

pagating the disease. When due regard is had to these possibilities of indirect infection, there will be no difficulty in understanding that even a single case of cholera, perhaps of the slightest degree, and perhaps quite unsuspected in its neighbourhood, may, if local circumstances co-operate, exert a terribly infective power on considerable masses of population.

5. The dangers which have to be guarded against as favouring the spread of cholera infection are particularly two. First, and above all, there is the danger of water supplies which are in any (even the slightest) degree tainted by house refuse or other like kind of filth; as where there is outflow, leakage, or filtration from sewers, house drains, privies, cesspools, foul ditches or the like into springs, streams, wells, or reservoirs from which the supply of water is drawn, or into the soil in which the wells are situate—a danger which may exist on a small scale (but perhaps often repeated in the same district) at the pump or dip-well of a private house, or on a large or even vast scale, in the case of public waterworks. And, secondly, there is the danger of breathing air which is foul with effluvia from the same sorts of impurity.

6. Information as to the high degree in which those two dangers affect the public health in ordinary times, and as to the special importance which attaches to them at times when any diarrhoeal infection is likely to be introduced, has now for so many years been before the public, that the improved systems of refuse removal and water supply by which those dangers are permanently obviated for large populations, and also the minor structural improvements by which separate households are secured against them, ought long ago to have come into universal use.

So far, however, as this wiser course has not been adopted in any sanitary district, security must, as far as practicable, be sought in measures of a temporary and palliative kind.

(a) Immediate and searching examination of sources and conduits of water supply should be made in all cases where drinking water is in any degree open to the suspicion of impurity, and the water, both from private and public sources, should be examined. Where pollution is discovered, everything practicable should be done to prevent the pollution from continuing, or, if this object cannot be obtained, to prevent the water from being drunk. Cisterns should be cleansed, and any connections of waste pipes with drains should be severed.

(b) Simultaneously there should be immediate thorough removal of every sort of house refuse and other filth which has accumulated in neglected places; future accumulations of the same sort should be prevented; attention should be given to all defects of house drains and sinks through which offensive smells can reach houses; thorough washing and lime-washing of uncleanly premises, especially of such as are densely occupied, should be practised again and again.

7. It may fairly be believed that, in considerable parts of the country, conditions favourable to the spread of the cholera are now less abundant than in former times; and in this connection the gratifying fact deserves to be recorded that during recent years enteric fever, the disease which in its methods of extension bears the nearest resemblance to cholera, has continuously and notably declined in England. But it is certain that in many places such conditions are present as would, if cholera were introduced, assist in the spread of that disease. It is to be hoped that in all these cases the local sanitary authorities will at once do everything that can be done to put their districts into a wholesome state. Measures of cleanliness, taken beforehand, are of far more importance for the protection of a district against cholera than removal

or disinfection of filth after the disease has actually made its appearance.

8. It is important for the public very distinctly to remember that pains taken and costs incurred for the purposes to which this memorandum refers cannot in any event be regarded as wasted. The local conditions which would enable cholera, if imported, to spread its infection in this country, are conditions which day by day, in the absence of cholera, foster and spread other diseases—diseases which are never absent from the country, and are in the long run far more destructive than cholera. Hence the sanitary improvements which would justify a sense of security against any apprehended importation of cholera would, to their extent, though cholera should never reappear in England, give amply remunerative results in the prevention of those other diseases.

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Local Government Board, August 26th, 1892.

GENERAL MEMORANDUM ON THE PROCEEDINGS WHICH ARE ADVISABLE IN PLACES ATTACKED OR THREATENED BY EPIDEMIC DISEASE.

1. Wherever there is prevalence or threatening of cholera, diphtheria, fever, or any other epidemic disease, it is of more than common importance that the statutory powers conferred upon sanitary authorities, for the protection of the public health should be well exercised by those authorities acting with the advice of their medical officers of health.

2. Proper precautions are equally requisite for all classes of society. But it is chiefly with regard to the poorer population, therefore, chiefly in the courts and alleys of towns, and at the labourers' cottages of country districts, that local authorities are called upon to exercise vigilance and to proffer information and advice. Common lodging-houses and houses which are sub-let in several small holdings always require particular attention.

3. Wherever there is accumulation, stink, or soakage of house refuse, or of other decaying animal or vegetable matter, the nuisance should as promptly as possible be abated, and precaution should be taken not to let it recur. Especially examination should be made as to the efficient working of sewers and drains, and any defect therein and any nuisance therefrom, or from any foul ditches or ponds, should be got rid of without delay. The ventilation of sewers, the ventilation and trapping of house drains, and the disconnection of cistern overflows and sink pipes from drains should be carefully seen to. The scavenging of the district and the state of receptacles for excrement, and of ashpits or dustbins, will require close attention. In slaughter-houses, and wherever animals are kept, strict cleanliness should be enforced.

4. In the removal of filth during periods of epidemic disease it is commonly necessary to employ chemical agents for reducing or removing the offence and harm which may be involved in the disturbance of the filth. In the removal of privy contents these agents are more particularly wanted if the disease in question be cholera or enteric fever. The chemical agent should be used liberally over all exposed surfaces from which filth has been removed. Unpaved earth close to dwellings, if it be sodden with slops or filth, ought to be treated in the same way.

5. Sources of water-supply should be well examined. Water from sources which can be in any way tainted by animal or vegetable refuse, especially those into which there may be any leakage or filtration from sewers, drains, cesspools, or foul ditches, ought no longer to be drunk. Above all, where the disease is cholera, diarrhoea, or enteric fever, it is essential that no impure water be drunk.

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