

TENTH
ANNUAL REPORT
OF THE
PROVINCIAL BOARD OF HEALTH
FOR THE YEAR
1902.

RA 185
N 10
B 1



HALIFAX, N. S.:
COMMISSIONER OF PUBLIC WORKS AND MINES, KING'S PRINTER.
1903.

TENTH
ANNUAL REPORT
OF THE
PROVINCIAL BOARD OF HEALTH
FOR THE YEAR
1902.



HALIFAX, N. S.:

COMMISSIONER OF PUBLIC WORKS AND MINES, KING'S PRINTER.

1903.

PROVINCIAL BOARD OF HEALTH OF NOVA SCOTIA.

HON. G. H. MURRAY, *Premier and Provincial Secretary.*

HON. J. W. LONGLEY, *Attorney-General.*

HON. A. DRYSDALE, *Commissioner of Public Works and Mines.*

WM. H. MACDONALD, M. D., *Antigonish.*

SIR FREDERICK BORDEN, M. D., *Canning.*

A. S. KENDALL, M. D., *Sydney.*

W. H. HATTIE, M. D., *Superintendent Nova Scotia Hospital,
Dartmouth.*

W. W. KENNEY, ESQ., *Superintendent Victoria General Hospital,
Halifax.*

Chairman of Board—HON. G. H. MURRAY.

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

Director of Laboratory of Science and Hygiene—ANDREW
HALLIDAY, M. D.

HEALTH OFFICERS.

- DR. T. TRENAMAN, *Halifax.*
DR. C. H. MORRIS, *Windsor.*
DR. T. MILSOM, *Dartmouth.*
DR. MORSE, *Digby.*
DR. A. J. FULLER, *Yarmouth.*
DR. C. A. McQUEEN, *Amherst.*
DR. L. G. DEBLOIS, *Bridgetown.*
DR. R. WITHERS, *Annapolis Royal.*
DR. G. E. DEWITT, *Wolfville.*
DR. W. B. MOORE, *Kentville.*
DR. H. A. MARCH, *Bridgewater.*
DR. H. D. WILSON, *Barrington.*
DR. C. FITZ HENRY CAMPBELL, *Springhill.*
DR. M. T. SULLIVAN, *Glace Bay.*
DR. J. W. McLEAN, *North Sydney.*
DR. L. W. JOHNSON, *Sydney Mines (town).*
DR. D. K. McINTYRE, *Sydney.*
DR. C. J. MARGESON, *Hantsport.*
DR. F. E. RICE, *Weymouth.*
DR. T. L. HILL, *Seaforth.*
DR. S. ADLINGTON, *Black Point.*
DR. DUN. McDONALD, *Baddeck.*
DR. E. E. BISSETT, *Port Morien.*
DR. A. E. LOGIE, *Thorburn.*
DR. J. L. BETHUNE, *Victoria Municipality.*
DR. A. W. CHISHOLM, *Inverness* “
DR. M. E. ARMSTRONG, *Annapolis* “
DR. J. J. WALLACE, *Colchester* “
DR. S. E. SHAW, *Kings* “
DR. J. J. CAMERON, *Antigonish* “
DR. A. C. JOST, *Guysboro* “
DR. GEO. BELL, *Clare* “
DR. C. C. AITKEN, *Lunenburg* “
DR. S. D. DENSMORE, *Shelburne* “

PROVINCIAL BOARD OF HEALTH.

HALIFAX, NOVA SCOTIA, 1902.

TENTH ANNUAL REPORT.

TO THE HON. G. H. MURRAY,

Provincial Secretary,

Chairman of Provincial Board of Health.

SIR:

I have the honour to submit the tenth annual Report of the Provincial Board of Health.

We should know what diseases are most prevalent, and the tables (*infra*) are designed to serve this purpose.

This is necessary in order that our efforts for amelioration be properly directed.

The statistical tables (in appendix) are not so complete as is desirable (though we expect they will be), but when the reports from different parts of the Province are relatively combined, they form a basis from which we can estimate relative conditions, and this the more, from the similarity in the reports.

Tables are about the least interesting variety of literature, but their careful study can elicit valuable information.

I find the sickness and death in this Province can to a great extent be comprised under 12 heads—all outside of these are few in number relatively. In order that it may be easily understood and to get a definite basis from which to consider the subject, I have assumed that 1,000 cases made up of the 12 causes referred to be so divided as to give the relative numbers in each, and as well the relative percentage of deaths.

There are two points specially requiring consideration:

1st. Relative number afflicted by those diseases,

2nd. Relative number who die through those diseases.

One disease may afflict a great number with few deaths, and vice versa, and the tables are designed to shew in numerical order the relative frequency in each case.

TABLE 1.

Gives in numerical order the number of cases of diseases, assuming 1,000 cases of 12 types of maladies, death rate in per cent.

DI-EASES.	NUMBERS	DEATHS.
Respiratory System	210.5	16.49
Digestive "	166.8	8.63
Influenza	124.0	0.49
Urinary System	91.1	7.86
Circulatory System	76.5	5.65
Tuberculosis	69.5	33.10
Whooping-Cough	63.7	1.23
Rheumatism	47.9	1.94
Typhoid Fever	45.9	8.63
Nervous System	37.1	10.57
Measles	35.5	2.47
Scarlet Fever	31.5	2.94
	1000	100

TABLE 2.

Gives in numerical order the death rate per 100, assuming 1,000 cases of 12 types of maladies, with relative cases per 1,000.

DISEASES.	NUMBERS.	DEATHS.
Tuberculosis	69.5	33.10
Respiratory System	210.5	16.49
Nervous "	37.1	10.57
Digestive "	166.8	8.63
Typhoid Fever	45.9	8.63
Urinary System	91.1	7.86
Circulatory "	76.5	5.65
Scarlet Fever	31.5	2.94
Measles	35.5	2.47
Rheumatism.	47.9	1.94
Whooping Cough	63.7	1.23
Influenza	124.0	0.49
	1000	100

It may appear strange that cancer, diphtheria and smallpox do not appear in the table, but there are reasons.

Cancer is a widely prevalent and a fatal malady, but the reports were too vague, and I would not consider them.

Diphtheria appears only sporadically and such attention is paid to it that it does not spread, and its mortality rate is greatly lessened by serum-therapy.

Smallpox cases are so few relatively that they can be passed over, not for the reason that it is negligible, but it is so well controlled by quarantine and general vaccination that the dread inspired by its presence brings the remedial agencies into play, and it is shorn of its virulence.

ANALYSIS OF THE TABLES.

We would note the prominence of disease of the Respiratory System, in numbers as well as the mortality rate, to which may be added tuberculosis and influenza, whose chief symptoms are connected with this system, amounting to 40 p. c. of all the cases, and 50 p. c. of all the deaths.

What is the cause of this incubus of disease that kills nearly half of our people, of whom the great majority are in the prime of life?

It can be tersely summed up in the expression impure air, and the proof.

Those living in the open air—either in cold or warm climates—escape nearly all these maladies, even though they may suffer many hardships. The poor man who lives in the cabin, through the walls and roof of which you can study natural history and astronomy, may have his woes, but they are not likely to be classed as respiratory diseases—at least this is my experience.

The residents in a modern palace, with every thing up-to-date, are likely to suffer and die with consumption, pneumonia, bronchitis, influenza, etc., young as well as old.

The academy may be superior to the cross-roads, out-of-repair country school, as a centre for education, but its sanitary equipment falls far behind, judged by results.

So we may go on, take up our churches and halls (their limited occupaney favors them much), stores and workshops, and they furnish the same lamentable history.

It means that our scientific knowledge, though correct in theory, is not yet able in practice to cope with the advances in population and our type of civilization, and yet the theory is not impracticable. Civilization suffers partly through carelessness, partly through prejudice or a disinclination to adopt new methods, but chiefly through ignorance.

It is the purpose of sanitary science to shew how these conditions can be remedied, and the remedy can only be applied when a sufficiently powerful and intelligent central authority can put its unqualified veto on all insanitary conditions, and as well be able to direct things aright. Though this may not be attainable in full perfection at present, yet very much could be done without arousing public prejudice and opposition by adopting a law of this character:

“After (a given date) no school, church, hall, or public or private building, intended for the occupancy of more than — persons, shall be erected or repaired until the plans have been submitted to and approved by the sanitary commission.”

The commissioners should be composed of representative men—architects, builders, plumbers, merchants and doctors, and should have supreme authority.

Until this is done our people must causelessly suffer in health and wealth, in comfort and in a life shorn of the allotted span of three score years and ten.

