Health work in the public schools

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GLOBAL ACADEMY

Published by: Global Academy Publishing House
Cover & Design: Global Academy Publishing House
ISBN Number:

Publishing Date: March 14, 2016

Certificate No: 64419
Adress-1: Konutkent 2955. St. Oyak 1 No: 8/6 Cankaya/Ankara/TÜRKİYE

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FOREWORD

This report on "Health Work in the Public Schools" is one of the 25 sections of the report of the Educational Survey of Cleveland conducted by the Survey Committee of the Cleveland Foundation in 1915. Twenty-three of these sections will be published as separate monographs. In addition there will be a larger volume giving a summary of the findings and recommendations relating to the regular work of the public schools, and a second similar volume giving the summary of those sections relating to industrial education. Copies of all these publications may be obtained from the Cleveland Foundation. They may also be obtained from the Division of Education of the Russell Sage Foundation, New York City. A complete list will be found in the back of this volume, together with prices.

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HEALTH WORK IN THE PUBLIC SCHOOLS

Cleveland employs 16 physicians, one oculist, and 27 nurses to take charge of the health of her school children. The city spends $36,000 a year on salaries and supplies for these people. There are 86 school dispensaries and clinics. Cleveland is making this heavy investment because she finds it pays.

The Argument for Medical Inspection

Medical inspection is an extension of the activities of the school in which the educator and the physician join hands to insure for each child such conditions of health and vitality as will best enable him to take full advantage of the free education offered by the state. Its object is to better health conditions among school children, safeguard them from disease, and render them healthier, happier, and more vigorous. It is founded upon a recognition of the

intimate relationship between the physical and mental conditions of the children, and the consequent dependence of education on health conditions.

In Cleveland, the value of medical inspection was recognized while the movement was still in its infancy in America. Here, as elsewhere, this sudden recognition of the imperative necessity for safeguarding the physical welfare of school children grew out of the discovery that compulsory education under modern city conditions meant compulsory disease.

The state, to provide for its own protection, has decreed that all children must attend school, and has put in motion the all-powerful but indiscriminating agency of compulsory education, which gathers in the rich and the poor, the bright and the dull, the healthy and the sick. The object was to insure that these children should have sound minds. One of the unforeseen results was to insure that they should have unsound bodies. Medical inspection is the device created to remedy this condition. Its object is prevention and cure.

Ever since its establishment the good results of medical inspection have been evident. Epidemics have been checked or avoided. Improvements have been noted in the cleanliness and neatness of the children. Teachers and parents

have come to know that under the new system it is safe for children to continue in school in times of threatened or actual epidemic.

Health and School Progress

But medical inspection does not confine itself to dealing with contagious disease. Its aid has been invoked to help the child who is backward in his school studies. With the recent extensions in the length of the school term and the increase in the number of years of schooling demanded of the child, has come a great advance in the standards of the work required. When the standards were low, the work was not beyond the capacity of even the weaker children; but with close grading, fuller courses, higher standards, and constantly more insistent demands for intellectual attainment, conditions have changed. Pupils have been unable to keep up with their classes. The terms "backward," "retarded," and "exceptional," as applied to school children, have been added to the vocabularies of educators.

School men discovered that the drag-net of compulsory education was bringing into school hundreds of children who were unable to keep step with their companions, and because this

interfered with the orderly administration of school system, they began to ask why the children were backward.

The school physicians helped to find the answer when they showed that hundreds of these children were backward simply because of removable physical defects. And then came the next great forward step, the realization that children are not dullards through the will of an inscrutable Providence, but rather through the law of cause and effect.

Examinations for Physical Defects

This led to an extension of the scope of medical inspection to include the physical examination of school children with the aim of discovering whether or not they were suffering from such defects as would handicap their educational progress and prevent them from receiving the full benefit of the free education furnished by the state. This work was in its infancy five years ago, but today Cleveland has a thorough and comprehensive system of physical examination of its school children.

Surprising numbers of children have been found who, through defective eyesight, have been seriously handicapped in their school work.

Tony's tonsils need attention.

Many are found to have defective hearing. Other conditions are found which have a great and formerly unrecognized influence on the welfare, happiness, and mental vigor of the child. Attention has been directed to the real significance of adenoids and enlarged tonsils, of swollen glands and carious teeth.

Teachers and parents have come to realize that the problem of the pupil with defective eyesight may be quite as important to the community as that of the pupil who has some contagious disease. If a child who is unable to see distinctly is placed in a school where physical defects are unrecognized and disregarded, headaches, eyestrain, and failure follow all his efforts at study. He cannot see the blackboards and charts; printed books are indistinct or are seen only with much effort, everything is blurred. Neither he nor his teacher knows what is the matter, but he soon finds it impossible to keep pace with his companions, and, becoming discouraged, he falls behind in the unequal race.

In no better plight is the child suffering from enlarged tonsils and adenoids, which prevent proper nasal breathing and compel him to keep his mouth open in order to breathe. Perhaps one of his troubles is deafness. He is soon considered stupid. This impression is strengthened by his poor progress in school. Through no fault

of his own he is doomed to failure. He neglects his studies, hates his school, leaves long before he has completed the course, and is well started on the road to an inefficient and despondent life.

Public schools are a public trust. When the parent delivers his child to their care he has a right to insist that the child under the supervision of the school authorities shall be safe from harm and shall be handed back to him in at least as good condition as when it entered school. Even if the parent does not insist upon it, the child himself has a right to claim protection. The child has a claim upon the state and the state a claim upon the child which demands recognition. Education without health is useless. It would be better to sacrifice the education if, in order to attain it, the child must lay down his good health as a price. Education must comprehend the whole man and the whole man is built fundamentally on what he is physically.

