Box 1315

MEMORANDUM

ADDRESSED TO THE

LOCAL AUTHORITIES

OF THE

Cities, Towns and Villages of Tennessee.

ISSUED BY

TENNESSEE STATE BOARD OF HEALTH.

PRECAUTIONS

AGAINST THE

INFECTION OF CHOLERA.

ISSUED BY THE

TENNESSEE STATE BOARD OF HEALTH.

As there are outbreaks of Cholera at several places in Europe, and it may extend to places which are in frequent and rapid communication with the United States, it is possible that cases of the disease may, before long, be brought into the ports of this country whence then they may advance to other and perhaps interior places, notwithstanding the vigilance and efforts of local authorities of such seaboard towns to prevent the spread of the disease. As cases of choleraic infection have widely different degrees of severity, it thus becomes possible that some such cases, slightly affected, may escape the authorities, and penetrate far into the interior before recognition.

2. Former experience of cholera, especially upon the Continent and in England, justifies a belief that the presence of imported cases of the disease at various spots in the country will not be capable of causing much injury to the population, if the places receiving the infection have had the advantage of proper sanitary administration, and in order that all local populations may make their self-defense as effective as they can, it will be well for them to have regard to the present state of knowledge concerning the mode in which epidemics of Cholera outside of its native abode are produced.

3. Cholera in Tennessee shows itself so little contagious, in the

sense in which small-pox and scarlet fever are commonly called contagious, that, if reasonable care be taken where it is present, there is almost no risk that the disease will spread to persons who nurse or otherwise closely attend upon the sick. But Cholera has a certain peculiar infectiveness of its own, which, *where local conditions exist*, can operate with terrible force, and at considerable distances from the sick. It is characteristic of Cholera (and as much so of the slight cases where diarrhœa is the only symptom, as of the disease in its more dreadful and alarming forms,) that *all matters which the patient discharges from his stomach and bowels are infective.* Probably, under ordinary circumstances, the patient has no power of infecting other persons except by means of these discharges; nor any power of infecting even by them except in so far as particles of them are enabled to taint the food, water, or air, which people consume. Thus, when a case of Cholera is imported into any place, the disease is not likely to spread, unless in proportion as it finds, locally open to it, certain facilities for spreading by *indirect infection.*

4. In order rightly to appreciate what these facilities must be, the following considerations have to be borne in mind: *First*, that any choleraic discharge cast without previous thorough disinfection into any water-closet, privy, cess-pool, drain or other depository or conduit of filth, infects the excremental matters with which it there mingles and probably more or less the effluvia which those matters evolve; *secondly*, that the infective power of choleraic discharges attaches to whatever bedding, clothing, towels and like things have been imbued with them, and renders these things, if not thoroughly disinfected, as capable of spreading the disease in places to which they are sent (for washing or other purposes) as, in like circumstances, the patient himself would be; *thirdly*, that if, by leakage or soakage from cesspools, privy vaults, or drains, or through reckless casting out of slops and wash-water, any taint (however small) of the infective material gets access to wells or other sources of drinking water, it imparts to enormous volumes of water the power of propagating 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 neighborhood, 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 favoring 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 kinds 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 situated; a danger which may exist on a small scale (but perhaps often repeated in the same district) at the pump or dip-well or spring of a private house, or on a large and even vast scale in the source of public water-works. And, secondly, there is the danger of breathing AIR which is foul with effluvia from the same sort 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 diarrhœal 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 city, town or village in Tennessee, security must, as far as practicable, be sought in measures of a temporary and palliative kind. (*a*) Immediate and searching examination of sources of water-supply should be made in all cases where the source 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 con-

tinuing, or, if this object cannot be attained, to prevent the water being drunk. (*b*) Simultaneously, there should be 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 are let into houses; thorough washing and lime washing of uncleanly premises, especially of such as are densely occupied, should be practiced again and again.

7. It may fairly be believed that, in many of the cities, towns, and villages of Tennessee conditions favorable to the spread of Cholera are now less abundant than at any former time; and in this connection the fact deserves to be noted that, during recent years enteric (typhoid) fever, the disease which in its methods of extension bears the nearest resemblance to Cholera, has perceptibly declined in the populous centers of Tennessee. But it is certain that in many places in the State 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 authorities will *at once* do everything that can be done to put their respective districts into a wholesome state.

Measures of cleanliness taken beforehand are of far more importance for the protection of a community 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 State are conditions which day by day in the absence of Cholera create and spread other diseases: diseases which, as being never absent from the State, are in the long run far more destructive than Cholera; and the sanitary improvements which would justify a sense of security against apprehended importation of Cholera, would, though Cholera should never re-appear in Tennessee, give amply remunerative results in the prevention of those other diseases.