Influenza, though affecting a large number, has not of late years been so fatal as it was, dropping to one-half per cent., though consumption and other respiratory diseases, with under 30 per cent. in numbers, account for 50 per cent. of the deaths. Since we can not say that these diseases are not preventible, then why not try to prevent them?

Digestive system. This accounts for the next most numerous class of diseases, furnishing 16 per cent. of cases, but the deaths fall to 8 per cent.

Many of these are preventible, (caused by impure water and food) but individual hygiene must be most depended on for their alleviation.

Typhoid fever, with only one-fourth the number of cases, furnishes about the same number of deaths (8 p. c.) as all the other diseases in which the digestive system is involved. From a sanitary point of view it may be classed with these. There is no question about the possibility of preventing typhoid, which is mainly due to tainted water, when used for dietetic purposes. This could be remedied by the Commission referred to (*supra*).

Scarletina, measles, whooping cough, giving 3 p. c., 2½ p. c. and 2 p. c. of the deaths, but causing much sickness, nearly 13 p. c. of cases.

These diseases are preventible and under the control of the Health Boards throughout the Province, who do not exercise the authority the law gives them at present.

Nervous, urinary and circulatory systems; these, with rheumatism, make up about 25 p. c. of cases and 25 p. c. of deaths. These diseases are only amenable to individual care, and need not be further considered here.

As a resume we may say that about 75 p. c. of cases of disease and 75 p. c. of deaths are preventible, and hence amenable to sanitary regulations, that our present practice does not reach. This is in great part due to the ignorance of the public; and it is the duty of sanitary science to persist in presenting its facts until the time comes when they will be appreciated and put in practice.

THE PAST YEAR.

The general health of the Province has been good. Though there were sporadic attacks of infectious disease there were no epidemics.

SMALL POX.

This disease has been introduced several times, but quarantine and vaccination have prevented its spread. In the appendix are reports of health officers giving account of last year's epidemic that was continued into this year.

DIPHTHERIA.

There were several sporadic attacks, but easily controlled.

INFLUENZA.

This has been very common throughout the Province—many cases, but very low mortality.

TUBERCULOSIS.

The pulmonary form, as usual, claims a very large percentage of deaths, but it is hoped that the projected sanatorium will soon be able to exercise an ameliorating influence, not only in cure and relief, but in what is of more moment—in teaching the public how to avoid the disease, by precept and example.

TYPHOID FEVER.

This is unfortunately widely disseminated, and its march is so insidious that it does not rouse popular excitement, yet next to lung disease it is a most persistent and fatal malady. It is now

well known that it is chiefly distributed by the entrance of its germ into potable water, which is generally effected by sewerage contamination. It may be the water supply of a city or the well of the isolated residence, and this the more if this water be contaminated by animal refuse. The old well in the cellar, or near the house or outhouse, may have been tainted for years, and in a condition to propagate the typhoid germ as soon as accident permits its entrance. Hence all potable waters, if there be any probability of taint, should be examined, and their purity assured. Many an old well should be abandoned, and the supply obtained from a purer if more distant source.

The towns and villages over the province where this disease did prevail, have in many cases adopted a public water system, with great benefit in many ways, but the accompanying sewerage system is still too rare, so that the increased water supply adds the great risk of a water soaked and contaminated sub-soil. The great risk from this in addition to sundry inconveniences is that the air in the soil becomes more or less grossly impure, and in so far taints the air of the domicile, because from the higher temperature of the air in the house in winter it escapes naturally above, and its place must be supplied from below. This air enters by the path of least resistance, and where adequate facilities have not been made for its entry (a thing far too common), it filters in through the cellar and basement from the adjacent ground air, such as it is. It may get in through the cracks of the doors and windows, thus giving rise to draughts and other causes of ill health, and so I might go on and enumerate a long list.

There is another subject which demands and does not receive proper attention, and our laws are not yet sufficiently precise and definite in regard to it—the danger of contaminated water courses.

This affects all the towns and villages not on the sea coast. The water courses being at the lowest level must receive the drainage from adjacent populations, which lower down in their course may be called on to supply potable water. This danger is not now so active a factor in disease as it will soon be, and it is only ordinary prudence to so frame our laws as to anticipate danger and thus prevent it. It should be very definitely defined that no system of sewerage be adopted unless it be submitted to the sanitary commission, and have their assent.

POWERS OF LOCAL BOARDS OF HEALTH.

I have had many enquiries on this subject from local health officers that were difficult of solution and the most difficult submitted to Dr. Montizambert, Director General of Public Health, Ottawa, and to the acting Chairman of the N. S. Prov. Board of Health, (in absence of Provincial Secretary and Attorney General), the Hon. Commissioner of Works and Mines, and I give their letters for general information.

OFFICE OF THE DIRECTOR OF PUBLIC HEALTH,

OTTAWA, December 14th, 1901.

SIR,—I beg leave to acknowledge receipt of your letter dated the 11th instant, giving me some information as to the status of smallpox in your Province, and asking me about vessels which ply between your provincial ports and infected localities, as St. John, Boston and United States.

In reply, I may say that with regard to vessels from St. John or other Canadian ports arriving at ports in your Province, this department has nothing to do with them. It is an inter-provincial and inter-municipal matter that does not come within our jurisdiction.

With regard to vessels from the United States coming to the smaller ports where there is no regularly organized quarantine, they are expected to be dealt with by the Collectors of Customs under Sections 43 to 46 inclusive, of the regulations, a copy of which is enclosed herewith.

I may add, that in view of the prevalence of smallpox in the United States, and the possibility of small vessels arriving at some of the less important ports with sickness on board, a circular letter is being sent to all the Collectors of Customs on the seaboard, drawing their attention to their duties as ex officio officers under those sections of the quarantine regulations cited above.

I am, Sir,

Your obedient servant,

F. MONTIZAMBERT, M. D.,

Director General of Public Health.

DR. A. P. REID,

Sec'y Prov. Board of Health,

Middleton, N. S.

OFFICE OF WORKS AND MINES, NOVA SCOTIA,

HALIFAX, Dec. 14, 1901.

DEAR SIR,—Since acknowledging yours of the 11th, I have been looking into the various questions submitted, and will deal with them in the order submitted.

In reference to persons landing from boats or steamers, it would seem quite clear that the Provincial Board has the power to make sanitary regulations under Section 13, and by such regulations regulate or even prevent the landing of passengers or cargoes from boats or vessels, or from carriages or cars. As far as I am aware, however, no sanitary regulations have been made under the Act by the Provincial Board, and this leaves the power, if any, in the hands of the local boards, under Section 22. In the absence of any provisions by the Provincial Board, it would seem fair to argue that the local board, under Section 22, can deal with the landing of passengers or cargoes by local regulations. You will notice they have power to make regulations as occasion requires, not inconsistent with the Public Health Act or any other law of the Province, and affix penalties for the violation thereof. It is quite clear that unless the local board has power under this section, the case is unprovided for, and I can hardly think it would be so held. It would seem to me that the local boards, where occasion demands, would have the power to make regulations governing the landing of passengers, and even preventing the landing, in case of necessity, but it must be borne in mind that it can only be done by a proper regulation made by the local board, to be properly assembled for the purpose; and that such regulations when so made shall be forthwith transmitted to the Provincial Secretary.

2. As to Section 28, it seems to me this section must be construed entirely apart from the Pauper or any other Act. It is a clear provision that any person coming from abroad or residing within the province infected or exposed, can be dealt with at his own cost and charges, if he is able, and if not, at the expense of the municipality where he is found. Under a proper construction of this section you cannot consider whether the infected person is a pauper or a millionaire, and it was never intended that the poor laws should be considered in construing this section. I have no hesitation in saying that under this section the infected person can be dealt with on the spot where found, at the expense of the municipality where found.

3. Your Station Master at Annapolis asks a somewhat peculiar question. If the train is permitted to come into a station there does not seem to be any means of preventing passengers from wandering around the station. This is a case I think will be difficult to deal with, at least it cannot be dealt with by a Station Master.

4. As to the non-admission of unprotected children to public schools. I am inclined to the opinion that the local board, under Section 22, can pass a regulation to prevent unprotected children from attending school, and see that their officers carry out the regulation in that behalf if a general vaccination has been ordered.

