

SIXTH
ANNUAL REPORT
OF THE
PROVINCIAL BOARD OF HEALTH
FOR THE YEAR
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COMMISSIONER OF PUBLIC WORKS AND MINES, QUEEN'S PRINTER.
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PROVINCIAL BOARD OF HEALTH OF NOVA SCOTIA.

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Secretary—DR. A. P. REID, *Middleton, Annapolis County, Nova Scotia.*

PROVINCIAL BOARD OF HEALTH,

HALIFAX, NOVA SCOTIA, 1898.

SIXTH ANNUAL REPORT.

TO THE HON. G. H. MURRAY,

Provincial Secretary,

Chairman of Provincial Board of Health.

SIR :

I have the honor to submit the sixth annual report of the Provincial Board of Health.

The sanitary condition of the Province has been, as usual, favorable, judging from all the information I have received.

I am much indebted to the medical gentlemen who have been so kind as to send in their quarterly reports, but regret that there are so many that have not been able to comply.

After their receipt a synopsis has been published and distributed. That of the past quarter will not appear separately, as it is included in the annual report appended.

The reports handed in have come from every section of the Province, and as there is a great similarity in the cases reported they will serve as a good basis for generalisation.

As may be anticipated consumption heads the list not only in the number of cases of severe maladies but in that of fatal termination, and next to it is acute lung disease—pneumonia and bronchitis.

LaGrippe has been very generally distributed over the Province, but few fatalities were reported.

Diphtheria has not been very prevalent.

Measles have been common, but few deaths were reported. In Cumberland County, of 243 cases reported in 3 months ending 31st March last, there was no death.

Typhoid fever and scarlet fever have also been prevalent, but not seriously epidemic.

In two counties whooping cough is reported.

Erysipelas, though not epidemic, is very generally reported.

The returns will not serve as a basis to give the relation between the death and birth rate. Of the births ($3\frac{1}{2}$) three and one-half per cent. were stillborn, ($2\frac{1}{2}$) two and one-half per cent. were twins.

Of the prevailing diseases all except two are fairly under control. Since we have become better acquainted with typhoid fever, scarlet fever, diphtheria, measles, erysipelas, etc., their successful management is the rule, and any appearance of epidemic can be handled with good results.

There are two types of disease which are extremely fatal, and unfortunately they prevail very generally.

TUBERCULOSIS AND CANCER.

Of the essential cause of cancer we know so little that we can only adopt the ordinary methods of treatment which experience has proved to be of value. But it is very different with tuberculosis, of which the so-called *consumption* is only one of many manifestations.

Until a very recent date it was assumed to be in great part an hereditary disease—a malady peculiar to certain families and constitutions, and hence not amenable to ordinary sanitary regulations. Now it is generally accepted that such is not the case.

A weakness of constitution that renders families and individuals more prone than others to this malady may be and often is congenital—they are less able to withstand the contagion of tuberculosis (or any other contagion) than those more robust. But the disease tuberculosis is a special entity that is quite as specific and contagious as are the generally accepted infectious maladies—but much more dangerous, because more fatal owing to the fact that it is more insidious, giving the patient less chance to either ward it off or adopt proper treatment when attacked, because it too often reaches the dangerous stage before any sufficient warning of its presence is given.

Small pox, diphtheria, and such diseases will, in a few days after infection, cause such pronounced symptoms that means of relief are at once resorted to, and of late years with most favorable results.

Tubercle, on the other hand, will enter and play havoc with the lungs, glands, bones, kidney, brain, etc., to such an extent

that too often the attempt at relief comes too late to be of service to the patient. Hence it is supremely advisable that the best known means be taken to prevent its spread.

It is needless for me to take up space to discuss the desirability of adopting means to relieve the community of this scourge, or to try to explain the history and cause of consumption, for most civilized people—thanks to the very general distribution of knowledge—have or should have correct general ideas on the subject.

It would, I think, be of more avail to detail the practice and sanitary regulations which our latest experience shews to be the best, and this the more because scientifically there is no doubt but that it is possible not only to prevent tuberculosis, but to greatly relieve 90 per cent. of those affected, and practically cure from 20 to 80 per cent. of those who adopt correct treatment at a sufficiently early stage of the malady.