Objections to Medical Inspection

The objection that the school has no right to permit or require medical inspection of the children will not bear close scrutiny or logical analysis. The authority which has the right to compel attendance at school has the added duty

of insisting that no harm shall come to those who go there. The exercise of the power to enforce school attendance is dangerous if it is not accompanied by an appreciation of the duty of seeing to it that the assembling of pupils brings to the individual no physical detriment.

Nor are the schools, in assuming the medical oversight of the pupils, trespassing upon the domain of private rights and initiative. Under medical inspection, what is done for the parent is to tell him of the needs of his child, of which he might otherwise have been in ignorance. It leaves to the parent the duty of meeting those needs. It leaves him with a larger responsibility than before. It is difficult to find a logical basis for the argument that the school has not the right to inform the parents of defects present in the child, and to advise as to remedial measures which should be taken to remove them.

The justification of the state in assuming the function of education and in making that education compulsory is to insure its own preservation and efficiency. Whether or not it is successful will depend on the degree to which its individual members are spiritually prepared for modern co-operation.

But the well-being of a state is as much dependent upon the strength, health, and productive capacity of its members as it is upon

their knowledge and intelligence. In order that it may insure the efficiency of its citizens, the state, through its compulsory education enactments, requires its youth to pursue certain studies which experience has proved necessary to secure that efficiency. Individual efficiency, however, rests not alone on education or intelligence, but is equally dependent on physical health and vigor. Hence, if the state may make mandatory training in intelligence, it may also command training to secure physical soundness and capacity. Health is the foundation on which rests the happiness of a people and the power of a nation.

How the Work Started

The first work of this kind in Cleveland is described in Superintendent Jones' report for 1900. In that year the schools became greatly interested in the question of defective vision. Tests were made by teachers in different grades, and as a result over 2,000 children were given treatment.

In 1906, an agreement was reached with the Board of Health, so that each alternate day a health inspector communicated with the principal of every school. Teachers were warned to be on the alert for symptoms of illness, and chil-

dren showing signs of measles, whooping cough, scarlet fever, or other common diseases of childhood, were reported to the principal, and through her to the Board of Health. Contagious cases were excluded from school as soon as detected, and a systematic campaign started against the waves of disease which were sweeping one after another through the schools.

In the same year Drs. L. W. Childs, J. H. McHenry, H. L. Sanford, and other members of the medical profession volunteered their services as school physicians, to detect not only cases of possible contagion, but also the existence of physical defects. What was probably the first school dispensary in the United States was opened at the request of Dr. Childs by the Board of Education in 1907 at the Murray Hill School. The value of school dispensaries was so immediately evident that by 1909 seven others were established for the use of these three physicians.

Coincident with the dispensaries came the school nurse. When the first nurse was appointed at the Murray Hill School, a remarkable change was observed among the children. Absences became less frequent. Skin diseases were rare. Children began to take an interest in health matters, and there was a marked rise in standards of neatness and cleanliness.

Teachers and principals united in their demand for more nurses, until within a year after the movement started there were six nurses appointed by the Board of Education and regularly employed in school work. In the same year, December, 1909, the Board of Education formally voted to establish a Division of Health Supervision and Inspection as part of the regular school system.

The Present System

As it is at present organized, the Division handles inspection for contagious disease, inspection for physical and mental defects, follow-up work for the remedying of defects, health instruction, recommendation of children to schools for the physically and mentally handicapped, school lunches, gardens, and playgrounds.

Either the nurse or physician reports at each school every day of the year. Once during the year each child is given a careful physical examination, and further examinations are made when they are needed. All serious defects are reported to parents, and in cases where treatment is important, parents are urged to consult with the school doctor concerning the nature of

the difficulty and the best means of curing it. To supplement these interviews, the school nurse spends a large part of her time in visiting homes, talking with parents, noting conditions under which children live, and making suggestions as to home care.

Some idea of the complexity of this work may be gained from the Division records for 1914–1915. From the beginning of September to the end of June—a period of 38 school weeks—doctors and nurses examined 74,725 children; gave private interviews to 2,547 parents; made 5,675 visits to dispensaries; 10,603 visits to homes; and gave 76,240 treatments and dressings. In addition, they gave 775 toothbrush drills, and 19,406 individual or class health talks to the pupils of the public schools during the year.

The School Nurse

The value of the school nurse is one feature of medical inspection of schools about which there is no division of opinion. Her services have abundantly demonstrated their utility, and her employment has quite passed the experimental stage. The introduction of the trained nurse into the service of education has been rapid,

and few school innovations have met with such widespread support and enthusiastic approval.

The reason for this is that the school nurse supplies the motive force which makes medical inspection effective. The school physician's discovery of defects and diseases is of little use if the result is only the entering of the fact on the record card or the exclusion of the child from school. The notice sent to parents telling of the child's condition and advising that the family physician be consulted, represents wasted effort if the parents fail to realize the import of the notification or if there be no family physician to consult. If the physical examination has for its only result the entering of words upon record cards, then pediculosis and tuberculosis are of precisely equal importance. The nurse avoids such ineffective lost motions by converting them into efficient functioning through assisting the physician in his examinations, personally following up the cases to insure remedial action, and educating teachers, children, and parents in practical applied hygiene.

Some idea of the work of the school nurses in Cleveland may be gained from the following record of what one nurse did during one day while the survey was in progress. It represents a typical day's work for a typical nurse and is not especially unusual.

8:30 A. M.

Home call to get permission to take child to school headquarters for mental examination.
Called at Case-Woodland School to examine child with sore throat.
Took a child home to have mother clean her up.
Called at Harmon School.
Treated 10 cases of impetigo, three of toothache, two of ringworm.
Took two children home to be cleaned up.
Inspected 50 children.
Gave health talk.
Tried to locate a boy who is to attend partial blind class at Harmon School.
Found boy was transferred from Harmon School to Marion School last year.
Called at Marion School but found no trace of boy.
Called at address to which child was supposed to have moved; no such number.
Called at Kennard School to see if Miss O'Neill remembered him at Marion School; found no trace of him.
Called at two homes in regard to enlarged tonsils and defective vision.