5. In this you ask: What is to be done with unprotected people who refuse to be vaccinated? This raises a very difficult question under the construction of the Health Act. The question of a general vaccination is one for the municipal council under Section 45, and seems to be taken out of the hands of the health boards, and strange to say after giving the municipal council the power to direct a general vaccination, the section stops short of any provision for working it out. If a general vaccination has been ordered by a municipal council in a district, it may be that the local health board can, under Section 22, make regulations for the effective working out of the order, but I must say this is an open and doubtful question. It does not seem to be clear that it was intended that the vaccination order should be in one place and in one authority, and the power to carry out and enforce it in another. It is, however, the only way it can be treated, and I would not venture to advise any procedure for the enforcing of penalties, even if the regulations were made by the local board. Of course, if a general vaccination is ordered in any municipality it would be well that the local board should pass such regulations as they think proper to carry out the order and enforce it to the extent of prescribing penalties. But if it came to a question of procedure on such regulations, I would not advise contests. The Act clearly wants dealing with by the Legislature in respect to this question of vaccination.

Your last question as to what should be done with passengers who refuse to be vaccinated of course is somewhat involved in question No. 5; but I think that the board can prevent passengers landing at all from infected districts, and this by proper regulations under Section 22. This I think is the only way you can control it. This is to say, if a local board directs that passengers shall not be permitted to land, it would seem to me that this is within the control of the local board, and they can enforce the regulations; but only to the extent that they prevent the landing of such passengers.

I think this covers the various questions submitted, and I must say that the Act is not in a very satisfactory working condition.

I am, yours truly,

A. DRYSDALE.

DR. A. P. REID,
Middleton, N. S.

NOVA SCOTIA LABORATORY OF SCIENCE.

(HALIFAX MEDICAL COLLEGE.)

DIRECTOR'S REPORT.

HALIFAX, N. S., Sept. 30th, 1902.

DR. A. P. REID,

Sec'y Provincial Board of Health.

SIR,—I have pleasure in submitting this, my first annual, report of work done in the Laboratory of Hygiene.

From the report you will see that the work of the laboratory has increased very much indeed. Comparing the figures of this with those of last year, it will be noticed that while a total of 166 specimens were examined (123 by Dr. Hattie and 43 by myself), for the year ending Sept. 30th, 1901, the number for 1902 is 711.

It is a source of gratification that the members of the profession throughout the Province are thus taking advantage of the laboratory facilities which have been placed within their reach by the establishment of this laboratory.

It is to be hoped that it will continue to merit the confidence of the profession. Of this they can be assured that no effort will be spared to make reports as accurate as possible. Of course mistakes will occasionally occur, but it will be my earnest endeavor to make those as few as possible. And I would wish to convey my hearty thanks to the members of the profession for their uniform courtesy, and in some instances, their forbearance towards myself.

Several specimens of great clinical interest have come to my notice during the year, but it would take too long to go into the subject in detail.

I therefore submit an analysis of the 711 specimens examined as follows:

WIDAL REACTIONS.

Positive, 41. Negative, 55 Total, 96

DIPHTHERIA SWABS.

Positive, 21. Negative, 42. Doubtful, 5... .. " 68

SPUTUM—(Examinations for Tubercle Bacillus).

Positive, 204. Negative, 155..... Total 359

Pathological Fluids.....	“	10
Urine	“	61
Tissues, Tumours, Uterine Scrapings, etc	“	69
Milks	“	16
Waters	“	14
Stomach contents.....	“	4
Blood films	“	5
Calculi	“	3
Not classified in the above	“	6
		711

I would again call the attention of the profession to the fact that, in examinations for typhoid where the result is negative, repeated examinations are necessary.

It is most desirable that the clinical history should be given, or at least the *day* of the suspected fever on which the blood is taken. This is practically never done. It is to be remembered that it is usually not till about the 7th day of the fever that the reaction is found to take place, although it may be as early as the 4th or 5th day; while in some cases it is delayed as long as the end of the second, third or fourth week. A negative result, therefore, proves nothing, and repeated examinations should be made.

It may be as well to again call attention to the nature of the work undertaken in this laboratory.

- (1.) Examination of sputum for tubercle bacilli, pneumococci, &c.
- (2.) Examination of swabs from the throat in suspected cases of diphtheria.
- (3.) Examination of blood specimens in suspected typhoid by the Widal test.
- (4.) Microscopic examination of blood films, etc.
- (5.) Urine, quantitative examination of albumen, urea, etc., and report on microscopic characters of deposits.
- (6.) Reports on pathological fluids, tumours, uterine scrapings.
- (7.) Chemical and bacteriological examinations of water, sewage, etc.

(8.) Milk, the estimation of fats, solids and bacteriological examination, particularly for tubercle and typhoid bacilli.

(9.) Foods, ordinary sanitary examinations for injurious preservatives, and other noxious substances.

In concluding my report, I have to tender you my thanks for the great interest you have displayed in the work of the laboratory, and for your personal kindness to myself.

I am,

Yours very truly,

ANDREW HALLIDAY,

Director.

Laboratory of Science,

Medical College Building, Halifax, N. S.

BACTERIOLOGICAL REPORT.

This shows the kind of work which is being carried out by this department, and in the nature of things will be of still more value as time demonstrates its necessity, and when full advantage is taken of this department of practical sanitation, its influence will be felt at the bedside of the sick in the hovel as well as the mansion, with this standing paragraph in future Provincial Health Reports: "There is no epidemic of contagious disease to report this year."

Dr. Halliday, the Director, has for years given special attention to this subject, and his enthusiasm and ability will ensure its success. I regret to learn that the Director's health, never very strong, has demanded a temporary relief from duty, and we trust that after a short stay he will have recuperated, and be able to carry on his valuable labours.

Also appears in the Appendix Circular No. 10, which enters into details of the objects and manner of carrying out the work of this department.

VITAL STATISTICS.

I would again call attention to the desirability of a more extended system of vital statistics, for many reasons, not the least of which would be to render possible the carrying out of "Clause 9 of Chapter 102, R. S. 1900."

In appendix also will be found reports from Health Officers, giving information from their localities.

The Kings County Officer gives a history of the smallpox epidemic of 1901, that still existed after the last report of this Board was issued.

In presenting this report, I must again thank you for many courtesies, for advice and assistance, and for the personal favors to which I am indebted.

Respectfully submitted,

Your obedient servant,

A. P. REID,

Sec'y Provincial Board of Health.

Middleton, Ann. Co., N. S.,
Sept. 30th, 1902.

APPENDIX.

STATISTICAL TABLES.

PROVINCE OF NOVA SCOTIA, 1901.

DISEASES. 1901.	CASES.			DEATHS.		
	M.	F.	Total	M.	F.	Total
ALL CAUSES (DEATHS)						
<i>Stillbirths</i> (included in above)				34	23	57
GENERAL DISEASES.						
I. EPIDEMIC DISEASES.						
Typhoid Fever	155	111	266	16	19	35
Typho-malarial fever						
Typhus fever						
Scurvy	1	2				
Smallpox	43	38	81			
Measles	113	92	205	2	8	10
Scarlet fever	103	88	191	7	5	12
Whooping cough	202	167	369		5	5
{ Diphtheria	40	26	66	1	7	8
{ Membraneous croup	9	5	14	4		4
{ Croup	41	28	69	6	2	8
Influenza	363	291	654	1	1	2
Milliary fever	32	15				
Asiatic cholera						
Cholera nostras	10	3	13		1	1
{ Chicken pox	54	59	113			
{ German measles	26	23	49			
{ Mumps	41	41	82	1		1
{ Trichinosis						

STATISTICAL TABLES.—*Continued.*

DISEASES.	CASES			DEATHS.		
	M.	F.	Total	M.	F.	Total
1901.						
II. OTHER GENERAL DISEASES.						
Pyemia and Septicemia	20	7	27	6	4	10
Glanders and Farcy						
Malignant pustule	1		1			
Rabies						
Relapsing fever						
Malaria	1		1			
Pellagra						
Scrofula	20	21	41		1	1
Syphilis	30	8	38			
<i>Tuberculosis—</i>						
{ Lungs	151	189	340	57	69	126
{ Meninges	9	17	26	1	1	2
{ Peritoneum	3	5	8		5	5
{ Skin	1		1		1	1
{ Other organs	6	3	9	1	1	1
{ General	4	4	8		4	4
<i>Cancer.</i>						
{ Mouth	18	1	19			
{ Stomach or liver	12	3	15	1		1
{ Intestines or rectum	6	2	8	3		3
{ Uterus		92	92		6	6
{ Breast		14	14			
{ Skin	4	2	6		2	2
{ Other organs	19	5	24	1	1	2
Rheumatism	184	93	277	3	5	8
Diabetes	15	4	19	1	1	2
Exophthalmic goitre	1	1	2	1	1	2
Addison's disease						
Leukemia	2	2	4			
Anemia, chlorosis	48	195	243			
Other general diseases	31	46	77	4	6	10
Alcoholism	29	1	30	1		1
Chronic poisonings	2		2			

STATISTICAL TABLES.—Continued.