The following resolution of the "National Board of Health of North America," gives the latest and best recommendations on this subject:

"The chair appointed Drs. Bryce, Baker and Swarts, who, in due time, presented the following resolution, which was, on motion, adopted.

"*Whereas*, It is the unanimous voice of the Conference of State and Provincial Boards of Health of North America, that, since tuberculosis, which causes on this continent more deaths than all other contagious diseases together, is now recognized by all scientific and medical authorities as both curable and preventable, and

"*Whereas*, Since the onset of the disease depends especially upon hereditary weakness, and on malnutrition induced by overcrowding, bad ventilation, and over pressure in school, social and commercial life; and

"*Whereas*, Since the presence in the homes of the poor of so many cases of this chronic disease means about certain death to the patient, and probable infection of other members of the family; be it therefore

"*Resolved*: That this conference does publish, and instruct the Secretary to forward copies of these resolutions to the Legislatures, Departments of Education, and Municipal Authorities of the several States and Provinces represented in the Conference, urging upon them the imperative need of:

"1. Having all schools and colleges placed under medical supervision with regard to ventilation, over crowding and over pressure in studies.

“2. Having all hotels, boarding houses and workshops where consumptives may be employed placed under municipal supervision and inspection.

“3. Urging all state legislatures to devote public funds, and encouraging private philanthropy in the establishment of homes or sanitarium in one or more counties or districts of the several States and Provinces to which patients may be sent early, either at their own or municipal expense, and under proper regulations be encouraged to remain therein until recovery shall have taken place, while at the same time they shall have prevented the continuance of centres of infection in their homes.

“Dr. C. A. Lindsley, Connecticut:—I believe that this resolution should be in some way published at once. I do not think it should be held until published in the regular proceedings. I move that the Secretary prepare copies of this resolution at his early convenience, and send them to every State and Provincial Board of Health, that they may have opportunity to bring the matter before their legislatures.

“Motion was seconded and carried.”

Pathologists generally agree that tubercular infection usually gains access to the human body by one of two routes; the lungs and the alimentary canal.

In the case of adults it is generally accepted that tainted air is the most common cause, owing to the great prevalence of phthisis, every patient being a focus for the distribution of infection to the air in his neighborhood, particularly through the sputum that is so freely distributed in his or her vicinity.

In children, tubercle of the glands of the abdomen and lymphatic glands generally, as well as of the bones and joints, would go to shew that the alimentary tract is the more common route of access in the young.

Milk is a very general diet, and milk is very often impure—since it is now well known that tuberculous cows are very numerous. There is scarcely a herd that is free from the disease—hence we have tuberculous milk. Out of 93 samples of milk examined at Manchester, (Eng.,) 18 were found to be tuberculous.

This does not mean that milk is a less valuable food, but it does mean that the use of tuberculous (or any kind of unclean) milk should be prevented.

This can be done if well known means be adopted. It is not easy to sterilize milk for general distribution—though it could be done by the user, if in doubt of the sample.

It is possible by systematic inspection of the herds and regulation of the milk supply to prevent the distribution of tainted milk.

The proper ventilation and heating of domiciles, work-rooms, school-rooms, assembly-rooms, etc., is specially referred to in the recommendations (*supra*) of National Board of Health.

As to the treatment of tuberculosis, it is a very generally accepted fact that there is no specific other than those means which improve the general health, of which food and medicine, though important, are practically useless unless associated with other details of regimen carried out under the strict personal supervision of the medical adviser, conveniences for which are not easily obtained in an ordinary home, even of those who are "well-to-do," and much less so with the poor.

Yet it is possible to provide for each class, and in the near future this will be done in all civilized communities, and I would suggest that this Province take steps in this direction.

About 40 years ago Dr. Hermann Brehmer, of Germany, the founder of sanatorium treatment for consumption in a systematic way, on the assumption that it was curable, was denounced as a charlatan. Some of his ideas have been proved erroneous—as "the necessity for carrying out the treatment in a district itself immune from the disease," and "the dogmatic requirement of a definite minimum altitude above sea level, varying with the latitude." But his advice "against placing sanatoria in or near centres of life and traffic," or "in a health resort frequented by other invalids and pleasure seekers," "the need of strict supervision," "carefully graduated exercise as well as for rest," cannot be disregarded.

