may resume school work. A free infirmary and two visiting nurses are supported by private subscription. Poor children are treated free and the nurses visit the homes.

"The effect of medical inspection has been to increase the average daily attendance in the schools. With practically the same total enrollment this year that there was last year, there have been 8,277½ days more attendance than for the corresponding months of the year The same number of teachers . . . able to care for an average of 83 more pupils in daily attendance this year than we had last year at no additional expense for instruction. . . . We have found the medical inspection one of the most valuable adjuncts to our schools."

MEDICAL INSPECTION RECORDS.

GENERAL REFERENCES.

AYRES, Leonard P. Forms for record-keeping. *In his* Open-air schools. p. 139–48.

Open-air school records of the medical inspection and condition of the pupils: Chicago, Boston, Hartford, Providence.

Cleveland. [Board of education] Card and record system. *In its* The work of medical inspection with statistical report, Cleveland public schools 1910–1911. p. 21(20)–32.

Cleveland's use of system: p 37–46.

CORNELL, Walter Stewart. Good and bad forms of record keeping. *In* American school hygiene association. Proceedings, 1911. Springfield, Mass., American physical education review, 1911. p. 65–73.

"Every record card should provide accommodation for a number of examinations, at least four. . . . It should provide for a record of the notification to parents . . together with the date of such notification and official information as to whether or not the defect has been corrected. The age, grade and social condition of the child should be noted and briefly commented upon . . . in connection with the record of his physical defects. . . . The principal defects . . . are only ten in number and . . . may well be given a definite mention upon the record card, since an inspector is less likely to overlook a defect in a child when he is compelled to make a definite record whether or not it exists. For this reason the eye, nose and throat, the ear, teeth and nutrition should be given permanent space on the card; and the skin, the skeleton, the glandular and nervous systems and the mentality should have a definite mention."

CORNELL, Walter Stewart. Keeping of records. *In his* Health and medical inspection of school children . . . 1912. p. 45–57.

University of Pennsylvania, physical record card, p. 49; Dr. Newmayer's card, p. 57.

See also p. 568–77. tables.

MacMURCHY, Helen. [Facts to be noted in examination of feeble-minded children] *In* American school hygiene association. Proceedings, 1911. Springfield, Physical education review, 1911. p. 80.

1. Date and age. 2. Name, address, school, class, etc. 3. Condition of teeth. 4. Condition of nose. 5. Condition of throat. 6. Condition of vision. 7. Condition of hearing. 8. Speech. 9. Reading. 10. Writing. 11. Number work. 12. Hand work. 13. Attention. 14. Memory. 15. Intelligence. 16. Aptitudes. 17. Moral sense. 18. Physical condition. 19. Gait. 20. Coordination. 21. Cause of backwardness, if known.

Rochester [N. Y.] record cards. American school board journal, 45: 44–45, August 1912. figs.

"The health card is made out by the teacher and sufficient for the entire life of a pupil. Entries are made by the school nurse or the teacher from the examination of the medical inspector. On the reverse side space is provided for diagnoses of defective conditions and statements of treatments recommended."

VACCINATION.

KERR, John W. Vaccination. An analysis of the laws and regulations relating thereto in force in the United States. . . Prepared by direction of the Surgeon-General. Washington, Government printing office, 1912. 82 p. 4°. ([U. S.] Public health and marine-hospital service. Public health bulletin no. 52)

St. Louis. Board of education. Report on vaccine virus and on the results of vaccination in the public schools of St. Louis, 1912. *In its* Official report, 18: 564–68, February 13, 1912.

Regarding the vaccination of 577 children vaccinated by the vaccine physicians of the health department, and 218 vaccinated by physicians in private practice, in contrast to the excellent public vaccinations, it was found in several schools that the private operations by certain physicians were uniformly negative.

In the cases in private practice it was discovered that the proportion of takes for the year was "still dangerously low, leaving 63 unprotected persons per 100, instead of 7? per 100 among those vaccinated by the health department."

The inspections for the last two years exhibit the great advantage of public vaccination. The regular vaccination of public school children is the most important prophylactic work done in the city.

See also p. 417 (December 12, 1911). List of cities requiring evidence of successful vaccination as a condition of admission to the public schools: Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, Newark, New Orleans, New York City, Philadelphia, Pittsburgh, San Francisco, and Washington.

APPENDIX A.

BLANKS AND RECORDS.

CHICAGO, ILL.

DEPARTMENT OF HEALTH, CITY OF CHICAGO.

....., *School*—*Building* {*Old.* *New.*

Health officer, ... M. D. Nurse.....

1. School phone.....
2. Enrollment.....
3. Number of rooms.....
4. Ventilation: Good.....; fair.....; poor.....
5. Light: Good .....; fair .....; poor.....
6. Average temperature.....
7. Moisture.....
8. Sweeping: Moist....; dry....; vacuum.....
9. Air intake: Ample.....; inadequate.....
10. Height of intake.....
11. Are seats adjustable to size of pupils?.....
12. Urinals, odor: Bad .....; absent .....
13. Toilet facilities: Ample....; inadequate.....
14. Toilet paper provided: Yes.....; no.....
15. Water supply: Lake....; well....; spring.....
16. Drinking utensils: Cup.....; fountain.....
17. Pencils: Individuals..... Pens: Common.....
18. Is register signed and kept as required? Yes...; no....
19. Where is register kept?.....
20. Vaccination records complete; where kept: Yes.....; no.....
21. Regularity of health officer: Good .....; fair.....; poor.....
22. Is first school visited 9.15? Yes.....; no.....
23. Punctuality of health officer: Good.....; fair .....; poor.....
24. Regularity of nurse: Good..; fair...; poor.....
25. Quality of health officer's work: Good.....; fair.....; poor.....
26. Quantity of health officer's work: Good.....; fair.....; poor.....
27. Does principal, nurse, and health officer know where register is?.....
28. Does health officer visit each school daily?.....
29. Interest in work of health officer: Good.....; fair.....; poor.....
30. Interest of nurse in work: Good.....; fair.....; poor.....
31. Does principal get prompt notice of new cases and terminations? Yes.....; no.....
32. Is health officer inspecting parochial schools in his territory?.....
33. Is health officer doing good work?.....

..... M. D.,
Supervising Health Officer.

Date....., 19.....

DEPARTMENT OF HEALTH, CITY OF CHICAGO.

Name..... Address.....

PHYSICAL RECORD.

Sex.....; age.....; birthplace.....
Nationality of father.....; mother.....
Number of children in family.....; history of measles.....
Diphtheria.....; pertussis.....; pneumonia.....; scarlet fever.....
School..... Vaccinated?.....
Date first examination..... 19.....

[O placed in square means absence of defects. X denotes defects.]

