MEDICAL INSPECTION IN THE SCHOOLS OF MASSACHUSETTS.*

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MEDICAL inspection of school children in Massachusetts began in Boston in November, 1894. Dr. Samuel H. Durgin, chairman of the Board of Health, had been for several years urging upon the city government the importance of school inspection as a preventive measure in the interest of public health. His request for money was denied by successive mayors until an outbreak of diphtheria in the fall of 1894 came to his aid.

The disease spread rapidly after the schools opened in September, and reached its height in December.

During the vacation months of July and August the number of cases varied from 25 to 40, and the deaths from 5 to 14.

In September the number of cases reported weekly reached 100, and the deaths 30.

In October the maximum report was 115, and the deaths 30.

In November the number of cases reached 152, with 35 deaths; and in December the cases were 125, and the deaths 41.

During that year (1894) there were 3,019 cases and 817 deaths.

The urgency of the situation forced the city government to accede to Dr. Durgin's request, and he was able to appoint fifty physicians, to make daily visits to the schools. The efficiency of this work attracted attention outside of Boston, and similar work was undertaken in one suburban city and town after another, until in 1904 school physicians were regularly at work in some fifteen places.

The movement spread through the efficient work of enlightened school superintendents, aided by various social organizations, especially women's clubs and civic leagues. The effectiveness of the propaganda was increased by the wide-spread movement for the prevention of tuberculosis with the travelling exhibits. By means of these the public thought was drawn towards the subject of health and disease, and all measures of a sanitary nature acquired new interest. The unceasing activity of the State Board of Health, too, aided greatly in enlightening public opinion and in developing public sentiment.

Up to this time there had been no recognition of this work in the public statutes. Boards of Health had carried on the work as a part

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of their function of caring for the public health, or School Boards had included it in their several administrative plans.

During 1905, at the instance of Mr. Joseph Lee, of Boston, a man whose life is devoted to the public welfare, especially to the welfare of children, numerous conferences were held, attended by physicians and school officials, for the purpose of formulating some general scheme for medical inspection. The work already done was explained and compared, its deficiencies exposed, and plans submitted and discussed. The outcome of these meetings was the preparation of a Bill, which was presented to the Legislature of 1906, making medical inspection compulsory throughout the State.

Another Bill had been presented by a member of the Legislature, copied from the Vermont law, requiring an annual test of the vision and hearing of all school children. This Bill would have gone through easily, but the more comprehensive one required a good deal of effort at committee hearings and in private conferences with members. A paragraph in the Governor's message favouring it helped to give it standing, and it was finally passed and approved, and became known as chapter 502 of the Acts of 1906.

The law requires the appointment of school physicians in every town and city in the State, so that we have now in Massachusetts four classes of school officials of equal legal standing, school committees, superintendents, physicians and teachers, having mutually co-operative functions centring in the welfare of the children.

The purpose of the school inspection as presented by the law is two-fold. It includes those precautionary measures which would naturally be taken in the interest of public health—the examination and exclusion for contagious diseases. But it goes far beyond this in Section 5, which reads at follows :

**SECTION 5.** The school committee of every city and town shall cause every child in the public schools to be separately and carefully tested and examined at least once in every school year, to ascertain whether he is suffering from defective sight or hearing, or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child or to secure the best educational results. The tests of sight and hearing shall be made by teachers. The committee shall cause notice of any defect or disability requiring treatment to be sent to the parent or guardian of the child, and shall require a physical record of each child to be kept in such form as the State Board of Education shall prescribe.

I suspect that this will prove to be one of the most far-reaching measures in the interests of public education which has ever been enacted by a legislative body.

The law as finally enacted contains two weak points. Under the
Medical Inspection in Mass., U.S.A. 685

terms of the first section, in cities the school physicians must be appointed by School Boards, except when Boards of Health are already carrying on such work, or may hereafter do so. This invites controversy between the two boards, and already in several cities friction at this point has delayed the work. The Bill as originally drawn placed the whole matter in the hands of School Boards, but the opposition was so strong from several cities where Boards of Health were doing satisfactory work, that a compromise seemed necessary, with the usual result of compromises.