Sanatoria for consumptives were recommended years ago by the Committee on Humane Institutions, under the chairmanship of Dr. Bethune, but no steps have been taken to work out the idea, no doubt due to the difficulty of knowing how best to begin.

At present sanatorium is another name for "open air" or hygienic treatment of consumption, and is now in use with most beneficial results in the United Kingdom, Germany, France, the United States and even in South Africa, though so recently and sparsely populated.

This treatment is not new, for it is specially recommended by Socrates long before our era. He recommended the open air treatment living in Egypt, but it is found that a sunny or warm climate, though desirable, is not necessary—pure air at a distance from cities or factories will fill the bill, and that consumptives can improve in the open air in a winter climate under proper medical care and a generous diet. For the well-to-do these establishments have been

very successful. M. Knope gives the result of treatment, in 15 private sanatoria in different countries, of 4,500 patients in the past 10 years. After a mean duration of three months' treatment, 630 were absolutely cured, and 630 were relatively cured—that is, able to work, with every appearance of good health, though with slight physical signs of their malady; the improved were 1,890, and of the unimproved or died the number was 1,350.

Dr. Brehmer, of Garbersdorf, reports that of 5,000 cases, 27.8 per cent. in the first stage were cured, and 6.83 of those in the second, while in addition 31 per cent. of those in first and 14.6 per cent. of those in second stage were nearly cured. One-fourth of the consumptives of the well-to-do classes were either cured or able to return to work with every appearance of health.

Of those who left the sanatoria as relatively cured in 1876, 59 per cent. were in apparent thorough good health 14 years after.

In order to test the persistence of cure, Dr. Deitweiler sent 99 letters at the end of 10 years to those of the 132 cured at Frankenstein whose addresses were known, and 96 replies were received. 11 had died of disease other than tubercle, 12 had relapses of short duration, and 3 were still ill. Of the 72 cases who remained perfectly well over from 3 to 9 years, four only required a second visit to the sanatorium. All the others had continued at work since their discharge.

Sanatoria for the poor is a subject of the greatest moment, for, as a French writer says, "there is two kinds of consumption—that of the rich, which is sometimes cured, and that of the poor, which is never cured." Since 1859 sanatoria have existed in Germany, but it is only since 1892 that institutions have been erected for the poorer classes that are consumptive. They are now erected in Scotland, Switzerland, Russia, France and the United States. It is estimated that very shortly there will be over 100 sanatoria available for rich and poor.

The present aggregation of large numbers of consumptives in hospital and infirmaries is not treatment.

There are 3 courses open :

1st. To do as we are doing until

2nd. The formation of special wards, verandahs and dietary in our hospitals, with special regulations. Much could be done in this way to relieve the general wards of a most undesirable population, who are a menace to all in their vicinity, and who do not receive as much benefit as they should while resident in the hospital.

3rd. Special sanatoria, founded in the most favorable sites, where patients could be sent in the earliest stages.

It is useless to send hopeless cases to the sanatoria, and it is cruel to tamper with earlier cases that could be cured by proper treatment, which cannot be obtained in the ordinary domicile, especially in a city.

The principles of treatment are :

- 1st. Not too many congregated in the one institution—under 50.
- 2nd. Removal from outside association and so called recreation—amusements, visits of friends and strangers. Ennui is not to be feared—quiet and rest are needed.
- 3rd. As far as possible, continual living in fresh air, no matter what the temperature. Colds and chills are not to be feared under proper care.
- 4th. The healthy site of the institution, as far as possible from human habitation and in purest air.
- 5th. The amount of exercise regulated by the condition of the lung and the patient's condition.
- 6th. Absolute rest when temperature is above normal to any appreciable extent.
- 7th. Great attention paid to nourishment.
- 8th. The absence of any unnecessary furniture in the sleeping rooms (open to the air at all seasons) or elsewhere to catch dust.
- 9th. Continuous medical supervision.
- 10th. Exceedingly strict discipline.

The Victoria Hospital, Edinburgh, was the first institution in the United Kingdom for the gratuitous treatment of consumption, and so far is the only one.