DISEASES.	CASES.			DEATHS.			
	1901.	M.	F.	Total	M.	F.	Total
LOCAL DISEASES.							
III. DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SENSE.							
Encephalitis		1	1		1	1	
{ Simple meningitis	6	5	11	1	3	4	
} Cerebrospinal meningitis	3	3	6	2	3	5	
Cerebral congestion, hemor.	13	4	17	5	2	7	
Cerebral softening	7	3	10	2	1	3	
Paralysis	19	5	24	6	5	11	
General paralysis of insane	2	2	4				
Other forms of insanity	8	1	9				
Epilepsy	21	12	33				
Convulsions	14	24	38	4	8	12	
Convulsions of infants	29	31	60				
Tetanus							
Other nervous diseases	43	56	109				
IV. DISEASES OF THE CIRCULATORY SYSTEM.							
Pericarditis	12	6	18		2	2	
Endocarditis	8	2	10				
Organic heart disease	63	35	88	5	2	7	
Angina Pectoris	9	15	24	3	2	5	
Diseases of the arteries	1	2	3				
Embolism		2	2				
Varices, hemorrhoids	61	54	115				
Phlebitis	50	22	72	1		1	
Lymphangitis	13	2	15				
Other lymphatic diseases	11	14	25	1	1	2	
Hemorrhage	22	32	54	2	4	6	
Other circulatory diseases	10	4	14				
V. DISEASES OF THE RESPIRATORY SYSTEM.							
Diseases of the nose	57	44	101				
Disease of the larynx and thyroid	12	14	26				
Acute bronchitis	199	168	367	3	1	4	
Chronic bronchitis	76	54	130				
Broncho-pneumonia	16	18	34	3		3	
Pneumonia	134	98	282	37	9	46	
Pleurisy	25	33	58	1	3	4	

STATISTICAL TABLES.—Continued.

DISEASES.	CASES.			DEATHS.			
	1902.	M.	F.	Total	M.	F.	Total
Congestion of lungs	46	28	74	2	...	2	
Gangrene of lungs . . . . .	...	...	...	...	...	...
Asthma and emphysema	74	62	136	1	2	3	
Other respiratory diseases	21	23	44	1	1	2	
VI. DISEASES OF THE DIGESTIVE SYSTEM.							
Diseases of the mouth	26	30	56	...	...	...
Diseases of pharynx and esophagus	11	8	19	...	...	...
Ulcer of the stomach	8	11	19	...	...	...
Other diseases of stomach	130	121	251	...	...	...
Cholera infantum	56	61	117	3	5	8	
Diarrhœa and enteritis	110	128	238	3	2	5	
Dysentery	34	37	71	1	...	1	
Hernia and intestinal obstructions	19	5	24	...	1	1	
Other diseases of intestines	8	5	13	1	1	2	
Acute yellow atrophy of the liver . . . . .	...	2	2	1	3	4
Cirrhosis of the liver	25	1	26	4	...	4	
Other diseases of the liver	7	5	12	1	2	3	
Peritonitis	13	12	25	2	3	5	
Other diseases of the digestive system	44	38	82	...	2	2	
Iliac abscess . . . . .	...	...	...	...	...	...
VII. DISEASES OF THE GENITO-URINARY SYSTEM.							
Acute nephritis	16	12	28	...	...	...
Bright's disease	37	16	53	7	8	15	
Other diseases of the kidneys	31	11	42	7	5	12	
Vesical calculi	5	1	6	...	...	...
Diseases of the bladder	59	21	80	...	...	...
Diseases of the male genital organs	129	...	129	...	...	...
Uterine tumor . . . . .	...	13	13	...	3	3
Other uterine diseases . . . . .	...	94	94	...	2	2
Ovarian tumors . . . . .	...	6	6	...	...	...
Other diseases of the female genital organs . . . . .	...	70	70	...	...	...
VIII. PUERPERAL DISEASES.							
Accidents of pregnancy . . . . .	...	22	22	...	2	2
Puerperal septicemia . . . . .	...	11	11	...	3	3
Puerperal albuminuria . . . . .	...	16	16	...	3	3

STATISTICAL TABLES.—*Continued.*

DISEASES.	CASES.			DEATHS.			
	1902.	M.	F.	Total	M.	F.	Total
IX. DISEASES OF THE SKIN AND CELLULAR TISSUE.							
Erysipelas	57	37	94	5	1	6	
Gangrene							
Anthrax	8	3	11				
Phlegmon, acute abscess	70	50	120				
Other diseases of the skin	81	83	164				
X. DISEASES OF THE LOCOMOTOR SYSTEM.							
Pott's disease	7	4	11				
Chronic or cold abscess	10	5	15				
White swellings	4	3	7				
Other diseases of the locomotor system	5	3	8	1		1	
XI. MALFORMATIONS.							
Malformations							
XII. DISEASES OF INFANCY.							
Congenital debility	9	6	15	2	4	6	
Premature birth	17	18	35	7	6	13	
Want of care	2	1	3	1		1	
Other diseases of infancy	16	5	21	5	3	8	
XIII. DISEASES OF OLD AGE.							
Senile debility	21	15	36	13	15	28	
XIV. VIOLENCE.							
<i>A. Suicide.</i>							
{ Poison							
{ Asphyxia							
{ Strangulation							
{ Drowning	3		3				
{ Firearms	1		1				
{ Cutting instruments	2		2				
{ Fall from height	2	1	3	1	1	2	
{ Crushing							
{ Other methods	6		6				

STATISTICAL TABLES.—*Continued.*

DISEASES.	CASES.			DEATHS.			
	1901.	M.	F.	Total	M.	F.	Total
<i>B. Accidents.</i>							
Fractures	77	25	102	1	10	11	
Dislocation	31	12	43				
{ Gunshot	7	3	10				
{ Lightning	1		1	1		1	
{ Mining accidents	84		84	1		1	
{ Railroad accidents	15	2	17	1	1	2	
{ Vehicles and horses	20	12	32	1		1	
{ Fire (burn)	7	7	14				
{ Hot liquid (scald)	2	5	7		1	1	
{ Corrosive substance	2	1	3				
{ Sunstroke	2		2				
{ Freezing	1		1				
Accidental drowning	8		8	8		8	
Starving							
Noxious gases	1		1				
Other accidental poisons	2	6	8				
Other accidents	53	14	67	2		2	
<i>C. Homicide.</i>							
* Homicide							
XV. CAUSES ILL-DEFINED.							
Exhaustion, cachexia, debility	13	14	27	2	3	5	
Fever, inflammation	10	6	16	5	1	6	
Dropsy	14	9	23	6	5	11	
Heart failure	27	26	53	2	3	5	
Asphyxia, cyanosis	5	3	8		1	1	
Sudden death	6	2	8	6	9	15	
Abdominal tumor	2	3	5		1	1	
Other tumors	15	7	22		1	1	
Unknown, not specified	4	3	7	2	1	3	
XVI. BIRTHS.							
Single births	462	445	907	14	13	27	
Twins	11	10	21	1	2	3	
Illegitimate	18	14	32	1		1	

STATISTICAL TABLES.—*Continued.*

VISITS TO ENFORCE SANITARY LAWS.

	In Person.	By Inspector.
Location, Construction, Repair or Cleaning of		
Water Closets	130	435
Sinks	89	152
Drains	68	127
Yards	89	487
Stables	64	32
Other places	34	35
Visits to schools	293	2
" school buildings	243	9
Inspection of wells and sources of water	96	10
" " for domestic purposes	635	..
Visits in cases of infectious diseases	391	30
Notifications " " "	170	3
Vaccinations—Gratuitous	679	..
Non-gratuitous	1710	..
Schools closed owing to infectious diseases	7	..
Public gatherings prohibited owing to infectious diseases	6	..

HEALTH REPORTS.

TO THE MAYOR AND MEMBERS OF THE COUNCIL, SYDNEY, C. B. :

Gentlemen,—I beg leave to submit my annual report as Medical Health Officer for the Town of Sydney. As I have furnished a semi-annual report already, a considerable portion of this will be a synopsis of what has already been submitted.

The number of deaths recorded during nineteen hundred and one was one hundred and seventy-nine—males, one hundred and twenty-six, and females, fifty-three.

Causes of deaths were as follows: Killed by accident, ten; deaths from typhoid fever, twelve; diphtheria, two; measles, three; tuberculosis, five; cancer, one; pneumonia, nine; stillborn, three; other causes, one hundred and thirty-four.

