

cided difference in the physicians' incomes."

If Toronto cares to go to the additional expense of chemically cleaning the filtered water with chlorine as at present, the entire water supply of the city will be kept practically sterile.

It is of interest also to shortly review the smallpox problem and to notice how happily and successfully this former scourge has been dealt with by our predecessors. Bernoulli, the famous mathematician calculated that not fewer than fifteen millions of human beings in the last century died of smallpox, every twenty-five years and Sussmilch, an eminent statician of the time of Frederick I., estimated that nearly every one had smallpox and that it carried away a twelfth part of mankind. From 1728-1764 of every one thousand children born alive one hundred and sixty-one died of smallpox, a higher death rate among children than we now have from all causes in healthy localities. Now we have but few deaths from smallpox. The great diminution in the smallpox mortality occurred, of course, after the introduction vaccination. Here we have a perfectly wonderful achievement in preventive medicine and probably the surest indicator of the splendid results we may look to achieve from the application of modern vaccine methods in the cure and prevention of other forms of disease; and indeed we all know very well the excellent results now obtained by the use of sera and vaccines.

Now that the value of preventive medicine in the state and municipality is becoming so well known and understood the need for municipal health specialists becomes more and more imperative and especially so as the municipal activities increase in number and complexity. Mayors in Germany, city clerks in England, city engineers in all countries and special commissioners in many cities are now distinct professional classes and are stimulated in their work by the prospect of advancement to more important cities as their abilities increase. The same is now becoming true of medical officers of health, except probably in North and South American countries. Sanitary or health officers cannot now receive nor hold appointments as directors of health in Britain, in towns of any size, unless they are specially trained for the work. In Can-

adian provinces, special training is as yet of no assistance to any applicant wishing to engage in health work and no such training, so far as I am aware is demanded as a qualification of health officers anywhere in Canada. This fact itself is almost a sufficient reason why the Academy's State Medicine Section should receive our support if only that its members should remain to do duty to urge and impress upon the Government this first necessity and thus in time bring about an efficient health service in the land.

Now that there is a near approach to a general agreement on the scope of municipal ownership, it is not outside our domain in this paper to say that this membership may rightly embrace all those services which are primarily or largely of a sanitary character like water supply, milk, supply, sewage disposal, street cleaning, disposal of garbage, slaughter houses, infectious disease hospitals, sanitary laundries and disinfecting stations, certain markets, public wash houses and baths as well as street closets and urinals; and probably all will agree that these services should be supervised at least by the chief sanitary officer.

The death rate from tuberculosis on our continent is slowly becoming reduced, but surely it is as yet a terrible scourge when in United States alone 175,000 persons die annually from this cause.

In regard to such diseases as scarlet fever the fatality has become so much lessened within the last fifty years that it is impossible to say to what extent the death rate has been lowered by isolation of cases. In the year 1907, the number of fatal cases as a result of this in Toronto was one, one death for the entire city, and yet a large number of patients had suffered from this fever that year.

Curiously enough the death rate from diphtheria has been on the increase during the last half century; until recently by the use of antitoxin this death rate is going down again.

By the application of preventive methods such fevers as malaria, yellow and other tropical fevers and parasitic diseases are readily stamped out.

Summing up the results of sanitation in