Dr. R. W. Phillip, physician to the Victoria Hospital, Edinburgh, gives a very interesting report of its work, and I will make a few abstracts :

“The accommodation is limited to 15 patients—7 male and 8 female. Some rooms contain three patients, some two, some one. There is 1,000 cubic feet capacity per patient. Each room has at least one large window, which is constantly open day and night. The windows have never been shut day or night since the hospital was opened.

A uniform temperature of 60° F. is demanded, which is obtained by open grates.

The furniture of the rooms is of the simplest; floors plain and polished; the bedsteads are open spring mattress, covered by a light hair mattress, and bedclothing as little as is compatible with comfort.

There is an outdoor department, situated in the heart of Edinburgh, which affords a central office, where patients are received and treated from day to day, and where suitable patients are selected for hospital residence.

There has been recorded a relative increase in the number of early cases which present themselves, and a corresponding diminution of hopeless ones.

By daily or frequent visits to the institution patients are induced to lay aside their fear of going about, and are taught by constant reiteration the principles of the open air system.

Although the *clientele* of this department is very numerous and poor, it used to seem marvellous in the earlier days that untoward accidents were so infrequent of occurrence in relation to these visits to the institution in all weathers.

The experience of the outdoor department has throughout afforded corroborative evidence of the value of open air treatment. At the same time the patients are instructed in respect to preventive measures.

For many years the following rules have been distributed at the out patient department:

RULES FOR CONSUMPTIVE PATIENTS, AND THOSE LOOKING AFTER THEM.

1. Consumption is a communicable disease; it may pass from person to person; it may pass from one lung to another, or from one organ to another.

2. The chief source of infection is the expectoration of the consumptive. The great danger lies in the drying of the expectoration and the blowing about of the dried infectious material.

3. The spread of consumption can be largely prevented. *If the succeeding directions be obeyed there need be no serious danger in ordinary intercourse with patients. The breath of consumptives is not directly infectious.*

4. The patient should expectorate into a jar or cup containing a tablespoonful of carbolic acid solution (1 to 20) or other disinfectant.

5. The vessel should be changed once in 12 hours or oftener. It should be cleansed by being filled up with boiling water. The combined contents should be poured down the W. C. The vessel should then be washed with boiling water.

6. When the patient is out of doors he should carry a pocket spitting flask, to be used and cleansed like the jar. The patient should never spit on the street.

7. The patients should not use handkerchiefs for expectoration. If this ever has to be done the handkerchief should be of inexpensive material, that it may be burned after use. Squares of rag or paper, which may be used for convenience, should be similarly treated.

8. The expectoration should on no account be swallowed, for thereby the disease may pass to other organs.

9. Consumptive patients should avoid kissing.

10. Consumptive mothers should not suckle.

11. If expectoration has been accidentally deposited on the floor or other object, it should be wiped up and burned, and the surface of the object cleansed with strong antiseptic.

12. Rooms which have been long occupied by a consumptive patient should before occupation by some one else be carefully disinfected, as after other infectious diseases.

13. FRESH AIR is the food of the lungs, therefore see that the lungs be not starved.

A. By day—The patient should occupy as airy a room as possible. It must be scrupulously dry and preferably removed from the ground. The window should be freely open. When able the patient should be out of doors once or several times during the day. He must avoid over effort and damp or chill, which would counteract the benefit.

B. By night—He should sleep alone. The bedroom should be large and airy. The window should be kept open less or more owing to the season."

Since it has been proven that there is no need of expatriation for the relief and cure of consumption, an organized effort should be made in this Province to relieve this unfortunate class.

The experience of the Edinburgh Victoria Hospital points out how this may be done.

This small institution at Craighleith, a mile or two to the north-west of Edinburgh, with only 15 beds, in an old mansion house which was adapted for this work, with $7\frac{1}{2}$ acres of grounds, has in the four years of its existence a record of 6,996 individual cases that have been treated with gratifying success, and similar results could be obtained in Nova Scotia.

Appended is the report of Dr. Hattie, the Bacteriologist, which is interesting as it shews how much can be done at a small expense and with few appliances. He has been appointed Superintendent of the Hospital for Insane, and the Province is to be congratulated, for, as one of my assistants years ago, he shewed his adaptability for the position, and it is to me a source of pleasure that his new position will not interfere with a department which after years of work he has so firmly established.

Appended is the statistical report for the year.