1. Grade.....	1	2	3	4	5	6	7	8
2. Years in school.....								
3. Revaccination.....								
4. Diseases during year.....								
5. Date of physical examination.....								
6. Height.....								
7. Sight.....								
8. Nutrition.....								
9. Anæmia.....								
10. Enlarged glands.....								
11. Goitre.....								
12. Nervous diseases.....								
13. Cardial disease.....								
14. Pulmonary disease.....								
15. Skin disease.....								
16. Defect orthopedic.....								
17. Richitic type.....								
18. Defect of vision.....								
19. Other diseases of eye.....								
20. Defect of hearing.....								
21. Discharging ear.....								
22. Defect of nasal breathing.....								
23. Defect of palate.....								
24. Defect of teeth.....								
25. Hypertrophied tonsils.....								
26. Adenoids.....								
27. Mentality.....								
28. Conduct.....								
29. Effort.....								
30. Proficiency.....								
31. Was treatment advised?.....								

(Reverse side for diagnosis and treatment received.)

HEALTH OFFICER'S DAILY REPORT.

School,..... CHICAGO,....., 191....

Time of { Arrival,.....
Departure..... Total number examinations,.....

Disease.	Diphtheria.	Diphtheria contact.	Diphtheria carrier.	Scarlet fever.	Scarlet fever contact.	Measles.	Measles contact.	Pertussis.	Pertussis contact.	Chickenpox.	Chickenpox contact.	Smallpox.	Smallpox contact.	Mumps.	Mumps contact.	Tuberculosis.	Tonsilitis.	Acute coryza.	Trachoma.	Conjunctivitis.	Ringworm.	Impetigo.	Scabies.	Favus.	Follicularis.	Miscellaneous.	Total.
Cases:																											
Found.....																											
Excluded.....																											

Number of vaccinations performed: Previous vaccination,.....; revaccination,.....; total,.....
Number physicals made,..... Number children found defective,.....
Number advised to seek treatment,..... Number of cultures made,.....

....., *Health Officer.*

(Reverse side for exclusions.)

DIVISION OF CHILD HYGIENE—EXAMINER'S DAILY SCHOOL REPORT AND SUMMARY.

CHICAGO, ..., 191....

School, ... Time of { Arrival, ... / Departure, ...

Grade.	Number in grade.	Number examinations to date.	Number defective.	Recommended treatment.
1				
2				
3				
4				
5				
6				
7				
8				
Special				
Total				

....., *Health Officer.*

DEPARTMENT OF HEALTH. CITY OF CHICAGO.

HEALTH OFFICER'S WEEKLY REPORT.

School, ... Week ended ....., 191....

Number of physical examinations, ...
Number requiring treatment, ...

Nationality of those requiring treatment.

Native born, ... Foreign born, ...
One or both parents foreign born .....

Defects found.

Nutrition	Vision .....
Anæmia	Other diseases of eye .....
Enlarged glands	Hearing .....
Goitre	Discharging ear .....
Nervous diseases	Nasal breathing .....
Cardiac diseases	Palate .....
Pulmonary diseases	Teeth .....
Skin diseases	Hypertrophied tonsils .....
Orthopedic	Adenoids .....
Rickitic type	Mentality .....

....., *Health Officer.*

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DEPARTMENT OF HEALTH, CITY OF CHICAGO.

DENTAL INSPECTOR'S DAILY REPORT.

School..... CHICAGO....., 191..
Total number examined.....
Number found to have defective teeth.....
Number needing immediate attention.....
General condition of teeth found: Good.....; fair.....; bad.....
Number of pupils applying for dispensary work.....
Remarks.....
.....
.....
..... D. D. S.

DEPARTMENT OF HEALTH, CITY OF CHICAGO.

DENTAL DISPENSARY DAILY REPORT.

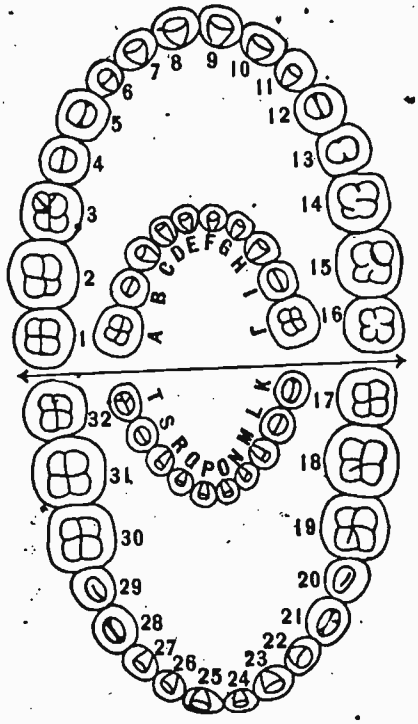
Dispensary..... CHICAGO....., 191..

Operation.	Treatments.													Fillings.						Extractions.		
	Prophylaxis.	Analgesic.	Arsenical application.	Dehydrating application.	Cocaine pressure extirpation.	Pulp capping.	Devitalized pulp removal.	Formacresol.	Sulphuric acid.	Root filling.	Counterirritant.	Abscess opened.	Surgical dressing.	Grinding unsavable tooth.	Amalgam.	Oxyphosphate of zinc.	Oxyphosphate of copper.	Gutta-percha.	Temporary filling.	Porcelain crown.	Permanent tooth.	Deciduous tooth.	Total number of operations.
Number cases.....																						

Time present..... Number patients.....
Number of new cases..... Number completed.....
Nurse in attendance?.....
..... D. D. S.

DENTAL RECORD.

Name..... Address.....
School..... Grade..... Age..... Nationality.....



Condition of mouth: Good.....; fair.....; bad.....
Condition of gums: Good.....; fair.....; bad.....
Use toothbrush: Yes.....; No.....
Have teeth been filled: Yes.....; No.....
Mal-occlusion: Yes.....; No.....
Palatal defect: Yes.....; No.....
Remarks: .....
.....
.....

..... D. D. S.
Examiner.

Followed up.....
..... *Nurse.*

DEPARTMENT OF HEALTH, CITY OF CHICAGO.

REPORT OF VACCINATIONS.

[☞ This monthly report of vaccination is to be made out and forwarded to the chief medical inspector at the close of each month.]

Name of school .....
Report for the month of.....,191..
Number of tubes of glycerinated vaccine received during the month..... .....
Number of tubes of glycerinated vaccine used during the month..... .....
Total number of primary vaccinations performed (successful)..... .....
Total number of primary attempts at vaccination with failure..... .....
Total number of revaccinations performed (successful)..... .....
Total number of attempts at revaccination performed with failure..... .....
Number of previous vaccinations examined and certificates issued therefor..... .....
Kind of vaccine used and laboratory numbers of same..... .....

.....,M. D.,
Medical Inspector.

DEPARTMENT OF HEALTH, CHICAGO.

To the parents of .....
(Pupil's name.)

Your child (named above) is not properly protected against smallpox. It should be vaccinated *at once*.

You owe it to your child to protect it against the most horrible of all diseases—smallpox.

Either take this child to your family doctor or give your permission to have it vaccinated (free) by the school doctor. The purest vaccine will be used.

Do you consent to having your child vaccinated by the school doctor.

.....
Answer "Yes" or "No" here.

(Sign your name here.).....

Return this card, *signed*, to the school-teacher.

(See other side.)

DIVISION OF CHILD HYGIENE—PARENT'S CONSENT CARD.

To the parents of .....

Address .....

