

Moreover, the disease is already wide-spread throughout the country, and experience with other infectious diseases has shown the difficulties which beset the eradication of a wide-spread endemic infectious disease by quarantine alone. Finally, it will be difficult to estimate the efficacy of preventive measures, since it is impossible to foretell the extent to which the disease is likely to spread in any community without the application of restrictive measures.

If, however, the above measures actually prevent even a small proportion of cases they are justified.

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REPORT OF COMMITTEE ON CONTROL OF CONTAGION THROUGH PHYSICIANS AND NURSES*

The subject, "Control of Contagion Through Doctors and Nurses," might imply that these are the only agencies for combating contagious disease, which is not quite true, though health boards must primarily depend on these agencies for preventive work. Through their efforts and teaching many other agencies, such as clubs, church organizations, social centers, fraternal bodies, principals and teachers in schools, and parents, are made to cooperate in preventing the spread of contagion. Doctors and nurses, however, are the only agencies employed legally and under control of municipal authority.

To control contagion we must first know where contagion exists. It follows that there must be authority to compel physicians, parents and guardians to report to boards of health, all cases of contagious disease when found. This should include suspected cases of contagious diseases—these to be dealt with differently from actual cases as explained further on.

City ordinances should be comprehensive and yet explicit enough to make their enforcement easy. Loosely drawn ordinances invite legal resistance. In the absence of city ordinances, state health laws can be invoked. In the absence of ordinances or state health laws we can proceed under the general police power. Under police powers a board of health can take such measures as are necessary to protect the public health against epidemic diseases and such action will be sustained by public opinion and the courts.

In order to secure reports of contagious diseases, postal cards, on which is indicated the information desired by the department of health, should be furnished free to physicians (Form 1). The acute contagious diseases—small-pox, diphtheria, scarlet fever, measles and whooping-cough—should be reported by telephone and by postal card. Telephoning the report makes it possible to take action twenty-four hours earlier than if the case were reported by mail. The postal card, with the physician's signature, following the telephone report, is necessary for the record of the case.

Other reportable diseases may be reported by card only.

When a case of contagious disease is reported, an acknowledgment of receipt of the report should be sent to the person making the report, on one half of a double postal card (Form 2), the other half of the postal card to be torn off and returned to the department of health when the case is ready for termination.

The name and address of the reported patient are telephoned to the medical health officer in whose territory the case is found. He visits the patient and establishes quarantine. If no adequate quarantine can be established and maintained, the patient should be sent to a hospital for contagious diseases.

In cases of diphtheria, if the attending physician has not taken a culture from the throat, the health officer should take one. If the case proves to be bacteriologically and clinically not diphtheria, the attending physician receives notice from the department of health of the laboratory findings (Form 3),

and a postal card enclosed on which he expresses his wish as to the early termination of the case (Postal Card Form 4). The health officer gives immunizing doses of antitoxin to other members of the family if the attending physician has not done so; gives oral instructions to the family and printed instructions as to the management of the case (Circular 1) to prevent the spread of contagion. A printed card of instructions is hung on the door of the patient's room (Circular Card Form 2). The medical health officer endeavors to place the patient in a room apart from other members of the household with a view of preventing other inmates of the house from contracting the disease. A warning card (Placard Form 1) should be placed on the front door, and a milkman's warning card on which are printed instructions to be followed by the milkman (Placard Form 2) is placed on the rear door. The medical health officer fills out a blank quarantine card (Form 5), giving information and instructions as to the quarantine requirements to the quarantine officer who follows him. This card is placed under the right upper corner of the front door warning card and a tack is driven through both. The medical health officer fills out and mails a postal card (Form 8), notifying school principal, Sunday-school superintendent and factories in the neighborhood, giving the location of the case. He then fills out his report blank (Form 9), giving detailed information as to the conditions and requirements of quarantine in the case and mails it to the department of health.

