

PROTECTING PUBLIC HEALTH IN PENNSYLVANIA

BY SAMUEL G. DIXON, M.D., LL.D.,
Commissioner of Health, Commonwealth of Pennsylvania.

The present State Department of Health of Pennsylvania was created in 1905, and legislation was enacted that year giving the department sufficiently broad and general powers to enable the Commissioner to fully enforce all necessary health regulations.

Three hundred thousand dollars were given the department for the two years 1905 and 1906. So rapidly did the work grow however, that in 1907 the legislature appropriated to the department two million dollars. Six hundred thousand of this was specifically set aside for the establishing of the State Sanatoria for Tuberculosis, and four hundred thousand for dispensaries for tuberculosis. Still the work continued to grow. People gave it their hearty support and in 1909 the unprecedented appropriation of two million dollars for tuberculosis and one million dollars for general health work, was given the State Department of Health.

Has this expenditure of public funds been a good investment for the taxpayers of Pennsylvania? To answer the question I can simply point out briefly what the State Department of Health has been doing since its creation, what results it has accomplished and the promise of fruition in the future for the seeds already sown.

The death rate in Pennsylvania fell from 16.5 in 1906, to 15.3 in 1909. That does not sound like a very big drop when recorded in that form. But when our more than seven million population is considered, it means a saving of 13,907 lives.

In four years the death rate from tuberculosis has fallen from 134 to 120 per hundred thousand of population. That means 1,000 lives a year saved to the commonwealth.

In 1906, 56.5 out of every 100,000 of our people died from typhoid fever. The close of the year 1907 saw this death rate cut down to 50.3; it dropped to 34.4 in 1908, and in 1909 to 23.9, cut down one-half in four years. Reckoned in the number of precious lives saved, this means that had the death rate of 1906 pre-

(339)



vailed in 1909, Pennsylvania would have paid in tribute to this disease, 2,363 more of her citizens.

And what of diphtheria, the terror of every mother, and the very messenger of death to the poverty-stricken mother who can not provide antitoxin for her sick child? The state in its beneficent charity and its wise effort to prevent the spread of disease, has driven back this foe. Twenty thousand seven hundred and ninety-four little children, stricken down with diphtheria, were in four years treated with the free antitoxin supplied by the Department of Health's 650 distributing stations. Without antitoxin 8,743 of these children, according to recorded mortality rates, would have died. As it was only 1,765 died. What more remarkable saving of precious life could be asked as a result of a wise state aid! Six thousand nine hundred and sixty-eight children rescued from early graves, conserved to Pennsylvania's resources. Moreover, free antitoxin was also given in 15,125 cases, mostly children who had been in contact with the disease. All but a very few of these were absolutely protected against diphtheria.

Four years ago Pennsylvania realized the fact that if tuberculosis was to be conquered the state campaign against it must be thoroughly organized and conducted on a comprehensive scale. To this end a million dollars was given the Department of Health for tuberculosis work for the two years ending May 31, 1910.

With the humble but praiseworthy state camp of twenty-eight patients at Mont Alto, conducted by the Forestry Commission as a nucleus, a model tuberculosis village was started on this sunlit plateau. The little camp has now grown to a splendidly equipped institution, accommodating eight hundred patients, with buildings now under construction that will raise the capacity to over twelve hundred. Up to date considerably over four thousand poor consumptives, in all stages of the disease, have been treated at Mont Alto.

The Mont Alto Sanatorium has six hundred and fifty acres of ground situated in a state forestry reservation of fifty-five thousand acres. The buildings are on a plateau of the Blue Mountains, sixteen hundred feet above sea level, swept by pine laden breezes. The cottages for the early and moderately advanced cases are designed to accommodate eight patients each. They are nearly square, measuring 27 x 24 feet, with a central hall 5 feet 8 inches

in width, which is enlarged in the center for heating and lavatory purposes. Ventilation is secured by direct-indirect steam heating. The loft is well ventilated to keep the patients' room cooler during the summer months. Two patients occupy each room, which is so arranged as to secure an ample supply of fresh air, with proper protection against storms. The cottages are so placed that each room will receive the maximum of the sun's rays during the day.

The patients rest during the day in ample pavilions, instead of porches to their cottages which would forbid the sun's rays. The dining room is a large, well-constructed building, originally built to accommodate 500, but permitting of extensions as needed. The infirmary for the accommodation of the incurable cases is beautifully situated in the pines, but apart from the other buildings. There are bath and toilet houses at convenient distances, and a sewage disposal plant. We are at present completing a number of new buildings at the sanatorium, including additional cottages, a modern dispensary, nurses' quarters, and a separate building for children. Here, in the pure air and glorious sunshine, Pennsylvania's consumptive poor, in all stages of the disease, are receiving the best care and treatment that it is possible to get anywhere.