At the close of another year I have to again thank you for advice and assistance in carrying out the work of the Board.

Respectfully submitted,

A. P. REID, M. D.,

Secretary.

Middleton, N. S., Sept. 30th, 1898.

REPORT OF BACTERIOLOGIST.

A. P. REID, Esq., M. D., Etc.,

Secretary Provincial Board of Health.

DEAR SIR,—The operations of the laboratory during the past year have differed in few respects from those of previous years. It seems that the medical profession is each year becoming more interested in the laboratory, and we have had numerous letters from physicians in different parts of the Province, expressing appreciation of the assistance which it has given them in cases where a clinical diagnosis was difficult or impossible. The amount of work which has been required of the laboratory during the year just ending has been considerably in excess of that of former years, which is another indication that it serves a useful purpose. Sixty-four specimens of sputum were submitted to be examined for the tubercle bacillus, eighty-one swabs from suspected throats for the diphtheria bacillus, forty specimens of blood for the typhoid reaction, and a variety of other specimens for information on a variety of points.

TUBERCULOSIS.

The results of examination of the 64 specimens of sputum sent to the laboratory was as follows: In 31 cases the tubercle bacillus was found; in 33 cases it was not observed. In 3 cases duplicate examinations (of new specimens of sputum) were made; in one case three times, and in two cases once. Each examination confirmed the original report.

Of the 31 cases in which the tubercle bacillus was found, it was noted to be present in small numbers in 15, in moderate numbers in 6, in large numbers in 7, and in very large numbers in 3.

The association of other bacteria with the tubercle bacillus, in these cases, may be roughly tabulated as follows:

| | |
|----------------|-----------------|
| Streptococci | in 5 instances. |
| Staphylococci | “ 27 “ |
| Sarcinæ | “ 13 “ |
| Other bacteria | “ 11 “ |
| Yeast | “ 1 “ |
| Mould | “ 1 “ |

In those cases where the tubercle bacillus was not discovered, bacteria were noted as follows:

| | |
|----------------|------------------|
| Streptococci | in 12 instances. |
| Staphylococci | “ 27 “ |
| Sarcinæ | “ 20 “ |
| Other bacteria | “ 11 “ |
| Yeast | “ 2 “ |
| Mould | “ 1 “ |

I have to repeat the request made in my last report that specimens of sputum should be sent to the laboratory in clean bottles, which can be readily packed for safe transmission through the post. Many of the specimens come in chip boxes, or on paper, and reach me in a very dry condition. It is decidedly unsatisfactory to work with such specimens, and moreover it is reasonable to suppose that in the opening of them a certain amount of germ-laden dust is set free into the air of the laboratory, thus exposing all who are compelled to breathe that air to the danger of infection. If I might be permitted to decline to examine specimens sent in this loose way, I believe the difficulty would soon be righted.

DIPHTHERIA.

Except for a few local epidemics, the Province has been very free of this disease during the past year. However, the necessity for a certain diagnosis is becoming more and more impressed upon

the profession, and this accounts for the fact that we have had more outfits returned to us for examination during the last twelve months than during the whole previous existence of the laboratory.

In some quarters there has been a tendency to call in question the utility of the bacteriologic test in diphtheria. It has been urged that the test cannot always be relied on; but it is necessary to allow a certain margin for error in any method of diagnosis. And the fact that once in a while a non-virulent diphtheria bacillus is to be found in the throat, which has quite the same microscopic and cultural appearances as the virulent organism, can hardly be said to argue against the usefulness of the test, for at worst this circumstance can only occasion the exceptional adoption of preventive measures when they are not actually necessary. The weight of really competent authority is certainly in favor of the test. A very moderate view, and one which has the support of many, if not all, the leading bacteriologists, is that of Herman Biggs, as follows:

“ 1. When the diphtheria bacillus is found in healthy throats investigation almost always shews that the individuals have been in contact with cases of diphtheria. The presence of the bacillus in the throat, without any lesion, does not, of course, indicate the existence of the disease.

“ 2. The simple anginas in which virulent diphtheria bacilli are found are to be regarded from a sanitary standpoint in exactly the same way as the cases of true diphtheria.

“ 3. Cases of diphtheria present the ordinary clinical features of diphtheria, and show the Klebs-Lœffler bacilli.