The other weakness is in the last section, which was added by one of the committees during the progress of the Bill. This limits the expenditure for the services of school physicians to the amount specifically appropriated for the purpose either by a town or by a city council. If an appropriation is refused, nothing can be done; or, if the appropriation is inadequate, the work can be only partial and ineffective. This is not wholly a misfortune, because it throws upon the friends of the movement the responsibility for continued effort to enlighten and convince the people. By the advice of leading oculists, the law provides that the annual tests of vision and hearing shall be made by the teachers, and the expense of this is borne by the State. The limitation contained in Section 7 of the law does not, therefore, affect this part of the work.

In accordance with the law, the State Board of Health prepared directions for these tests, and the necessary material was furnished to all the schools by the Board of Education. These tests have now been completed, including more than 400,000 children, and the statistics of the results are being gathered.*

Vision tests have been made widely during recent years, and there is no reason to think the results in Massachusetts will vary from those already recorded elsewhere. The same differences which mark the work of teachers in other lines are apparent in these tests. Doubtless some reports exaggerate the number of defectives, and others make the number too small, but the average will probably be nearly correct.

Some surprise has been expressed that the law should direct that teachers should make these tests. But all the oculists consulted agreed that this preliminary investigation was well within the grasp of the ordinary teacher, and that her familiarity with the children would tend to relieve the examination from the nervous excitement likely to attend examination by a stranger.

* Reports have been received from 253 towns and cities, in which 224,632 children have been examined. Of these, 44,123, or about 20 per cent, are reported as having defective vision, and 13,145, or about 6 per cent, as having defective hearing.
So far as statistics of examinations have been published, there has been no evidence that the work of teachers as a class is less reliable than that of specialists.

It will probably be found that the effect of this work upon the teachers themselves is not less important than the direct benefit to the children. Defective vision is not a misfortune confined to school children. Teachers are discovering that their own eyes have been singularly blind to the condition of their pupils. "I am astonished," "It is a revelation to me," "I am ashamed not to have known my own school better," "How stupid I have been," are expressions heard from teachers whose own eyes have been opened.

It is too early to reach final conclusions regarding this part of the work, but certain facts seem to be indicated:—

1. That for defects found by the use of the Snellen cards parents should not be notified if the vision is better than 20/30.
2. That there is danger that too many children will be made to wear glasses.
3. That there is danger from poor glasses sold by so-called opticians.
4. That some means will need to be provided for supplying glasses to poor children.
5. That the children will suffer from the ignorance or wilfulness of parents. Several illustrations of this have come to my knowledge.

A child has been supplied with glasses left by a recently deceased grandmother.

A father held an apple and an orange in his hands, and finding his child could distinguish them across the room, declared that nothing was the matter.

Another father tried his own glasses on his child, and because the child could see nothing refused to buy others.

How many of the 354 towns and cities have made appropriations and appointed school physicians is not yet known, but probably ninetenths. The failure to do so in many towns is due to indifference rather than active opposition. No one cared enough about the matter to bring it up at the town meeting, and it went by default. There is a good deal of scepticism among the people as to the need of inspection, especially in the country towns. They think of it as another school fad.

I have heard of several towns which have shown their regard for law and their contempt for inspection by appropriating five or ten or fifteen dollars for the purpose.

The campaign of education will need to be continued for another year at least.
There is as yet no satisfactory basis for estimating the proper cost of this inspection.

In a circular issued by the Massachusetts Civic League, it is suggested that $11 for each 1,000 inhabitants might be the appropriate cost in small towns. This is based on the expenditure of several towns and cities in previous years.

Few reports have yet been received as to the scope or results of the work throughout the State; but enough has been done to show that the most serious defects and disabilities exist in the towns and smaller cities, as well as in the more congested centres. Epidemics of contagious diseases appear in all parts of the State.