1:15 P. M.

Mayflower School: boy with sprained ankle, soaked in hot water, strapped with adhesive.
Treated four cases of impetigo, one cut finger, opened two boils.
Conference with mother at school.
Instructed her in case of child's discharging ear.
Inspected 62 children.

Called at two homes to secure treatment for defective teeth.
Advised mother to send children to Marion Dental Clinic.

To sum up the case for the school nurse: She is the teacher of the parents, the pupils, the teachers, and the family in applied practical hygiene. Her work prevents loss of time on the part of the pupils and vastly reduces the number of exclusions for contagious diseases. She cures minor ailments in the school and clinic and furnishes efficient aid in emergencies. She gives practical demonstrations in the home of required treatments, often discovering there the source of the trouble, which, if undiscovered, would render useless the work of the medical inspector in the school. The school nurse is the most efficient possible link between the school and the home. Her work is immensely important in its direct results and far-reaching in its indirect influences. Among foreign populations she is a very potent force for Americanization.

Cleveland's Dispensaries

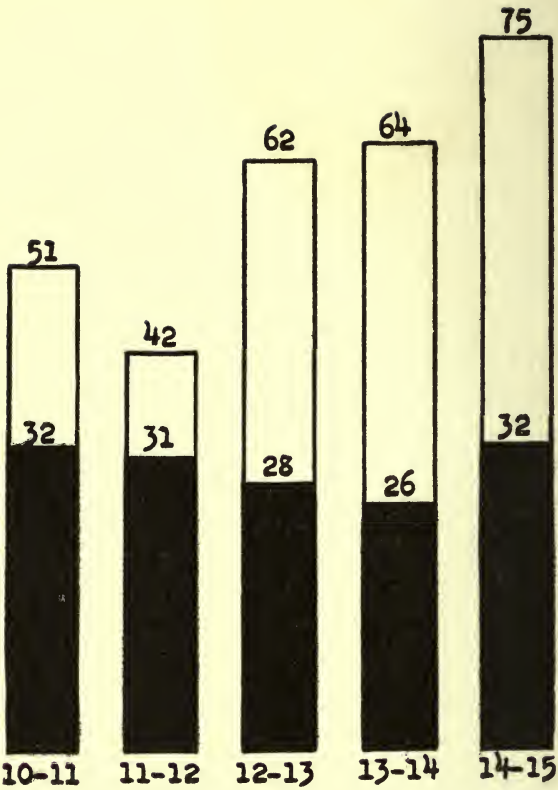
Cleveland has 86 school dispensaries, or what are usually termed "physicians' offices." These are

Cleveland's dispensaries are well equipped.

rooms about 20 feet long by 15 feet wide, located in the basement or on the first floor of the school building, well lighted, and painted in white or light colors. Usually they contain one or two small white enamel tables, several chairs, a wash basin with running water, a white enamel pail for waste materials, wooden tongue depressors, eye charts, a medical cabinet filled with instruments and supplies, filing boxes, and printed forms. In 37 of the elementary schools, shower baths are provided as part of the equipment of the building.

Cleveland's dispensaries are of exceptionally high grade. In every case lighting, ventilation, and equipment are good. Many of the rooms are large enough for conferences and hygiene talks, and in at least one school—East Madison—the dispensary is used with desirable psychological effect for the regular meetings of the Mothers' Club. The excellence of Cleveland's school dispensaries has contributed in no small measure to the efficiency of the medical service, and money spent in this way has been a wise investment. It is probably true that Cleveland's dispensaries are of better grade than those of any other large city in the United States.

These dispensaries have proved of the greatest value in rendering the physical examinations of the children more effective and efficient. This



Columns are proportionate in height to the number of children given physical examinations each year for five school years. Portion in black indicates number having physical defects. The figures above the columns show how many thousands of children were examined and how many found defective in each year.

work is very different from that which relates to the detection of contagious diseases. The latter is primarily a protective measure and looks mainly to the immediate safeguarding of the health of the community. The former aims at securing physical soundness and vitality and looks far into the future.

The physical examinations conducted in these dispensaries have shown conclusively that a large percentage of the Cleveland children—like those of all other cities—suffer from defective vision to the extent of requiring an oculist's care if they are to do their work properly, and if permanent injury to their eyes is to be avoided. More than this, a considerable proportion of the children are so seriously defective in hearing that their school work suffers severely. Most important of all, only a small minority of these defects of sight and hearing are discovered by teachers or known to them, to the parents, or to the children themselves. When the children attempt to do their school work while suffering from these defects, among the results may be counted permanent injury to the eyes, severe injury to the nervous system due to eye-strain, and depression and discouragement, owing to inability to see and hear clearly.

Moreover, there are other defects, in particular those of nose, throat, and teeth, which

are common among children and which have an important bearing upon their present health and future development. The importance of these defects is emphasized by the fact that, if discovered early enough, they may easily be remedied or modified, whereas neglect leads, almost invariably, to permanent impairment of physical condition. These are the reasons why Cleveland's heavy investment in school dispensaries is yielding a return in enhanced health, happiness, and vigor probably unexcelled by the dividends from any other sort of educational expenditure.

Dental Clinics

Dental work for school children was introduced about a year ago by the Cleveland Auxiliary of the National Mouth Hygiene Association. Building space is provided by the Board of Education in four schools, Stanard, Lawn, Fowler, and Marion. The Association furnishes equipment, dentists, and assistants. Clinics are open three forenoons a week and are crowded to capacity.

When this work started, it was frankly an experiment. Through wise and thoughtful

The equipment of the Marion School dental clinic cost about $700.

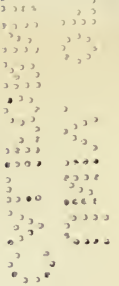
management the Mouth Hygiene Association has shown that dental clinics for school children are both practical and necessary. This having been demonstrated, the time has come when the city should take over their direction. Cleveland should no longer rely upon the activity of a private organization, but at an early date should assume full financial and administrative responsibility for dental clinics in the public schools.