“ 4. Cases of angina associated with the production of membrane in which no diphtheria bacilli are found might be regarded from a clinical standpoint as diphtheria, but bacteriological examination shews that some other organism than the Klebs-Lœffler bacillus is the cause of the process.”

In a former report I urged the adoption of a more scientific mode of regulating the duration of quarantine, in cases of diphtheria, than is at present in vogue. A fixed time for maintaining quarantine is objectionable for two reasons. In the first place it is very often unnecessary to maintain isolation for so long a time as is required by law, and secondly, the very opposite not infrequently happens, and quarantine is abandoned before the danger of infection is past. A quotation from a recent book by Joseph McFarland illustrates my second contention: “ It is of great interest to notice the remarkable results obtained by Biggs, Park and Beebe, in New York, where the bacteriological examinations conducted in connection with diphtheria show that the virulent bacilli may be found in the throats of convalescents as long as five weeks after the discharge of

the membrane and the commencement of recovery, and that they exist not only in the throats of the patients themselves, but also in the throats of their caretakers, who, while not themselves infected, may be the means of conveying the disease from the sick-room to the outer world. Even more extraordinary are the observations of Hewlett and Nolen, who found the bacilli in the throats of seven, nine, and in one case *twenty-three weeks* after convalescence." I would again urge that the duration of quarantine be based upon the result of bacteriological examinations.

Another quotation from McFarland's book bears well upon the bacteriological test: "It may be well to remark that all pseudomembranous diseases of the throat are not diphtheria, but that some of them, exactly similar in clinical picture, result from the activity of the pyogenic organism alone, and are neither diphtheria nor contagious.

"Diphtheritic inflammations of the throat are not always accompanied by the formation of the usual pseudomembrane, it rarely, but occasionally, happening that in the larynx a rapid inflammatory edema without a fibrinous coating causes a fatal suffocation. Only a bacteriological examination will reveal the nature of the disease in such cases."

In the last year we have had 81 outfits returned, of which 30 were found to contain the diphtheria bacillus, while 51 did not. Numerous duplicate examinations were made, all of which confirmed the original result. In a few instances an organism somewhat resembling the diphtheria bacillus, but lacking some of its characteristics, was discovered. In these cases the report returned was "doubtful, but suspicious," and they are included, in the tables, among those yielding a positive result.

In four cases almost pure cultures of the diphtheria bacillus was found, but usually this bacterium had associated with it a large number of other organisms, roughly as follows:

| | | | |
|----------------|----|----|--------|
| Streptococci | in | 8 | cases. |
| Staphylococci | " | 18 | " |
| Sarcinae | " | 17 | " |
| Other bacteria | " | 5 | " |
| Yeast | " | 2 | " |

Of those cultures which did not shew the diphtheria bacillus (51 in number) a tabulated synopsis of the result is as follows:

| | | | |
|----------------|----|----|------------|
| Streptococci | in | 32 | instances. |
| Staphylococci | " | 37 | " |
| Sarcinae | " | 33 | " |
| Other bacteria | " | 23 | " |
| Yeast | " | 2 | " |

The same arrangement for providing the profession with outfits as was in vogue when the last report was written is now in effect.

TYPHOID FEVER.

The number of typhoid tests made during the year was much less than that of the preceding twelve months. Of the forty tests made, nine gave a positive reaction, twenty-seven a negative reaction, while the result in the remaining instances was indefinite. I have had subsequent information from eight of the nine cases in which I obtained a positive result, and in each case my result was confirmed. Of the twenty-seven cases in which the result was negative, I have had subsequent news of twenty-one, receiving confirmation in eighteen; one case turned out to be typhoid, as revealed by autopsy, and two cases presented the clinical picture of typhoid. One of the cases which gave an indefinite result proved to be a pelvic abscess; there has been no news of the others.

I have again to regret that it so often happens that once we have furnished a report on a case, we hear nothing more of it. It is such a small matter to drop a post-card stating whether the ultimate history of a case agreed with the report that the laboratory had furnished, that physicians are very apt to overlook it altogether. Nevertheless unless this is done it is impossible to form any true idea as to the accuracy of the work which the laboratory is doing. I trust that in future those who receive assistance from the laboratory will not neglect to inform us to the accuracy of our reports.