Your child attending the.....school shows evidence of the following condition: .....
.....
.....

In the interest of the child's welfare kindly give permission to have a thorough examination of the child made by the school doctor.

Parents can be present at the examination if they desire.

Please sign this card and return it to the school.

C. B. YOUNG,
Commissioner of Health.

Parent's signature .....

DEPARTMENT OF HEALTH, CITY OF CHICAGO.

Dispensary ..... Date .....
Name .....
School ..... Room ..... No. .....

Appointment.			Leave school.	Arrived at dispensary.	Leave dispensary.	Arrived at school.	Appointment.			Leave school.	Arrived at dispensary.	Leave dispensary.	Arrived at school.
Hour.	Month.	Day.					Hour.	Month.	Day.				

BOARD OF EDUCATION, EDUCATIONAL DEPARTMENT.

No. .....

CHILD-STUDY LABORATORY.

RECORD CARD FOR CRIPPLED CHILDREN.

Name.....
Parent or guardian.....
Address.....
Nationality and language of home.....
Place of birth.....
Date.....year.....month.....day.....
Date of birth.....year.....month.....day.....
Age.....years.....months.....days.....
School.....(Teacher.....)
Name of medical examiner.....
History of case.....
Disposition of case.....

PHYSICAL CONDITION.

Vision, right eye
Vision, left eye
Hearing, right ear
Hearing, left ear
Nutrition—
  Character of skin and hair
  Anæmic
  Tongue, coated, furrowed
  Teeth, decayed, serrated, irregular
Nature of affliction:
  Tuberculosis—
    1. Pulmonary
    2. Glandular
      Sinuses, character of discharging, raw, partially healed, scars
    3. Osseous and arthralgic
      Spondylitis
      Hip disease
      Knee joint
      Ankle and other forms
      Sinuses, character of—discharging, raw, partially healed, scars
  Neuroses—
    1. Infantile cerebral paralysis
    2. Infantile spinal paralysis
    3. Hemiplegia
    4. Paraplegia
      Upper
      Lower
    5. Chronic hydrocephalism
    6. Pseudo-hypertrophy
  Specific
  Injuries and deformities

MENTALITY.

School standing:
  Grade
  Time in school
  Progress
Imitation, ability to duplicate movements and sounds:
  (a) Simple
  (b) Complex
Suggestibility, ability to express movements or thoughts from cues:
  (a) Immediate
  (b) Remote
Reproduction, immediate—sense memory:
  (a) Movements
  (b) Objects seen
  (c) Words seen
  (d) Numerals seen
  (e) Words heard
  (f) Numerals heard
Perception:
  Card sorting
  "A" test
Association and comparison; translating from one sense to another:
  Numeral-color association
  Numeral-symbol association
  Part-whole association
Remarks

BOARD OF EDUCATION, CITY OF CHICAGO.
OFFICE OF SUPERINTENDENT OF SCHOOLS.
File No. ..... Child-Study Department.

SPECIAL REPORT OF PRINCIPAL ON PUPIL RECOMMENDED FOR EXAMINATION BY THE CHILD-STUDY DEPARTMENT.

To the Superintendent of Schools:

.....*School.* .....*190..*

Character of case.....
(State whether deaf, blind, crippled, backward, imbecile, or pulmonary tuberculosis.)

Name of child.....
Parent or guardian.....
Home address.....
School history: | Remarks.....
Age..... | .....
Grade..... | .....
Time in grade..... | .....
.....

(Signed) .....
Principal.

[Data to be filled at the office of the superintendent.]

Referred to district superintendent..... .....
Date

Date returned.....Recommendation.....
.....
Referred to child-study department.....
Report of examination: By.....Date.....
.....
Recommendation.....
Disposition.....

BOARD OF EDUCATION, CITY OF CHICAGO, EDUCATIONAL DEPARTMENT.

No.——

CHILD-STUDY LABORATORY.

By whom referred.....
Name.....
Name of parent or guardian.....
Address.....
School.....; room.....
Grade.....No. of weeks in grade.....
Teacher.....
Date.....year.....month.....day.....
Date of birth, year.....month.....day.....
Age.....years.....months.....days.....
Nationality and language of home.....
Age of brothers and school record.....
Age of sisters and school record.....
Age of brothers and sisters dead.....
Causes of their deaths.....
Health of father.....good.....fair.....poor.....
Health of mother.....good.....fair.....poor.....
Age of father.....mother.....
Hygienic condition of home..,good...fair...poor..
Garbage.....sewerage.....noise.....
Food..... Education of parents.....
Aesthetic and moral influence.....
Family history—neurotic..tuberculer..alcoholic...
Specific.....etc.....
Development.—Dentition, 1st.....2d.....;
walking....., talking....., fontanelles....., control of fundamental reflexes.....

Health record:
Diseases—Measles....., mumps....., whooping cough....., scarletina....., scarlet fever....., diphtheria....., meningitis....., epilepsy....., chorea....., scrofula....., tonsilitis....., other diseases.....
Accidents and operations.....
General health tonus: Infancy.....childhood.....at present.....
Nutrition.....anæmic.....pallor.....
Skin: Dry....., moist....., oily.....
Hair: Dry and gritty.....growth irregular ...
Circulation: Hands, cold .....purple.....

School standing:
Best work in.....; poorest work in.....
Department.....
Is the child lazy....., inattentive....., dull.., stupid....., stubborn....., unruly....., selfish....., untruthful....., cruel....., slovenly...., excitable...., ill-tempered....

Anthropometric tests:
Net height...., height sitting...., weight....
Head measurements: Length...., breadth...., height...., circumference...., cephalic index.....
Lung capacity.....
Strength of grip: Right hand....., left hand.....
Motor ability: (a) Tapping rate, right hand 10s.....20s.....30s.....; left hand 10s.....20s.....30s.....

Anthropometric tests—Continued.
Observations.....
(b) Precision tests: Right hand....., left hand.....

Sensory tests:
Visual acuity: Right eye.....; left eye.....
Observations.....
Auditory acuity: Right ear.....; left ear.....
Observations.....
Pressure threshold.....
Aesthesiometric threshold.....

Perception tests:
(a) Size: (1) Dermo-muscular .....; (2) muscular.....
(b) Form: (1) Münsterberg's touch exp .....; (2) Jastrow's sorting exp .....
(c) Weight: (1) Active.....; (2) passive .....
(d) Time: .....
(e) Brightness: Sorting of grays .....
(f) Color: (1) Least perceptible difference (reds) .....; (2) sorting colors.....
(g) Movement: .....
(h) Symbols: Marking out "A's".....
Total time.....; Accuracy.....
Motor time.....
Finding time.....

Association:
Color-numeral.....
Symbol-numeral.....
Part-whole.....
(a) Simple.....
(b) Complex.....

Attention:
Natural.....
With distraction.....

Memory tests:
(a) Immediate sense—
1. Numerals seen.....
2. Numerals seen and spoken.....
3. Words seen.....
4. Words seen and spoken.....
5. Objects seen.....
6. Objects seen and names spoken.....
7. Numerals heard.....
8. Numerals heard and spoken.....
9. Words heard.....
10. Words heard and spoken.....
11. Smells.....
(b) Associational—simple.....
(c) Logical.....

