

A REPORT

ON A

Sanitary Survey

OF THE

Province of New Brunswick,
Canada,

WITH A

Plan for a Provincial Department of Health.

BY

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A Report
ON A
SANITARY SURVEY
OF THE
Province of New Brunswick,
Canada.

To the HONORABLE W. E. FOSTER, Premier, and Honorable
Members of the Provincial Government of New
Brunswick:

GENTLEMEN:—

I have the honor to submit herewith the report of a
Sanitary Survey of your Province made at your direction.

INTRODUCTION.

The object of this investigation was to secure, from various sources, data which might indicate the present status of the Public Health in New Brunswick and which might serve as the basis for a plan for improving existing conditions, should such action be found necessary. I have endeavored to present this data in as simple a form as possible and to offer practical suggestions on all points where I believe changes should be made. Because I have acquainted myself with your methods of government, your resources, and, in a general way, with your people, I am sure the plans outlined are workable ones and not mere theories which would fail in practice. Similar activities are now in effect in several parts of the United States and Canada, with which I am familiar, where conditions are quite similar to yours.

It should hardly be necessary to present any argument in support of work of this kind. The lives of the citizens are the greatest asset of the state, and it is the financial as well as the moral duty of a Government to promote the health and well-being of the people. The money value of a human life is hard to estimate, but is known to be high. The cost of saving lives and the prevention of sickness by modern methods is far more than paid by the added wealth and productiveness of the community. The advertising value of healthful conditions where human lives as well as property are protected is also to be considered. Looked at from a less practical, but still important, point of view, the suffering and sorrow of many people can thus be reduced or done away with altogether.

At the present time the need for Public Health Work is particularly pressing, due to some of the unfortunate effects of the war. France is now burdened with great numbers of cases of tuberculosis and venereal disease among both the civil and military populations, and very little can be done there to put them under control. It is certain that many soldiers who are affected with these most destructive of communicable diseases are now returning to this country, and will continue to return in growing numbers until after the war. Unless the proper machinery for their prevention and cure is put into operation without delay, the results will be disastrous indeed.

GENERAL OUTLINE.

This report is divided into five general parts. The first two deal with local and Provincial conditions and their respective relations to health. In the third part, an effort has been made to outline a plan for a changed organization and to suggest how a central power, by its assistance, advice and authority, may control the administration of new health laws throughout the Province. A brief summary makes up the fourth part, and an appendix contains some details of local conditions, press comments, and a few facts regarding the extent of the Survey.

I. LOCAL HEALTH ADMINISTRATION.

NEW BRUNSWICK.

The Province of New Brunswick is in the eastern portion of Canada and is bounded directly on the west by the State of Maine. It has an area of about 28,000 square miles, made up of rolling country. It is rocky along the coast line, fertile in the interior, and covered for great areas with vast forests. The settlement is mainly along the coast and the rivers, and the total population amounts to only 350,000. There appears to have been only a small increase in the population within the last fifteen years. The chief industries of the Province are the development of its natural resources, consisting of lumber, coal and building stone. Fishing, hunting and farming are the employments of many.

It can be seen from the above sketch that the health problem is mainly a rural one, and, for that reason, one both difficult and expensive to meet. In order to study the existing conditions at first hand, a rather inclusive tour was made of the Province with stops at many places. The map on the preceding page shows where these places were. In all, three city, ten town and seven county health districts were visited and careful investigations made.

OUTLINE.

Rather full reports are given on the three largest cities — St. John, Moncton and Fredericton. The others have been grouped and general comments and recommendations included at the end of this section, but Appendix A contains notes on each place visited in some detail. A particular effort has been made to criticize constructively in all cases.

An interesting summary of the results of the investigations of local conditions is given by the table on page 23, where the amount of money being spent for health work is shown, and where, by designation of "good," "fair,"

"poor" or "none," has been indicated the standing of each community with relation to eight factors having an important bearing on health.

ST. JOHN.

St. John is by far the largest city of the Province, having a population of about 55,000. Under the law, it is combined with the county of St. John, making up a single Health District under the supervision of the only trained Health Officer in the Province. It is a pleasure to pay a tribute to Dr. George G. Melvin and say that he is giving excellent service to his community. The other employees of the Board of Health are conscientious and apparently do their work well.

HEALTH EXPENDITURE — 1916.

During 1916, \$10,140.35 was spent for the conduct of the work of the Department of Health of the City and County of St. John, divided about as follows:

Salaries.....	\$7,236.56
Rent.....	275.00
Isolation Hospital.....	690.42
Disinfecting.....	613.34
Typhus Fever.....	322.53
Clean up.....	300.00
Miscellaneous.....	702.50
Total	\$10,140.35

This is at the rate of about fifteen cents per capita, and represents 0.6% of the total public expenditure of the municipality.

VITAL STATISTICS

Under the law, births, marriages and deaths must be reported to the Divisional Registrar, who is not connected with the Board of Health. Marriages are well reported, but births very poorly so, in St. John. Certificates of death must be delivered to the Health Department and a

permit issued before the body may be buried. Similar certificates are supposed to be sent to the Registrar, but that this is not regularly done is shown by the fact that he sometimes has to call on the Board of Health to secure information he needs. No attempt is made by the Registrar to tabulate, arrange or even count the records, and all that could be learned was that there were about 1,200 births, 500 marriages and 900 deaths reported per year.

COMMUNICABLE DISEASES

GENERAL.—Typhoid fever, scarlet fever and diphtheria are believed to be well reported in the City. A careful investigation is made of each case and the quarantine required by law is enforced. The first of these diseases is taken into the General Hospital and the other two into a so-called Epidemic Hospital under the same control. It is estimated that about fifty per cent of such cases receive hospital treatment here. No widespread epidemic of any of these diseases has occurred for a number of years.

TUBERCULOSIS.—The work of the St. John Association for Prevention of Tuberculosis appears to be well planned and thoroughly carried out. The money for the annual expenditure of about \$1,500 is obtained from three sources: The City Government \$500, the Board of Health \$300, and private subscriptions the remainder. The nurse is trained and has had previous experience with tuberculosis. Her duties consist in visiting cases in their homes, following up the physician's orders, and giving instructions and advice. A dispensary is in operation three hours a week with a paid physician in attendance. Monthly examinations are also made for admission to the County and Provincial Hospital. Free treatment is given in the dispensary and it is very certain that much excellent work is done. Good co-operation is said to exist between the Board of Health and the Association, and the Chief Officer of Health is a member. The nurse calls up the Board Office daily and makes monthly reports in writing.

The County Tuberculosis Hospital for advanced cases is located just outside the city and is without doubt giving the best of care to the sixty-three patients it can accommodate. In view of the fact that there is a much greater need for this kind of work than this institution can possibly fill, it would seem as if the \$100,000 put into the construction and outfitting of this handsome building could have been better spent in providing for more patients even though they might have had simpler accommodations and less expensive care.

It would also appear that a tuberculosis hospital, of all places, should be provided with balconies and benches out-of-doors where the patients could get the greatest benefit of the fresh air.

SMALLPOX.—A newly constructed Isolation Hospital in charge of the Board of Health is located about four miles from the City and is to be used for any cases of smallpox, plague, or cholera which may occur. The hospital is well constructed, but should be equipped with better facilities for sterilizing linen and provided with supplies of caps, gowns, medicines, and other things which might be needed in an emergency. No smallpox has appeared in the city since 1914 and, with the stress being laid on vaccination, it is unlikely that a widespread epidemic will ever occur. All children must be vaccinated before admission to school and, in six years, 3,500 persons have been vaccinated by the Health Officer free of charge.

SCHOOLS.—The best of co-operation is practiced with the schools. They are notified of all cases of communicable disease reported, and frequently the Health Officer takes it upon himself to do some medical inspection work when epidemics threaten or when unusual numbers of cases of impetigo or scabies occur. It goes without saying that work of this kind is of the greatest importance and much more should be done than is possible under the present conditions.

SANITARY ENGINEERING.

WATER SUPPLY.—The water supply of the city is

obtained from two sources. Spruce Lake, located at a distance of about four miles, furnishes the western side of the city, the draught being about four million gallons per day. The city is the owner of practically the whole of the drainage area of this lake and there are few, if any, chances for pollution.

By far the greater amount of water is obtained from Loch Lomond and the system of lakes and streams tributary to it located about ten miles northeast of the city. About twelve million gallons of water per day are being used from this source. It is the policy of the city to own as much of the land as possible making up the drainage area of these lakes, and already a great deal has been purchased. The rocky and wooded character of the country is such as to be unattractive for settlers and, with the exception of a few summer cottages, the total number of dwellings on the forty-two square miles of water-shed is probably not over a dozen.

While the chances for pollution of this supply are relatively few, they should not be neglected. The most thickly settled part of the area—near the lower end of Loch Lomond—was visited, and the disposal of waste from several premises investigated. The privies of a school and two summer cottages, located not more than 200 feet from the lake, were found to have no box vaults and were in need of cleaning. Other privies were nearer the lake than these, but could not be examined. A garden had been fertilized with horse manure and was drained through a pipe direct to the lake. The sewage from the house at this place, and also from the hotel known as the Ben Lomond House, is disposed of by the use of septic tanks and underground systems of loose jointed pipe. A saw-mill was being operated directly on the edge of the lake and what disposal was made of refuse and excreta was uncertain.

These conditions cannot be said to be alarming, but, while people must live and work on the water shed, and particularly on the edge of the lake, the most rigid regulations for disposal of excreta should be enforced.

From the physical examination of the two supplies mentioned above, it was expected that the water itself would prove to be of good sanitary quality. The few analyses that have been made indicate that this is the case, but of much greater significance is the fact that no outbreak of any disease has occurred in the city, which could be traced to these public supplies. Closer check should be kept on the water than is possible at the present time, by the equipment and operation of a laboratory for examination of samples at frequent intervals. Such a plan is being worked out by co-operation of the Board of Health and the Water Department.

The use of the public water supplies is almost universal in the city. Not more than a dozen private wells are now remaining open, and these are mainly in localities out of reach of the water pipes. The water is apparently not only used but is wasted, for the daily per capita consumption of about 250 gallons is far more than necessary.

SEWERAGE.—Although the sewerage of the city has been a difficult and expensive undertaking, owing to the rocky and hilly character of the district, nearly all the streets are now provided with pipes, some forty-four miles of lines having been laid. A combined system carries house sewage and surface drainage into the harbor where it is disposed of by dilution without any nuisance except in the case of Newman's Brook and Sparr Cove. While it will be an expensive proposition, it would be advisable to enclose this brook and carry it through the cove to the harbor for, at times of low water, it is virtually an open sewer. No danger of shell-fish or bathing beach pollution could be discovered.

It is the policy of the City Board of Health to compel owners of houses to connect them with the sewers whenever possible and, in nine years, about 2,700 such connections have been made, with the resultant cleaning out and removal of an equal number of privies. There still remain some 300 privies in use in the city, in most cases where the sewer is inaccessible.

St. John is indeed to be congratulated on its excellent

water supply and facilities for the disposal of its sewage. These two factors are of more importance than any other in their effect upon a city's health.

DISPOSAL OF REFUSE.—No municipal collection of garbage, rubbish, or ashes is in effect. Such matter has to be disposed of as the individual sees fit, which is a costly and very unsatisfactory system. It prevents the city from having the desirable cleanly appearance, accumulations of refuse are certain to be common, and the inspectors of the Board of Health are obliged to spend much of their time abating such nuisances when they should be engaged in work with real relation to the Public Health. The city authorities should plan to remedy this condition without delay, and they should not fail to consider the financial advantage to be gained by feeding the garbage properly cooked to hogs.

FOOD SUPERVISION.

MILK.—A good milk ordinance was passed by the Board of Health in 1915, but, up to the present time, it has been possible to put only a portion of it into effect. The 62 dealers and 180 stores where milk is sold are licensed, and a dairy inspector gives part of his time to visiting the 300 farms supplying milk to the city. Considerable improvement in their condition is reported. The requirement that all cows shall be proven free from tuberculosis by the tuberculin test is not enforced. Samples of the milk are tested for fats and solids, but, owing to lack of laboratory facilities, no bacteriological examinations can be made. From one-quarter to one-third of the supply is pasteurized and about half is bottled, but little supervision is exercised over either of these operations. Loose milk to be sold from stores has to be kept in stone crocks and must be handled under sanitary conditions. Outbreaks of typhoid fever and diphtheria were traced to milk supplies several years ago, but were promptly controlled by excluding the infected milk from the city.

MEAT.—The city slaughter house and market are not

kept in the best condition. Greater cleanliness of these two important places should be insisted upon.

FOOD STORES.—A campaign against exposure of foods outside of stores has been successfully carried on for several years and now there is little occasion for criticism in this respect.

HOSPITALS.

The hospital facilities for treatment of tuberculosis, scarlet fever, diphtheria, typhoid fever, and smallpox have already been mentioned under the heading of Communicable Diseases.

The St. John General Hospital is prepared to care for 125 medical and surgical patients in an old and badly crowded building. No doubt, as good work as possible is done under the unfortunate conditions.

The St. John Infirmary, conducted by the Sisters of Charity, is a much newer and better equipped general hospital with beds for fifty patients. A wing to accommodate eighteen maternity cases is soon to be opened.

The only facilities for maternity cases at the present time are provided by the Salvation Army at the Evangeline Maternity Hospital, where a good but somewhat limited work is done. The home for abandoned or orphan children connected with the hospital is filling an unfortunate need which every community is bound to feel, and the home should receive greater support.

Several other institutions, such as the Home for Incurables, Old People's Home, Children's Home, and the Provincial Hospital for the Insane, are located in or near St. John.

LABORATORY FACILITIES.

A small, poorly equipped laboratory was formerly conducted in the General Hospital by the Provincial Bacteriologist, who received a salary of \$500 per year. All examinations of specimens were made by him but, according to reports from about the Province, the arrangement gave poor service.

At the present time, there are no facilities whatever

for Public Health laboratory work in the city, but both the Provincial authorities and the local Board of Health have plans under way. Care should be taken to avoid duplication, and a single laboratory, to make examination of specimens from communicable diseases and of samples of water and milk, should be provided to do the work of both the city and the Province at large.

SANITARY AND PLUMBING INSPECTION.

Two inspectors are employed by the Board of Health, whose duties consist mainly in the prevention and abatement of nuisances, due largely to the lack of a city scavenger system. Another inspector has charge of the enforcement of the plumbing regulations.

HOUSING.

The problem of bad housing has received some attention, and the law providing for closure of insanitary and otherwise unsatisfactory buildings has been enforced in several cases with good results.

CHILD HYGIENE.