The following day a quarantine officer calls and secures the instruction card which was placed under the front door warning card by the medical health officer. This card informs him what the quarantine requirements are in the case. This officer visits the house daily, or as often as necessary, to see that the inmates are obeying the rules of quarantine. At each visit he fills out and sends to the department of health a report (Form 10). When the patient is well, the attending physician sends to the department his termination card (Postal Card Form 2). The medical health officer is then sent to take cultures from the throat and nose of the patient, and if found positive he waits three days and returns for another culture, and so continues until a culture shows negative, in which case he returns the following day and takes another culture and at the same time takes cultures from the throats of all contacts. If they all prove negative, he fills out blank (Form 11), stating that the premises are ready for disinfection, and mails it to the department. A disinfecter is then sent who disinfects and removes the warning placard. The disinfecter, after disinfecting the premises, fills out and mails postal card (Form 12) to school, Sunday-school and factories which were previously notified of the case, stating that restrictions placed on the family have been removed.

If a positive culture is found in a diphtheria contact, the quarantine is continued until a negative is obtained. One negative culture is required from contacts and two negative cultures made on two consecutive days are required from the patient.

Scarlet fever is quarantined in the same manner as diphtheria, except that no cultures are taken unless mixed infection is suspected. Quarantine is more prolonged in scarlet fever than in diphtheria. Four to six weeks, and in some cases longer, should be the quarantine period in scarlet fever. The instruction card (Form 13) and circular of information for scarlet fever are similar to that for diphtheria, only differing in some details to meet the requirements of this disease.

Measles cases are placarded and children in the house are kept from school and from visiting other children. No visitors are allowed in the house. The adults, if they have had measles, are allowed to go about their necessary work but are not allowed to go to church or other public gatherings. The period of quarantine should be three weeks or more. A circular of information on measles is given the family (Circular Form 4).

A warning card is posted for whooping-cough as in rules of quarantine apply in cases of whooping-cough as in measles except the period of quarantine is eight weeks, or until the spasmodic stage has passed.

All cases of chicken-pox should be visited by a diagnostician unless the doctor reporting the case says that the subject has a successful vaccination. No warning card is posted for chicken-pox, but the patient is kept in for two weeks.

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Mumps is important only because it may get started and break up a school. Patients and those exposed should be excluded from school for three weeks. No warning card is posted.

When typhoid fever is reported to the department of health, a medical health officer visits the home from which the case is reported to learn, if possible, the source of the infection, and to instruct the attendants how to destroy typhoid contagion and prevent communicating the disease to others. He inquires into the water, milk and other food-supplies and learns if the patient has been away from home just preceding the attack, and other information required to fill out the report. He fills out report blank 14 and mails it to the department of health. A milkman's warning card (Placard Form 2), previously mentioned, is placed on the rear door and a circular of information on typhoid is given to the family and verbally explained (Circular Form 5). If screening against flies and proper treatment of discharges from patient are not practiced, the patient is ordered to a hospital. At the termination of the case, disinfection with chlorid of lime and formaldehyd is performed when conditions are such as to require it.

In the event of the milk-supply being suspected, a dairy inspector is sent to the farms in the country from which the milkman receives his supply, to look for possible sources of infection. If the source is located on any farm, shipment of milk from that place to the city is prohibited.

When a suspected case of contagious disease is reported, no warning card is posted until a diagnosis is made. The physician reporting has the family take all precautions and makes a second report as soon as the diagnosis is made.

The work in the schools done by the physician and nurse is conducted as follows:

At the beginning of the school term, the school doctor and nurse visit the school and make a rapid inspection to determine if any are seeking admission who show evidence of a contagious disease. This preliminary inspection is conducted in the following manner:

The doctor and nurse visit each schoolroom, stand with their backs to the window and have the pupils file past, exposing to view palms of hands and wrists. With the finger, the pupil pulls down the eyelid, exposing the conjunctiva, opens the mouth and puts out the tongue. Skin diseases, eye diseases and convalescent cases of scarlet fever can in this manner be detected. This preliminary examination is completed in a day or two and the school term is under way with the pupils found to have contagion about them excluded. They are excluded if on inquiry they are found to be coming from a house where a contagious disease exists. From that time on the school physician and nurse visit the school daily. The nurse makes routine daily inspections for evidence of contagious and parasitic diseases and refers all suspicious cases to the school physician for examination.