OBSERVATIONS.

Growth:
Obese.....
Emaciated.....
Bilateral asymmetry.....
Deformities.....
Scoliosis.....
Lordosis.....
Chest sunken.....
Hydrocephalic.....
Microcephalic.....

Growths—Continued.
Cranial asymmetry.....
Forehead retreating.....
Forehead narrow.....
Forehead low.....
Facial asymmetry: Forehead.....; nose....; eyes....; ears....; mouth parts.....
Ears deformed.....
Dentition: Teeth irregular.....; doubled....; serrated....; pointed....; chalky.....
Palpebral fissures small.....
Nasal bones sunken.....
Adenoidic.....
Mouth breathing.....
Palate: Narrow.....; high.....; asymmetrical.....
Tongue: Thick....; flat....; pointed....; furrowed.....; papillae hypertrophied.....; coated.....

Movement:
Sluggish.....
Restless.....
Incoordinated.....
General balance relaxed.....
Asymmetrical posture.....
Asymmetrical head balance.....
Overaction of frontals.....
Corrugation.....
Incoordination of eyes.....
Relaxed orbicularis oculi.....
Hand balance: Asymmetrical.....
Tense.....
Relaxed.....
Drooped.....
Finger twitchings.....
Eyelid twitchings.....
Tongue twitchings.....

Defective speech:
Hesitation.....; lisping.....
Stammering.....; stuttering.....
Improper pronunciation of.....

General observations on mental action:
Judgment erratic.....; mind wandering.....; cholic.....; choleric.....; sanguine.....; phlegmatic.....; sullen.....; silly.....; face immobile.....; timid.....; bold.....; curious.....; indifferent.....; affectionate.....; repellant.....
Sensitivity: Good....; fair....; poor....
Perceptive ability: Good...; fair...; poor...
Memory: Good....; fair....; poor .....
Ability to reason: Good..; fair....; poor....
Mental prognosis: Good..; fair....; poor.....
Is able to work with number combinations to..
Is able to read well—fairly well—poorly—lesson .....in the.....reader.

REMARKS AND RECOMMENDATIONS.

.....
.....
.....

NEWARK, N. J.

BOARD OF EDUCATION, NEWARK, N J.

.....*School*

To parents and guardians:

To protect the health and to secure the proper development of the child's body, the school law of the State of New Jersey and the rules and regulations of the board of education of the city of Newark require all public-school pupils to be examined by the school physician, to learn whether they have any defects of the eyes, ears, nose, throat, heart, or lungs.

To make a thorough examination of the heart and lungs it is usually necessary to remove all or a part of the clothing which covers the chest and back. This is done by the school physician with the least possible exposure of the body. In case boys or girls are timid or sensitive, they will be examined alone in the doctor's office, provided the parent wishes it. In case of girls, clothing will not be removed except in the presence of a woman, mother, nurse, teacher, or clerk. *Mothers are invited to be present at the examination if they desire.*

Examinations of this kind are now quite common in all the cities of the country that are taking measures to protect the health and to improve the condition of school children.

Please state below, in the manner directed, whether you wish your child examined under the above conditions.

.....*Principal.*

Dated.....

[Parent will please fill out and return.]

I wish my child (children) examined by the school physician as above.

Yes. *No.* (Cross out either yes or no.)

(Signed) .....

Parent or Guardian.

In case no reply is received from you within two days, it is understood that you consent to having your child (children) examined.

DEPARTMENT OF MEDICAL INSPECTION, BOARD OF EDUCATION, NEWARK, N. J.

The following is a report of nurse No.....for.....191..

Schools visited.	Number of classes inspected.	Lectures delivered.	Old cases.	New cases.	Cured.	Visits to homes.	Taken to dispensary or physician.	Examinations for uncleanliness.	Pediculosis.	Causes for which pupils were treated.										Exclusions.			
										Acute conjunctivitis.	Scabies.	Ringworm.	Impetigo.	Favus.	Eczema.	Molluscum con.	Infected wounds.	Vaccination dressings.	Others.	Total.	Suspected contagious diseases.	Pediculosis.	Uncleanliness.	Others.
					Old.	New.	Old.	New.																	

.....*Nurse.*

BOARD OF EDUCATION, NEWARK, N. J.

WEEKLY WEIGHT RECORD.

Date.	Weight.	Gain or loss.	Date.	Weight.	Gain or loss.	Date.	Weight.	Gain or loss.

SOCIAL CONDITIONS.

The home.	The family.	Economic condition.	The child.
Number of rooms..... Cleanliness: Good; fair; bad. Character: Good; fair; bad. Ventilation: Good; fair; bad. Child's sleeping room: light; fair; dim. Ventilation: Good; fair; bad. Number in rooms..... Number in bed.....	Total number: Adults..... Children..... Boarders..... Parents alcoholic: Yes; no. Illness in— Who?..... What?..... Attend clinic?.....	Rent..... Income..... Charity received..... Who works?.....	Food: What?..... Fried?..... Beverage: Tea, coffee, wine, beer, whisky. Sleep: How much..... Work: Yes; No. What? Play out; how much?... Bath: How often?.....

Action taken:
(Continued on reverse side.)

BOARD OF EDUCATION, NEWARK, N. J., DEPARTMENT OF MEDICAL INSPECTION.

PHYSICAL RECORD.

Name..... Age..... Address.....
.....School. .....Grade. .....,19..

1. Nutrition: Bad; good.
2. Enlarged cervical gland: Yes; no. Anterior; posterior.
3. Chorea: Yes; no.
4. Cardiac disease: Yes; no.
5. Pulmonary disease: Yes; no.
6. Skin disease: Yes; no.
7. Deformed spine: Yes; no. Chest: Yes; no. Extremities: Yes; no.
8. Defective vision: Right eye; left eye.
9. Defective hearing: Yes; no.
10. Defective nasal breathing: Yes; no.
11. Teeth: Bad; good.
12. Deformed palate: Yes; no.
13. Impediment in speech: Yes; no.
14. Hypertrophied tonsils: Yes; no.
15. Posterior nasal growth: Yes; no.
16. Mentality: Bad; good.
17. Treatment necessary: Yes; no.
18. Nationality.....
19. Date of your inspection.....
20. Remarks.....

Form 801 signed: Yes; no. Medical Inspector No. .....
(On reverse side: Improvement noted on reexamination.)

BOARD OF EDUCATION,
Newark, N. J., ...

The medical inspector of this school finds no evidence of successful vaccination on the person of.....

In accordance with the rules of the board of education such evidence of successful vaccination is necessary or your child can not be admitted to school.

Please have your child vaccinated at once by your family physician; or, in case you wish your child vaccinated by the medical inspector (which will be done free of charge), sign your name in the space below and return this card at once.

.....
Principal.

.....
(Signature of parent or guardian.)

BOARD OF EDUCATION, NEWARK, N. J.

PRINCIPAL'S REPORT ON MEDICAL INSPECTION.