Dr. William Osler, the distinguished English physician, is credited with saying, "If I were asked to say whether more physical deterioration was produced by alcohol or by defective teeth, I should say unhesitatingly, defective teeth." The development of the movement for dental inspection of school children in Cleveland shows that the educational system has been awakening to a realization of the truth and significance of Dr. Osler's statement. The most salient fact in the situation is that the commonest of all physical defects among school children is decayed teeth. Cases of dental defectiveness are frequently greater in number than are all other sorts of physical defects combined. Moreover, it is probably true that there is no single ailment of school children which is directly or indirectly responsible for so great an amount of misery, disease, and mental and

physical handicap. These are reasons why Cleveland should steadfastly continue in the maintenance and development of the dental clinics.

Eye Clinics

An eye clinic is maintained by the Department of Medical Inspection at the Brownell School. This clinic is open every afternoon during the school year. The method of procedure is as follows: During the routine physical examinations of children by the doctors in the different schools, the vision is tested and, if found defective, the parents are advised of it by note. The nurse then follows up the case and if she finds that the parents are unable to pay for an examination by an oculist, she takes the child to the school clinic, after having obtained the written consent of the parent. There the child is given a thorough and accurate examination, the eyes being first dilated with homatropin and the error of refraction determined by means of the retinoscope. The proper glasses are ordered for the child and in a few days he is brought back to the clinic and the frames carefully adjusted. The nurse then keeps in touch with the case, seeing to it that the child wears the glasses, that the frames are straight, and that the symp-



The eye clinic is advertised by its loving friends.

toms of which the child complained are relieved.

Many parents are unable to pay an oculist's fee but are able and willing to pay a small amount for glasses and in these cases a nominal charge is made for them. Experience has shown that if a charge, no matter how small, is made for the glasses better care is taken of them and better results are obtained. In some cases there has been opposition on the part of the parents to the child's wearing glasses, but usually the nurse has been able to prove to them the necessity and has obtained their consent.

During the school year 1914–15, the total number of dispensary visits was 1,913. In 665 cases the eyes were refracted and in 500 cases glasses were furnished. In about 75 per cent of the cases the children's symptoms are relieved and their scholarship is improved. In about 10 per cent of the cases the symptoms are not relieved. About five per cent of the children refuse to wear the glasses. The remaining 10 per cent of the children cannot be located because they have moved from the city or been transferred to private schools. The value of the work of the eye clinic is beyond question.

There are no other clinics in connection with the Cleveland public school system. Mental examinations are made by a special teacher

appointed for that purpose. All surgical cases are referred to family physicians or local hospitals for treatment.

Co-operation of College for Barbers

Rather an unusual form of clinical work is found in service rendered by students of the Cleveland College for Barbers. In several districts an arrangement between the school physician and the college provides that free hair cuts be furnished pupils at intervals during the school year. The coming of the barber is an event eagerly greeted, and principals report that as a result children show increased pride in personal appearance.

The Medical Inspection Staff

The organization of the staff deserves special comment. The physicians employed are mature men, graduates of well-known medical schools. The youngest medical inspector on the staff is 29, the oldest 46, and the average age of all the doctors is 36. They are picked men, selected for the work because of their skill, intelligence, and social viewpoint. They are splendidly repre-

sentative of the medical profession in Cleveland. They have fairly wide private practices and in many cases are carrying on the school work at real financial sacrifice because of their interest in the problems it involves. Their assistants are all registered nurses from the Visiting Nurses Association and distinctly high grade women.

Medical inspectors receive $100 a month during the school year. They are required to give three and one-half hours a day, five days a week, to work in the schools, inclusive of traveling time between buildings. Nurses are paid on the schedule of the Visiting Nurses Association and salaries range from $60 to $80 depending upon length of service. The upper limit will probably be raised to $85 in the near future. Nurses are on duty from 8:30 to 4:30 every weekday except Saturday, when work ends at noon. Nurses are regularly employed only during the school year, but two are retained longer for service in summer schools.

The efficiency of doctors and nurses is in no small measure due to the frequent informal conferences of the staff. In addition to many smaller conferences, once each month the entire staff meets—nurses as well as physicians—to discuss problems which have arisen during the preceding weeks, and makes plans for the future. These meetings are very informal; nurses are urged to

take part in the discussion, and the result is the enthusiastic co-operation of the entire staff.

The Plan of Concentrating Interests

An interesting feature of organization is the plan whereby each year a different series of problems is attacked, and the energies of the entire staff directed along this line. Thus, 1910–1911 shows special emphasis laid upon eye defects, and nearly 11,000 children were found in need of glasses. In 1911–1912, although the number of defects discovered increased, the number of children examined strikingly decreased. Extra study was made of adenoids, glands, nutrition, and goitre. The following year less emphasis was laid on discovering defects and the entire staff united in an effort toward correcting those already noted. Practically every child in the system was examined. At the same time one member specialized on hunting for tuberculosis cases and another on mental examinations of backward children.