The percentage of mortality was largest in the first quarter of the year, and larger in the last than in either of the two intervening quarters. Infectious and contagious diseases reported are the following: Diphtheria, twenty-five; typhoid fever, sixty-four; measles, thirty-nine, and smallpox, two. I am aware that typhoid fever and measles were not accurately reported. The probabilities are that we had in the vicinity of two hundred cases of typhoid during the year, and not less than one hundred cases of measles. I may say that unfortunately the death roll is not kept in such a manner as to be most useful for statistical purposes, not, however, through any fault of the clerk, who is an overworked man, and yet always courteous and attentive, but because at times he is not furnished with the required information. I would suggest that from this out no permit for burial be issued to any person without producing a certificate signed by a medical doctor, stating the name of the deceased, sex, age at time of death, cause of death, and such other information as may in particular cases be deemed necessary. I may also repeat that it is very desirable that the doctors report all cases of infectious diseases as early as possible. The promptness with which this was done in diphtheria cases, and the measures afterwards taken, have helped very materially to wipe out diphtheria from amongst us. There has not been a case of diphtheria in town since the early part of last July. All other diseases of an infectious or contagious nature, though not so much to be dreaded, should be reported to the health authorities with the same promptitude.

On the 14th of October a case of smallpox was discovered in a boarding house on Dolbin Street. The patient was a young man, who had recently arrived from St. Hyacinthe, Quebec, and had

carried the disease with him. As he had had resort to two houses it became necessary to quarantine those two places, one of which was a large tenement house in which no less than twenty-four persons resided. Through the prompt action of the Mayor, assisted by Dr. A. S. Kendall, M. P., Mr. Johnson, M. P., and Dr. Rindress, marine quarantine officer, permission was obtained from the Minister of Marine and Fisheries at Ottawa to use the Quarantine Hospital at Point Edward. The patient was speedily removed to Point Edward, and strict quarantine maintained night and day over the houses supposed to be infected. The second case was discovered on the 26th of October in the tenement which was still under quarantine and the patient was removed to the hospital at Point Edward as quickly as possible. Quarantine was kept up until every one who had come in contact with the patients was considered safe. The two patients, Lapierre and Conway, made a good recovery, and were discharged in due time. The fumigating and disinfecting were done under my own personal supervision, and I have only to refer the public to results in proof of the carefulness which was exercised in the performance of that duty. This little outbreak of smallpox cost the town a considerable amount of money, but I think every one in the community has reason to be thankful for the efficient and satisfactory manner in which the outbreak was nipped in the bud.

I have to particularly thank the Council in connection with this matter for their promptness in placing at my disposal every assistance that was required. I have also to thank Dr. A. S. Kendall, M. P., and I think the thanks of the community are due to him, for valuable assistance rendered me in removing the patients and making very useful suggestions.

Notwithstanding the desire expressed by the Board of Health to adopt general vaccination, only about fourteen hundred persons were vaccinated in the town since the outbreak of smallpox, and these were principally of school-going age. This is but a small proportion of the present population of Sydney. It is a matter of serious regret that people are so prejudiced against vaccination, especially when it has been shown time and again that it is a safe and sure preventative of smallpox. When smallpox is ravaging a community is not the best time for general vaccination. General vaccination should be adopted and strictly enforced when the possibility of an outbreak is looming up, and although I have no desire to appear pessimistic, it seems to me that not only the possibility but the probability of another outbreak here is not a matter difficult to conjecture. I do not mean to say that there is any further danger from what we have had already, but the conditions existing in the adjacent provinces and Boston and other cities of the United States with which we have a large inter-communication should warrant us availing ourselves of every precautionary means to guard against the tremendous loss, financially and otherwise, which an epidemic of this nature would entail.

In view of the very many difficulties which the health authorities had to contend against, it must be admitted that a vast improvement in sanitation has been effected during the year 1901. That part of the town known as the Klondyke Field, which was a nuisance and a hot bed for disease germs, has been put in a very satisfactory condition by the extension of the sewerage, which enabled the people to do away with the old *cesspools*, which were not cesspools at all, but something very much worse. Several other parts of the town that threatened danger to the public health have been improved in a similar way. The districts of Ashby, Coke Ovens and Whitney Pier received a fair share of attention from the Sanitary Inspector, and underwent a great change for the better during last year, and only in a few cases was there manifested a disposition to evade the sanitary regulations. Slaughter-houses, of which there were not a few a year ago, were removed beyond the limits of the town with the exception of one or two, and these, as well as meat shops and milk dairies, were regularly inspected.

Typhoid fever has greatly diminished among us in consequence of improved sanitation and the extension of the town water to the out-laying portions. I have to thank the council on this occasion for having acted on a suggestion which I made in a previous report, in regard to the necessity of an infectious diseases hospital. I am glad that a suitable building has been provided, conveniently-situated and capable of accommodating about twenty patients, besides apartments for two nurses. The building is now nearly ready for occupancy. It may be said by some that this was an injudicious expenditure, but experience has shown that such an institution is an absolute necessity.

Respectfully submitted,

D. K. McINTYRE.

Sydney, C. B., January 1st, 1902.

KENTVILLE, N. S., January 13th, 1902.

A. P. REID, M. D.,

Secretary of the Provincial Board of Health for Nova Scotia:

Herewith I beg to submit quarterly health reports for the year.

The school closing owing to infectious disease was caused because of a teacher having shown a history indicating exposure to a reported case of smallpox in the Town of Kentville. It was at North Alton, but school was re-opened about five days after, as the history of true exposure was found to be very questionable.

I have notified all the sanitary inspectors of the county as to their duties, having had reports from many of them that they did not understand clearly what these were. I have also notified in writing all the chairmen of the boards of health to send me in their respective reports. I have heard from most of them that there have been no epidemics of any serious disease and that the general health of their several districts has been good. I have also caused to be published in all the newspapers of the county a notice to the effect that all premises in the county must be thoroughly cleansed on or before the first of May, and that a vigorous inspection will be carried out, and that the law in regard to public health will be enforced; and that all wells must be cleansed once a year. I wrote all the sanitary inspectors, referring them to this notice, and asked them to make the necessary inspection for their several districts.

I sent circular issued by Secretary of Provincial Board of Health to the Warden of the County.

I submit that as the method of benefitting the health of the general public is begun systematically, it will therefore necessitate considerable time and work to cause the duties of the sanitary officers to be properly understood and appreciated, and the obligations and duties of the public as well.

In Canning there were several complaints made to me because of sink-drains being allowed to open on a street leading from Seminary Hill, so called, and running south to the main street of the village. After personally investigating and examining, with the aid of the sanitary inspector for that ward, I found the conditions so insanitary that I caused the proprietors of several houses to build a sewer, which drains from six houses to the river, and is arranged so as to have more drains connected when necessary.

SMALLPOX EPIDEMICS.

Smallpox broke out at Simon Wood's, Woodside, N. S., on Aug. 31st or Sept. 1st, 1901. The Sanitary Inspector for Ward I reported to me on the evening of Aug. 31st that Mr. Wood was a suspected case, and that another physician, who had a few days previously been attending a child there, had pronounced the child's case chickenpox. I went over early the next morning, examined Mr. Wood, and found him suffering from semi-confluent variola. I immediately quarantined the place and left literature on smallpox. No other case in the house at the time. One former inmate, George Steele, who had a day or two previously left for his home on the North Mountain, at Alonzo Steele's. I immediately caused him to be quarantined there. This man came on with the disease at this time. I notified the Warden of the county and the several sanitary inspectors and the chairmen of boards of health in the immediate districts. Also notified Secretary of Provincial Board of Health. I caused all known or suspected exposures to be quarantined.

The Wood's history showed that a daughter of his, Mrs. Thomas Morgan, with her two children, aged 12 and 8 years respectively, had come from Boston to his place, arriving on August 7th, 1901, the younger child being ill with a rash, which, as was said, the attending physician pronounced chicken pox. I have reason to believe that a physician in this county received a letter (after the case was properly diagnosed here) from an M. D. living in Boston, stating that the child had varioloid (mild smallpox) when it left Boston. The mother, with her two children, left for Boston on August 20th, 1901, the child being of course convalescent enough to permit travelling. The mother dies four days after, though no history showing cause of death. One of the children, the Woods say, they think dies after going on there. Two inmates of the house of Mr. Wood came on with the disease Aug. 31st; also a daughter of Mr. Wood, Mrs. Herbert Tupper, living at Scott's Bay, but who had been visiting at Mr. Wood's, came on about the same time. Her husband, Mr. Tupper, manifested a mild type of the disease also. Many houses at Scott's Bay the sanitary inspector and I had quarantined because of suspected exposure to the Tuppers, and also in Wards 3 and 4 because of suspected or known exposures. General vaccination was advised for Wards 4, 3, 2 and 1 respectively. A Mrs. Jerry Schofield, near Canning, was quarantined because of known exposure to the Woods' place. She showed the disease about ten days after quarantine. In about twelve days a young woman and child in her house came on, and about this time a son of Mrs. Schofield came home to her house from the States, and he contracted the disease after about the usual time of incubation had expired, though two more escaped by being early enough successfully vaccinated. Two in the Tupper house escaped by being early enough protected. Two other inmates of the Wood house came on shortly after Eagles and wife, viz: Annie Lockhart and George Porter, while Mrs. Simon Wood's was a mild walking case. All the cases were traced directly to having been exposed to the first case, the child, with the possible exception of the Lockhart girl and George Porter, who may have contracted it from Mr. Wood.