Month ending..... .....School.
Inspector..... Absent.....Days.
Substitute inspector..... Date.....
Substitute inspector..... Date.....
Substitute inspector..... Date.....
Number of class rooms inspected..... Number of rooms fumigated.....
Number of pupils excluded by principal..... Number of visits by nurse.....
Number of lectures..... Date.....
Subject.....
Remarks.....

.....
Principal.

NEWARK, N. J., ..., 191..

The {nurse / physician} has this day visited my classroom and examined ....., pupils.

(Signed) ....., *Teacher.*

[This notice must be sent to the principal the same day inspection is made.]

BOARD OF EDUCATION, NEWARK, N. J.,
Department of Medical Inspection, ..., *191*...

Principal ..... *School.*

....., residing at .....is

..... granted a permit to attend .....school beginning

..... provided an examination by the medical inspector on

{his / her} arrival discloses no evidence of disease.

....., *Supervisor of Medical Inspections*

BOARD OF EDUCATION, NEWARK, N. J., DEPARTMENT OF MEDICAL INSPECTION.

Examined in Supervisor's Office.
Accompanied by.....
Date.....

Name, ...
Address, ...
Newark, N. J.
School.....Grade.....
Age.....Vaccination inspection.....
Family history:
Mother's name.....
Father's name.....
.....
Previous history:
.....
.....
Present history:
.....
.....
(Reverse side: Physical examination.)

Physical examination:
General condition.....
Nutrition.....
Weight.....
Height.....
R. E. V.....
L. E. V.....
Ears.....
Teeth.....
Nose and throat.....
Heart.....
Lungs.....
Skin.....
Orth.....
Nervous.....
Mental status.....
Von Pirquet skin test.....Hæmoglobin
Given.....
Inspected.....
Reaction.....
Diagnosis.....
.....
.....
Prognosis.....
Recommendations.....
.....
.....
Subsequent examination.....
.....
.....
Remarks.....

BOARD OF EDUCATION, NEWARK, N. J.

School.....Room No.....
Name.....Address.....
Date..... Sent to medical inspector for.....

Diagnosis.....	Treatments by nurse.....
Referred to—Physician or dentist—Dispensary—Nurse.	Dates.....
.....excluded—Date.....	
Returned—Date.....	
Results—Cured—Improved—Not improved.	Total number of treatments.....
Medical inspector.....	Nurse.....

To Teacher— Diag.....
.....is referred for treatment to nurse—Dispensary or dentist—Family physician.
He (she) is.....excluded from the class room until you receive notice for his (her) return.
.....Medical Inspector.

NEWARK DENTAL CLINIC ASSOCIATION,

Newton Street—553 Market Street.

Name.....
Address.....
Referred by.....
School.....

[This notice does NOT exclude the pupil from school.]

BOARD OF EDUCATION, DEPARTMENT OF MEDICAL INSPECTION,

Newark, N. J., ...*19*....

The parent or guardian of.....at.....
is hereby informed that a physical examination by the Medical Inspector seems to show the following abnormal condition:

.....
.....
.....

You are requested to take this child and the card to your family physician or clinic for advice and treatment.

Medical Inspector,.....

GEO. J. HOLMES, M. D.,
Supervisor of Medical Inspection.
(Filled out on reverse side by physician.)

.....*191*....

REPORT OF INVESTIGATION OF QUARANTINED PUPIL.

Name.....Address.....
Age.....Attending.....School.
Nature of disease.....Date of origin.....
Relation of applicant.....Character of house.....
Number of brothers and sisters attending school.....
Physician attending patient.....
Date of last being in house of contagion.....
Intelligence and reliability of parents.....
Present address.....
Remarks.....
.....
Permit..... Date.....

.....
Sanitary Inspector.

BOARD OF EDUCATION, NEWARK, N. J. DEPARTMENT OF MEDICAL INSPECTION.

HOME VISITS.

Nurse district No. .....Date.....191..

Name.	Address.	School.	Disease.	Time of visit.	Results.
.....	.....	.....	.....	.. a. m. .. p. m.	
.....	.....	.....	.....	.. a. m. .. p. m.	

BOARD OF EDUCATION, NEWARK, N. J.,
Department of Medical Inspection, ...191..

I, parent of.....living at.....herewith request that the nurse of the department of education adopt such procedures for the proper care or treatment of such diseases or defects as in her judgment are necessary for the cure of my child.

(Signed) .....

DEPARTMENT OF MEDICAL INSPECTION, BOARD OF EDUCATION, NEWARK, N. J.

INSTRUCTIONS TO PARENTS REGARDING THE CARE OF THE MOUTH AND TEETH.

The physical examination of school children shows that in many instances the teeth are in a decayed and unhealthy condition.

Decayed teeth cause an unclean mouth. Toothache and disease of the gums may result.

Neglect of the first teeth is a frequent cause of decay of the second teeth.

If a child has decayed teeth, it can not properly chew its food. Improperly chewed food and an unclean mouth cause bad digestion, and consequently poor general health.

If a child is not in good health it can not keep up with its studies in school. It is more likely to contract any contagious disease, and it has not the proper chance to grow into a robust, healthy adult.

If the child's teeth are decayed it should be taken to a dentist at once.

The teeth should be brushed after each meal, using a tooth brush and tooth powder.

The following tooth powder is recommended: Two ounces powdered precipitated chalk, ½ ounce powdered castle soap, 1 dram powdered orris root. Thoroughly mix.

This prescription can be filled by any druggist at a small cost.

The child should take the tooth brush and powder to the school and receive instructions from the nurse as to their proper use.

RINGWORM.

Directions: Remove the scales with soap and warm water. Dry thoroughly and apply the medicine morning and night until disease is cured.

[To be filled at a drug store.]

℞ Tincture of iodine..... 10
Alcohol..... 20

M. Sig. Apply once a day until the disease has disappeared.

The following method of treatment for the itch is recommended:

Before going to bed wash the body well with soap and hot water, and when dry rub this ointment thoroughly, 20 minutes, over the whole skin. Do not bathe for three days. All bedclothing and clothes that have been worn next the skin must be boiled before using again.

[To be filled at drug store.]

℞ Sulphur..... 7.50
Beta naphthol..... 7.50
Lard q. s..... 90

M. Sig. Apply as directed.

CONTAGIOUS IMPETIGO.

Directions: Wash the affected parts with warm water and soap. Apply the ointment morning and night until the disease has disappeared.

[To be filled at a drug store.]

℞ Resorcin..... .15
White precipitate..... .60
Lard q. s..... 15

M. Sig. Apply morning and night until the disease is cured.

BOARD OF EDUCATION, NEWARK, N. J.

RECOMMENDATION FOR SPECIAL CLASS FOR MENTALLY DEFECTIVE CHILDREN.