No attempt is made to do any work along the important lines of infant welfare and child hygiene except by the Salvation Army, mentioned above, and the Children's Aid Society, whose activities also consist mainly in caring for orphans and neglected and abandoned children.

ASSOCIATED ORGANIZATIONS.

St. John has a large number of other organizations doing charitable and welfare work, more or less directly connected with health. They are co-ordinated through a Bureau of Associated Charities, so that their activities may be most effective and shall not overlap. These consist of the Victorian Order of Nurses, the King's Daughters, Daughters of the Empire, St. Monica's Guild, and many others.

PUBLICITY AND EDUCATION.

The most important part of health work seems to have been most neglected in St. John. It has been the policy of the Health Officer to work along quietly, asking for little co-operation from the people and giving them little in the way of information or advice. This is the wrong attitude and should be changed as outlined in the recommendations. The confidence, interest and education of the public is necessary for Health Department's success.

RECOMMENDATIONS.

As a result of the foregoing study and after careful consideration of conditions, certain conclusions have been reached which have been made the basis of the following recommendations. It is not to be expected that all of these recommendations could be put into effect at once, nor can some of them be adopted without additional legislation by the Provincial authorities. They form a plan, however, which, if followed, would give the City and County of St. John modern and effective means for protecting health.

1. That the Chief District Health Officer be paid a salary consistent with the duties he is expected to perform and that he devote his whole time to the work.

2. That a typewriter be added to the office equipment and the secretary take some lessons in how to use it.

3. That certain changes be made in the system of filing records in the department; that card rather than book records be kept, particularly of the investigations of nuisances and communicable diseases.

4. That the Health Department be provided with an automobile for the use of the Health Officer and his staff.

5. That the Vital Statistics Law be enforced.

6. That the registration of births, marriages and deaths for the City and County be placed under the direction of the Chief District Health Officer.

7. That a so-called spot-map be used in the office to indicate the location of cases of the reportable diseases.

8. That more careful supervision over dwellings on the Loch Lomond water-shed be exercised and the land be purchased and the buildings removed as soon as possible.

9. That every effort be made to remove the remaining

300 privies in the city after giving the premises connection with the sewers.

10. That a municipal system for collection and disposal of garbage and other refuse, including stable manure, be inaugurated and placed in charge of the Public Works Department.

11. That so-called "dip milk" be abolished and that milk be allowed sold only in bottles or, for cooking or manufacturing purposes, only in unopened cans.

12. That all milk be graded according to dairy scores and bacteria counts.

13. That no raw milk be allowed sold except from tuberculin tested cows.

14. That the pasteurization of milk be encouraged and the standard for such milk be as follows: It shall be heated rapidly to 145 F. and held at that temperature for thirty minutes; it shall be cooled immediately to 50 F. or lower, and promptly bottled; and it shall contain not more than 50,000 bacteria per cubic centimeter when delivered to the consumer.

15. That better sanitary conditions be required in the public market and municipal slaughter houses.

16. That the present milk inspector be made a full time employee and that his duties be made to include the inspection of meat and the supervision of handling and sale of other food.

17. That the General Hospital be repaired and considerably enlarged and that provision for maternity cases be made there.

18. That laboratory facilities be secured either through the local or Provincial Boards of Health for making complete examinations of water and milk and for making diagnoses from proper specimens of diphtheria, tuberculosis, gonorrhoea, syphilis, typhoid fever and malaria.

19. That a refrigerator be provided for vaccine and that it also be used for a supply of diphtheria antitoxin and anti-typhoid serum, to be supplied free to those unable to pay, and at cost to any one else.

20. That suitable action be taken to control the disposal of manure and prevent the breeding of flies.

21. That the police department lend its co-operation by making it a duty of patrolmen to abate those nuisances which have no direct bearing on health, such as ash-heaps, or other accumulations of rubbish, unsightly matters in general, weeds, chicken-yards, bad odors and the like.

22. That proper regulations be adopted and enforced regarding the conduct of lodging houses and barber shops,

the discharge of smoke from chimneys and the use of drinking cups and towels in public places.

23. That the Board of Health, the Victorian Order of Nurses, the Children's Aid Society, the Hospitals, and all other organizations engaged in welfare activities co-operate in every way, so that the best work can be done with the utmost efficiency and the least overlapping and delay.

24. That to help accomplish the above results, the Chief District Health Officer be made a member of the Children's Aid Society and the Bureau of Associated Charities.

25. That a system of medical inspection of school children be adopted with a part time physician and a full time nurse in the employ of and under the control of the local Health Department.

26. That a trained nurse familiar with public health work be added to the staff of the Health Department, to inaugurate and carry out prenatal and infant welfare work.

27. That a campaign of publicity and education be carried on through the schools and the press, by means of exhibits, lectures and circulars of information, and that the important facts of hygiene and health be brought to the attention of the public in every possible way.

MONCTON.

Moncton is the second city in size in the Province, having an estimated population of 16,000. It is an important railroad center and is growing rapidly. Progressive work along health lines has been done here for some years and a low death rate is to show for it. During 1916, the cost of this work was \$1,610.10, exclusive of the collection of garbage.

VITAL STATISTICS.

Notes on the registration of vital statistics is Westmorland County are given under that heading in Appendix A. Marriages are well reported, but births poorly so. Death records are kept both by the Moncton Board of Health and the County Registrar, the former being by far the more accurate. They are regularly tabulated for the Board's annual report according to cause, age and sex, and are of considerable value. The duplication of work on death records is a waste of time and, in this particular

instance, has been a source of serious error to the county statistics.

COMMUNICABLE DISEASES.

GENERAL.—Diphtheria, scarlet fever, and measles are believed to be well reported by the physicians, and the necessary quarantine restrictions are put into effect. Careful inspection of plumbing and fumigation of school rooms certainly are of little avail in preventing the spread of disease, however. Tuberculosis cases are never reported.

TYPHOID FEVER.—The Board of Health has not enforced the prompt reporting of typhoid fever, because they were not aware that such reports were required. This makes it impossible to get much accurate information on this disease, which appears to be quite prevalent. The Secretary of the Board stated that he had located, by questioning the physicians, forty-five cases in 1916 and twenty-one cases in 1917, and that he believed these figures were complete. This is improbable, however, as during these years there were treated in the General Hospital thirty-two and nineteen cases respectively from the City of Moncton. These are large numbers for a city of this size, with presumably good water and sewer systems, and it is very unfortunate that more effort has not been made to locate the source of infection. Typhoid fever is the only communicable disease for which hospital facilities are available.

Good co-operation is received from the schools and the vaccination requirement is in force.

The fact that fourteen deaths in 1916 were due to whooping cough shows the need for control of this disease.

SANITARY ENGINEERING.

WATER SUPPLY.—The water supply of the city is obtained from reservoirs fed by two streams, having a combined drainage area of about nine square miles. The city is the owner of nearly 3,500 acres of this area, but several houses still remain on other sections at greater or less distances from the water courses. Owing to the bad

conditions of the roads, it was impossible to visit the water-sheds.

Thirty-four miles of mains make the water available to all parts of the city, and there are very few private wells now in use.

The water itself is decidedly colored and contains some sediment, especially in the spring of the year. It is necessary to use copper sulphate to prevent growths in the reservoir in the summer. The plan of treating the whole supply with chlorine is being seriously considered and should be adopted.

SEWAGE.—Twenty-two miles of sewers are laid in the streets and, largely owing to the activity of the Board of Health, almost all houses where connection is practical, have the sewer service. Discharge is into the tidal Petitcodiac River and is apparently without danger or offence.

GARBAGE REMOVAL.—Moncton is the only place in the Province where there is a public system of removal of garbage. It is dumped into the river and no nuisance appears to be caused. This work is in charge of the Board of Health and the cost in 1916 was \$2,299.59.

STREET CLEANING.—While Moncton has many well paved streets, small effort appears to be made to keep them clean and, at this time of year, the dust is almost unbearable.

FOOD SUPERVISION.

MILK.—The first milk regulation to be passed in the Province was that now in effect in Moncton. It provides for licensing of dealers, inspection of dairies, tuberculin testing of cows, and examination of samples of milk. The experience with the tuberculin test has been very interesting. At the start of the work, many cows were condemned, but all the infected ones have been apparently weeded out and none have reacted for the last four years. Dairy inspection is not thorough and no examination is made of the milk itself.

Most of the milk is bottled, and about 800 quarts per day are pasteurized. Several good evidences of the dan-

gers of loose milk were noticed in the form of uncovered and wholly unprotected receptacles containing milk, standing on the door-steps early in the morning. The pasteurization plant was inspected and it is suggested that certain radical changes will have to obtain before same will conform with new regulations governing such departments. The efficiency of pasteurization depends entirely upon the environment and methods employed in its production.

MEAT.—Butcher shops are frequently inspected and the slaughter house is visited from time to time.

HOSPITALS.

The Moncton Hospital is well-equipped, clean, and apparently giving good service. About fifty medical and surgical cases can be cared for.

LABORATORIES.

A small laboratory is for general use in the hospital, but no Public Health work can be done.

SANITARY INSPECTIONS.

The Board of Health employs a sanitary inspector who devotes most of his time to investigating complaints and supervising the collection of garbage.

Plumbing is carefully overseen by the secretary of the Board and the City Plumbing Inspector.

PUBLICITY AND EDUCATION.

Some little publicity work is done by the Board of Health. An excellent annual report is published in the local papers and reprints are given general distribution. Popular circulars on fly suppression, tuberculosis control, and garbage disposal have been delivered to all the houses in town and "DON'T SPIT" signs are posted in public places. This is good work.

RECOMMENDATIONS.

While the health of Moncton is much better looked after than in most places in the Province, there are several improvements that should be made and they have been suggested in the following recommendations.

1. That a more thorough investigation of the communicable diseases be made, to include determination of the milk supply, possible contact with missed cases, etc.; records to be kept on "history cards."
2. That reports of typhoid fever be required, and a special effort be made to locate its origin.
3. That tuberculosis cases be required reported and literature furnished to them.
4. That a hospital for treatment of communicable diseases be provided near the General Hospital and the authorities of that institution be placed in charge.
5. That every effort be made to remove the houses from the drainage area of the water supply.
6. That the city water be treated with chlorine.
7. That covered wagons be used for removing garbage.
8. That greater efforts be made to keep the streets clean.
9. That more thorough dairy inspection be practiced and milk samples be tested, at least for dirt.
10. That the pasteurization plant be thoroughly supervised.
11. That all milk be required delivered in bottles except to large consumers and then only in unopened cans.
12. That the publicity work be continued and made to include the schools.

FREDERICTON.

Fredericton, the capital of the Province, is the third city in size, having a population of about 7,500. There is a decided evidence of interest in Public Health affairs in this city, the Board of Health is active, and some really creditable work is being done with the relatively small appropriation of \$1,200 per year.

VITAL STATISTICS.

The criticism of the St. John and Moncton vital

statistics holds good here. Births are poorly reported, but death certificates are all sent in and carefully tabulated by the Board of Health and, to a certain extent, by the Divisional Registrar. Duplication of work and incomplete statistics will be remedied by the new law which has been recommended.

COMMUNICABLE DISEASES.

The communicable diseases are well reported with the exception of tuberculosis and measles; the former, it was stated, because of the opposition of the physicians, the latter, because often no physician is called. Typhoid fever, scarlet fever and diphtheria are treated in the Victoria Hospital and many patients go there. The average numbers of cases of diphtheria and typhoid fever, for the last three years, were forty-two and twenty-three, which are much too high for a district of this size.

SANITARY ENGINEERING.

WATER SUPPLY.—The water supply of the city is taken from the St. John River, passed through mechanical filters, treated with hypochlorite of lime, and pumped direct to the mains. Owing to mismanagement, the filter plant is somewhat out of shape and the reduction of bacteria, suspended matter, and color is not what it should be. The city is fortunate in having among its citizens Professor H. H. Hagerman, who for some time has been making frequent bacteriological tests of the water for the Water Department and the Board of Health. When the filters are operating properly, they can remove ninety-nine per cent of the bacteria and all visible color and solid material. The filtered water is then very good, for the raw water itself never shows evidence of heavy pollution. The filters cannot be run without skilled supervision and the plan to retain Mr. Hagerman to take general charge of the plant should be adopted at once. The water system is available to almost the entire city and it is thought that not more than six private wells are now in use.

SEWAGE.—In 1905 Fredericton installed an excellent sewerage system which now has 1,236 connections. The activity of the Board of Health has been largely responsible for its general use and no more than fifty houses now remain without the proper facilities. The sewage is discharged into the river about one mile below the water intake, too far to be of any danger of the water supply. The business of the Water & Sewer Department appears to be properly taken care of and, with certain changes in the management of the filter plant, the city will be well provided for in these two important respects.

REFUSE REMOVAL.—The city does not maintain a scavenger system, but garbage is removed by farmers under supervision of the Board of Health without appreciable offence.

FOOD SUPERVISION.

MILK.—A milk ordinance similar to that in effect in Moncton was adopted in 1912. All the requirements but the tuberculin test are carried out, and this is to be put into effect during the winter. Bacteria counts of milk made by Mr. Hagerman show the supply as a whole to be good and, when bad samples are found, the dealer is warned or, if necessary, the milk is excluded. This is the only place in the Province where this important work is done. The dealers and dairymen are supplied with copies of an excellent circular on the production of clean milk. Most of the milk is bottled, but some is still sold from cans.

HOSPITALS.

The Victoria Hospital, previously mentioned, is prepared to accommodate about forty patients in its general department, and eleven of scarlet fever and diphtheria in its communicable diseases ward. While the building is old, the equipment is good and the management apparently efficient and giving good service to the community.

LABORATORY FACILITIES.

At the Victoria Hospital is located a small, but effective laboratory, where disease specimens can be examined. This is of decided value to the city, but there is evidence that it should be more generally used, especially for diphtheria and typhoid fever. Mention has already been made of the facilities for the examination of water and milk.

GENERAL ACTIVITY.

Much attention is given to general nuisances by the inspector of the Board of Health but, owing to the small appropriation, nothing can be done along the very important lines of infant welfare, medical inspection of school children, or health education. The first of these activities in particular should be taken up, for the annual average of eighteen deaths of babies under one year of age is far too high for a city of this size.

RECOMMENDATIONS.

The following recommendations should be adopted to make the health work of Fredericton more effective and efficient. The small extra cost they will entail is by no means more than this city should pay. The present expenditure is about twenty cents per capita. Fifty cents is not extravagance.

1. That births be required to be reported.
2. That more adequate supervision of cases of communicable diseases be exercised and that complete records be kept on so-called "history cards."
3. That the physicians be required to report cases of tuberculosis, and that circulars of information be supplied for patients as provided by law.
4. That liquid chlorine be used to treat the city water instead of hypochlorite of lime as at present, and that it be applied after rather than before the water goes on the filters.
5. That Professor Hagerman be given supervision over the operation of the filtration plant.
6. That the houses not now served by the water and

sewer systems be connected as soon as possible.