About September 14th, 1901, the rest of the inmates of Alonzo Steele's house (eight besides George Steele) took the disease, and the Board of Health for Ward 3 asked me to employ nurses, which I did—Wm. Harper for Steeles and J. Norton Cox for Simon Woods, at \$3 per day. On September 23rd Annie Lockhart died. The Warden of the county asked me if I would go there and see to burial with the assistance of sanitary inspectors for Wards 3 and 1 respectively, who arranged for some of the preliminaries. I went to Simon Woods and there, with the assistance of nurses of Cox and Harper, we took the remains to burying ground at Hamilton's Corner, Canard, and there, after three hours of partly re-digging a too short grave and other difficulties, to which I had personally to put my hand also, we interred the remains. The Warden also asked me to attend the Steeles and Woods medically, and he would see that I was paid also for burial of the dead.

On the 23rd George Porter, also at Woods', died. Nurse Cox and I buried him at Billtown Poor House Farm with much the same difficulty as before. On about the 25th a son of Frank Harris, at Stephen Harris', Sheffield's Mills, manifested the disease. History of Stephen Harris, having been exposed at Simon Wood's before the latter's house was quarantined. I immediately visited, examined and corroborated the diagnosis at the request of sanitary inspector for ward, and quarantined the house, the sanitary inspector attending.

I omitted to mention that on about the 20th, Aubrey Eagles, at Wood's, died. Dr. Jacques, who was there attending, saw to that burial. There had been no outbreak from any of the places quarantined.

On October 22nd, a suspicious case being reported in a vessel lying off wharf at Kingsport, I visited and examined the case, one Charles Palmer, and found him suffering from the disease, which soon proved to be of confluent type. History showed that about two weeks ago he came from Kentville. No other indication of possible origin could I find. I immediately arranged for his care and that of a Captain McLean, who was on board in another part of the vessel, but who had not yet manifested the disease. I notified the chairman of board of health for the ward and the sanitary inspector to provide buildings for the sick case and the exposed one, while I hired a team and drove to find a nurse. I got William Harper and took him on board vessel. A night after, in company with the sanitary inspector, we got the sick man and nurse and exposed case off vessel into buildings on shore, quarantined, the sanitary inspector being the medical attendant. The supposed case escaped disease and was released after 21 days. Palmer recovered and was disinfected and a change of clothes supplied him after sixty days had expired and was released. The buildings are standing in case of outbreak of disease, which unfortunate occurrence, however, I do not anticipate. I think the plan of caring for smallpox case and the one exposed, adopted in this ward, a good one. I made several subsequent visits contributing to the care of this case, but neither for this nor the procuring of nurse for this case or others have I made any charge.

During active attendance on cases and the inspection of others encountering such ignorance in regard to contagion, I endeavored always to instruct as to the full significance of the term quarantine, and how to observe it.

Of the number of houses quarantined by the sanitary inspectors and myself, including houses infected and those exposed, I had occasion to visit many because of public complaints of alleged violation of quarantine; however after many visits on this account, and the examination of alleged suspicious cases. I had reason to believe that very good quarantine law was being observed. The

public complaints called on me to make visits over almost the whole length and breadth of the county, which I did several times, but happily found no outbreak, though necessarily involving some expense to me, no bills for which have I rendered.

In regard to the nurses employed, I directed sanitary inspector for Ward 1, in medical attendance on the Tuppers, Scott's Bay, to disinfect nurse Miss Pineo, and release her, which he did. I released nurses Cox from Wood's, and Harper from Steel's, making them change clothes, and having them disinfected in my presence.

On October 9th there was reported to me that the late Miss McCarthy, who proved to be suffering with small-pox when arriving at her home, Kentville, had been boarding at the house of J. L. Simpson, Gaspereaux. I immediately notified the Sanitary Inspector for that Ward, to quarantine the house and any known exposures. The Warden of the County suggested that I had better go in person, which I intended to do, as soon as possible, as the necessary care might not be observed. I went by early train and found that the quarantining was left for me to do. I immediately did so, and gave instructions as to quarantine and to disinfect their house, particularly the rooms and contents from which the afflicted had just left, and saw that all were vaccinated. I quarantined the house of S. A. Bowser, Grand Pre, reported exposed. I found a day or two after when interviewing the Chairmen of Boards of Health and Sanitary Inspectors for the several adjoining Wards, 7, 8 and 9, that Marshall Coldwell had been exposed. This was the Post Office, so I directed that no mail be given or received there, but go to Grand Pre. Also learned that a daughter of Mrs. James Hick, Gaspereaux Mountain, had been exposed. I drove up and quarantined.

A general vaccination was advised and acted upon in Grand Pre and vicinity.

I received notice from the health officer of the Town of Wolfville urging me to take such steps to prevent the outbreak of disease, as fortunately I had already done.

No outbreak of small-pox occurred from this exposure. It was proven that the case which developed at J. L. Simpson's had been in Kentville about 13 days before.

Another danger of outbreak was possibly averted when one Fred Schurman, Lower Church Street, quarantined on the jail premises in Kentville, broke quarantine and visited his home. I telephoned the sanitary inspector for ward 2 to quarantine. I went down, vaccinated the family in the house, and burned the small-pox patient's clothes, which I found under a tree close by. The small-pox convalescent returned to the jail in Kentville—no outbreak.

As to vaccination, I may say that I particularly looked after the dangerous element who lived on the borders of the county adjoining the town of Kentville as they, so long as un-vaccinated, would be a menace to the community at large.

I could not always get sanitary inspectors to understand their duties to investigate or examine as to a suspicious case, they often thinking that it was my duty, rather than theirs. For instance, on one occasion, a sanitary inspector wrote me asking that I visit a suspected place, vaccinate and report to him (it happened that I had already visited, examined and vaccinated at the request of the Chairman of Health Board for his ward.)

I hope that a better understanding exists now throughout and no such experience will occur again.

A most important factor toward the maintenance and promotion of public health is the efficiency and thoroughness of disinfection of infected persons, articles, buildings, premises, including cesspools and animals used on premises. I can say as a public health officer that I have diligently ascertained the best modern means and agents known in addition to those already used, and have applied them, sparing no pains or work or personal risk or loss of practice in the endeavor to cause nuisances to be abated. I had asked that the sanitary inspector do the work of disinfection in certain localities, but it was left for me to do.

I disinfected the following places, personally doing the work and handling or inspecting all articles and places:

Gaspard Roy's vessel Cornwall, Kingsport.	Released Nov. 15, 1901.
Walbrook School House, Gaspereaux.	" " 20, "
Herbert Tupper's, Scott's Bay,	" " 14, "
Simon Wood's, Woodside,	" " 26, "
Stephen Harris', Sheffield's Mills,	" Dec. '7, "
Mrs. Jerry Schofield, Canning,	" " 12, "
Alonzo Steel's, North Mountain,	" " 20, "
County Jail, Kentville,	" " 16, "

I could not get several of those places released sixty days from the date of their quarantine, as I had so much to do, no help and the distances were considerable.

At these places I saved all the things that I could with safety, and particularly, in the case of Simon Wood, I prevented him from having a bill against the county by my saving nearly everything he had.

In the case of Alonzo Steele I saved the windows and doors of the old house to put in the new temporary building I had built for

them. I destroyed the house they had lived in and most articles of bedding.

In the process of disinfection generally the treatment of each article was adapted according to its nature; some it was necessary to burn, others to boil, others to bake, others to put in Standard Disinfectant solution, and *surfaces* to trust to fumigation and washing. The process of disinfection being varied, dogs and cats had frequently to be treated with contents of a properly-loaded shot gun.