Child's name ..... (Family.) ..... (Given.)
..... Grade. .....School. ....Principal.
Birth: Date..... Place .....
Order..... B. Girl. White. Colored.
Parent's name..... Residence.....
Occupation..... Birthplace..... Educated. Can read and write. Illiterate.
Date of examination..... Examined by.....
Mental development as indicated by test..... years. Age,..... years.
Family history:
Medical—Feeble-mindedness, insanity, nervous disorder, alcoholism, tuberculosis, sickness or accident to mother before birth of child.
Social—
Financial—Well-to-do, moderate, poor.
Housing—
Entire house, number of rooms .....
Apartment, number of rooms .....
Tenement, number of rooms .....
Home treatment—Good care, neglect, brutality.
Number of normal—Living, dead. Feeble-minded—Living, dead.
Brothers ..... Sisters.....
Personal history and characteristics:
Medical—
Injury to head—At birth; after birth.
Acute illness—Scarlet fever, diphtheria, meningitis, convulsions, early malnutrition.
Bad companions, truant, lies, cheats, steals, profane, smokes cigarettes, vicious habits.
Dependable, willing and tries, good natured, affectionate.
Apathetic, restless, mischievous, quarrelsome, obstinate, incorrigible, marked peculiar traits.
Nervo-muscular coordination:
Speech—Clear, indistinct, thick, inarticulate, fluent, slow, hesitating, mute, lisp, stammer.
Facial expression—Intelligent, stupid, happy, sullen, animated, apathetic, nervous.
Posture—Stooping, erect, spinal curvature.
Gait—Normal, lively, shuffling, unsteady, clumsy.
School history:
Schools attended—City, country, or institution (specify).
Standing—Months in present grade..... Months in preceding grade ..... Prospects of promotion—Good, fair, poor, none.
Attendance—Regular, irregular, punctual.
Arithmetic—Good, fair, poor.
Writing—Good, fair, poor.
Spelling—Good, fair, poor.
Reading—Good, fair, poor.
Language—Good, fair, poor.
Drawing—Good, fair, poor.
Attention—Good, poor.
Memory—Good, poor. Common sense.
Physical condition—Height ..... inches. Weight ..... pounds. Miscellaneous .....

Medical inspector's last record.

Eyes.	Ears.	Nose.	Throat.	Skin.	Orth.	Nervous.	Teeth.	Nutrition.

Remarks .....
To the principal: Kindly see that the above form is filled out as accurately as possible. The data may be obtained from parents, children, and teachers, as well as from your personal knowledge of the case.
Please underline the descriptive words applicable to this case, and return the blank as soon as possible to the city superintendent of schools.

Present examination by committee.

Eyes.				Ears.	Nose.	Throat.	Skin.	Orth.	Nervous.	Teeth.	Nutrition.	Miscellaneous.
V. R.	V. L.	H. F. R. L. sq.	Glasses date child.									

Diagnosis:
Degree of mentality—Dull, backward, backward-emotive, feeble-minded, imbecile, idiot.
Etiology.....
Recommendations: Medical, social, educational, special class for backward—feeble-minded—disciplinary case.

RECORD BLANKS FOR REVISED BINET TESTS.

DEPARTMENT OF RESEARCH TRAINING SCHOOL, AT VINELAND, N. J.

Name..... Born..... Admitted.....

Examined..... Mental age.....

III.

1. Points to nose, eyes, mouth.
2. Repeats "It rains. I am hungry."
3. Repeats 7 2.
4. Sees in picture 1. , 2. , 3. , 4. , 5. , 6. , 7. , 8.
5. Knows name.

IV.

1. Knows sex, boy or girl (girl or boy)
2. Recognizes key, knife, penny.
3. Repeats 7 4 8.
4. Compares lines.

V

1. Compares 3 and 12 grams. 6 and 15 grams.
2. Copies square (draw on back of this sheet).
3. Repeats, "His name is John. He is a very good boy."
4. Counts four pennies.
5. "Patience."

VI.

1. Morning or afternoon (afternoon or morning).
2. Defines fork, table, chair, horse, mama.
3. Puts key on chair; shuts door; brings box.
4. Shows right hand; left ear.
5. Chooses prettier? 1 and 2. 4 and 3. 5 and 6.

VII.

1. Counts 13 pennies.
2. Describes pictures. (See III 4).
3. Sees picture lacks eyes, nose, mouth, arms.
4. Can copy diamond (over).
5. Recognizes red, blue, green, yellow. (Time 6".)

VIII.

1. Compares (time 20") butterfly, fly, wood, glass, paper, cloth.
2. Counts backward 20-1 (time 20").
3. Repeats days. M. T. W. T. F. S. S. (Time 10".)
4. Counts stamps. 111222 (time 10").
5. Repeats 4 7 3 9 5.

IX.

1. Makes change 20c.—4c.
2. Definitions (see VI 2).
3. Knows date.
4. Months. J. F. M. A. M. J. J. A. S. O. N. D. (time 15").
5. Arranges weights (2 correct) 1' each). 1. 2. 3.

X.

1. Money 1c. 5c. 10c. 25c. 50c. $1. $2. $5. $10.
2. Draws design from memory (show 10 seconds).
3. Repeats 8 5 4 7 2 6. 2 7 4 6 8 1. 9 4 1 7 3 8.
4. Comprehends:
   1st series time 20" (2 out of 3)—(a) missed train, (b) struck by playmate, etc., (c) broken something.
   2d series time 20" (3 out of 5)—(a) late to school, (b) important affair, (c) forgive easier, (d) asked opinion, (e) actions v. words.
5. Sentence: Philadelphia, money, river. (Time 1').

XI.

1. Sees absurdity (3 out of 5) (time 2')—(a) Unfortunate painter, (b) three brothers, (c) locked in room, (d) railroad accident, (e) suicide.
2. Sentence: Philadelphia, money, river (See X 5.)
3. Gives sixty words in three minutes (record on back).
4. Rhymes (time 1' each) (3 rhymes with each word): Day, spring, mill.
5. Puts dissected sentences together. (Time 1' each): a. b. c.

XII.

1. Repeats 2 9 6 4 3 7 5. 9 2 8 5 1 6 4. 1 3 9 5 8 4 7.
2. Defines charity, justice, goodness.
3. Repeats, "I saw in the street a pretty little dog. He had curly brown hair, short legs, and a long tail."
4. Realsts suggestion (Lines). 1. 2. 3. 4. 5. 6.
5. Problems: (a) Hanging from limb; (b) neighbor's visitors.

XV.

1. Interprets picture.
2. Change clock hands. 6.20— 2.56—
3. Code. Come quickly.
4. Opposites: (1) good, (2) outside, (3) quick, (4) tall, (5) big, (6) oud, (7) white, (8) light, (9) happy, (10) false.

ADULT.

1. Cutting paper.
2. Reversed triangle.
3. Gives diff erences of abstract words.
4. Difference between president of a republic and a king.
5. Gives sense of a selection read

STATE REGULATIONS OF NEW JERSEY.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

DIVISION OF MEDICAL AND SANITARY INSPECTION.

RECORD OF SA ITARY 'NSPECTION OF SCHOOL BUILDING.