7. That municipal collection of refuse be adopted.

8. That slaughter houses, and in fact all places where food is manufactured, handled, or sold, be carefully supervised.

9. That the tuberculin test regulation for all cows supplying milk be enforced.

10. That a limit of 75,000 bacteria per cubic centimeter be fixed as a maximum for milk as delivered to the consumer.

11. That all milk be required to be delivered in bottles except that to be used for cooking or manufacturing purposes.

12. That the public be aroused by every means possible to see the need for the demand "Better Babies," medical inspection of school children, and health education for everybody.

SUMMARY OF SANITARY CONDITIONS IN DISTRICTS VISITED.

DISTRICT.	Population.	Spent for Health last year.	Cents per Capita.	Vital Statistics.	Communicable Disease Control.	Public Water Supplies.	Public Sewage Disposal.	Food Supervision.	General Hospitals.	Laboratory Facilities.	Sanitary Inspection.
St. John City and Co.	65,000	\$9,400 00	15	Fair	Good	Good	Good	Fair	Fair	None*	Good
Moncton	16,000	* 1,600 00	10	Fair	Fair	Fair	Good	Fair	Good	None	Good
Fredericton	7,500	1,200 00	16	Fair	Fair	Good	Good	Good	Good	Good	Good
Rathurst	4,500	15 00	0.3	Good	Poor	Good	Good	None	Good	None	Poor
Chatham	4,500	300 00	7	Fair	Good	Poor*	Fair	Fair	Good	None	Good
Campbellton	4,500	125 00	3	Fair	Poor	Good	Good	Poor	Fair	None	Fair
Woodstock	4,200	250 00	6	Poor	Poor	Fair*	Good	Poor	Fair	None*	Good
Newcastle	3,500	30 00	1	Fair	Poor	Good	Fair	None	Good	None	Poor
Sussex	2,000	15 00	0.7	.....	Poor	Poor	Fair	None	None	None	Poor
Edmundston	2,600	170 00	7	Good	Poor	Good	None*	None	Good	Poor	Poor
Milltown	2,200	50 00	2	Fair	Fair	Good	Good	Poor	Good	Good	Fair
St. Stephen	3,500	50 00	1	Poor	Fair	Good	Fair	None	Good	Good	Fair
St. Andrews	1,100	25 00	2	Poor	Fair	Fair	Fair	None	None	None	Fair
Westmorland Co.	32,000	50 00	0.2	Poor	Poor	Fair	None	None	Good	None	Poor
Victoria Co.	15,000	300 00	2	Fair	Poor	Fair	None	None	None	None	Poor
Madawaska Co.	14,500	300 00	2	Good	Poor	Fair	None	None	Good	Poor	Poor
Queens Co.	12,000	.....	.....	.....	Poor	None	None	None	None	None	None
Restigouche Co.	8,500	100 00	1	Fair	Poor	Poor	None	None	Fair	None	None
Charlotte Co. ....	.....	.....	.....	Poor	Poor	None	None	None	Good	Good	Poor

*Improvements under way.

Note.—Data on Counties do not include Cities or Towns having Local Boards of Health.

SUMMARY OF TOWNS AND COUNTIES.

A general idea of the standing as to health conditions of any of the places visited in the survey can be secured by examining the table on the preceding page. The populations and expenditures were those given by the members of the Boards of Health interviewed and are as accurate as it was possible to get them.

EXPENDITURES.

The relative amounts of money spent per capita represent in a general way the interest in public health and the amount of work being done. In no instance was any intentional mis-appropriation of funds apparent, in fact what work is done is generally given with little complaint because of small or no reward. Among the towns, appropriations are hard to get, the councils appearing to think that economy is no danger to health. The county work is very seriously handicapped by what appears to be the general custom of the governing bodies of cutting all Board of Health bills in two or refusing to pay them altogether.

COMMUNICABLE DISEASES.

With very few exceptions among the towns, the control of communicable diseases is wholly inadequate and, in the country districts, there is practically no supervision at all. This is due, not alone to the laxness of the Boards of Health, but to the refusal of the physicians to report cases. St. John is the only place in the Province where reports of tuberculosis are made, and this same fact is practically true of typhoid fever. There are at present only ninety-three beds for tuberculosis patients in two hospitals in the Province, and the facilities for caring for scarlet fever and diphtheria are even poorer. Frequently the greatest activity of Boards of Health was found to be the misguided one of fumigating school rooms with sulphur.

SANITARY ENGINEERING.

All the towns of 2,000 or more population have public water supplies and sewer systems and, in general, they are good as might be expected in such a sparsely settled community. Shallow wells and open privies are the usual dangers in the rural districts.

FOODS.

The three cities and the town of Chatham are the only places making any claim to supervise the milk supplies, and not even they exercise any adequate control over meat or other foods.

HOSPITAL AND LABORATORIES.

The General Hospitals about the Province are as a rule good, but laboratories are badly needed.

SANITARY INSPECTION.

A little activity is noticed in connection with the abatement of nuisances even in some of the otherwise careless places, but the energy is generally spent in removing rubbish with little or no effect upon the Public Health.

THE REMEDY.

These conditions are, of course, very unfortunate, but almost inevitable with the present lack of understanding and interest in preventable disease. Much of this can be remedied if the recommendations contained under the heading of "The Plan for the Province" are carried out. The great needs in the country districts are assistance and education, and these are the gaps which the District Health Officers will be prepared and able to fill.

II. PROVINCIAL HEALTH ADMINISTRATION.

In making the investigation of the past and present methods of Public Health Administration by the central government of the Province, careful studies were made of the laws and the machinery for carrying them out. No relation now exists between the registration of vital statistics and the Provincial Board of Health and these subjects have been dealt with separately in the sections of the report which immediately follow.

PROVINCIAL VITAL STATISTICS.

THE LAW.

The Provincial Vital Statistics Act was passed in 1887 and is still on the books in practically its original form. While it is by no means a model law, it provides for the appointment of a Registrar General and Divisional Registrars whose duties are to receive and record certificates of births, marriages and deaths. The responsibility for reporting these events is distributed rather indefinitely among physicians, clergymen, parents and the general public. Fees of five cents for certificates for clergymen and ten cents for registrars are provided. Fines of fifty dollars for registrars and from one to twenty dollars for others are the penalties which may be imposed on those who "refuse or wilfully neglect to perform the duties required by the Act."

POORLY ENFORCED.

The law provides that the Registrar General shall have the Vital Statistics for the Province "arranged, indexed, bound, and kept" in his office, and that he shall publish a report each year. This was done in a very business-like manner for six years, from 1888 to 1893 inclusive, and the foundation for good registration was laid. During the first year the law was in effect, 8,983 certificates were filed, and, in 1892, the number had increased to 13,018. Little interest was apparently taken in the law, however,

nothing was done to enforce it, and the records were no longer arranged, indexed, or bound, and about all that can be said for them now is that they are kept. Large bundles of certificates scattered about the attic of the government building represent the Vital Statistics for the Province for twenty-four years. An idea of the way in which the law is enforced was secured when it was explained by the Registrar General that he had just received a consignment of records from a northern county, the first in eleven years.

RECORDS OF LITTLE VALUE.

It is needless to give more details or to explain that the statistics of births, marriages and deaths are of little or no value. This is no secret, for among the many Divisional Registrars visited, there were few whose records were in good shape, and fewer who made any claim to receiving complete statistics. These last were in the counties where almost all the population is Catholic and where the priests are very faithful about making their reports. In most parts of the Province it is not the custom of the physicians to send in any certificates of births or deaths whatever.

The birth and death rates per 1,000 population for 1916, as determined by the number of certificates received, are twenty-one and twelve respectively. It is very probable that the correct rates are more nearly twenty-seven and sixteen, which mean that about 2,100 births and 1,400 deaths for that one year are unrecorded.*

NEED FOR ACCURATE STATISTICS.

A remedy for this situation is obvious and necessary. Complete and accurate Vital Statistics are essential if any modern health work is to be done. Not only is that true,

*The birth and death rates for New Brunswick's nearest neighbors for 1916 were as follows:

	Maine	Quebec	Nova Scotia
Birth rate.....	20.5	36.0	25.1
Death rate.....	15.4	17.3	15.9

but the citizens of the Province have the right to expect their Government to be in a position to supply them with the records they may need at many important times during their lives. Birth certificates are frequently called for to prove legitimacy, to inherit property, and to establish identity. They may be required for a person to be allowed to enter school, to leave school for work, to vote, to marry, or to hold office. Records of death may be the means of securing inheritance, insurance and pensions. Arguments for proper Vital Statistics should be unnecessary at this time.

THE REMEDY.

There is at present a plan, proposed by the Dominion Statistician, under consideration for the adoption of standard methods of collecting Vital Statistics throughout the country. This plan is included in "Memorandum on the Establishment of a National System of Vital Statistics for Canada," and should be carefully studied before taking definite action in New Brunswick. The "Memorandum" includes a "Model Act Suggested as a Basis for Uniform Legislation in the Provinces of Canada," which, while it is somewhat lengthy and includes many features not found necessary for good registration in the United States, should certainly be considered.

It would be advisable to repeal the old law in this Province, which can be done simply by proclamation of the Lieutenant-Governor, as provided in an amendment, Chapter VI, Laws of 1901, and pass an entirely new one in its stead. The Census and Statistics officials of the Dominion would certainly give considerable assistance to the persons entrusted with the duty of drafting the new Act and of putting it into effect. It must not be forgotten, however, that even a good law will not enforce itself, and that the moral and legal force of the Government must be behind it in order that it may be a success.

PROVINCIAL BOARD OF HEALTH.

THE PUBLIC HEALTH ACT.

Provincial Health work was put in its present form by the passage of the so-called Public Health Act in 1911, which, with a few amendments, is still in force. The Act provides for a Provincial Board of Health of nine members, defines their powers and duties, and authorizes them to pass regulations on health subjects applicable throughout the Province. Detailed instructions are also given for Local Boards and Chief District Health Officers with regard to the control of communicable diseases, abatement of nuisances, inspection of foods, reports, appropriations and the like.

WORK DONE.

The fact that New Brunswick has not had good health administration is not due to the law, but to the fact that the law has not been carried out. The fixing by the Lieutenant-Governor of the salary of the Secretary of Provincial Health Board, who is ex-officio Chief Executive Officer, at the small sum of \$500.00 per year, in itself prevents any possibility of effective work being done. The minutes of the meetings of the Board since 1910 are on file. They show, at the beginning, intelligent interest on the part of the members and efforts to establish a Provincial Laboratory in the University of New Brunswick and medical school inspection throughout the Province are on record. No results are reported, however. Very little business appears to have been done at the one or two meetings per year since 1912. The Secretary was authorized to write to the other Provinces to secure information. "with a view of passing legislation inculcating the teaching of sanitary methods on the part of the people of the Province," and to get advice regarding Vital Statistics. No reports on these communications appear.

The Board has now practically ceased to exist, as six of the members' terms have run out and their successors have not been appointed. The Acting Secretary has only

the three ex-officio members to advise him and to receive his reports. There is now apparently little connection between the Provincial and the local Boards of Health, as only four districts have forwarded any monthly lists of communicable diseases and only two Health Officers have sent in their quarterly reports during this year.

LEGISLATION.

An idea of the indifference to health conditions can be secured by examining legislation since 1911. There appears to have been little call for improvements to the Health Act, as only four amendments were passed, two of which were of little importance. There are, however, in the statutes many laws on other subjects such as these:

"Protection of woods from fire." (1914)

"Protection of sheep from dogs." (1917)

"Regarding tuberculosis in cattle." (1914)

"For the suppression of infectious and contagious diseases among bees." (1915)

"To prevent the introduction and spread of insects, pests and plant diseases, destructive to vegetation." (1913)

LOCAL REPORTS.

The Health officials themselves show their lack of concern by the nature of the reports they are willing to receive from the various districts, which are published regularly every year. Such enlightening information as the following can be read there.

"Since my last report, few cases of diphtheria appeared, resulting with few deaths."

"About eight deaths from typhoid, as far as I can find out."

"Owing to the delay in obtaining the books, which were in the possession of the late chairman, the custom of issuing burial permits and keeping a mortality record was stopped."

"Cases of measles and tuberculosis are not reported by physicians as a rule, and the former disease has been quite extensively epidemic."

"Early in May there was an outbreak of diphtheria in a part of the district, evidently caused by bad drainage."

"I have received from Mr. stationery and other literature for Health District No. . . . They have been laid away where they have become grimy and dirty. Kindly forward me a new supply."

"Our City has been engaged in removing thousands of loads of old block pavement and surface earth, all of which must be saturated with disease germs; also the laying of several thousand feet of water lines and sewers, putting in catch basins, etc., causing the excavation of much earth. All these conditions are considered favorable to typhoid or more commonly known as creating typhoid conditions."

"Filth always breeds disease."

"The other parts of the county have been more or less infected, I cannot say to what extent, as the M. D.'s are very careful not to report to our Board as the law directs."

"Your Board has no opportunity of dealing with individual cases of this disease (tuberculosis), as they are never reported by the physicians until the fatal termination."

A glimpse at real conditions can be had occasionally, however, by such revelations as these, all from small towns or rural districts.

Whooping cough	10	deaths
Typhoid fever	8	"
Diphtheria, 50 cases	4	"
" 33 "	5	"
" 50 "	6	"
" 40 "	4	"

"Whooping cough was quite prevalent during the spring and summer months and was of more than ordinary severity. The "Angel of Death" visited some fourteen homes as a result of this epidemic."

To arrive at an accurate knowledge of the infant death rate would be very interesting, as this is the most reliable index of health conditions. The only figures available are for Madawaska County, where births and deaths appear to be fairly well reported. During 1915 and 1916, 280 babies under one year of age died in that county alone. These represent forty-seven per cent of the total deaths and a rate of 188 per 1,000 births. This rate is far too

high and represents a terrible waste of life. It is to be hoped that these figures are not representative of the entire Province, but there is no way of knowing, because of the absolutely unreliable and incomplete records. Could a detailed study be made, it is very probable that many more disgraceful things would be found, and it is most unlikely that the claims of certain Provincial advertising matter would be found true, i. e., that New Brunswick "possesses a climate of exceptional healthfulness, and there is no country in the world that is more free from epidemic diseases or where people live to a greater age." Real conditions can be uncovered and remedied only by a well equipped and efficient PROVINCIAL DEPARTMENT OF HEALTH.

JORDAN MEMORIAL SANITARIUM.