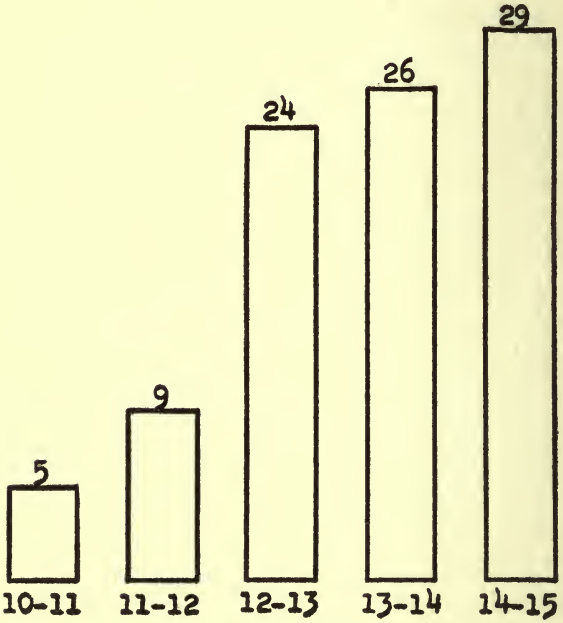
In 1913–1914, the force was especially interested in the question of communicable disease and the proportion of conjunctivitis, ring worm, impetigo, scabies, and pediculosis discovered and treated was very large. As a natural ac-

companiment of this activity, the number of home visits and school treatments decidedly increased. In addition, there was a notable rise in the frequency with which parents came to the dispensary for conferences with the doctor about their children.

The record for 1914–1915 shows a decrease in the number of home visits, which is partly accounted for by the fact that the number of dispensary visits made by nurses has practically doubled. The number of parent consultations with doctors has increased by one-half the record for 1914, and in contrast with 500 health talks given to classes by nurses last year, we have 1,260 talks by physicians and 4,431 by nurses to classes in 1914–1915.

This method of varied problems is unquestionably effective in promoting growth and maintaining interest on the part of the staff. Care should be taken, however, to provide that within each four-year period—twice during the eight years of school life—special emphasis be laid upon the discovery and cure of each of the more important defects. How this emphasis should be distributed is a matter best decided by the staff in conference. It might be found advisable to adopt a plan whereby special attention is given to teeth, adenoids, tonsils, and glands in the lower grades; posture and heart

in the upper grades; and eyes, hearing, lungs, and nutrition straight through the grades. Whatever plan is adopted must be the result of study, consultation, and experiment, in an en-



Columns are proportionate in height to the per cent of physical defects corrected each year for five school years.

deavor to find the most economical investment of effort on the part of nurses and doctors in terms of results gained.

Speech defects are very common among children. At first they yield readily to treatment, but if allowed to continue through the adolescent period the habit becomes fixed so that trying to cure it is a difficult and often fruitless task. Judging from the experience of other cities, about 200 boys and 800 girls in the Cleveland public school system are suffering from some form of speech defect. There are few fields in which the medical inspection department has such an opportunity for effective work and in which so little has been done. Effort should be made to locate these children, and form them into groups for daily training, under the direction of a teacher specially prepared to handle speech cases.

Uniform Procedure

In the fall of 1914, the medical staff conducted a survey of its own efficiency. A committee prepared questions concerning procedure, and secured answers from each member of the staff. These answers were compared and discussed in staff meetings and uniform rules were finally adopted for examinations and recording.

In line with this, the staff somewhat earlier prepared rules for reporting defects so that all

records may be compiled on the same basis. This standardization of work is an especially noteworthy feature of the Cleveland system, and should furnish valuable suggestions to medical inspection departments of other cities. A few of the rules adopted by the staff will serve to indicate the nature of their work:

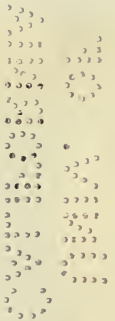
Teeth—Report decayed first or second teeth, and reddened and inflamed gums. Do not report loose first teeth.

Tonsils—Report cases with histories of recurrent tonsilitis, and where the size of the tonsils causes difficulty of swallowing or thick speech. Do not report moderately enlarged tonsils with no history of tonsilitis nor evidence of mechanical obstruction.

Adenoids—Report mouth breathers with characteristic adenoid faces, convincing yourself as to diagnosis by having the pupil say "l, m, n, o, p." Do not try to confirm the diagnosis of adenoids by a digital examination of the nasopharynx.

Glands—Report general glandular enlargement and cervical enlargement of the lymphatic glands accompanied by malnutrition and anemia. Do not report submaxillary enlargement in recurrent tonsilitis or carious teeth or post-cervical enlargement in pediculosis capitis, or in impetigo or eczema of the scalp.

As a result of rules such as these, a given report means the same thing to every member of



Vaccinated children at Hodge School—50,000 more are unvaccinated.

the staff; only important defects are stressed; and the effort to remedy them is concentrated where it will be most effective. Statistics based on records such as these will be reliable and may be used for scientific study.

Vaccination

Thirteen years ago smallpox visited Cleveland. Twelve hundred and forty-eight cases were reported. There were 30 cases of black smallpox. Many of the patients were blinded or disfigured for life; 224 died. We find in the annual report of the Board of Health for that year: "It was the smallpox we read about, that terrible scourge which struck terror into the former generations. Its contagious nature showed itself everywhere. One case, if not promptly reported to the health office and removed to the hospital, would invariably infect the whole neighborhood. Its severity manifested itself even in the milder cases, while confluent cases, almost without exception, developed hemorrhages during the pustular state. . . . At the Mayor's request, a meeting of physicians was held . . . to consider the smallpox situation . . . Vaccination was recommended on all sides, but

the people were not prone to get vaccinated. . . . Wholesale vaccination was finally effected by the action of the School Council and the help of the Chamber of Commerce. The School Council amended the vaccination clause, making vaccination a conditio sine qua non for attending school and giving the health officer the whole control of the matter. Without this amendment the schools could not have opened last fall. The situation was too critical. With it, the opening of the schools helped greatly to exterminate smallpox. Every school, public and private, was put in the charge of a physician. . . . The doctors worked with a will, and if anything was done thoroughly and conscientiously in this city, it was the vaccination of all teachers and pupils last fall. . . . Through the influence of the Chamber of Commerce the employers prevailed on their employees to get vaccinated. Also to have everyone of their family vaccinated. The consequence was that the people got vaccinated by tens of thousands. Men who formerly spurned the vaccinator from their door came now to his office. . . . The city paid for 195,000 vaccinations."

In 1910 smallpox again broke out, this time in the southeastern part of the city, and threatened to spread over the entire community.