1. Name of school buil ling.....
2. Location .....; town.....; county.....
3. School district.....
4. Name aud post-office address of principal.....
5. Na ie and address of secretary of the board of e lucation or district clerk.....
6. Total number of classrooms.....
7. Enrollment of pupils.....; average daily attendance.....
8. Size of lot.....
9. Surface covered by buildings.....
10. Height of building.....
11. Date of erection.....
12. Material of construction.....
13. Nearness and height of surrounding buildings.....
14. Fire escape on building.....
15. Yard, for what purpose used.....
16. Privy vault on pre nises.....; size.....; location..... condition.....
17. Jesspool.....; construction.....; condition.....
18. Any objectionable accumulation on premises or adjoining premises?.....

CELLAR.

19. Cellar under entire buil ling.....
20. Depth beneath ground surface.....
21. Material an l condition of cellar bottom.....
22. Number an l size of windows.....
23. Is cellar well lighted?.....
24. Is cellar damp?.....

PLUMBING, DRAINAGE, AND WATER-CLOSET APARTMENTS.

25. Is building connected with sewer?.....
26. Any leaks or defects noted in drains?.....
27. Size and location of water-closet apartments.....
28. Material and condition of floors.....
29. Number and size of windows opening to outer air.....
30. Ventilation of apartment.....
31. Cleanliness of apartment.....
32. Number and style of water-closets.....
33. Are water-clo sts in good repair?.....
34. How flushed.....

35. Number and style of urinals.....
36. Are urinals in good repair?.....
37. How flushed?.....
38. Cleanliness of fixtures.....
39. Any disinfectant or deodorant used in fixtures or apartment?.....; kind.....
40. Are there facilities for pupils to wash hands after using closets or urinals?.....

HEATING, LIGHTING, AND VENTILATION.

41. Method of heating.....
42. Method of lighting.....
43. Method of ventilation.....
44. Location of fresh-air intake.....
45. Size and construction of fresh-air duct.....
46. Any visible sources of contamination of fresh-air supply?.....

WATER SUPPLY.

47. Source of water supply.....
48. Is water supply delivered through tank?..... Location.....; condition.....
49. Location of well.....
50. Is well driven or dug?.....
51. Depth.....; how covered.....
52. Surroundings.....
53. Sample taken.....; number.....; result.....
54. Are drinking cups used in common?.....
55. Are there drinking fountains in building? Number.....; location.....

HALLS.

56. Length.....; width.....; height.....
57. Exits.....
58. Lights.....
59. Ventilation.....
60. Do doors swing in or out?.....
61. Cleanliness of hall.....

CLASSROOMS.

62. Designate room.....; grade.....; total enrollment; greatest average attendance for any preceding month.....
63. Size: Length.....; width.....; height.....; cubic contents.....
64. Square feet of floor space per pupil.....
65. Cubic feet of air space per pupil.....
66. Number and size of windows.....
67. Percentage of light to floor space.....
68. Light enters from east, west, north, south.....
69. Are there window shades to control volume of light?.....
70. Desks face east, west, north, south.....
71. Color and finish of ceiling and side walls.....
72. Do doors swing in or out?.....
73. If swinging doors, have they plate-glass panels?.....
74. Style of desks and seats.....
75. How frequently are seats and desks adjusted to pupils?.....
76. Adjustment at time of inspection.....
77. Material of construction and condition of floor.....
78. Number, size, and location of fresh-air inlets in classroom.....
79. Number, size, and location of vitiated air outlets.....
80. Amount of fresh air entering through inlets per minute.....
81. Temperature of air at inlet.....; outlet.....; at breathing line.....
82. Humidity of air in room.....
83. Was air tested for CO_2?.....; result.....; at what time.....
84. Weather conditions and temperature of air out of doors.....
85. Objectionable odors noted in air in classroom?.....
86. Are furnishings and ledges free from dust?.....
87. Any facilities for washing hands?.....
88. Are clean towels and soap provided?..... Kind of towels.....
89. Are slates used by pupils?.....; if so, how cleaned?.....
90. Are individual pencils and penholders used?.....

91. Are pencils and penholders distributed and collected daily?..... Are they disinfected after each collection?..... How?.....
92. Location of cloak room.....
93. Separate compartment for each pupil?.....
94. Light and ventilation of cloak room.....
95. Is approach to fire escape clear?.....

MEDICAL INSPECTION.

96. Name and address of medical inspector.....; date of appointment.....
97. Frequency of inspector's calls.....
98. Has board of education adopted rules for guidance of medical inspector?.....
(Procure copy if available.)
99. Are blank forms used by medical inspectors in making records?.....
(Procure copy if available.)
100. Number of lectures given before teachers by medical inspector during each term.....
101. Are unvaccinated pupils or teachers permitted to attend school?.....
102. Number of unvaccinated pupils in school.....; teachers.....
103. Are pupils or teachers residing in dwellings in which infectious disease exists excluded from school?....
104. Are pupils and teachers required to present a written permit upon return to school after exclusion on account of infectious disease?..... Who issues permit?.....

JANITORIAL SERVICE.

105. Method, frequency, and time of sweeping classroom floors.....
106. How is dust removed from furniture and ledges?.....
107. Are floors oiled?.....; how frequently.....
108. Method and frequency of scrubbing floors.....
109. Method and frequency of cleaning desk tops, chairs, handrails, door knobs, and casings.....
110. Method of disinfecting schoolrooms after a case of infectious disease occurs.....; by whom performed?.....
111. Describe any appliances for disinfecting kindergarten equipment.....
112. How frequently used?.....
113. Has school a gymnasium?..... Are there special instructors?.....
114. Any facilities for bathing?.....; describe them.....

Date.....

....., *Inspector.*

AMERICAN SCHOOL HYGIENE ASSOCIATION.

QUESTIONNAIRE.

[PREPARED BY THE COMMITTEE ON THE STATUS OF MEDICAL INSPECTION OF THE AMERICAN SCHOOL HYGIENE ASSOCIATION.[1]]

1. Is there any organized system of medical inspection of school children in your town?
2. Does this embrace inspection of children for the detection of (*a*) contagious disease, and (*b*) remediable physical and hygienic defects?
3. Do you follow up cases of contagious disease, remediable physical defect, and hygienic imperfection?
4. What per cent of children thus followed up receive legitimate treatment by reputable physicians?
5. State the number of schools under supervision.
6. Give the total population of all schools.
7. How many schools are visited daily by the medical inspector?
8. Are parochial, private, or any other than public, supervised by the medical inspector?
9. What is the average number of children under the supervision of one inspector, and how often are the individual children seen by the inspector?
10. Does the city provide free baths in the school buildings or in other places for the use of the school children.
11. How extensively are these baths used, and what is their sanitary supervision?
12. Do the medical inspectors visit the homes of absentees to learn the reason of their absence?
13. Do the pupils provide their own writing utensils?
14. How are the materials, as pencils, paper, clay, books, etc., collected and stored in the classroom?

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[1] *See* American medical association. Committee on medical inspection of schools. *Its* Journal, 57: 1751-57, Nov. 25, 1911.