All pupils absent from school for three or more consecutive days and all suspicious cases found by principal, teachers and nurse are sent to a room to await examination by the school physician before they are allowed to go to their class rooms.

If a case of diphtheria is found in school or if such case was in a class room and is found to have diphtheria the school physician takes cultures from the throats of all pupils in the class of which the sick pupil was a member. If a positive culture is found in any pupil, he is sent home and quarantined as a carrier of diphtheria germs, though there may be no evidence of sickness. A special quarantine placard is used (Placard Form 3) and a circular of information (Circular Form 3) is handed the family.

In Chicago, nine carriers of diphtheria were found in one class room, eleven in another, thirteen in a third, and the highest number found and quarantined was twenty-three in a class of twenty-seven.

In every instance in which an outbreak of diphtheria was found among the school pupils this practice of quarantining the carriers promptly and completely eliminated diphtheria from the school. There was very little opposition to this quarantine. We encountered the most opposition from physicians. With the department circular in their hands the parents of the child generally complied with the requirements of quarantine with little complaint. Complaints against the quarantine were usually the result of the information furnished by the

physician called in by the parents. Physicians quite frequently protested against quarantining carriers. The opposition by physicians against this practice has continually grown less and now is quite infrequent.

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REPORT OF COMMITTEE ON METHODS OF CONTROL OF SMALL-POX *

I. CONTROL OF SMALL-POX IN A CITY WITH A MILLION INHABITANTS

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The one agency, vaccination, is sufficient to absolutely prevent small-pox in cities large or small if this remedy is universally and intelligently applied. But there are always those in a community who oppose anything which was not created by themselves. I have never known an antivaccinationist who has had any experience with small-pox. One case in the family of an antivaccinationist has always cured him of his antivaccination views.

A small-pox hospital is a reflection on the intelligence of some of the citizens of a city. The burden of supporting such a hospital should fall on those who oppose vaccination. It is a needless expense and those who are careful to keep themselves immune from small-pox by vaccination should not be taxed to support hospitals for the cure of a disease which is absolutely preventable by a universally known simple remedy.

The same methods for preventing small-pox in large cities are applicable to small cities, but large cities present difficulties not met with in small cities. The constant influx of cases from the surrounding country menaces the large city to a greater extent than the small city. The areas of congested population, the numerous centers of foreign-speaking population in large cities who mistrust our ways makes it more difficult to control disease among them than is the case where but few such people are found. In large cities there is more opportunity for concealing cases of small-pox. There is less respect for law and the rights of others in the large city. One of the greatest obstacles in a large city is the fact that the per capita tax for contagious diseases is lower than in smaller cities. A small town will spend one to five dollars per capita in a few months to suppress an epidemic of a contagious disease, while a large city like Chicago would never think of spending even fifty cents per capita to keep contagious diseases out of the city. By expending large sums of money, a small city can secure vaccination of nearly all and get small-pox under control in a few months, even after the disease has been introduced, but it takes a large sum of money to do it.

In a large city, if vaccination is neglected until small-pox is introduced at numerous points, the chances of preventing an epidemic becomes small. When an epidemic is well started in a large city full of susceptibles no effort that is likely to be put forth will eradicate the disease in less than two years. If everybody were vaccinated the disease would cease at once. This seems a simple matter, but in a city of two million, if we were to set one million the task of vaccinating the other million, the task would not be completed in a year. To vaccinate and keep vaccinated a large population requires persistent and aggressive work all the time.

The decisions of the courts that say vaccination can be enforced only in the presence of an epidemic, is not based on the true nature of epidemics of small-pox in relation to vaccination. The requirements are that a community must be made and kept immune if epidemics of small-pox are to be avoided. It is too late to prevent disaster if we wait until

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