With vivid memories of earlier horrors, the disease was met at the outset with vigorous measures. It was discovered that in spite of the experience of the Board of Education eight years before, and without regard to the rule which provided that "No teacher or pupil shall attend any school without furnishing satisfactory certificate that he or she has been successfully vaccinated or otherwise protected from smallpox," unvaccinated children had been admitted to the public schools literally by thousands. By the time that 63 cases of smallpox had been reported the Board of Health again took matters into its own hands, entered the schools, and vaccinated 55,000 school children. Equally vigorous measures were taken among adults and the epidemic was checked.

Every year since 1910 there have been cases of smallpox in Cleveland. The Board of Health no longer relies upon the Board of Education to protect the lives of the community against the scourge. Where 70,000 children are gathered together daily for hours at a stretch, the possibilities of spreading disease throughout the city at large constitute a grave menace. Therefore, immediately upon the report of a case of smallpox, the Board of Health officials exercise their right of entry into the schools of that district, and either vaccinate or exclude from attendance

every child who could himself become a carrier of the disease. During the present year over 1,400 children were vaccinated in this way.

That vaccination prevents smallpox no intelligent person acquainted with the facts can doubt. An overwhelming mass of incontrovertible evidence can be found in every medical library. The mortality statistics of different countries tell the same story. A single example shows the general experience: In seven provinces of the Philippine Islands there were 6,000 deaths annually from smallpox alone. In his 1906 report, Dr. Victor G. Heiser, Director of Health in the Islands, describes how drastic measures were taken to stamp out the disease. Under his direction practically three million one hundred thousand persons were vaccinated. The following year, instead of 6,000 deaths from smallpox, there was not one.

For 13 years the Board of Education has had upon its books a rule requiring vaccination as a prerequisite to admission to the schools. That rule has never been adequately enforced. In July, 1914, City Ordinance 32846-B was passed, one section of which reads: "No superintendent, principal, or teacher of any public, parochial, private school, or other institution, nor any parent, guardian, or other person, shall permit any child not having been successfully vaccin-

ated, nor having had smallpox, to attend school." Although passed a year ago, that ordinance has not yet been enforced. Exact figures cannot be secured, but it is probable that there are in the Cleveland schools today more than 50,000 unvaccinated children. For each of these the superintendent, principal, teacher, and parent may be held liable to a $200 fine, 60 days imprisonment, or both.

Future Development

Compared with other large cities, Cleveland has an unusually good system of medical inspection. Where other cities are still struggling with details of organization, record keeping, and the like, Cleveland is ready to lead the way into new and immensely important fields.

Medical inspection includes four fields of endeavor: prevention of epidemics, discovery and cure of physical defects, provision of healthful surroundings, and formation of correct habits of thought and action in regard to health. The first two are concerned with remedying present conditions, and here Cleveland is doing excellent work. The latter two provide health insurance for the future. In these, Cleveland has made a

beginning but should carry her efforts far in advance of anything now attempted.

Thirteen years ago a crusade was started against the common drinking cup. Today there is not a school in the city which is not supplied with sanitary drinking fountains, and the common cup is a thing of the past. Nine years ago individual towels were supplied to children in certain schools. At the present time individual towels, soap, and hot water are available in every building. In 1906 the first shower bath was installed in an elementary school. Now there are 37 buildings so equipped. The windows in some of the classes for the blind are made of amber tinted glass. For years there has been agitation in favor of adjustable seats and desks, and although conditions in certain schools are still very bad, these are exceptions, and the general seating provision is in accordance with the laws of hygiene.

But the Division of Medical Inspection must go farther than this. The physician must join with the psychologist and the educator in scientific research to determine the conditions best suited to the education of the child. Shall blackboards be of slate, composition board, or glass? Shall they be colored black, green, or ivory white? Is light chalk on a dark ground better or worse than dark chalk on a light

ground? Is prismatic window glass superior to plain? To what extent is glare from polished desks detrimental to eyesight? How large must be the type in textbooks in order that young children may easily read it? What variations from the present school program are necessary in order to make adequate provision for change in the use of different sets of muscles, and relief from nerve strain?

These questions and hundreds of others are facing educational authorities. The method of answering them affects not only the children of one city but the children of all cities throughout the country. Everywhere schoolmen are on the alert to gain information which will help in solving these problems.

In addition to regular work of inspection and examination, the doctors and nurses of Cleveland spend a great deal of time in conferences with parents, talks with teachers, lessons and talks to children, toothbrush drills, and the like. The importance of work of this kind can hardly be overestimated, but it must be far more than "talks at people." It should be the aim of the Department of Medical Inspection to establish right habits in regard to health. For this reason, although both methods are helpful, drill in the use of the toothbrush is more effective than lectures on the need of using

it. As a result of the work of doctors and nurses, Cleveland's children,—and her teachers as well,—should not only believe in plenty of sleep, but should go to bed early; not only disapprove of too much tea and coffee, but have strength to refuse when it is offered. Through classes for the anemic and pre-tubercular, the public schools help each year between two and three hundred children. This is worth doing, but they will render a far greater service to Cleveland if, in addition, they succeed in giving to 80,000 children, so firmly that it will never be broken, the habit of sleeping winter and summer with wide open windows.

The dentist, the oculist, the physician, should come to be regarded, not as dispensers of cures nor sympathetic listeners to hypochondriacs, but as leaders to whom intelligent people go in order to forestall trouble,—specialists in health rather than disease. Leading its future citizens to form right habits of thinking and acting in regard to health is one of the greatest educational services which the public school can render.

Ten Types of Health Work

As the work in Cleveland develops, it should aim to include all those types of activity which

extended and varied experience has shown to better the health of school children, safeguard them from disease, and render them healthier, happier, and more vigorous. Among such activities the following are of special importance:

1. Medical inspection for preventing the spread of contagious disease and for the discovery and cure of remediable physical defects.