To get the local boards of health in good working order has proved to be very necessary, and this experience must serve to teach us much. The very fact of having such would-be organizations in this county and a public officer who is responsible for the carrying out the laws of the Public Health Act, would certainly tend to eradicate this virulent, loathsome and comparatively fatal disease.

I have done my best to cause to be abated this dreadful pestilence, and that the power for loss, expense and fatality cannot occur again, except by importation, as it did before.

Had there been no smallpox there would have been no bill of any kind of mine rendered against the county.

I ask the councillors to instruct the sanitary inspectors in their respective wards as to their duties under the Act, and also give all such information to the health officer, and that in accordance with the spirit of the Public Health Act, the sanitary inspectors each make out a quarterly report, particularly recording births and deaths for their ward, and send to the health officer, and so enable him to make out such a report for the county as the Act requires.

All of which is respectfully submitted,

P. C. WOODWORTH, M. D.,
Health Officer for the County of Kings, N. S.

LUNENBURG, N. S., Feb. 15th, 1902.

TO THE MAYOR AND COUNCILLORS OF TOWN OF LUNENBURG:

Gentlemen,—In compliance with the Provincial Medical Act of 1900, I herewith beg leave to present the following report in regard to the sanitary condition of the town for the quarter ending Feb. 15th, 1902.

The town has been free from any serious epidemic of disease since my last report.

With the exception of an epidemic of influenza, the public health has been good, all things considered.

There are always lurking cases of typhoid, due mainly to the want of much-needed sanitary reforms, viz: water supply and sewerage.

The outbreak of smallpox at Black Rocks, six miles from Lunenburg, has been of benefit in one way to the inhabitants of the town, as it has caused the greater number to be vaccinated, and owing to the prevalence of the disease in other parts every fisherman that has not been vaccinated ought to be before leaving home

As the spring is approaching, the back yards, cesspools, etc., will have to be cleaned. And as there was great trouble last year to enforce the same for want of garbage men,—those who used to act as such have now refused to do so,—and also the want of a dumping ground for the contents of cesspools, etc., I would respectfully ask that the council provide or suggest some manner, way or means to help the sanitary inspectors in carrying out the law.

Yours respectfully,

C. C. AITKEN, M. D.,
Health Officer Town of Lunenburg, N. S.

LUNENBURG, May 15th, 1902.

TO HIS HONOUR THE MAYOR AND COUNCILLORS OF TOWN OF
LUNENBURG:

Gentlemen,—In this my quarterly report regarding the health and sanitary condition of the Town of Lunenburg, I beg leave to state that the town was free from all contagious and infectious diseases during the last three months.

The sanitary condition of the town is not what it should be, and it cannot be remedied until Lunenburg has a system of sewerage. The public have to let their drains run into the public gutters, and as warm weather approaches it is detrimental to the public health. There are two or three places that the Board of Health will have to deal with, as there is a very offensive odor arising from the foul material lying underneath the planks. All of the above have been visited by sanitary inspector and myself, and Mr. — will not comply with our orders, and I may say defies the sanitary officer. The same may be said about the other difficulty between — and —, although Mr. — is willing to do his part, but the other party will not. So now it is to be attended to by the Board of Health.

Your obedient servant,

C. C. AITKEN,
Health Officer for Town of Lunenburg.

SANDY COVE, Digby Co., N. S.,

June 3rd, 1902.

DR. A. P. REID:

Dear Sir,—I beg to report to you that diphtheria has broken out in Digby Co., at East Ferry. I was called there Saturday and found three cases, all in the same family. To-day another case developed in the family of a neighbor. I closed the school and notified the members of the local boards of health in the district in which the disease exists and that joining it. I also isolated the cases as well I could.

Yours truly,

F. E. RICE,
Health Officer.

PORT MORIEN, C. B., April 1, 1902.

H. C. LAVATTE, Esq.,

Warden Municipality of Cape Breton:

Sir,—As required by "The Public Health Act," I beg leave to submit the following report upon the sanitary condition of the municipality for the quarter ending March 31st, 1902.

I am pleased to report that the municipality has been free from any serious epidemic of disease. A few cases of typhoid fever have been reported from some of the districts, due in most cases to defective water supply. It is to be regretted that this disease is endemic in the more populous districts, and I would impress upon the health authorities at these points the absolute necessity of exercising more vigilance in respect to water supply, as well as the removal of sewerage. With the removal of these two etiological factors, there is every reason to believe that typhoid fever would disappear in an epidemic form, at least, thus freeing these districts from one of the most serious if not most fatal diseases to which they are at present liable. Diphtheria has prevailed to some extent, but I am pleased to state, in so far as can be ascertained, with no serious results.

The introduction of serum therapy in 1893 marks an era in the history of this disease, prior to which the prognosis was justly viewed with alarm. The advent of this treatment has led, however, to a corresponding evil, viz: the viewing, by the laity, of this disease in no more a serious light than that of ordinary cold. This view tends, in turn, to a disregard for quarantine regulations. That the contagium of diphtheria often adheres tenaciously to localities where it has once gained a foothold should serve as a signal that isolation be strictly enforced, and that under no circumstances

should a patient convalescent from this disease be permitted to mingle with the public until a period of, at least, twenty days after thorough disinfection. This, of course, applies to those usually in attendance upon these cases.

A few cases of scarlet fever were reported in the early part of the year; and, as might be expected at this season, there is the usual supply of colds.

I cannot conclude this report without calling attention to the neglect—almost criminal—that the greater majority of the rural districts have shown in relation to the question of vaccination. The advantage of vaccination has frequently been drawn to their attention, and yet, it appears that not more than twenty per cent. have availed themselves of the protection vaccination undoubtedly affords.

I trust that we will not be called upon to cope with an epidemic of smallpox, but should we be so unfortunate, I fear our preparations are of such a character as to afford but feeble resistance to its ravages.

Respectfully submitted,

E. E. BISSETT, M. D.,
Health Officer.

ANTIGONISH, N. S., Nov. 25th, 1901.

DR. A. P. REID,
Middleton, Annapolis.

Dear Dr. Reid,—I beg to report an epidemic of diphtheria at the Ohio and James' River, in this county. It is about three weeks since the first case, and since then there have been five deaths—2 in one family, 2 in another, and one in the third. One person in still another family was taken ill, but is now out of danger. Four schools have been closed until after the Christmas holidays. It is impossible to say for a few weeks yet whether the disease will spread, but we are using every precaution that preventive measures afford.

Sincerely yours,

J. J. CAMERON,
Health Officer.

CIRCULAR No. 10.

PROVINCIAL BOARD OF HEALTH
OF NOVA SCOTIA.

TO THE MEDICAL PROFESSION AND THE PUBLIC.

LABORATORY OF SCIENCE;
ITS OBJECTS AND REGULATIONS.

This Circular is issued by the Board of Health of the Province of Nova Scotia, with the object of calling attention to the fact that a Laboratory of Science has now been established, more completely equipped than ever before, and it is proposed to make this institution of benefit—to the medical profession, by putting laboratory methods within their reach,—to the public, indirectly through the profession.

Facilities will be provided for bacteriological investigation in suspected cases of tuberculosis, diphtheria, typhoid, etc., and both Chemical and Bacteriological examination of water, milk, etc., will be undertaken.

Pathological investigation, such as the examination of morbid tissues, pathological fluids, blood films, etc., will be carried out as far as possible.

Blood counts, urinary analysis (other than the ordinary chemical examination), examinations of stomach contents, will also be made in the laboratory.

Chemical notes must in all cases accompany specimens, otherwise examinations will positively not be carried out.

It is earnestly hoped that advantage will be taken of these facilities, and every effort will be made to make the institution worthy of public support, devoted as it is to the interest of the public health of the Province.

Medical men are further specially requested to communicate with the laboratory, and give the subsequent history of cases, as it is only in this way that the Bacteriologist can have any means of judging of the accuracy and efficiency, not only of his own work, but of the relative value of such matters as the Widal reaction, etc.

The following hints, copied from the New Hampshire Sanitary Bulletin, issued by the State Board of Health, may be of use to those taking advantage of the work of the laboratory :

TUBERCULOSIS.

“ It is of vital importance for the successful treatment of tuberculosis that the disease be positively recognized and determined in its earliest stage. It has been conclusively demonstrated beyond controversy that a very large proportion of cases of tuberculosis might be cured if the disease were discovered in its incipiency and proper treatment given.

“ Not infrequently it is impossible to diagnose a suspected case until the bacillus of the disease has been discovered or excluded by repeated bacteriological examination.

“ In the incipient stages it is sometimes necessary to make several examinations before the nature of the case can be determined either positively or negatively.

“ Free facilities are now provided for the bacteriological examination of sputum, and we expect and trust that physicians will avail themselves of the opportunity to the fullest extent.