The one bright spot in the Provincial Health work is the Jordan Memorial Sanitarium for treatment of early cases of tuberculosis. Only thirty patients can be cared for at one time but, during last year, 105 were treated in the institution, and the record of fifteen apparently arrested, eighteen apparently quiescent, and thirty-eight improved, is good, especially when it is considered that more than half were moderately advanced when they were admitted.

It is unfortunate that such an institution as this is not made to serve more people. At a relatively small increase of expenditure a much larger number of patients could be handled with results equal to those now being obtained. Thirty beds for the service of the whole Province, where there are probably 2,500 cases of tuberculosis continuously and 500 deaths per year, seems almost absurd.* It is a good thing that the military authorities are providing extra facilities for returned soldiers at the Jordan Memorial and St. John hospitals for, as has been pointed out in

*In the "Registration Area for Deaths" in the United States the death rate for tuberculosis in 1914 was 147 per 100,000 population. There are certainly five, and possibly twenty-five, active cases for each death.

another connection, tuberculosis from this source will soon be one of the greatest problems that this country will have to face.

The influence of this sanitarium should be broadened, and cases from all parts of the Province urged to come. This could be done by holding clinics in other places similar to those now conducted monthly in St. John, Moncton, and Fredericton, where patients are examined by the superintendent of the institution and their fitness for treatment determined. The educational value of such clinics is very great, as they enable local physicians to learn the best methods of diagnosing tuberculosis and also serve to give publicity to the sanitarium. Every effort should be made to correct an impression which exists in some localities, that the sanitarium is only for the rich. The prices charged, from one to two dollars per day, if widely advertised, should be enough to correct this mistake.

Tuberculosis is being successfully cured, and the persons whose lives have been saved by this institution are not only a great financial asset to the Province, but they are missionaries who go back to their homes prepared to teach the message of hygiene and health to their friends. This is by far the most constructive and valuable work that can be done, and Dr. Townsend and his well managed and successful institution should receive all possible encouragement and support.

III.—THE PLAN FOR THE PROVINCE.

Enough has already been shown of the shortcomings of the old system and, rather than criticise further, it seems best now to present a plan which, if followed out, will give the Province up-to-date Public Health Service. The work will require new laws, capable officials and money, which are discussed in detail below. Without these, progress is hopeless.

It should be said here that it is not expected that this plan can be put into operation all at one time. It may take months and years before the big machine is complete, running smoothly, and doing its entire work. This report is aimed to be more than a preliminary one, one that may be used as a text for a long time. With this explanation, it is hoped that the plan which follows will not be criticised as being theoretical, or impractical, or too costly, for it is not, provided its working out is gone about in the right way.

LEGISLATION.

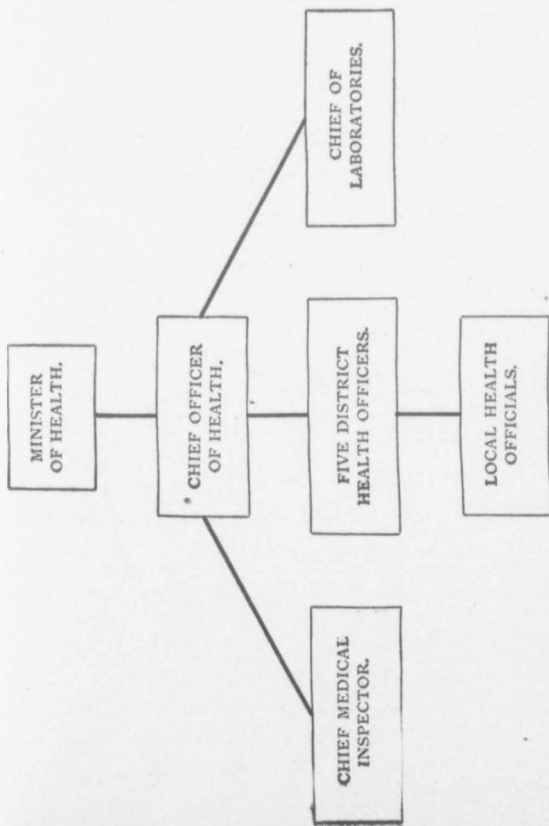
It is not the purpose of a report of this kind to draft new legislation. It is scarcely necessary to say that the old laws are not suited to a plan such as is here proposed, and the simplest thing would probably be to erase them altogether and pass new ones, possibly along the line of what is now known in the United States as a "State Sanitary Code." A careful study of the prescribed duties of the new Department as outlined in this report will suggest the necessary subjects for legislation. This work will require time and much thought and should be the first duty of the new Chief Executive.

The question of laws regulating Vital Statistics has already been discussed and what was said there applies to the general health laws as well. A move is now on foot under the direction of the Canadian Public Health Association to establish a Health Department of the Dominion and to standardize the work of the Provinces. This includes a plan for uniform laws, and New Brunswick

would do well to support the movement and be represented at the conference soon to be held for its consideration.

ORGANIZATION.

The following diagram shows the proposed organization for the new work. Each unit is discussed in more or less detail and an effort made to make the powers and duties of all the officials clear.



MINISTER OF PUBLIC HEALTH.

The difference in the form of government of the Canadian Provinces and the American States would probably make it difficult to adopt in New Brunswick the now popular "Department of Health" with its "Commissioner" and "Advisory Council." The Public Health is certainly of sufficient importance to be considered by the Government and it should be put on a par with the other divisions by the establishment of a Ministry of Public Health. The Minister might, in addition to supervising the disease preventive work with which this report mainly deals, have control over the Government's relations with curative work in the form of hospitals, charitable organizations and the like which, in some instances, now appear to have rather indefinite connection with the Provincial authorities. Quite large sums of public money are spent by some institutions, and there seems to be no reason why they should be under a different kind of control than the schools, public works or agriculture.

Particular attention should be given to two points in planning the management of this new Department:

1. The power of legislation now possessed under the law by the Provincial Board of Health, and made a great point of in the new State organizations, should be preserved. The authority to pass regulations with all the strength of law and without delay is of the utmost importance in effective Health Administration.

2. Politics should be as far removed from this Department as it is possible to make them. Nothing is so destructive to able plans and efficient work along this particular line, as the changing policies and uncertainty of appropriations so frequently found in our present system of party government.

CHIEF OFFICER OF HEALTH.

A trained, well-paid executive should be put in charge of the work. This man should be chosen particularly for his breadth of training and experience, for he will be obliged to give attention to the details of many branches

of his Department. It has been the experience of many places, at least in the United States, that a physician is not essential in a position of this kind, and that the so-called Sanitarian, trained in sanitary engineering and public health problems, is a better administrator and business manager than a doctor of medicine, who has made no special study along these lines.

The duties of this Chief Officer of Health are outlined in the diagram on the next page.

The deplorable condition of the registration of the Vital Statistics in the Province and the need for improvements have been emphasized in this report many times and requires no further comment. It is the best and most modern practice to have this work under the direction of the Health Department.

There is need for supervision of foods, especially meat and milk. This work would naturally be done on a small scale at first and could be attended to by the Chief Health Officer.

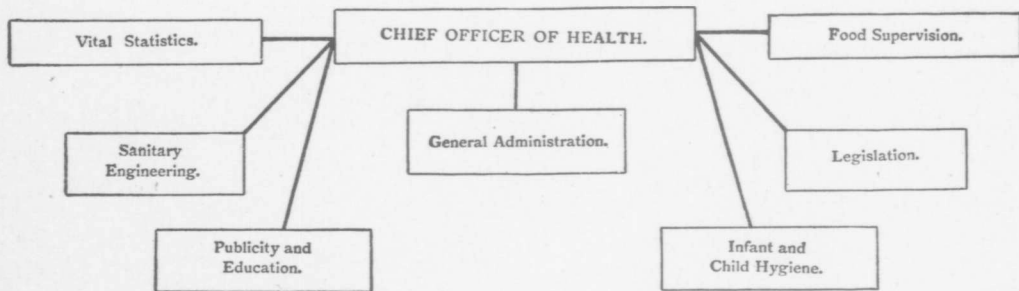
The importance of new legislation has already been discussed and its direction would be one of this officer's chief duties.

In the reports of water supplies and sewerage systems of the Province, the need for supervision has frequently been noted. This is particularly true of Fredericton, Woodstock, Edmundston, Dalhousie and Sussex. If plans in connection with municipal sanitation had to be passed on by an expert at headquarters before any work could be done, considerable expense and danger would certainly be saved many localities.

Because the greatest duty of Provincial Health Departments is education, and it is upon that that the success of the other activities depends, this subject is treated in considerable detail below.

EDUCATION.

HEALTH OFFICIALS.—Opportunity must be provided for local health officials to learn the outstanding facts of



public health, such as the sources and modes of infection of the common communicable diseases, the principles of Vital Statistics, the real need for pure water and proper sewage disposal, how food may carry disease, and why the modern call is to "Save the Babies." They should be made to know that it is more important to remove adenoids and tonsils from a child than ashes from his back yard, and that it is better to fill decayed teeth than sunken land. The fear of a manure pile should be founded on the flies it breeds rather than on its bad smell, and the explosion of the sewer gas theory of disease should be explained.

Provision should be made for giving information of this kind to the people who need it most — those whose duty it is to enforce the health law — either by correspondence or, better, by lectures and actual contact with the central health organization. The object to be sought is a future when no one will be allowed to serve as a health officer or sanitary inspector without having some training of this kind, and when Local Boards of Health, consisting of men wholly ignorant of the New Public Health, will be the exception rather than the rule.

THE SCHOOLS.—The schools are the logical places to spread the gospel of good health, and this opportunity has, up to the present, been practically neglected. It is true that so-called "Health Lessons" and "Physiology and Hygiene" are prescribed for teaching in the public schools, but an examination of the text books used, shows them to deal, in the main, with the structure and operation of the body and only to a very small degree with community health and how to keep well.

In addition to improved courses in the regular curriculum, the Provincial Health Department should co-operate with the school authorities in carrying on a propaganda campaign in which the parents of the children would be included. Health exhibits, health days, and health talks can be a part of the annual program in even the most remote districts.

Particular emphasis should be laid on the Normal

School, and lectures by an expert of the Provincial Department should be a regular thing, as the teachers are the missionaries who carry the knowledge into the land. It was encouraging to learn that the Superintendent of Schools of the Province is heartily in sympathy with work of this kind, and the amount of work which can be done with his assistance among the 2,000 schools and 73,000 children will be invaluable.

THE PROVINCE AT LARGE.—The ways of spreading the news about health are many, the newspaper being one of the best. Health columns could probably be arranged for in all the papers of the Province and they would be almost as good reading and much more profitable than the sections set aside for the quack doctors, patent medicines, and jokes which do no harm.

Moving pictures on health subjects can be obtained and used in connection with the programs in the regular houses of entertainment.

A Provincial Health Bulletin to go regularly to Boards of Health, physicians, school teachers, clergymen and others could be made to do much good.

The finding in this investigation of great ignorance of infant care, especially among the mothers of the rural districts, with the resultant sacrifice of many baby lives, suggests the particular need for education along this line. The Provincial Department should prepare simple, printed instruction in prenatal and infant care to be given away by physicians and to be sent to the parents of all babies whose births are registered with the Bureau of Vital Statistics. Of even greater value would be to send such information to all women whose marriages are reported to that bureau as required by law. It was suggested in the northern part of the Province that the Church could probably be a great help in saving the babies by allowing conferences for women to discuss the subject with qualified physicians on Sundays after the regular service. This plan should certainly be followed out.

Education is the greatest thing in promoting the public health, and no opportunity to advance it should be neglect-

ed. It is the foundation for work of the newer kinds such as infant welfare, and control of tuberculosis and venereal diseases.

CHIEF MEDICAL INSPECTOR.

A Chief Medical Inspector should be appointed to have supervision over the strictly medical problems connected with the work. The diagram on the next page shows the duties of this official.

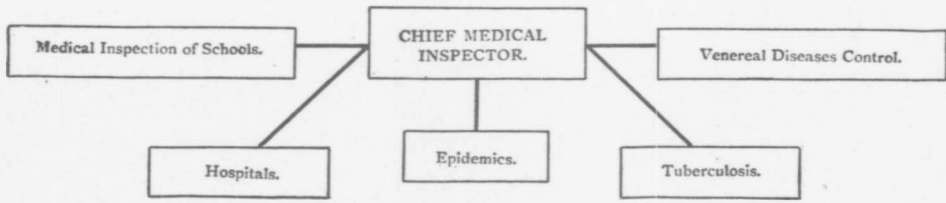
The importance of the medical inspection of school children has already been touched upon. It has been discussed in the Province upon several occasions but, with the exception of a few futile attempts, nothing whatever is now being done. Whether the actual work should be paid for and the details directed by the School or the Health Departments is not now certain, but the general supervision of the plan should be one of the chief duties of the Provincial Medical Inspector.

Venereal diseases should be made reportable, and clinics and hospitals for diagnosis and treatment provided. Tuberculosis, at the present time, is not amenable to control in the Province, for where the cases are, is not known. The reporting laws must be enforced, the seriousness of these diseases acknowledged, and every possible action taken to prevent and treat them in a modern manner.

The local health officials should have assistance when epidemics occur. Frequently epidemics are of Provincial and not only local concern. The need for active epidemiological work can very well be seen in the present outbreak of smallpox, where there is no full time man to take charge and only untrained local officials, with little authority and no money, on whom to depend.

CHIEF OF LABORATORIES.

A laboratory expert is essential. The call from the private physicians for pathological and serological work could be met by the Provincial Laboratory, and the fees charged for examinations not strictly of a public health



character, would probably make this division self-supporting.

The duties of the laboratory are shown on the next page and need no discussion. In addition to making the actual examinations, the laboratory might be of great service in training men to do similar work and in supplying local laboratories with culture media, chemicals, and the like at cost.

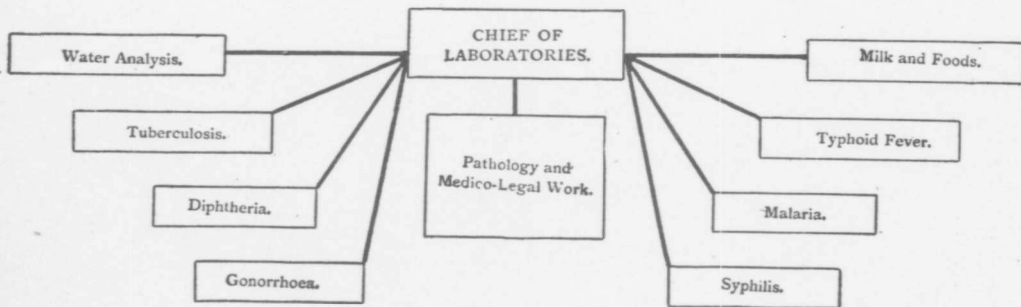
DISTRICT HEALTH OFFICERS.