During the school year of 1905–1906, 316 rooms were closed, for a period varying from one or two days to four weeks, on account of diphtheria, scarlet fever and measles. These rooms were in 69 towns, and they contained 12,078 children.

Filth and vermin seem to be almost universal. The following cry from a mother in a rural community would probably have an echo in many others:—

Is there nothing that can be done to protect us mothers from the vermin acquired at school? Some of the children come with "stock" enough to infect the bodies and clothing of a whole school.

The lot of farmers’ wives in these hill towns who have Rooseveltian families, but not Rooseveltian means to care for them, is not an easy one at best; but when it comes to spending two or three hours a day in cleansing our children from vermin "got at school," to say nothing of spending no inconsiderable amount of money on vermicides and fine-toothed combs, the burden is really a serious one.

Some interesting study has been made in Brookline of the relation of the physical condition to the class standing of pupils.

Of 420 children examined, 40 per cent had perfect vision, 30 per cent had mild defects, and 23 per cent had serious defects.

Of scholars ranked as "excellent," 50 per cent had normal eyes, and 14 per cent had serious defects.

Of scholars ranked as "unsatisfactory," 40 per cent had serious eye defects.

Of the "excellent" scholars, 17 per cent had diminished hearing.

Of the "good" scholars, 20 per cent had diminished hearing.

Of the "unsatisfactory" scholars, 52 per cent had diminished hearing.

Of the "poor" scholars, 42 per cent had diminished hearing.

Certain facts concerning some of the so-called ungraded classes in Boston are significant. These classes are composed of children who have failed to keep up with the work in the lower grades. They are grouped in small classes, and given chiefly individual work.
Of 43 girls of this class in one school, but 2 were found normal in vision and hearing.

Of 66 boys in another school, 64 per cent were found defective in vision; while of the rest of the school, 473 boys, 36 per cent were defective.

In another school, boys and girls, of 40 children in ungraded classes, 65 per cent were found defective in vision or hearing, or both; while of the remaining 707 children, 36 per cent were defective.

In order to make the inspection called for by the law of 1906 more uniform and effective throughout the State, His Excellency Governor Guild called into conference the State Board of Education and a number of physicians of Boston and vicinity.

The result of this conference was the appointment of a committee of three, consisting of Dr. Robert W. Lovett, Dr. Charles Harrington, secretary of the State Board of Health, and the secretary of the Board of Education, to prepare a manual of suggestions for the guidance of school physicians.

Conferences were held with the heads of departments in the medical schools and in the hospitals, all well-known specialists, to obtain from them suggestions as to the defects and disabilities likely to be found in school children, and the means of discovering them. It early appeared that the primary observations must be made by the teachers, and, consequently, that the manual must be simple in its description and free from technicalities. The men gave freely of their time and thought, and furnished to the committee material of great value for the purpose intended. It has been arranged and printed and published by the Board of Education in numbers sufficient to furnish a copy to every school teacher and school physician in the State, and have some left for missionary work among other classes. One city board of health has asked for 500 copies. As a tract for the promulgation of the new gospel of health, it seems likely to prove of considerable value.

This is a plain story of a beginning. It is in the nature of a report of progress. The outlook is encouraging, and in another year we hope to have sufficient data to make our work useful as a precedent.

ENTERIC FEVER AND SHELL-FISH.—Dr. Caldwell Smith reports the occurrence in Wandsworth of several cases of enteric fever caused by shell-fish sent from a remote part of Scotland, and, "what is more serious from a public health point of view, from a part where polluted shell-fish was known to exist, as attention had been called to the locality by an outbreak of enteric fever in Glasgow in 1903, when the shell-fish were gathered on the same spot." We agree with him that this outbreak once more shows the necessity of further legislation for the purpose of giving powers to local authorities to inspect shell-fish layings and to prohibit the sale of shell-fish from polluted layings or beds.