Some weeks ago when our tuberculosis exhibit was being shown in Pittsburg, the attendants noticed a big, strong, husky fellow pointing out the features of the model Mont Alto buildings to the visitors. Upon inquiry he was found to be a former Mont Alto patient and the joy of life and restored health shone in his face. He was only a type of many another who has won his fight under the state's care. In many, of course, the disease had gone too far but they have been made comfortable and happy at the institution and at the same time have not been a source of infection to others in their homes.

Tucked within the forest and thus protected from the winter winds, but enjoying the full benefits of the high altitude, the new State Sanatorium for Tuberculosis, at Cresson, is being constructed by the State Department of Health, on the property given the commonwealth by Andrew Carnegie. It is so planned that four wings may be constructed, one at a time, as needed, utilizing the same central building. Each wing or ward will accommodate 160 patients, giving a total capacity of 640 for the finally completed institution. The first story of the entire structure is of sandstone found on the

property. The second story is of asbestos boards timbered, and the roof will be of asbestos shingles. The layout permits of the maximum amount of sunlight, with the wards so arranged as to accommodate the varying demand of advanced and incipient cases. The central building will provide a dining room, reception and examining room on the first floor and apartments for the doctors, nurses and help on the second floor.

Connecting the east and west wards with the central building are corridors that have enclosed basements through which the patients can walk to the dining room in stormy weather, and a first floor to be used for the open-air treatment. Here the patients may sit in their rest-chairs and enjoy the sunshine, and thus is overcome the necessity of porches that would block out the sun from the patients' rooms. Into this sun-corridor also the patient's bed can be wheeled. To economize by using the same foundation and roof for as much as possible, a second floor of each connecting corridor will accommodate twenty beds for hospital cases.

The sanatorium site, about 2,400 feet above the sea level, is sufficiently far from all industries to have pure air for the patients to breathe. The summers are cool and the winters long and unbroken.

At Hamburg, in Berks county, a site has been purchased for an eastern sanatorium, which will be built along the same lines as the one at Cresson. The site selected commands a pleasing view of wooded mountains, broken into gaps and peaks, with the Schuylkill River winding in the valley to the west. Far enough away to avoid all objection of noise and smoke, but near enough to relieve a sense of lonesomeness, the Schuylkill Valley branches of the Pennsylvania and Reading railroads are seen. The quaint town of Hamburg nestles in the valley below, bordered by fertile stretches of farm lands with their restful, pastoral scenes.

At these three state institutions, Mont Alto, Cresson and Hamburg, the poor will receive ideal treatment for tuberculosis. They will not suffer under the disadvantages of city hospitals, where their lungs would be constantly irritated by the smoke and dust so common to all large municipalities.

Hand in hand with the sanatorium work goes the dispensary treatment. At one hundred and fifteen places in Pennsylvania the State Department of Health has a free tuberculosis dispensary

in charge of a trained physician, with necessary assistants and visiting nurses. Some idea of the amount of work being done by these dispensaries may be gathered from the fact that up to November 30, 1910, 38,289 patients had registered for examination and treatment.

I believe that the educational and sociological work alone that is being done by the state from these dispensaries, to prevent the spread of disease and to better the conditions of living among the poor, would amply justify all the money Pennsylvania has appropriated for its tuberculosis campaign.

When these dispensaries were first started we realized that if they were to be fully successful, we should first of all have to reach the indigent cases. We therefore solicited and received the hearty co-operation of civic clubs, churches, organized charity organizations, labor unions and the large employers of labor throughout the state. This co-operation has always continued, and the department appreciates its value.

When an applicant for dispensary treatment has been carefully examined by the physician in charge, and full information as to the history of the case, environment, occupation, etc., noted, he is carefully instructed as to what he must do to improve his own health and the absolute necessity of taking certain precautions to avoid infecting others. He is supplied with sputum cups and paper napkins, and if too poor to get regularly the proper nourishment, this is supplied to him either in the form of milk and eggs or milk and oil, the latter having proven a most efficient food.

A day or so after the new patient has been to the dispensary a trained nurse calls at the home. The squalor and disease-breeding conditions that the nurse so frequently finds present a task that would seem impossible. But the nurse is all courage. Bright and cheerful and a model of cleanliness herself, she is not afraid to roll up her sleeves and set the pace for getting the house in order. Windows are thrown open, and God's glorious sunshine is allowed to come in and run riot through the rooms, killing, as nothing else can do so well, the lurking germs of disease. What a difference is made in that home!