The direct connection between the actual public health work in the local communities and the central organization can be made by the appointment of District Health Officers. These should be medical men with some knowledge of the principles of preventive medicine, should be residents of their respective districts, and should devote their entire time to the work. They should be appointed and paid by the Provincial Department of Health, in this way making them entirely independent of local politics, petty jealousies, and the many things which now cause the health work of the small communities to be so ineffective.

The number and location of these Provincial districts would have to be determined after careful studies of population grouping, transportation facilities, etc. It does not seem as if there should be less than five of these districts, and they might well be bounded by county lines. The division of the Province, as outlined on the map on page 5, will serve as a suggestion of what this arrangement should be.

The powers of the District Health Officers should be very definite and inclusive. Their authority should be such as to enable them to enforce any local or Provincial Health Regulations or Laws and through them the central authorities should be able to compel action by any local Board of Health.

The Health Officers' duties would be many. They would include rural medical school inspection, dairy and food supervision, sanitation of farms and country villages, control of communicable diseases and education. This



would not be in place of local work but in conjunction with it and Boards of Health should be made to feel that these men were their advisors and assistants, not their substitutes.

The appointment of the District Health Officers by the Government, as suggested, and the selection of the Chairmen of Local Boards of Health in the same manner as at present, should give the Provincial Department such control over the various districts that effective work could certainly be done.

LOCAL HEALTH OFFICIALS.

It would not seem advisable to change the existing system of appointment of local Health officials, at least for the present. The supervision of health should be, in the main, in the hands of the people most concerned, assisted, or compelled if necessary, by the agents of the Central Government.

THE COST.

The working out of all the details of this plan can be done only by the Chief Executive when he gets on the ground, but a rough estimate of the cost of the Central Organization for the first year is given.

1. Chief Officer of Health	\$3,000
2. Chief Medical Inspector	2,500
3. Two District Health Officers..	3,000
4. Laboratory Division:	
*Salaries	5,000
Equipment	2,500
5. Publicity and Education	3,000
6. General Administration	2,100
7. Epidemics	1,000
8. Traveling Expenses	1,000
9. Vital Statistics Clerk	1,000
10. Stenographer and Clerk	900
	\$25,000
Total	

*These sums have already been appropriated. As has previously been stated, the laboratory division will have an income which will pay some, and perhaps all of its expenses

It will be noted that this estimate does not cover all the subjects mentioned as the duties of the Department and that only two District Health Officers have been provided for. Through the means of education, many of the problems will at first have to be met. The local work will naturally develop slowly, and two field agents with the Chief Medical Inspector can probably handle it for a time.

When expenditures are given their relative values, the amount of this estimate is small. The accompanying table shows some comparative expenditures in the Province for the year 1916.

SOME PROVINCIAL EXPENDITURES, 1916.

Public Works.....	\$349,849.72
Education.....	290,941.30
Provincial Hospital (Insane).....	94,385.62
Agriculture.....	46,617.42
Executive Government.....	45,852.89
Fish, Forests and Game.....	33,800.35
Administration of Justice.....	23,512.92
Health —	
Jordan Memorial Sanitarium (Cure)	37,839.30
Twelve other Hospitals	10,000.00
Prov. Health Depart. (Prevention)	1,962.82

NOTE: These figures are from the "Report of the Auditor General on the Public Accounts for the Fiscal Year ending October 31, 1916."

The total expenditures for the year were over two million dollars. That for prevention of human disease was less than two thousand dollars. Only one-tenth of one cent of every dollar was used for this important purpose.

The proposal to devote to the Public Health less than that spent for fish, forest and game; one-half of that for agriculture; one-twelfth of that for education; one-fourteenth for Public Works, should not seem like extravagance. If prevention is better than cure, at least as much money should be spent for that purpose, but \$117,000

less is being asked for Health than was spent out of the Provincial treasury last year toward the support of hospitals. Seven cents per capita is not a heavy charge to the people of the Province for protection of their health.

The annual expenditures of other Canadian Provinces for Public Health work are of interest and are as follows:

Ontario.....	\$131,000
Saskatchewan.....	62,000
Quebec.....	55,000
British Columbia.....	50,000
Alberta.....	24,000
Nova Scotia.....	6,000*

The funds for carrying on the Provincial Public Health work should be secured in two ways—from the general taxes and by a direct tax to cover certain local services rendered. The salaries of the District Health Officers, for instance, should be secured in this latter way, and it may seem advisable in the future to include the employees of the individual Boards of Health in a similar plan. The finances of the work of the entire Province will thus be controlled from the central office.

IV.—SUMMARY.

An investigation of health conditions in New Brunswick shows that, except in the three largest communities, very little so-called Public Health work is done. Vital Statistics and other records are in a most deplorable state, and few actual facts relating to the health of the people can now be obtained. There is evidence, however, that epidemics of communicable diseases of children are relatively common and cause many deaths. Tuberculosis is prevalent but poorly cared for, and the infant mortality rate, at least in some places, is very high.

The Provincial Government, while having the legal power, has done almost nothing to remedy conditions. The registration of Vital Statistics has been discouraged, the

*Salaries only.

Board of Health has had no money, information, or interest to work with, and has done little aside from trying to control smallpox epidemics. The Jordan Memorial Sanitarium for treatment of early cases of tuberculosis is almost the only constructive work now under way.

A plan for the establishment of a Provincial Department of Health on modern lines will require new laws, capable officials and money, and must be unhampered by politics. The greatest need is for a propaganda of popular education, and the means of carrying this on are many. Provision for laboratory facilities, medical school inspection, adequate control of communicable diseases, and supervision over sanitary engineering should be made at once. The estimated cost of the work for the first year is \$25,000, which is a small sum when compared with other Provincial expenditures and when consideration is given to the good it can certainly do.

CONCLUSION.

It is quite evident that New Brunswick is ready for real work of this kind to begin. In hardly a single instance in my talks with many people in all parts of the Province did I find even indifference to the plan. Invariably the attitude of the Government on the matter was commended, and there was some sentiment of complaint that it had not been taken up before. It is matter of common knowledge that New Brunswick is far behind the times in the question of health promotion and disease control, and this in itself is cause for some dissatisfaction.

I feel sure that no more suitable time for action by the Government has ever occurred. The great war and its demands for conservation, with the awakening knowledge of the people to that fact, make standing still in matters relating to health not only unwise, but almost impossible.

The collection of the material necessary for making up this report was done under the most favorable and pleasant circumstances. I was met everywhere with the greatest courtesy and all possible assistance was given. I wish to

take this opportunity to thank His Honor The Premier, The Hon. Wm. F. Roberts, Dr. George G. Melvin, Chief Health Officer of St. John, and Dr. R. M. McGrath, Secretary of the Provincial Board of Health, for their interest and support, and also the many Provincial and local officials, and private citizens as well, who have made this work possible. I trust that what I have been able to add in the way of friendly criticism and suggestion may be of real value to the Government and the people of the Province.

Respectfully submitted,

JOHN HALL.

East Orange, N. J., December 1, 1917.

V. APPENDIX.

A—NOTES ON TOWNS AND COUNTIES.

The following collection of notes on conditions found in the towns and counties is not of itself essential to this report, but is added here to serve as a foundation for the new work when it is begun. By a study of these notes, the Chief Officer of Health and his staff can familiarize themselves with local conditions with a completeness otherwise impossible except by making a tour of the Province similar to the one in which this information was secured.

BATHURST.

MR. CHALMERS, CHAIRMAN.

POPULATION—4,500.

SPENT LAST YEAR.—\$15.

VITAL STATISTICS.—All for county kept together. Registrar says he believes returns are very nearly complete. All sent in by clergymen.

Births: 1915, 1,453; 1916, 1,385. Deaths: 1915, 608; 1916, 746.

Deaths under one year, 1916, 300, = 40% = 217 per 1,000 births.

COMMUNICABLE DISEASES.—Physicians report cases to Board of Health very poorly. Typhoid and tuberculosis never reported, although there are some cases of these diseases in town. Cases that are reported are investigated by Dr. Veniot, secretary. Fumigation is done by the people where cases occur. No hospital facilities for communicable diseases except typhoid. Very little vaccination. Not enforced by schools.

SANITARY ENGINEERING.—Water and sewer systems have been in two years. Water supply from brooks and springs impounded in reservoir and pumped to mains. Good supply; no chance for pollution except possibly by slaughter house on water shed.

Water and sewer available to almost everybody in town, but only slightly over half the houses are connected.

No move to force people to connect. No water analyses since system was completed. Sewage discharged to river beyond low water. No nuisance.

No town system of refuse removal. Chief of police does a little sanitary inspection and forces clean up in spring.

FOOD SUPERVISION.—None.

HOSPITALS.—General Hospital donated by Jas. H. Dunn and supported by town, county, and province. Fourteen beds for general cases. Place clean and apparently satisfactory.

LABORATORY FACILITIES.—None whatever.

CHILD HYGIENE.—Three inspections of school children per year by Dr. Veniot. Examination for scabies, impetigo, and sore throat. If anything is wrong, child sent home.

RECOMMENDATIONS.

That the Board of Health meet occasionally. (No meeting since re-organization in May.)

That reports of diseases be insisted upon and proper supervision given.

That vaccination be required before children are allowed to enter school.

That the slaughter house be removed from the water shed.

That everybody be compelled to connect their houses with the town water and sewers.

That milk and other foods be supervised.

That laboratory facilities be provided for the hospital and town also, if possible.

That school medical inspection be continued and made more thorough.

CHATHAM.

DR. G. H. VAUGHN, CHAIRMAN.

POPULATION.—4,500.

SPENT LAST YEAR.—\$300.

VITAL STATISTICS.—(See Newcastle.) In addition to the county statistics, records of deaths are kept by the Chatham Board of Health. A permit is required for all burials and it is believed that all deaths are reported. They are tabulated according to age, cause, etc., at the end of the year.

COMMUNICABLE DISEASES.—Diphtheria and scarlet fever are well reported. Typhoid fever and tuberculosis are not so. Isolation hospital in town now being taken over by the Board of Health. Equipment is at hand for treating cases but has not been touched for many years. Planned originally for smallpox but can be used for other diseases very well. Inspector investigates cases reported, **leaves printed quarantine regulations** and enforces quarantine as provided by the Provincial Law.

Vaccination is poorly carried out. Efforts to have schools enforce law have so far been unavailing. Board will vaccinate poor people free.

SANITARY ENGINEERING.—Water supply from stream just out of town. Water pumped from small reservoir into mains. New dam being built which will increase storage considerable. Several houses on water shed. Town owns none of the land and does not supervise shed, but danger of contamination, except from cultivated fields, considered slight. Water somewhat colored and quite turbid after rains. Analyses only for chemicals.

Water and sewers available to most of town but only about sixty per cent of houses are connected. Rest use springs and privies. Sewage satisfactorily disposed of in Miramichi River. No attempt to compel property owners to connect although springs are probably polluted and privies are a nuisance.

FOOD SUPERVISION.—Dairies are inspected. The milk is tested for fats every two months. A dirt tester is being purchased. Cows were tuberculin tested two years ago and will be done again soon. To be tagged this time. Nine farmers deliver their own milk. In spite of precautions, some is still very dirty. Butcher shops and restaurants are inspected. No meat inspection. An attempt to have this done was unsuccessful because town council refused funds. No foods are exposed outside of stores.

ISOLATION HOSPITAL.—Previously mentioned. General hospital Hotel Dieu conducted by Sisters of St. Joseph. Well equipped clean accommodations for forty-five medical and surgical patients. Small laboratory for hospital use.

LABORATORY FACILITIES.—None for public health work.

SANITARY INSPECTION.—Done by inspector who has had experience with Board of Health of Lowell, Mass. Salary, \$150 per year. He does good work.

REMARKS.

Board of Health has frequent meetings and is doing the best it can with little support and small appropriation. At least \$500 should be given for this work.

Isolation hospital should be fixed up and used without delay. Some arrangement for it to serve as a county communicable disease hospital should be made. It is only five miles from Newcastle and could be used by that town easily, if the proper arrangements might be made.

The vaccination law should be enforced by the schools.

Everything possible should be done to remove possible sources of contamination from the water-shed, preferably by purchase of the land by the town. Every owner of property along the lines of the water and sewers should be compelled to connect. If water continues to be colored and turbid and if, upon examination, it proves questionable, it should be filtered or treated.

Milk supervision should be rigid and that which is dirty excluded from town. The cleanly handling of all foods should be required.

Health articles should be run in the local papers.

The work here has a good start under Dr. Vaughn's direction and with some encouragement and support could be made very effective.

CAMPBELLTON.

DR. L. G. PINAULT, CHAIRMAN.

POPULATION.—4,500.

SPENT LAST YEAR.—\$125. Sanitary Inspector, \$75; Secretary, \$50.

VITAL STATISTICS.—(See Restigouche County.)

COMMUNICABLE DISEASES.—Control poor. Physicians report cases to Secretary of the Board of Health who keeps no records. About eighteen cases of diphtheria in last year. Few of typhoid and measles. No tuberculosis or scarlet fever reported. No investigations made, all facts secured from physicians. Quarantine kept until physician says case is well, then house is fumigated. No fixed period of quarantine. Diphtheria cases out in five days sometimes. No hospital facilities except for smallpox and typhoid.

SANITARY ENGINEERING.—Water supply from springs and lakes in the hills three miles from town. The town owns 200 acres of land on the water-shed and it was said there is no opportunity for pollution. Gravity supply to town. No treatment. Water has not been analysed for seven years. About ninety per cent of the population uses the town water. Five per cent could connect but have private wells. The remainder are beyond reach of the pipes.

Sewerage system covers nearly whole of town and is quite generally used. Board of Health is compelling those who can to connect. Outfall pipes at several places, into deep water in the river and no nuisance or apparent danger is caused.

No system of removal of garbage and rubbish.

FOOD SUPERVISION.—Good milk ordinance put into effect in 1916. Two inspections of dairies have been made. Veterinary now employed as milk inspector but has done no work yet. Dealers used to be licensed but are not now. No inspection of places where milk is bottled, and only one examination of a sample was made last year. Milk was suspected of causing a typhoid outbreak but no careful investigation was made and the source remained undetermined.

Slaughter houses are kept from becoming a nuisance, but no inspections are made of meat or stores.

HOSPITALS.—(See Restigouche County.)

LABORATORIES.—None.

SANITARY INSPECTIONS.—An old man at \$75 per year makes inspections for general nuisances, posts placards on quarantined houses, etc.