“ In view of the great mortality from tuberculosis, the importance of its early recognition in a given case, and its curability under favorable conditions, we believe that the medical profession will avail itself as far as possible of the use of the laboratory in all suspected cases.

DIRECTIONS FOR COLLECTING SPUTUM.

“ The expectoration discharged in the morning is preferred. Have the patient wash out the mouth and throat with pure water early in the morning, and then cough up the sputum from the lower air passages.

“ The sputum should be forwarded in as fresh a condition as possible.

DIPHThERIA.

“In all inflammatory conditions of the throat in which there is the slightest exudatum, a microscopic examination should be made to determine whether or not the condition is due to the presence of diphtheria bacilli.

“Upon the prompt recognition of the true character of this disease may depend the life, not only of the patient, but also of other members of the family or the community.

“Not infrequently it is absolutely impossible to know whether a given case is diphtheria or not without a bacteriological examination. The streptococcus pyogenes and the micrococcus of septic sputum, and perhaps other forms of infections, may produce results that stimulate diphtheria, and sometimes produce death.

“We would call the attention of the profession to two papers on this subject in the last report of the State Board of Health.

“1. That no case having the appearance of diphtheria can be positively diagnosed as such until the Klebs-Löffler bacillus has been discovered by microscopic examination, which ought to be made in all cases.

“2. That without a bacteriological examination, which shall determine the true character of the disease, no physician can be certain of the best means of treatment, nor can the health officers be certain as to whether isolation of the patient is necessary or not for the protection of the public.

“3. That in a case having all the clinical appearance of malignant diphtheria the condition may be due wholly to streptococcal infection, in which case anti-diphtheritic serum would be absolutely useless and fatal results might follow; while had a bacteriological examination been made, the patient might, perhaps, have been saved by the use of anti-streptococcal serum or other treatment. These facts may also explain why in a very small percentage of deaths reported from diphtheria, anti-diphtheritic serum, although given early, produced no remedial effects.

“4. That the conclusion that the throats of well persons in a family where diphtheria exists should be examined to determine the extent of the infection seems to be well founded.

“5. That if bacteriological examinations were made in all cases of suspected diphtheria, a certain percentage would be found to be due to other forms of infection which would not require the patient or the family to be placed in quarantine.”

Outfits for mailing swabs from suspected throats can be obtained on application at the Laboratory.

DIRECTIONS FOR TAKING SPECIMENS.

“The patient should be placed in a good light and, if a child, held properly. In cases where it is possible to get a good view of the throat, depress the tongue and rub the cotton swab gently, but freely, against any *visible exudate*, revolving the wire between the fingers, so as to bring all portions of the swab in contact with the mucous membrane or exudate. In other cases, including those in which the exudate is confined to the larynx, avoiding the tongue, pass the swab back as far as possible, and rub it freely as described against the mucous membrane of the pharynx and tonsils.

“Then carefully replace the swab in the tube, plug with cotton wool, cover with rubber cap in the manner in which it was originally sent out, wrap the blank around the tube, place in wooden case, seal with a small slip of adhesive plaster and forward to the Laboratory.

TYPHOID FEVER.

“The medical profession recognizes the importance of an early diagnosis on this disease, not only for the proper treatment of the case from the onset, but also that prompt investigation may be made into the cause of the disease, and the necessary precautions taken to prevent its dissemination to others.

“The experiments of numerous investigators have shewn that the blood serum of persons suffering from typhoid fever exercises a peculiar agglutinating action over the typhoid bacilli. This special action appears, as a rule, from the fifth to the eighth day of the disease, and persists in some instances for years after recovery.

“This last is known as the Widal reaction, and is performed in the following way :

“One part of the suspected blood serum is added to one or more parts of a 24-hour bouillon culture of the typhoid bacillus. When the typhoid reaction appears, the bacilli quickly lose their mobility and become clumped together in masses.

“The substances which cause this reaction are absent, or present to only a very moderate extent, in the blood of those not suffering from typhoid; while after the fifth day the blood of those having typhoid fever usually contains these agglutinating substances in abundance.

“The results so far obtained indicate that we are safe in drawing the following conclusions :

“1. That the patient in all probability has typhoid fever, or has had it within one year, in those cases in which the reaction occurs promptly upon the addition of one part of serum to nine parts of a bouillon culture of the typhoid bacillus.

“2. That if a marked reaction occurs when one part of blood serum is added to nineteen or more parts of a bouillon culture, the probability that the patient has typhoid fever becomes almost a certainty.

“From the fourth to the seventh day of the disease specimens of blood serum from typhoid patients give the reaction in about 70 per cent.; from the eighth to the fourteenth day, in about 80 per cent. of the cases.

“In from 5 to 10 per cent. of the typhoid cases the blood does not at any time in the course of the disease give a prompt and complete reaction, when one part of the blood serum is added to ten or more of the culture.

“The absence of the reaction in any individual case does not therefore positively exclude the diagnosis of typhoid fever.”

DIRECTIONS FOR TAKING SPECIMENS OF BLOOD FOR TYPHOID EXAMINATIONS.

The skin covering the tip of the finger or lobe of the ear should be thoroughly cleaned and then pricked with a clean needle.

A few drops may then be taken up in capillary tube, or smeared on a glass slide or a glazed piece of note paper, and allowed to dry and then transmitted to the laboratory.

CHEMICAL EXAMINATIONS.

A large part of the work will necessarily be confined to water analysis, on the investigation of suspected pollution of supplies used for domestic purposes, and in the determination of the quality of waters proposed to be taken for public supplies.

Secondary to this will be made examinations of foods, etc., but for no other purpose than the advancement of public health interests.

WATER ANALYSIS.

In the examination of water we classify the substances found in it as mineral and organic.

From a sanitary standpoint we are mainly interested in the organic contents of a water. This we find first as living organisms, animal and vegetable, which either float in the water or have the power to move about in it.

Second, the products of organic life, such as albumen, urea, etc., which may be dissolved or suspended in the water.

Third, products of the decomposition of organic matter.

The ordinary methods employed in the sanitary analysis of a water give the form and amount of the constituents of a water at the time it was analyzed; but the results obtained cannot be considered as establishing the value of a water for potable purposes, though they go a long way toward settling the matter.

Students of sanitary science have attempted to establish certain standards of purity of water based on the determination of nitrogen. These standards express limits for organic nitrogen or albumenoid ammonia, free ammonia, nitrates and nitrites, beyond which the water containing them should not be used for drinking.

In addition to the chemical and biological examination one should know the location, environment, and source of the water and the character and population of the drainage area.

INSTRUCTIONS FOR THE COLLECTION OF WATER.

The water should be sent in a one gallon glass-stoppered bottle. No analysis of water will be made except to determine its fitness for drinking purposes.

The following instructions should be complied with in every particular:

1. From a water tap.—The water should run freely for a few minutes before it is collected. The bottle should be rinsed out with the water at least twice. It is then filled to overflowing and stoppered. The stopper should also be rinsed off, and after it has been put in place it should be secured by tying over it a clean piece of cotton cloth.

2.—From a stream, pond or reservoir.—The bottle and stopper should be rinsed with the water. The bottle with the stopper should, if possible, be submerged, and the stopper taken out beneath the surface.

When the bottle is full replace the stopper, below the surface, if possible, and secure as above.

It is important that the sample should be obtained free from the sediment on the bottom of a stream or pond and from the scum on the surface.

If the stream should not be deep enough to allow of this method of taking the sample, the water may be dipped up in an absolutely clean vessel and poured into the bottle after it has been rinsed.

3. From a well.—Pump or draw the water in the usual manner, rinse the bottle and stopper, then fill, using the above precautions.

Samples should be collected immediately before shipping, that as little time as possible shall intervene between the collection of the sample and its examination.

NORMAL CHLORINE.

In order to interpret correctly the significance of a given amount of chlorine in water, it is necessary to know the normal amount of chlorine in the natural or unpolluted water of the same locality. For example, the amount of chlorine near the coast is largely in excess of that found in the interior. Information then on this point should accompany the sample, and in some instances it may be necessary to make an examination of water from the same district which is not under suspicion of contamination.

MILKS, ETC.

The ordinary sanitary chemical examinations will be made, e. g. :

Percentage of fats, solids, etc. ; and also the absence or presence of injurious preservatives, when necessary.

Anyone desiring further information on these or other points of sanitary importance are invited to apply to the Laboratory either personally or by letter.

A. HALLIDAY, M. D.,
Director Laboratory of Science and Hygiene,
Medical College Building,
Halifax, N. S.