15. Are the books of one pupil disinfected before being passed on to another pupil? If so, how?
16. What disposition is made of school books and other material which has been used by a child ill with contagious disease or used in a family where contagious disease existed?
17. Is there any systematic vaccination of school children by medical inspectors in the schools?
18. Is a certificate of successful vaccination required before child is allowed to enter school?
19. Does the city conduct a system of nursing?
20. What are the duties of the nurse?
21. How many schools does a single nurse cover?
22. What is the average number of children assigned to a nurse?
23. What is the area covered by a nurse?
24. Does the nurse or teacher in any way perform the functions of the medical inspector?
25. Is there any system of permanent record of the physical condition of a child kept in the school?
26. Is the medical supervision of school children under the department of health or the department of education, or established by private philanthropy?
27. If in the department of education, in what division—physical education, [illegible] school hygiene or other department?
28. What is your individual estimate of the value of medical inspection of school children in (1) improving the hygienic conditions at school, (2) improving the school efficiency of the children; (3) improving the attendance, (4) improving the morale of the school community, with particular reference to truancy, incorrigibleness, etc.?
29. Will you please cite any remarkable instance of improvement in the school children after physical or hygienic defects have been remedied?
30. What instruction does your system give in oral hygiene and constructive dental work? What cooperation do the local dentists afford?

AMERICAN ACADEMY OF MEDICINE.

HEALTH SURVEY OF PUPILS, TO BE MADE BY THE TEACHER AT THE BEGINNING OF THE TERM.[1]

A. General Appearance.

1. Is the child healthy appearing?
2. Is the color good?
3. Is he physically well developed?
4. Is he free from apparent deformities?
5. Has he a good standing posture?
6. Has he a good sitting posture?
7. Are the shoulders even?
8. Does the child walk normally?
9. Are the heels of the shoes worn evenly?
10. Is the physiological age of the child apparently equal to his chronological age?

B. Mental Conditions.

1. Is the child normally advanced in school?
2. Is he mentally alert?
3. Does he answer ordinary questions intelligently?
4. Does he play normally?

C. Nervous Conditions.

1. Is the child good tempered?
2. Is he free from abnormal emotions?
3. Does he have good powers of muscular coordination?
4. Is the child free from spasmodic movements?
5. Is he free from the nail-biting habit?
6. Does he speak without stammering?
7. Is he free from pronounced peculiarities such as irritability, timidity, embarrassment, cruelty, motorsomeness, fits, general misbehavior, etc.?
8. Is he apparently free from bad sexual habits?
9. Is he free from so-called "bladder trouble" (requests to "go out")?
10. Is he usually free from headache?

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[1] Reprinted as an outline for the health grading of the school child. See Hoag, E. B. The teacher's relation to health supervision in schools, etc. American academy of medicine. Bulletin 13: 127–134, June, 1913.

D. Teeth.

1. Are the teeth clean?
2. Are the teeth sound?
3. Are the six-year molars in good condition?
4. Has the child been to a dentist within six months?
5. Are the teeth regular?
6. Does the child use a toothbrush every day?
7. Are the gums free from abscesses?
8. Are the gums healthy looking?
9. Are the upper teeth straight (not prominent)?
10. Have decayed teeth been filled?

E. Nose and Throat.

1. Does the child breathe with the mouth closed?
2. Is he free from nasal discharge?
3. Is he free from "nasal voice"?
4. Has he a well-developed face?
5. Has he a well-developed chin?
6. Has he straight, even teeth?
7. Is the child mentally alert?
8. Is he usually free from sore throat?
9. Is the hard palate wide (not high and narrow)?
10. Is the hearing good?

F. Ears.

1. Does the child usually answer questions without first saying "What"?
2. Is he fairly attentive?
3. Is he fairly bright appearing (not stupid)?
4. Does he have a voice with good expression (not expressionless)?
5. Does he spell fairly well?
6. Does he read fairly well?
7. Is he free from ear ache?
8. Does he hear a watch ticks as far as one ordinarily does?
9. Is he free from ear discharge?
10. Is he free from any peculiar postures which might indicate deafness?

G. Eyes.

1. Are the child's eyes straight?
2. Is he free from chronic headache?
3. Does he do his work without fatigue?
4. Is he free from squinting or frowning?
5. Is the child free from postures which might indicate eye defects, such as leaning over too near the desk, holding the head on one side, etc.?
6. Are the eyes free from redness and discharge?
7. Are the eyelids healthy looking?
8. Can the child read writing on the board from his seat?
9. Have the eyes been tested separately with the Snellen test type?

H. Communicable Diseases of the Skin.

1. Is the head free from any signs of disease (lice, ringworm)?
2. Is the skin of the face, hands, wrists, forearms, chest, free from red, somewhat circular patches (ringworm)?
3. Is the skin of the face, hands, and forearms free from infected spots with crusts and pus (impetigo)?
4. Is the child free from red scratched lines and spots on the hands, wrists, forearms, chest, and between the fingers (itch)?

I. Eruptive Children's Diseases.

Is the child free from the following general early indications of contagious diseases?

1. Flushed face
2. Lassitude
3. Vomiting
4. Eruptions
5. Congested eyes
6. Discharging eyes
7. Nasal discharge
8. Persistent cough
9. Scratching
10. Sleepiness

APPENDIX B.

(See p. 34.)

SHAWAN, Jacob Albright. School activities in relation to children's eyes. *In* National education association of the United States. Journal of proceedings and addresses, 1911. . Published by the association, 1911. p. 1063-70.

A résumé of information being gathered through questionnaire sent out by N. E. A. Committee appointed at the Boston meeting of the Department of special education, 1910, "to study and report on the conservation of vision. This committee consists of an ophthalmologist, a psychologist, an illuminating engineer, a publisher, and a superintendent of schools. Its object is to study not only school conditions with reference to the use and abuse of vision, but other conditions. . . . The committee has so far planned to investigate the following phases of the subject: 1. The physiology and pathology of vision. 2. Illumination, both natural and artificial. 3. Objects of vision, including books, writing tablets, blackboards, etc. 4. The psychology of vision, especially with reference to conduct. 5. The legal aspects of the problem of the conservation of vision with special reference to legislative regulations.

"This paper is . . . a partial report of one member of the committee and is confined to one phase of the subject.

"A comprehensive questionnaire has been prepared and 3,000 copies sent to superintendents and principals of schools in the United States. . . .

"Out of 736 answers . . . 456, or 59 per cent, have the eyes of children examined periodically. . . . Out of 504 answers, the following facts are deduced: 326, or 42 per cent, of the examinations were made by teachers; 138, or 17.7 per cent, of the examinations were made by physicians; 30, or 3.9 per cent, of the examinations were made by teachers, physicians, and ophthalmologists; 10, or 1.5 per cent, of the examinations were made by ophthalmologists and specialists."

Summary:

"*First*, light should be admitted to the schoolroom from the left of the pupils with a window space equal to not less than one-fifth of the floor surface.

"*Second*, a shiny surface, whether the blackboard or printed page is injurious and should be avoided.

"*Third*, the type used for printing school books should be large and clear.

"*Fourth*, the amount of work requiring pencil or pen should be limited.

"*Fifth*, correction of the differences in refractive power of the two eyes should be discovered and promptly made by the use of proper glasses.

"*Sixth*, where the power of vision is limited it should be conserved and developed by proper eye-training, either by segregation or by the omission of certain subjects of study."

AUTHOR AND SUBJECT INDEX.