EDUCATION.—Some newspaper publicity is given to health on special occasions, such as epidemics.

RECOMMENDATIONS.

Better supervision and control of diseases. Provincial quarantine law should be enforced.

Enforce milk regulations and inspect stores and other foods.

Have one man, paid an adequate salary, do work now poorly done by three men.

WOODSTOCK.

DR. GRIFFIN, CHAIRMAN.

POPULATION.—4,200.

SPENT LAST YEAR.—\$250.

VITAL STATISTICS.—Poorly kept in books badly indexed. No entries in books since June, 1917. Only seventeen births recorded in 1916; marriages 120. This registration is for the entire county. Births and deaths poorly reported.

COMMUNICABLE DISEASES.—No records of any value available. Secretary of Board hasn't written up minutes since June 22, and has no account of diseases and deaths. Inspector (painter \$100 per year) makes investigations and quarantines. Typhoid fever taken in General County Hospital, smallpox in "Pest House." No provision for other communicable diseases.

SANITARY ENGINEERING.—Water used raw from river. Has high color and, at times of freshet, much turbidity. Filter plant being built, to be finished in the spring. The experience of Fredericton should be taken advantage of so as to avoid mistakes of construction and operation. Supervision and check on bacteria removal should be done in co-operation with Fredericton. **This is important.**

Sewage goes direct to the river. Almost all houses are connected with the water and sewers. Board of Health is forcing as many as possible to connect.

No town collection of refuse except in clean up time.

FOOD SUPERVISION.—Some bacteria counts made of milk supplies but samples had to be sent to Montreal. Only two dealers in town. About seven dairies. No inspection of dairies or bottling plant. This could be done at small expense.

Slaughter house is inspected but not stores or kitchens.

HOSPITALS.—County hospital takes general cases only. Financial support comes from town, county, and province. The building is not well kept up or clean.

LABORATORY.—None available for anything. One being equipped in the hospital by physicians. Nobody knows just what work will be done. It is doubtful if anybody has time or is qualified to do public health work such as diphtheria, typhoid, tuberculosis, etc.

SANITARY INSPECTION.—Done by Board's inspector who is interested and wants to learn.

RECOMMENDATIONS.

Vital Statistics and Board of Health records should be improved.

Communicable diseases should be better reported, more careful investigations of cases made, and an isolation hospital provided for.

The new water filtration plant should have expert supervision.

Dairies, milk bottling plant, meat, food stores, and hotel kitchens should be supervised.

The general hospital should be improved and kept clean.

Education and assistance from the Provincial Department of Health would do a great deal of good here.

NEWCASTLE.

MR. GEO. STABLES, CHAIRMAN.

POPULATION.—3,500.

SPENT LAST YEAR.—\$30.

VITAL STATISTICS.—Those for county all kept together. Registrar says he thinks they are quite complete. He requests reports from all clergymen twice a year. Books well kept, but reports come in very late and the years are badly mixed. Reports for two years as follows:

Marriages: 1915, 293; 1916, 238. Births: 1915, 1,141; 1916, 1,106. Deaths: 1915, 405; 1916, 490. Population, 32,000.

Causes of deaths are generally given and there do not appear to be unusual numbers of infant or tuberculosis deaths. Indexes to books are not kept up.

COMMUNICABLE DISEASES.—Diphtheria and scarlet fever are the only diseases reported. Chairman of the Board of Health posts a placard and removes it when the physician says so. No investigation or effort at disease control. No hospital facilities except for typhoid.

SANITARY ENGINEERING.—Water comes from two artesian wells six inches in diameter and about 250 feet deep. Pumped to reservoir. System covers town pretty well, and there are few private supplies in use. No examination has been made of the water in eleven years.

Sewer system does not serve the whole of the town but

is being extended. Discharge of the sewage into the Miramichi River but not into deep water. No nuisance caused. No effort made to compel property owners to connect and quite a number of privies are still in use.

FOOD SUPERVISION.—None. Chairman says some of the cow stables in the town are filthy, and some butcher shops and food stores are in bad shape.

HOSPITALS.—Miramichi Hospital, built and equipped by Mr. Hutchinson, is well equipped, clean, and apparently doing very good work. Provision for fifty medical and surgical patients. Typhoid is the only communicable disease taken. Some support from the Province and town.

LABORATORY FACILITIES.—None.

SANITARY INSPECTION.—A little done by the Chief of Police.

REMARKS.

No public health work worthy of the name is done in Newcastle. The Board of Health has had no meeting in two and one-half years, and no records are kept. The Chairman says he never saw the health laws and does not know what his powers are. Complete re-organization is necessary.

Communicable diseases should be supervised and a hospital for their treatment provided. (See Chatham.)

Sewers should be extended and all houses along the lines be forced to enter.

Laboratory facilities should be provided in the hospital and work done there for the town.

SUSSEX.

A. E. PEARSON, CHAIRMAN.

POPULATION.—2,000.

SPENT LAST YEAR.—\$15.

VITAL STATISTICS.—Registrar not located here and it was impossible to see him or to examine his books. Physicians do not report births or deaths.

COMMUNICABLE DISEASES.—Physicians do not report cases to the Board of Health. Only one case of scarlet fever on record for the whole year. Little investigation made and the physician determines the period of quaran-

tine. Board has an undertaker to do the fumigating, but what he uses is not known.

Vaccination of all children before entering school is believed to be enforced. No reports of suspicious cases from schools because of fear of incurring the displeasure of parents.

SANITARY ENGINEERING.—Water supply from a small stream, pumped to a reservoir on a hill. It was impossible to make an extensive inspection of the water-shed but this was unnecessary. About 200 yards above the pumping station seven houses are located all having privies in the rear. Six of these privies are within 150 feet, and one is within twenty feet of a brook flowing into the main stream. A hen house is situated directly on the bank. Nine cows and one horse were out to pasture in a meadow through which the main stream flows. About one-half mile beyond a farm house and outbuildings are located only a short distance up a steep slope from the stream.

It is evident that no precautions are taken to protect the water supply which must be considered not only unsatisfactory, but positively dangerous.

About three-quarters of the population use the town water and one-half the sewers. Sewage is discharged into the river apparently without offense. Many privies and cesspools are still in use.

FOOD SUPERVISION.—None.

HOSPITAL.—None.

LABORATORY.—None.

SANITARY INSPECTION.—The chairman of the Board of Health does what little seems to be called for.

EDUCATION.—Articles are published in the paper on special occasions such as epidemics or when unusual nuisances occur.

REMARKS.

Health work in Sussex is practically nil.

Attention should be given to the water supply at once. The privies mentioned should be removed and the other sources of pollution discontinued. The water from the stream, if it must be used, should be filtered or treated with chlorine or an epidemic of some kind will certainly come sooner or later.

This is a good example of the need for Provincial supervision over local affairs.

EDMUNDSTON.

DR. SIMARD, CHAIRMAN.

POPULATION.—2,600.

SPENT LAST YEAR.—\$169.25. Salaries, \$35; five diphtheria cases, \$134.25. Total spent by town, \$18,000.(?)

VITAL STATISTICS.—(See Madawaska County.)

COMMUNICABLE DISEASES.—Diphtheria has been prevalent for the last few years and is about the only disease reported. Antitoxin was furnished by the town during the epidemics. All cultures had to be sent to St. John.

SANITARY ENGINEERING.—Water supply from wells fifty feet deep, 500 feet from the Madawaska River. Pumped to mains and stand pipe by steam and electric pumps. Water is filtered through a natural sand bed from the river and is ample in amount. No analyses since installation in 1911, but the water seems satisfactory.

A stable and large manure pile drain into a marsh directly over the well. A new sewer runs overhead and empties into the river 500 feet below. New town sewerage system will discharge about 1,400 feet below. The river is to be dammed, backing it up considerably.

A private water system across the river supplies twenty-five houses. Water comes from well, sanitary conditions unknown. Very few private wells are now in use in the town.

New sewers to serve entire territory west of Madawaska River and will relieve present conditions caused by privies and cesspools. No regulation as to removal of contents.

FOOD SUPERVISION.—None.

HOSPITALS AND LABORATORY.—(See Madawaska County).

SANITARY INSPECTION.—A little is done by the Board members.

CHILD HYGIENE.—A real attempt appears to be made at medical school inspection. Sometimes more than once a year all school children are examined for scabies and bad teeth. Those with skin diseases are sent home. It is hard to get dental work done as the only dentist in town has been drafted.

RECOMMENDATIONS.

Better reporting and supervision of diseases.
The stable and manure should be removed so as not to

drain into the marsh over the town well. Careful investigation should be made of the proposed discharge of sewage from the paper mill and the town into what will virtually be a lake from which the water seeps into the well. At times of low water this may become serious.

Private water supplies should be examined and, if polluted, closed and the users compelled to connect with the town water. This should be analysed.

Foods should be supervised as far as possible.

The laboratory at the hospital should make examinations for typhoid and diphtheria.

School inspection should be made to include tonsils and adenoids.

MILLTOWN.

DR. W. E. GRAY, SECRETARY.

POPULATION.—2,200.

SPENT LAST YEAR.—\$50.

VITAL STATISTICS.—(See Charlotte County). Local deaths are all reported to Secretary of the Board of Health, who issues burial permits and files certificates.

COMMUNICABLE DISEASES.—Secretary of the Board is the only physician in the town. None of about fifty cases of measles were reported to him nor were his services called for. In seven years there has been no typhoid fever or diphtheria, and the last case of scarlet fever was four years ago. No hospital facilities except for typhoid.

SANITARY ENGINEERING.—(See St. Stephen for water supply.)

Sewer system is good. Discharge direct to river. About ninety per cent and seventy-five per cent of the houses are connected with the water and sewers respectively.

FOOD SUPERVISION.—None except to try to keep the cow stables in town clean.

HOSPITALS AND LABORATORY.—(See St. Stephen.)

EDUCATION.—Two lectures have been given by Dr. Gray to the Parent-Teachers Association.

SANITARY INSPECTION.—An inspector gets \$25 per year for abating nuisances.

DR. GRAY SUGGESTS:

A workable Health Act and assistance from the Provincial Department to local Boards. District Health Officers would be very valuable. They should be full time men. A practising physician should not be expected to do Public Health work.

There should be a real Vital Statistics Act which would require physicians to report births and deaths within one week. No fees ought to be paid, and physicians should be fined if they do not comply.

REMARKS.

The sewers should be extended to take in all portions of the town, especially the school, which now has no connection.

Health conditions seem to be exceptionally good in Milltown. While Dr. Gray is a very well-informed and earnest man, it would be difficult for him to do much effective work because of the peculiar situation he is in, being the only available physician. The inspector or some other member of the Board should do the work, possibly under Dr. Gray's direction.

ST. STEPHEN.

DR. J. D. LAWSON, CHAIRMAN.

POPULATION.—3,500.

SPENT LAST YEAR.—In 1916, \$122.55; last twelve months, \$50.00.

VITAL STATISTICS.—Kept by County Registrar in St. Andrews. (See Charlotte County).

Burial permits must be secured from the chairman of the local Board of Health, but he keeps no records.

COMMUNICABLE DISEASES.—Diphtheria and scarlet fever believed to be well reported. Very few cases lately. Typhoid not so well reported but no cases originate in town. Measles and tuberculosis not reported at all. Chairman or inspector visits cases and quarantine is enforced. Little investigation and no records kept. No hospital except for typhoid.

SANITARY ENGINEERING.—The water supply for St.

Stephen, Milltown, and Calais, Me., is obtained from a large dug well about four miles from St. Stephen. The well is twenty feet deep in gravelly soil and is situated in a sparsely settled territory. Water is pumped to the mains, and a concrete reservoir of one million gallons capacity serves for pressure and storage. The water is analysed monthly by the Maine State Health Department, but no records were available. The water is very generally used in the town and there are few private wells.

The sewers are quite generally accessible but the system is poor. Public and private sewers empty into the St. Croix River, some discharging directly on the banks.

FOOD SUPERVISION.—None. The chairman of the Board of Health made an effort, about two years ago, to start a milk inspection system. Regulations were passed and a form for licensing dealers was prepared, but the attempt received no support and it was dropped.

HOSPITALS.—Chipman Memorial Hospital can accommodate seventy-two general and eight maternity cases. Surgical and laboratory work is done.

LABORATORY.—Dr. Gray has a private laboratory in the hospital where bacteriological and pathological work is done for fixed charges; diphtheria, sputum, gonorrhoea, etc., \$1.00; Blood count, \$5.00.

SANITARY INSPECTION.—A little work is done by the inspector employed by the Board of Health at \$50 per year.

REMARKS.

The chairman is active and interested and would do good work if he had support. He wants St. Stephen made a separate registration district for Vital Statistics.

The sewer system should be improved by putting in connecting lines so that discharge could all be made into deep water at a few points.

The work of the Board of Health should be made more effective.

ST. ANDREWS.

DR. J. A. WADE, MEMBER.

POPULATION.—Winter, 1,100; three months in summer, 1,400.

SPENT LAST YEAR.—\$25.

VITAL STATISTICS.—(See Charlotte County).

COMMUNICABLE DISEASES.—Believed to be well reported but very few occur. No scarlet fever or diphtheria in a year, and no typhoid in two. Strict quarantine when diseases occur. Schools enforce vaccination law.

SANITARY ENGINEERING.—Water supply for C. P. R. Hotel Algonquin also used by several private houses but only in summer. Plans for extending supply to the whole town. This water comes from lakes in the country.

Sewerage facilities are available to a part of the town. Discharge into river. Extension of system is planned.

FOOD SUPERVISION.—None.

HOSPITAL AND LABORATORY.—None nearer than St. Stephen.

SANITARY INSPECTION.—What little is necessary is done by members of the Board.

REMARKS.

St. Andrews is a small place, appears to have very little communicable disease, and no great health problems. A District Health Officer could probably supervise matters here satisfactorily and little change in the present organization would be necessary.

Water and sewer facilities should be extended and some attention given to foods.

WESTMORLAND COUNTY.

(Except Moncton.)

DR. L. N. BOURKE, CHAIRMAN.

POPULATION.—32,000.

SPENT LAST YEAR.—\$50.

VITAL STATISTICS.—All reports are from clergymen. Only Catholics report well. Marriages only records thought complete.

Births: 1915, 815; 1916, 801. Deaths: 1915, 596; 1916, 670. Marriages: 1915, 353; 1916, 379.

The Moncton Board of Health death records are well kept and complete. The county death figures are inaccurate, for it was the custom of the previous Registrar to copy the Moncton records in his book regardless of whether

the names had been entered before or not. There are, therefore, many duplicates.