In conclusion, I must again thank you for the many kindnesses and courtesies which you have shewn towards me, and for your continued interest in the workings of the laboratory.

Your obedient servant.

W. H. HATTIE.

Laboratory of the Provincial Board of Health,

Halifax, N. S., Sept. 30, 1898.

PROVINCIAL BOARD OF HEALTH.—Vital Statistics of Nova Scotia for year ending Sept. 30th, 1898.

| | ANNAPOLIS. | | ANTIGONISH. | | CAPE BRETON. | | COLCHESTER. | | CUMBERLAND. | | DIGBY. | | GUYSBORO. | | HALIFAX CO. | | HALIFAX CITY* | | HANTS. | | INVERNESS. | | KINGS. | | LUNenburg. | | PICTOR. | | QUEENS. | | RICHMOND. | | SHELBURN. | | VICTORIA. | | YARMOUTH. | | | |
|--|------------|---------|-------------|---------|--------------|---------|-------------|---------|-------------|---------|--------|---------|-----------|---------|-------------|---------|---------------|---------|--------|---------|------------|---------|--------|---------|------------|---------|---------|---------|---------|---------|-----------|---------|-----------|---------|-----------|-----|-----------|-----|-----|-----|
| | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | | | | | | |
| Consumption | 20 | 7 | 1 | 2 | 55 | 12 | 38 | 7 | 62 | 16 | 22 | 7 | 27 | 524 | 7 | 102 | 82 | 28 | 4 | 20 | 4 | 36 | 11 | 33 | 6 | 105 | 20 | 24 | 4 | 15 | 3 | 15 | 1 | 8 | 5 | 29 | 11 | | | |
| Acute Lung Disease..... | 18 | 7 | 1 | 2 | 57 | 3 | 43 | 10 | 37 | 2 | 37 | 8 | 49 | 928 | 1 | 67 | 44 | 138 | 8 | 86 | 2 | 48 | 4 | 7 | 5 | 71 | 7 | 41 | 4 | 22 | 4 | 56 | 7 | 58 | 2 | 102 | 9 | | | |
| LaGrippe | 8 | 6 | 45 | 146 | 23 | 247 | 3 | 107 | 8 | 1 | 23 | 5 | 19 | 6 | 33 | 1 | 44 | 1 | 53 | 0 | 27 | 0 | 6 | 1 | 88 | 5 | 102 | 0 | 6 | 1 | 88 | 5 | 102 | 0 | 6 | 1 | | | | |
| Typhoid Fever..... | 4 | 1 | 15 | 32 | 23 | 1 | 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| Diphtheria..... | 14 | 1 | 3 | 24 | 4 | 15 | 1 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 30 | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Scarlet Fever..... | 10 | 1 | 24 | 11 | 5 | 11 | 5 | 8 | 3 | 1 | 12 | 15 | 1 | 2 | 2 | 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Measles | 9 | 1 | 50 | 4 | 48 | 11 | 181 | 8 | 71 | 1 | 11 | 18 | 2 | 17 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Whooping Cough..... | 2 | 1 | 11 | 8 | 17 | 2 | 17 | 1 | 17 | 2 | 17 | 1 | 18 | 12 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Erysipelas..... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Diarrhoea..... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Deaths of Children under one year..... | 1 | 1 | 14 | 22 | 87 | 6 | 4 | 8 | 6 | 4 | 6 | 4 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | |
| Deaths by Accidents..... | 1 | 1 | 2 | 4 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Births..... | 51 | 5 | 144 | 186 | 201 | 92 | 79 | 92 | 43 | 114 | 42 | 108 | 175 | 227 | 77 | 43 | 23 | 30 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| Twins..... | 2 | 1 | 5 | 7 | 1 | 4 | 1 | 2 | 2 | 6 | 1 | 1 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Illegitimate..... | 4 | 1 | 5 | 8 | 13 | 3 | 5 | 1 | 14 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Still born..... | 1 | 1 | 8 | 12 | 7 | 6 | 5 | 2 | 2 | 4 | 3 | 6 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

*Death returns are supplemented from Register of Deaths, City Hall, and cases of Typhoid, Diphtheria and Scarlet Fever are supplemented by report of Dr. Trenaman, C. M. O.