2. Dental inspection for the purpose of securing sound teeth among these school children.

3. The steady development of the work of the school nurses to the end that their co-operation with doctors, teachers, and parents may progressively contribute toward improving the health of the children.

4. Open-air schools for giving to the physically weak such advantages of pure air, good food, and warm sunshine as may enable them to pursue their studies while regaining their physical vigor.

5. Special classes and schools for the physically handicapped and mentally exceptional in which children may receive the care and instruction fitted to their needs.

6. School gardens, which serve as nature study laboratories, where education and recreation go hand in hand, and increased knowledge is accompanied by increased bodily efficiency.

7. School playgrounds, which afford space,

facilities, opportunity, and incentive for the expression of play instincts and impulses.

8. Organized athletics, which aid in physical development, and afford training in alertness, intense application, vigorous exertion, loyalty, obedience to law and order, self-control, self-sacrifice, and respect for the rights of others.

9. Systematic instruction and practice in personal and community hygiene and sanitation.

10. The progressive improvement of all adjuncts of better sanitation in school houses, such as sanitary drinking cups and fountains, systems of vacuum cleaning, improved systems of lighting, heating, and ventilation.

Health and Education and Business

There is one condition in the Cleveland school system which rises like a mighty barrier against the possibility of completely fulfilling any such program of health education as that outlined in the 10 planks of the preceding platform. This is the fundamental fact that the Cleveland school authorities have not yet conceived of health work as being an integral part of education.

In this city the work of the Board of Educa-

tion is divided into three main departments. These are the executive department, the educational department, and the department of the clerk. The executive department is under the leadership of the director of schools and it deals with the business activities of the Board. The educational department is under the superintendent of schools and deals with teaching.

Under this organization the activities carried on by the Board of Education must be assigned to one or another of the departments and this entails in most cases arriving at a decision as to whether the work in question is predominantly of an educational nature or of a business nature. In dealing with health work in the public schools, the Board of Education rendered its decision both ways. It decided that provision for health in education was a series of business transactions and so it placed medical inspection in the executive department under the leadership of the director. It also decided that provision for education in health was a teaching problem and so it placed physical education and training in physiology and hygiene under the direction of the superintendent of schools.

Despite its decision that provision for health in education is a business matter, while provision for education in health is a teaching matter, the Board realized that some sort of unity was

essential if the different sides of the work were carried forward efficiently. They met this situation by employing a competent director of health work and giving him an official dual personality. As the official held responsible for health in education, he is the director of medical inspection and is subordinate to the director of schools. As the official responsible for education in health, he is an assistant superintendent and is responsible to the superintendent of schools. In one capacity he is appointed by the superintendent and receives a portion of his salary from educational funds. In his other capacity he is appointed by the director of schools and paid from business appropriations. As an employee of the educational department, he is appointed for a term of one year, but as an employee of the business department, he is on the civil service list with an indeterminate period of employment.

In his educational capacity, he may arrange for the organization of basketball teams for this is held to be a matter of physical education, but in order to have a basketball game actually played at any time outside of regular school hours, he must get the permission of the director, for this is held to be a business transaction.

Instruction in infant hygiene is given to the

girls in the upper grades. Part of the teaching is done by the regular teachers, the rest by the nurses of the medical inspection department. When the instruction is given by the teachers, it is considered an educational activity and is under the supervision of the superintendent; when the same class is taught by the nurse, it is considered a business transaction and is under the authority of the director.

As chief medical inspector, representing the business department, this official discovers a feeble-minded child whom he wishes to transfer to a special class. Since the transfer of this child is an educational problem, he reports the matter to the assistant superintendent in charge of the district. Since the medical inspector is also an assistant superintendent, these two men are co-ordinate educational officials. The assistant superintendent of the district reports the requested transfer to the city superintendent who deals with the matter as an educational problem and issues an order to the chief medical inspector in his capacity as assistant superintendent in charge of physical education to make the transfer.

This whole situation, which arises from assigning some phases of the health work to the business department and other phases to the educational department, has not given rise to

as many or as serious difficulties as might well be expected. This relative freedom from trouble and friction is an impressive tribute to the unremitting tactfulness of the officials most directly concerned. The chief medical inspector is a conspicuous example of a man defying holy writ by successfully serving two masters.

Health work in Cleveland public schools is on a higher plane than in most other cities. Its present accomplishments have carried it further than similar work has gone elsewhere. Its future possibilities are unusually bright because the early stages of development have been successfully passed. The one thing that we may be sure of is that this future development will tend toward an ever closer relationship and more intimate intermingling of the activities which make for health in education and those which are directed toward education in health. Each new development and each forward step renders a separation of the work into educational and business activities progressively difficult.

To discover decayed teeth and to teach children to care for their teeth are intimately related matters and their separation is bound to be theoretical and not real. To attempt to separate the testing of vision from teaching concerning the conservation of vision is to lose an opportunity for the most effective sort of instruction.

Similarly, if one scrutinizes all of the 10 items that have been suggested as indicating the health activities which Cleveland should continue to develop in its public schools, he can hardly fail to appreciate the utter impossibility of successfully dividing the work into certain activities which shall be educational and certain other activities which shall be business. Sooner or later the theory that this can be done will be destroyed by the logic of events, for health work in our public schools is constantly becoming a more intimate and integral part of the every-day education of all the children.

Sooner or later serious difficulties are bound to arise from an administratively unsound arrangement in which a school official in charge of a most important division of work is responsible to two entirely independent chiefs. The opportunities for honest but irreconcilable conflict of views are so numerous that they will surely arise in time. One chief may favor vaccination and the other be opposed to it on principle. One may deem it the duty of the schools to have the doctors and nurses give instruction in sex hygiene while the other may be utterly against anything of the sort. One may hold that the only useful physical exercise is that gained through games and athletics, while the other may favor formal gymnastics. One may be-

lieve in school gardens, and the other deem them a waste of time and money. One may believe that courses in infant hygiene should be provided for the girls in the upper grammar grades, while the other may hold that such instruction should be reserved for continuation classes for young women.