COMMUNICABLE DISEASES.—Doctors do not report cases to the County Board of Health, in spite of threats of prosecution. As a result, practically nothing is known of the status of communicable diseases. No quarantine is enforced in most cases.

SANITARY ENGINEERING.—Sackville and Moncton have the only water supplies. Sackville believed to be safe. Special report on Moncton. See page 17.

FOOD SUPERVISION.—None.

HOSPITALS.—(See Moncton.)

LABORATORY.—None.

REMARKS.

Practically nothing is done by the county Board of Health. The Chairman says there have been few meetings because there was no need for any. He thinks the physicians should be compelled to report cases of communicable diseases and is heartily in favor of the Government's plan for a new Department of Health.

VICTORIA COUNTY.

DR. EARLE, CHAIRMAN.

POPULATION.—15,000, largely rural.

SPENT LAST YEAR.—\$300; total spent by county, \$14,642.80.

VITAL STATISTICS.—Neatly kept in books by the County Sheriff.

Births: 1915, 129; 1916, 133; 1917, 13. Deaths: 1915, 44; 1916, 51; 1917, 3. Marriages: 1916, 83.

These records are almost all sent in by priests. Registration is much better than in some places, but only marriages are anywhere near complete. No index to books, and causes of deaths are poorly given and frequently omitted altogether.

COMMUNICABLE DISEASES.—Local physicians quarantine and investigate their own cases. Board of Health members fumigate. Recent secretary has moved away and no

records can be found. They are of little value, as meetings are seldom held and few cases are reported. Previously there has been very little incentive to do any work as bills were not paid. The new chairman says he plans a better organization.

SANITARY ENGINEERING.—Water supplies for Perth and Andover from small streams believed to be well protected. This water is generally used where it is available. Grand Falls water from St. John River and there is considerable typhoid there. Sewers, where any, discharge direct to river. Many cesspools and privies.

FOOD SUPERVISION.—None, except slaughter house at Perth, which is bad.

HOSPITALS.—None. General patients will be taken at Woodstock.

LABORATORIES.—None.

SUGGESTIONS FROM DR. EARLE.

County should be directly taxed for health purposes, and administration placed in charge of the Provincial Department. An annual conference of Provincial and local officials should be held.

The Vital Statistics blanks now in use are too large to handle easily.

The Provincial laboratory should do health examinations free and others at a moderate charge.

REMARKS.

This county work, like all others, needs considerable improvement and supervision. The need for popular education along health lines is evident.

MADAWASKA COUNTY.

DR. LAPORTE, CHAIRMAN.

POPULATION.—17,000, including Edmundston.

SPENT LAST YEAR.—\$300.

VITAL STATISTICS.—Records since 1908 available. Previous ones burned.

Births: 1915, 750; 1916, 753. Deaths: 1915, 302; 1916, 293. Marriages: 1915, 121; 1916, 154.

Records neatly kept in book but are not indexed. Reports are believed to be nearly complete as almost the entire population is Catholic and the priests make faithful reports. No reports are received from physicians.

Causes of death as given are not reliable. Many stated as "unknown," "sudden death," "headache," "cough," "debility," etc. Large number of certificates give no cause whatever. It is impossible to get any idea of tuberculosis, typhoid or other problems from this source. If the physicians were required to make out the certificates this condition would be somewhat improved, although many deaths are said to occur without any physician being called.

The following data on infant deaths for two years are significant.

DEATHS UNDER ONE YEAR:

Total deaths, 1915, 302; under one year, 146; per cent total deaths, 48; per 1,000 births, 195. Total deaths, 1916, 293; under one year, 134; per cent total deaths, 46; per 1,000 births, 178.

Dr. Simard says a large number of these baby deaths are due to intestinal disorders caused by ignorant mothers. The only remedy is education, and he suggests conferences after church and simple literature printed in French. This might be sent out after all returns of marriage certificates. Physicians would use the literature, but conferences are best.

COMMUNICABLE DISEASES.—Only typhoid fever in the county to amount to much is at St. James, where it is epidemic every summer. Polluted wells are believed to be responsible. Diseases are poorly reported. Tuberculosis never. Chairman has secured assistance of two physicians in the county to do Board of Health work instead of the laymen members. County system of control followed. Difficulty in collecting money for service rendered hampers the work. No records of diseases are kept.

SANITARY ENGINEERING.—No water or sewer systems besides Edmundston.

FOOD SUPERVISION.—None.

HOSPITAL.—General hospital conducted by the Sisters of the Hotel Dieu of St. Basile—St. Joseph Hospital. Excellent facilities for forty-five patients. Good operating room, whole place spotlessly clean, and excellent care apparently given. Typhoid fever only communicable disease taken. Provision for isolating any cases of com-

municable disease which may break out among the children of the school.

LABORATORY.—Small one at hospital not much used. Sputum and urine examinations made, but none for diphtheria or typhoid fever.

DR. LAPORTE SUGGESTS:

Medical school inspection should be adopted. Experience in some voluntary work shows scabies, impetigo, and insanitary conditions are prevalent.

Laboratory facilities are much needed.

A District Health Officer could do good work here.

QUEENS COUNTY.

DR. HAY, of Chipman, MEMBER.

POPULATION.—12,000.

SPENT LAST YEAR—Unable to learn.

VITAL STATISTICS.—Registrar located at Gagetown and therefore could not be seen. Physicians never report births or deaths.

COMMUNICABLE DISEASES.—Physicians report very few cases to the Board of Health and frequently fail to establish any quarantine. Board members fumigate when they know about cases. There is relatively little typhoid in the county, but tuberculosis is quite common.

SANITARY ENGINEERING.—There are no public water or sewer systems in the county.

FOOD SUPERVISION.—None.

HOSPITALS.—None.

LABORATORIES.—None.

REMARKS.

There is no health work done in the county. The Board has never had a meeting, at least in twenty-five years. Conditions such as these could best be handled by a supervising District Health Officer.

RESTIGOUCHE COUNTY.

DR. DOUCET, CHAIRMAN.

POPULATION.—13,000, including Campbellton.

SPENT LAST YEAR.—\$100.

VITAL STATISTICS.—Births: 1915, 690. Deaths: 1915, 231; 1916, 267.

All reports are sent in by clergymen. Records are neatly kept but they are badly mixed and there are no indexes since 1911. They are probably fairly complete, as a large proportion of the population is Catholic. Causes of death generally given. Tuberculosis and infant diarrhoea are prominent. In 1915, twenty deaths under one year from the latter cause are recorded for one month.

COMMUNICABLE DISEASES.—No reports ever received from physicians except in case of an unusual epidemic. Scarlet fever more prevalent than diphtheria. Nothing is done by the Board of Health along any line as far as could be discovered. The chairman is apparently ignorant and certainly in different.

SANITARY ENGINEERING.—Only public water supplies are at Campbellton and Dalhousie. Campbellton has only sewer system. See page 48, and special report on Dalhousie water supply, Appendix B.

FOOD SUPERVISION.—None.

HOSPITALS.—Hotel Dieu at Campbellton, conducted by Catholic Sisters, takes general cases. No surgical or laboratory facilities. About forty beds. Clean and apparently well conducted and doing as good work as far as facilities allow.

REMARKS.

County Board of Health is useless and should be reorganized without delay.

CHARLOTTE COUNTY.

MR. J. D. GRIMMER, EX-CHARIMAN, interviewed.

POPULATION.—21,000 (including four towns.)

SPENT LAST YEAR.—Unknown.

VITAL STATISTICS.—Kept most neatly and in best

shape of any seen in the province. Registration of births and deaths is very poor, however, as can readily be seen from the following figures. Marriage records believed complete.

Births: 1914, 52; 1915, 33; 1916, 20, 1917 (to date) 107. Marriages: 1914, 232; 1915, 222; 1916, 211; 1917 (to date) 177; Deaths: 1914, 71; 1915, 54; 1916, 40; 1917 (to date) 60.

COMMUNICABLE DISEASES.—Poorly reported by physicians and little attention is given to supervision.

SANITARY ENGINEERING.—No water or sewer systems outside the towns. (See St. Stephen, Milltown, and St. Andrews.)

FOOD SUPERVISION.—None.

HOSPITAL AND LABORATORY.—(See St. Stephen.)

SANITARY INSPECTION.—Very little done by Board of Health.

REMARKS.

Like all other County Boards visited, this one does very little and needs supervision. This is the chief duty of the proposed District Health Officer.

**B—SPECIAL REPORT ON THE WATER SUPPLY OF
THE TOWN OF DALHOUSIE.**

THE HONORABLE WM. F. ROBERTS,
St. John,
New Brunswick.

DEAR SIR:—

At your request I am submitting herewith a report of my investigation of the water supply of Dalhousie.

This supply is received from two sources, a stream at some distance from the town and a well within the town itself. The purchase of this well about two years ago for use as a supplement to the town supply was the occasion for some scandal in which there were charges of bad politics, graft, and illegalities of various kinds. Of greatest concern to the town was the fact that the well was badly located and might become a danger to health.

In 1915 an investigation was made by Dr. B. M. Mullin, then secretary of the Provincial Board of Health, and his findings are stated in the annual report of his Board. While he condemns the most insanitary surroundings of the well, his only recommendations are that the various privies, pig pens, and stables in the vicinity be cleaned and that a Board of Health for Dalhousie be formed. The first of these suggestions was carried out, but beyond that nothing was done. The water from the well was pumped into the mains with the result, it is claimed, that the formerly good supply was changed to a turbid, ill-smelling, and bad tasting one.

There are no records of communicable diseases in Dalhousie. The physicians never reported cases to the County Board of Health. It is said that previous to 1916 little, if any, typhoid fever originated in the town. In the summer of that year there appears to have been several cases, and during August and September of this year, a large number. Accounts differ on this point, the chairman of the County Board of Health claiming there were six or eight, the Mayor of the town that there were four or five, and Dr. A. G. Ferguson that over thirty occurred. The last named gentleman states that twenty-five cases in two months have been under his care.

Opinion differs also on the use of the town water. Dr. W. D. Doucet, the County Health Board chairman, states that the well was not pumped during the summer and, anyhow, that all the typhoid cases got their water from private wells. The Mayor, Mr. W. S. Montgomery, says

that the well water was delivered into the town mains for only two or three days during the summer and then after all the persons had been taken sick. Dr. Ferguson, on the contrary, claims that to his personal knowledge the well was pumped several times in July, August, and September, that the epidemic began about the middle of August and still continues, and that all of his twenty-five patients used water from the town supply. Another evidence of the existence of a typhoid epidemic was secured from the Catholic Hospital at Campbellton, where the Sister in charge mentioned the fact that a large number of cases from Dalhousie had recently been treated there.

Whether or not the water from the town well caused an epidemic of typhoid fever in Dalhousie is impossible to say. It is easy to understand how that might have been possible, however, and to state with every degree of certainty that the continued use of the well water will endanger the health of the town. The well is located on a gentle slope in slightly marshy ground. Within a radius of 200 feet there are at least one cesspool, five privies, two pig pens, and a cow stable, several of which are above the level of the ground at the well. The nearest privy and pig pen—about fifty feet distant—are closed temporarily. Although the well is fifty feet deep, it cannot be considered as safe from these sources of pollution. If the statement, made by Dr. Ferguson, is true, that several nearby wells and one privy go dry whenever the town well is pumped, the evidence against it is all the stronger.

It is probable that the ground in the vicinity is so saturated with faecal matter and other filth that the thorough cleaning and complete removal of all the sources of pollution would not remedy the condition. This cannot be done, as the houses, presumably, will continue to be occupied and there are no sewer facilities. The only action to be taken for the safety of the community is to make it impossible for the water from the well to be used for the public supply. The mains should then be thoroughly flushed as they probably contain a considerable accumulation of filth. If additional water is needed, now is a good time to look for it, because there is no danger of a drought until next summer.

Owing to the absolute incompetence of the Restigouche County Board of Health and the apparent desire of the chairman to overlook or hide a serious matter, action should be taken by the Provincial Health authorities.

The Law—Sec. 81 of the Public Health Act, 1911—states that no money shall be raised for the operation or extension of any water works unless the approval of the Provincial Board of Health has been obtained. Not only was no permission ever obtained to spend money for the well, but the representative of that body said, "with such unsanitary conditions existing as pointed out, there is continuous menace to public health * * * and undoubtedly will exist until conditions are remedied." There is no evidence that the conditions have been remedied. Furthermore, Section 16 of the above mentioned Act provides that when a local Board of Health fails to do any duty, it may be done at the expense of the local Board by the Health Board of the Province.

This matter should receive prompt attention.

Respectfully submitted,

JOHN HALL.

Newcastle, N. B., November 11, 1917.

C — NEWSPAPER COMMENT.

It was the wish of the Government that as wide publicity as possible be given to the Survey, and the purpose and progress of the work were reported to the newspaper offices in nearly all the places visited. It was impossible to secure copies of all the papers containing the articles, but the clippings which are attached are quite representative. It is of interest to note that the editorial comment is invariably favorable and the Government is frequently commended for taking up this important work.

(St. John 'Times-Star' and "Telegraph.")

HE WILL MAKE A HEALTH SURVEY OF THE PROVINCE.**EXPERT ARRIVES IN THE CITY TO BEGIN STUDY OF CONDITIONS IN PROVINCE — WILL SUBMIT REPORT TO PROVINCIAL GOVERNMENT.**

A survey of health and sanitary conditions throughout the province is to be undertaken immediately as a preliminary step towards the establishment of a health department as a branch of the work of the provincial government. John Hall, a man of wide experience in this work, has been retained for the purpose and now is in the city ready to make a start. He will devote three or four weeks to the work of the survey and then will prepare a report dealing with conditions as they now exist and as they should be and outlining the methods by which the change in conditions could be effected.

The pressing need for more systematic efforts to safeguard the health of the province was emphasized by Hon. Dr. W. F. Roberts in his pre-election campaign and the new government is committed to action along this line. It has been the intention to establish a special department for this purpose and the survey now being undertaken will prepare the way for the formation of the department.

In pursuance of this idea Hon. Dr. Roberts visited New York about a month ago and there conferred with Dr. Herman Biggs, health commissioner for the State of New York, and one of the greatest authorities on public health, who recently was selected to conduct a tuberculosis investigation in France. After discussing the matter with Dr. Biggs, it was decided that the first step towards the achievement of the provincial government's plans should

be a survey of existing conditions and Dr. Biggs recommended Mr. Hall for the work.

Mr. Hall is a graduate of the Massachusetts Institute of Technology in sanitary engineering and public health. Since his graduation he has been engaged with the sanitary engineering divisions of the public health boards of New Jersey, Massachusetts and Maryland. For the last four years he has been engaged in municipal health work, first in Long Branch and now in East Orange, N. J. He is a member of the American Health Association, the New Jersey Sanitary Association, the New Jersey Health Officers' Association and of the American Association for the Study and Prevention of Infant Mortality. His training and experience have given him an excellent equipment for the work he is carrying on here and the fact that he comes recommended by Dr. Biggs is itself a guarantee of his standing in his profession.