The tuberculosis patient is again thoroughly instructed in the precautions he must observe and the health rules he must follow, and each member of the family is similarly taught how to avoid

infection. The patient himself is especially advised to sleep with windows wide open, or, better still, to sleep out of doors. Helpful suggestions are offered as to how sleeping quarters can be made out of back porches, for instance, at a nominal expense. Then the nurse makes a quick study of the other conditions in the home. Perhaps she notices that the children are anemic, poorly nourished and improperly clad, not necessarily because the family is destitute, but because the little income that exists is not being put to best advantage. Here is an opportunity to teach the mother how both in selecting and cooking the food the greatest possible nutrition can be secured for the least amount of money.

So it is that our nurses are going to the homes of the poor throughout Pennsylvania, letting in the sunlight, teaching the life-giving principles of fresh air and proper food, changing filth and disorder to cleanliness and neatness, making these people their friends, and thus making them understand that the state is their friend. Can there possibly be any other result than that these people should be lifted up, or, better still, that they should be incited to climb up to a higher plane of living and morality? Thus they become better citizens, better producers, and the commonwealth is so much the healthier, wealthier and happier thereby. Do you wonder why I say this work alone is worth all the money that Pennsylvania is spending to fight tuberculosis?

In sixty-six counties of the state the department has a thoroughly trained medical inspector, assisted by a corps of township health officers. There are altogether seven hundred of the health officers distributed throughout the state. To them the physicians report all cases of communicable diseases, and the health officers promptly placard the premises and establish the necessary quarantine. Upon receiving notice from the physicians of the termination of the case, the health officer thoroughly disinfects the premises. As a proof of the results being obtained from educational work, it has been gratifying to note the constantly increased number of requests from householders to have their houses disinfected after cases of tuberculosis. The tuberculosis and general sanitary exhibit that the department has been sending through the state has been a big factor in teaching the people to keep themselves healthy. Especially fruitful have been the talks to the school

children, who have not only learned the lessons themselves, but carried the message of health to their homes.

In connection with this work of educating the people, I want to take this opportunity of referring to the splendid aid given us by the public press in general. Through it, we have been able from day to day and week to week to talk over these problems of better health and better living conditions with the home group around every fireside in the state.

The new sanitary code passed by the last legislature has already been productive of far more efficient health work in municipalities throughout Pennsylvania by establishing uniformity in the rules for the control of communicable diseases. The State Department of Health through its organized army of medical inspectors and health officers has kept guard against the spread of disease in the rural districts, and whenever necessary has aided local boards of health in battling with epidemics that threatened to get beyond control. By example and by helpful advice and instruction these local boards have been greatly benefited, and in many municipalities, where no sanitary precautions were being observed, boards of health have been organized and stimulated to do effective work for their respective communities.

The inspection of dairy farms by the department's health officers as a protection to the milk supply is a most necessary part of the state's sanitary work, and will be carried on with a thoroughness which only a well-organized and adequate force of inspectors can attain.

These health officers also for the past two years have been making regular inspections of the sanitary conditions of all schools in the rural districts, and the result has been a very marked improvement at such schools. The department has also started a system of medical inspection of the school children in the rural districts. This inspection is being made by skilled physicians. In view of the results already accomplished by medical inspection of schools in some of the larger cities and municipalities throughout the country, we are safe in saying that the standard of health of the children in the country schools in Pennsylvania will be raised materially by this work.

When, in 1905, a state law was passed to protect the waters of the state from pollution it seemed as if an almost hopeless task

was being undertaken. If the truth must be confessed there was nowhere a more flagrant example than Pennsylvania of the criminal poisoning of the people's drinking water by disease-laden sewage. Private individuals, corporations and municipalities, large and small, were equally guilty. All this has not yet been changed. That would be inconceivable. But almost unhopd-for progress has been made, and this because the law has been administered wisely and justly, and the people themselves have been taught to understand and appreciate the absolute necessity and the real economy of protecting their water supplies from pollution. Twenty-six thousand four hundred and sixty-six private sources of stream pollution have been abated by the department to date. Seventy-six modern sewage disposal plants have been either built or are in progress of construction, as approved by the state. Two hundred and forty-six other municipalities and private sewerage corporations are preparing plans to be submitted to the department that embrace sewage treatment as a condition upon which the further extension of their sewerage systems is granted. Seventy-nine modern water filtration plants have been approved by the state and are either already in operation or under construction.

Thousands of physicians throughout Pennsylvania are being constantly aided in diagnosing their cases by the examinations of pathological specimens sent by them to the State Department of Health laboratories. Important research work is being done by the state in these laboratories, work that is adding to the world's knowledge of preventive medicine.

More than once in the past four years the federal government has held up as a model, Pennsylvania's system for the collection of vital statistics, that phase of work that lies at the foundation of all successful sanitation.

Viewed, therefore, from every line of activity that it touches, the State Department of Health, I hope, commends itself to the loyal support of the people. Far reaching as the work has been it must go forward with increasing vigor. The people's battle for health must be won. And it will be won.