All of these are matters on which educational authorities are sharply divided in opinion and there are many more of the same nature. The present director of schools, the present superintendent of schools, and the present chief medical inspector have so far worked successfully under the present arrangement of divided duties and responsibilities, but a reorganization along sounder administrative lines should be made before, instead of after, serious trouble arises. Eventually, if not now, Cleveland must realize that health work in education must be placed under the direction of the city's highest educational official who is the city superintendent of schools.

Summary

1. Cleveland employs 16 school physicians, one oculist, and 27 nurses. It spends $36,000 a year on salaries and supplies for these people,

and maintains 86 school dispensaries and clinics.

2. Through medical inspection, the educator and the physician join hands to insure for each child such conditions of health and vitality as will best enable him to take full advantage of the free education offered by the state. It recognizes the intimate relationship between the physical and mental conditions of children. It realizes that education is dependent upon health. It betters health conditions among school children, safeguards them from disease, and renders them healthier, happier, and more vigorous.

3. The first work of this kind in Cleveland started in 1900 when tests were made of defective vision. In 1906 the Health Department provided inspectors for contagious diseases in the schools. In the same year inspection for physical defects was undertaken; the first dispensary in the United States was established at the Murray Hill School, and school nurses were appointed. In 1909 the Division of Health Supervision and Inspection became part of the regular school system.

4. The Division handles inspection for contagious disease, inspection for physical and mental defects, follow-up work for the remedying of defects, health instruction, recommendations of children to special classes, school

lunches, gardens, and playgrounds. Every child is examined every year.

5. Cleveland has 86 dispensaries. In every case lighting, ventilation, and equipment are good. It is probably true that these dispensaries are of better grade than those of any other large city in the United States.

6. Dental clinics are now conducted in four public schools by the Cleveland Auxiliary of the National Mouth Hygiene Association. This work has now reached a point where it should be taken over and administered as a part of the public school system. The function of a private organization is to experiment and demonstrate. It cannot eventuate on a large scale, and it should not if it could. The function of a public organization is to eventuate on a large scale. It can seldom experiment, and it lacks freedom and flexibility in demonstration. The Mouth Hygiene Association has experimented and demonstrated successfully. Its work should now be assumed, continued, and extended by the Division of Medical Inspection.

7. The eye clinic conducted by the Division at the Brownell School is doing excellent work. As the system grows, this clinic should be supplied with more workers. The Cleveland College for Barbers gives an excellent free service in many of the schools. There are no other clinics.

Mental examinations are made by a special teacher appointed for that purpose. All surgical cases are referred to family physicians or local hospitals for treatment.

8. Medical inspectors are mature men, graduates of well-known medical schools, with a fairly wide private practice. The school nurses are all registered nurses.

9. The number of school nurses should be increased as rapidly as possible until one nurse is provided on full time for every 2000 children enrolled in school. This would mean the employment of 11 additional nurses, increasing the staff from 27 to 34. As the population increases, more nurses should be added.

10. Office consultations between parents and physicians are among the most important activities of the Division and should be systematically encouraged. To this end arrangements should be made whereby definite hours for parent consultations are assigned to each school.

11. The Division of Medical Inspection has so organized its work that the attention of the staff is concentrated upon a different set of problems each year. This method is unquestionably effective in promoting growth and maintaining the interest of the staff. Care should be taken, however, to provide that within each

four-year period special emphasis be laid upon the discovery and cure of each of the more important defects. Some plan should be adopted by the staff whereby effort may be concentrated on discovering and remedying defects at those ages where such expenditure of time and energy will secure the largest returns.

12. Adequate provision should be made for the correction of speech defects. Classes in speech training should be established under the direction of a teacher specially trained in this work.

13. Standardization of work is an especially noteworthy feature of the Cleveland system, and should furnish valuable suggestions to medical inspection departments of other cities. Through this standardization the same terms have uniform meanings when used by different members of the staff, and constant standards are employed in detecting and recording defects.

14. There are probably more than 50,000 unvaccinated children now in the Cleveland schools. Immediate steps should be taken to see to it that every child now in school is vaccinated, and that no child is admitted to school hereafter without similar protection. Principals, teachers, and parents should be held responsible for violation of the vaccination ordinance.

15. The Division of Medical Inspection

should plan steadily to enlarge its field of activity in order to provide in constantly increasing measure better working conditions in the schools and to train the children into habits of health that shall be life-long. It is probable that the health work in the Cleveland public schools is unsurpassed by that of any other city in the country. The city now has an opportunity to lead the way into vastly important forward extensions looking toward the provision of health insurance for future generations.

16. Under the present organization, the official in charge of health work is responsible to the director of schools in part of his activities and to the superintendent in the rest of them. He should be responsible to the city superintendent alone, for health work in the public schools is education and not business.

CLEVELAND EDUCATION SURVEY

SECTIONAL REPORTS

These reports can be secured from the Survey Committee of the Cleveland Foundation, Cleveland, Ohio. They will be sent postpaid for 25 cents per volume with the exception of "Measuring the Work of the Public Schools" by Judd, "The Cleveland School Survey" by Ayres, and "Wage Earning and Education" by Lutz. These three volumes will be sent for 50 cents each. All of these reports may be secured at the same rates from the Division of Education of the Russell Sage Foundation, New York City.

Child Accounting in the Public Schools—Ayres.
Educational Extension—Perry.
Education through Recreation—Johnson.
Financing the Public Schools—Clark.
Health Work in the Public Schools—Ayres.
Household Arts and School Lunches—Boughton.
Measuring the Work of the Public Schools—Judd.
Overcrowded Schools and the Platoon Plan—Hartwell.
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The Public Library and the Public Schools.
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Boys and Girls in Commercial Work—Stevens.
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