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CITY OF WINNIPEG

REPORT
of the
Health Department



For the year ending
31st December
1929



Presented by

The Medical Officer of Health

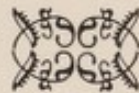
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CITY OF WINNIPEG

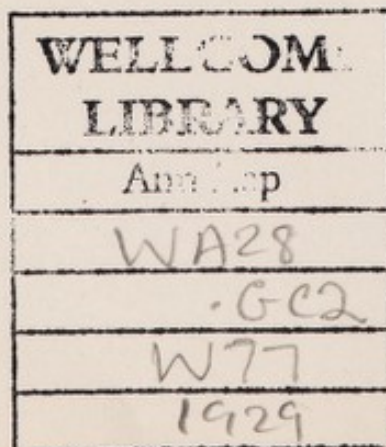
REPORT
of the
Health Department



For the year ending
31st December
1929

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COMMITTEE ON HEALTH

1929

Alderman W. B. Simpson, Chairman
Alderman A. R. Leonard
Alderman S. S. Kennedy
Alderman W. B. Lowe
Alderman F. H. Davidson
Alderman T. Boyd
Alderman T. Flye
Alderman J. Blumberg
Alderman J. A. Barry
His Worship Mayor D. McLean
(ex-officio)

STAFF

(December, 1929)

Medical Health Officer

A. J. Douglas, M.D.

Laboratory

Bacteriologist—M. S. Loughheed, M.D.
Senior Laboratory Asst.—Miss M. Wilson.
Junior Laboratory Asst.—J. R. Bentham.

District Physicians

W. Turnbull, M.D.
O. C. Dorman, M.D.
E. H. Alexander, M.D.

Communicable Diseases Division

Chief Inspector—W. J. T. Watt
Inspector—A. Paull
" —C. H. Hargrave
" —H. H. Marshall
" —H. Robinson

Tuberculosis Nurse—Miss K. M. Vanetta
" " —Miss H. Smyth
" " —Miss M. Simpson
Inspectors' Clerk—G. Moore
Junior Clerk—G. W. Kelly

STAFF—Continued

Sanitary Inspections Division

Chief Inspector—E. W. J. Hague	Housing and Supervising Inspector—A. Officer
Smoke and Supervising Inspector—P. Pickering	Supervising Inspector—D. Little
Inspector—S. J. Scheving	Inspector—J. Foggie*
“ —B. C. Brough	“ —R. McQuillan
“ —J. McHardy	“ —A. Aitken
“ —A. Barclay	“ —F. C. Austin
“ —J. Shepherd	“ —B. Davies
“ —M. Flattery†	“ —A. G. Isaac‡
Inspectors' Clerk—G. Duffield	Junior Clerk—S. L. Steele
*Resigned July 31st	†Appointed June 15th
	‡Appointed August 1st

Dairy Division

Chief Inspector—E. C. Brown
Inspector—F. Lutley
“ —T. J. Booth
“ —J. M. Jackson

Food Division

Chief Inspector—A. Rigby
Inspector—A. W. Foote
“ —G. R. Mines

Bureau of Child Hygiene

Manager—A. G. Lawrence	Nurse—Miss A. M. Wilkins
Nurse—Miss M. M. Wonnacott	“ —Miss H. A. Carter
“ —Miss A. J. Attrill	“ —Miss C. W. Thom
“ —Miss L. Spratt	“ —Mrs. C. E. Smith
“ —Miss C. Maddin	“ —Miss M. B. Bowles
“ —Miss A. Moore	Dietitian—Miss M. A. Graham
“ —Miss C. Munro	Senior Helper—Mrs. J. McDonald
“ —Miss L. A. Schwalm	Junior Helper—Mrs. H. Twist
“ —Miss E. A. Bennett	“ “ —Mrs. A. B. Gibson
“ —Miss M. M. Harper	Caretaker—G. Wade
Attending Physician—R. F. Rorke, M.D.	
“ “ —F. G. Schwalm, M.D.	

Division of Records and Statistics

Secretary—A. G. Lawrence	Junior Clerk—Miss E. Fraser
Clerk—Miss E. S. Halliday	“ “ —Miss F. J. V. Orr

Street Cleaning Division

Chief of Division—E. A. Wood	Clerk—J. J. Higgins
Superintendent of Scavenging—J. Middleton	“ —J. McTavish
Superintendent of Street Cleaning— L. Woodhall	Office Assistant—Miss V. Pope

Report of the Medical Health Officer

City Health Department,
Winnipeg, Man., March 7th, 1930.

Chairman and Members of the
Committee on Health.

Gentlemen:

I have the honor to submit for your consideration the report of the Health Department for the year 1929. This includes the reports of the heads of Divisions together with a statement of the cost of the year's work.

STATISTICS

Within recent years there has been a great development in the hospitalization of morbidity and maternal cases, and this development has taken place amongst both city patients and those in extra-urban areas. As a consequence of this change, the number of non-resident births in Winnipeg in 1929 amounted to over 27% of the registered births, and the non-resident deaths to 20% of the registered deaths.

These large proportions of non-residents have unduly biased our vital statistics and in an endeavor to remedy this condition, corrected figures for the City have been prepared by deducting non-resident births and deaths and adding to the remainder the births and deaths of Winnipeg residents registered in the adjoining City of St. Boniface, and deaths of Winnipeg residents in Ninette Tubercular Sanatorium. These corrected rates are given in the following summary.