After spending a few days in St. John studying local conditions and the work of the local board of health, Mr. Hall will leave for Fredericton to confer with the secretary of the provincial board of health and other officials. From Fredericton he will start on a tour of the province, visiting all the larger centres and as many of the smaller places as he finds possible.

Some of the matters to which Mr. Hall will pay special attention include the activities of the provincial and local boards of health, the public control and protection of food, milk, slaughter houses, cleanliness of stores, the existence of communicable diseases and methods of dealing with them, medical and sanitary conditions in the schools, public water supplies and sewage disposal.

In addition to the matters which must be dealt with by the authorities directly, Mr. Hall believes there is a great field for public health work through the process of education, a work which can be carried on very effectively through the public schools as well as through other channels.

In his study of public health work, Mr. Hall has been impressed by the successful way in which the provinces of Ontario and Saskatchewan are carrying on this work and he sees no reason why New Brunswick should not be equally successful in dealing with health problems. While the work of a provincial board is of the utmost importance the close co-operation of the local boards is essential to success in this work and his report will deal with both branches of activity. In his report he will state the result of his investigation of conditions in the province and will

outline a plan for the work of the proposed health department to perfect and extend the work now carried on. He will also submit an estimate of the number of officials required for the work and the approximate cost to the province for an adequate organization, its equipment and expenditures.

Mr. Hall has been greatly impressed with the interest and enthusiasm of Hon. Dr. Roberts and Premier Foster and regards their interest as a most favorable indication for the success of the work here. Yesterday morning he met Dr. G. G. Melvin the local health officer, and from the opportunity he had to learn of the health work carried on in St. John, he was greatly pleased with the start already made.

THE PUBLIC HEALTH.

As the first step toward the formulation of a progressive public health policy the provincial government has decided to have made a sanitary survey of the province. Hon. Dr. Roberts is heartily supported by the premier and his colleagues in his desire to adopt a public health policy worthy of an intelligent province. Naturally the first step is to make such a survey as is now to be undertaken. Dr. Roberts on his recent visit to New York went into the whole question with leading health authorities, and as a result Mr. John Hall, of Orange, N. J., has come to St. John and will at once enter upon the work. An interview with Mr. Hall in today's Times gives further information, which will be of universal interest. The Foster government does well to give its careful attention to this subject. New Brunswick has too long lagged in the background in regard to matters pertaining to public health.

DOCTORS APPROVE SURVEY.

At the monthly meeting of the St. John Medical Society, held at the county hospital last night, Dr. Hall, of Orange (N. J.), who is making a health survey of this province, addressed the meeting. The president, Dr. W. F. Roberts, was in the chair. Mr. Hall talked on the work that he is doing in this province. During his talk he highly commended the activity of the board of health of this city and also the effective water and sewerage service. Dr. H. A. Ferris, of the county hospital, then addressed the meeting on tuberculosis work in St. John. Dr. Ferris showed about six advanced cases to the doctors to the meeting, and explained and exhibited a number of

X-rays and charts. Dr. Ferris made an urgent appeal for the use of the X-ray for tuberculosis work. Many of the doctors present also spoke on tuberculosis and the work that Mr. Hall is doing in the province. At the conclusion of the addresses refreshments were served in the dining room which was very prettily and tastefully adorned with Hallowe'en decorations.

(St. John "Standard.")

THE SANITARY CONDITIONS ARE INVESTIGATED.

JOHN HALL IN THE CITY MAKING INVESTIGATIONS —
ASSISTED BY DR. MELVIN OF BOARD OF HEALTH —
TOURING PROVINCE IN INTEREST OF GOVERNMENT.

John Hall, who is in the city making a survey of the health and sanitary conditions here, as well as throughout the rest of the province, has been busy the last two days investigating conditions. On Monday he spent the day with Dr. G. G. Melvin of the Board of Health, going over the work that has been accomplished by Dr. Melvin's department. While with Dr. Melvin the tuberculosis situation in the city was thoroughly discussed.

Later in the day Mr. Hall had a consultation with Dr. T. F. Johnson, milk and dairy inspector, and was shown by him his method of getting samples of milk for analysis and interesting data was obtained concerning milk licenses, etc. During the day he also discussed with Dr. Melvin a plan for the establishing of a municipal laboratory in the city.

Mr. Hall also went on a trip of inspection around the city with Dr. Melvin. The question of the closing up of uninhabited houses was discussed and several uninhabited houses, and houses that were about to be opened, after having been renovated and cleaned up, were visited.

Mr. Hall also accompanied Commissioner Wigmore to the Loch Lomond water supply station where an investigation of the water shed was made.

J. B. Jones, registrar of vital statistics, kindly allowed Mr. Hall to go over all his records and vital statistics.

Mr. Hall made a tour of the hospitals in the city yesterday including the isolation. He will leave this morning for Fredericton where he will investigate sanitary conditions there. At the conclusion of his work in Fredericton Mr. Hall will visit the principal towns and cities of the province.

The data collected by his investigations will be included in a report which will be sent to the local government. This will include a recommendation for the establishment of a health department as a branch of the work of the provincial government.

In his investigation he will pay special attention to the public control and protection of food and milk, slaughter houses, cleanliness of stores, existence of communicable disease, medical and sanitary conditions in schools, public water supplies and sewage disposal.

In an interview with *The Standard* Mr. Hall said that a statement had been made to him to the effect that New Brunswick was away behind the times in regard to health and sanitary matters. He stated that the present government was having this survey made so that it could have something done to alleviate present sanitary conditions.

(Newcastle 'Union Advocate'.)

A HEALTH SURVEY.

John Hall, public health officer of East Orange, N. J., has arrived in New Brunswick, at the invitation of the Provincial Government, to undertake a survey of health and sanitary conditions throughout the province. His work will include investigation of conditions affecting public health and present methods of dealing with health problems. In his report he will deal with conditions as they exist, indicate what work should be undertaken, with a view to improving conditions, and give an outline of suitable provincial organization to carry on the work of the proposed provincial health department, according to most modern ideas.

Mr. Hall will be in the province three or four weeks, and will investigate the cities and the larger towns. The mission is an excellent one, and it is hoped that Mr. Hall will find time to visit Newcastle and Chatham and all the other important places on the North Shore.

HEALTH EXPERT VISITS NEWCASTLE.

PRAISES HOSPITAL AND THE WATER SYSTEM.—ALL WHO CAN SHOULD USE SEWERAGE.

Mr. John Hall who is making a health survey of New Brunswick in the interests of the local government was in Newcastle this week. He says that Newcastle must be congratulated for three things:

First, its magnificent hospital, one of the finest he has

ever seen, which is well managed and thoroughly up to date. Paying a visit to it he was surprised at finding such an institution in a town the size of Newcastle and that it could be the gift of one man. He would advise the addition of a laboratory which he understood was now under consideration. He also recommended a new building some distance back of the main hospital for infectious diseases.

Second, he found the town water system good. Coming as it does from a depth of 250 feet, it should be very healthy. All water supplies should be frequently analyzed.

Third, the sewerage system is very good, so far as it goes. A law should be passed compelling persons who live on streets with sewerage to instal connections with the same.

(Moncton "Transcript.")

SANITARY SURVEY OF PROVINCE.

MR. JOHN HALL ENGAGED BY THE PROVINCIAL
GOVERNMENT.

Mr. John Hall, Sanitary Engineer, and an official now employed by the Provincial Government to make a sanitary survey of the Province, was in Moncton today. He visited the chairman of the County Board of Health and Secretary of the City Board and went into details regarding the work being done by their respective Boards. He also visited the Registrar of Vital Statistics and examined his records of births, marriages and deaths. Mr. Hall thinks the City Board of Health is an efficient one and compares favorably with those of other cities and incorporated towns in the Province, though they scarcely come up to the Boards of well-organized districts elsewhere. He, however, does not commend the County Boards of Health through the Province. They have very little money to work with and their scope is naturally very much limited.

Mr. Hall later visited our City Engineer and discussed with him our water supply and sewerage system.

The idea of having a sanitary engineer make this health investigation is in pursuance to an idea of Hon. Dr. Wm. F. Roberts, who recently had a conference with Dr. Biggs, Health Commissioner for the city of New York, one of the greatest authorities on public health and who was recently selected to conduct a health Tuberculosis investigation in France. After discussing the matter with Dr. Biggs, it was decided the first step towards the achieve-

ment of the Provincial Government's plans should be a survey of existing conditions, and Dr. Biggs recommended Mr. Hall for the work.

Mr. Hall will make a report as to the conditions as he found them in this province. He will also make a recommendation for the establishment of a Provincial Department of Health along modern lines. Such a department could be of the greatest possible assistance to the local Boards, which are generally doing the best work possible under unfavorable conditions. Already a new Public Health laboratory expert has been appointed by the provincial government and a modern laboratory established in St. John. This is intended to do work for the whole province, and is at the present time greatly needed.

(St. John "Times-Star" and "Telegraph.")

HEALTH SURVEY OF PROVINCE IS NEARLY COMPLETE.

MR. HALL FINDS MUCH TO JUSTIFY DECISION OF THE NEW BRUNSWICK GOVERNMENT.

The health survey of the province, conducted by John Hall, of East Orange, N. J., has revealed conditions which seem to provide the fullest justification for the decision of the provincial government that greater attention must be paid to the health of the people in the public interest.

While not an alarmist, Mr. Hall, who returned to the city today, after his tour of the province, said frankly that health conditions were far from what they should be or what might be expected in a progressive community. The first to admit this were the health officials themselves, but lack of proper organization to deal with health matters, lack of interest and lack of the information have made it impossible for them to accomplish much in the past. The government proposals for a more effective organization were warmly welcomed and Mr. Hall was assured by every health official with whom he came in contact that they would be given hearty support.

As an illustration of the need for a better system, Mr. Hall mentioned that St. John was the only place where cases of tuberculosis were reported to the board of health and that only the St. John, Fredericton and Moncton boards were notified regarding cases of contagious diseases. With information lacking, it was obviously impossible to take proper steps to combat epidemics, and to safeguard

the public health. The result of this condition was reflected in the number of deaths reported in the province from communicable diseases.

In the course of his trip through the province, Mr. Hall visited practically all the larger centres, met the local health officials and, when possible, consulted with the county officials. He investigated water supply systems and found the water supply better than might be expected. He visited the hospitals and was greatly pleased with their condition, equipment and the work they were doing, but saw room for more of them.

The most gratifying feature of his work, he said today, was the hearty reception he received and the evident anxiety of the officials to co-operate in bringing about a better condition of affairs. The need was fully realized and the government's proposals were heartily commended.

To show how little they were in a position to do, at present, the chairman of one board said that he had never even seen a copy of the health act and had been unable to learn what his duties were. Other officials told of failures in their efforts to secure information and advice; under these circumstances it was not surprising that the work was not more effective. The anxiety to secure better results and to aid in a more comprehensive scheme, however, showed that there will be little difficulty in building up an effective organization under adequate leadership.

In order to fit his report as closely as possible to local needs, Mr. Hall made a point of asking each official he met what he thought the government could do to aid him in his work and, as a result, secured many valuable suggestions. In his report, Mr. Hall will outline a comprehensive scheme for a provincial health organization, including some features which may take several years to develop, but indicating the most pressing needs and the work which can be undertaken immediately and at comparatively small expense.

During the last three weeks Mr. Hall has visited St. John, Fredericton, Woodstock, Perth, Edmundston, Campbellton, Dalhousie, Bathurst, Chatham, Newcastle, Moncton and Sussex. From St. John he will go to St. Stephen and Milltown and thence return to his home in East Orange. He will prepare his report and forward to the provincial government, probably in time for the December meeting.

THE PUBLIC HEALTH.

Mr. John Hall, who has been making a sanitary survey of the province, has nearly completed his work, and his report will be ready some time in December. It will undoubtedly form the basis of important legislation for the conservation and promotion of public health. Mr. Hall has been able to discover that a good deal of legislation has been passed in relation to sheep, cows, dogs, bees, trees, etc., and very little concerning the health of the people of the province, which appears to be a secondary consideration.

Mr. Hall is a strong advocate of medical inspection of all schools, in town and country. In his own town of Orange, N. J., with some seven thousand pupils, there are two medical inspectors, two nurses, and two dental clinics.

The Foster government began well when it decided to make the public health a subject of study and of legislation, and Hon. Dr. Roberts has been laboring diligently to formulate a progressive policy which will command public support. The work of Mr. Hall, the sanitary expert, is preliminary and necessary, and his report when submitted should be published broadcast throughout the province. It will enlighten the people and arouse their sympathy and support for legislation based on the report and recommendations.

In his health survey of New Brunswick Mr. John Hall finds that the fears of the provincial government regarding conditions in this province were fully justified. As a result he plans to outline a comprehensive scheme for a provincial health organization which should have far-reaching effects. Conditions are bad enough, and no time should be lost in remedying them. Any improvement that can be made in this direction will be in the public interest.

(Moncton "Times.")

SANITARY ENGINEER VISITED MONCTON.

Mr. John Hall, Sanitary Engineer, and an official now employed by the provincial government to make a sanitary survey of the province, was in Moncton yesterday. He visited the chairman of the County Board of Health and Secretary of the City Board and went into details regarding the work being done by their respective Boards. He also visited the Registrar of Vital Statistics and examined his records of births, marriages and deaths. Mr. Hall thinks the City Board of Health is an efficient one and

compares favorably with those of other cities and incorporated towns in the province.

Mr. Hall later visited the City Engineer and discussed with him the water supply and sewerage system.

Mr. Hall will make a report as to the conditions as he found them in this province. He will also make a recommendation for the establishment of a Provincial Department of Health along modern lines.

(Campbellton "Graphic.")

MAKING HEALTH SURVEY.

Mr. John Hall was in Campbellton recently to work in reference to the Health Survey of the province. His work is now practically complete and his report will go to the local government in December.

Mr. Hall has been able to discover that a good deal of legislation has been passed in relation to sheep, cows, dogs, bees, trees, etc., and very little concerning the health of the people of the province, which appears to be a secondary consideration.

Mr. Hall is a strong advocate of medical inspection of all schools, in town and country. In his own town of Orange, N. J., with some seven thousand pupils, there are two medical inspectors, two nurses, and two dental clinics.

D — DETAILS OF THE SURVEY.

Miles travelled in the province.....	1098
Persons interviewed.....	99
Days spent on the work.....	29
Cities and towns visited.....	16