The registered deaths, excluding stillbirths, numbered 1,817. Assuming the population to be 205,083 (City Assessor's figures), this gives a crude death rate of 8.86; in 1928 the rate was 8.92. The corrected number of deaths, excluding stillbirths, for 1929 was 1,581, giving a corrected rate per thousand population of 7.71.

The number of registered deaths in children under one year of age was 253, giving a mortality rate of 56.03 per 1,000 living births. This is the lowest rate we have on record. The reduction is primarily due to fewer deaths from diseases of early infancy, only 122 such deaths occurring in 1929 against 173 in 1928. The corrected number of infant deaths for 1929 was 211, giving a corrected infant mortality rate of 58.6, the lowest yet recorded, against 65.9 for 1928.

Registered stillbirths increased from 182 in 1928 to 225 in 1929; this goes to offset the gain we made in the improved infant death rate. The high mortality immediately prior to and following birth still remains the chief problem in reducing infant mortality. The corrected stillbirths for 1929 totalled 168, giving a corrected rate per 1,000 live births of 46.7, against 38.5 for 1928.

The registered number of births excluding stillbirths was 4,515, giving a crude birth rate of 22.01. This shows a slight decline as compared with the rate of 1928, which was 22.11. The corrected births, excluding stillbirths, numbered 3,597, giving a corrected rate of 17.54 per 1,000 population against 17.69 for 1928.

The crude cancer rate was 120.9, the highest so far recorded. In 1928 the rate was 105.2, in 1920, 79.4, in 1911, 46.7. These figures go to show that cancer is on the increase. The corrected cancer death rate for 1929 was 102.9. In the light of our present knowledge hope for reduction would seem to rest chiefly on education of our people, on the importance of early recognition of the nature of any growth or abnormality appearing anywhere in the body. Cancer if treated early is very often curable, if neglected or unrecognized, invariably fatal.

Further details regarding births, deaths, etc., will be found in the report of the Statistician. These figures, with the analysis and explanations given, are of interest and importance. They extend over a period of years and should be studied in order to obtain a proper appreciation of the variations which have occurred.

FINANCIAL STATEMENT

The statement is divided into two parts, the first covering those services concerning the control and prevention of disease, and the second, refuse collection and disposal, and street-cleaning services.

**CONTROL AND PREVENTION OF DISEASE, 1929
SUMMARY**

(a) Personal Services.....	\$103,397.71
(b) Outside Services.....	8,150.56
(c) Material, Supplies and Repairs.....	9,004.62
(d) Equipment and Replacements.....	2,359.50
(e) Fuel, Water, Light and Power.....	1,047.16
(f) Other Expenses.....	250.00
(i) Interest.....	600.00
	\$124,809.55

EXPENDITURE BY DIVISIONS

C-1 Administration and Statistics (Controllable)—

(a) Personal Services.....	\$11,820.00
(b) Outside Services.....	160.51
(c) Material, Supplies and Repairs.....	373.44
(d) Equipment, Additions and Replacements...	120.17
(f) Unforeseen Expenditures.....	250.00
	\$ 12,724.12

C-2 Bacteriological Laboratory (Controllable)—

(a) Personal Services.....	\$6,156.00
(b) Outside Services.....	44.00
(c) Material, Supplies and Repairs.....	715.49
(d) Equipment, Additions and Replacements...	192.80
(e) Fuel, Water, Light and Power.....	118.10
	\$ 7,226.39

C-3 Treatment and Prevention of Communicable Diseases—

C-3-1 Acute Communicable Diseases (Controllable)—

(a) Personal Services.....	\$11,856.00
(b) Outside Services.....	177.85
(c) Material, Supplies and Repairs.....	594.59
(d) Equipment, Additions and Replacements...	229.25
	\$ 12,857.69

C-3-2 Tuberculosis (Controllable)—

(a) Personal Services.....	\$ 4,268.54
(c) Material, Supplies and Repairs.....	1,607.93
(d) Equipment, Additions and Replacements...	50.00
	5,926.47

C-3-3 Smallpox and Diphtheria Prevention (Controllable)—		
(b) Outside Services.....	\$ 1,745.63	
(c) Material, Supplies and Repairs.....	335.28	
		2,080.91
C-3-4 Automobile Services (Controllable)—		
(b) Outside Services.....	\$ 290.48	
(c) Material, Supplies and Repairs.....	655.95	
(d) Equipment, Additions and Replacements...	472.34	
		1,418.77
C-3-5 Fixed Charges on Debenture Debt (Uncontrollable)—		
(i) Interest.....	\$ 600.00	
		600.00
Total Treatment and Prevention of Communicable Diseases.....		\$ 23,287.88
 C-4 Sanitary Inspection (Controllable)—		
(a) Personal Services.....	\$30,083.50	
(b) Outside Services.....	41.59	
(c) Material, Supplies and Repairs.....	393.10	
(d) Equipment, Additions and Replacements...	877.49	
		\$ 31,395.68
 C-5 Food and Dairy Inspection (Controllable)—		
C-5-1 Dairy Inspection—		
(a) Personal Services.....	\$ 8,220.00	
(b) Outside Services.....	500.00	
(c) Material, Supplies and Repairs.....	222.93	
(d) Equipment, Additions and Replacements...	247.70	
		\$ 9,190.63
 C-5-2 Food Inspection—		
(a) Personal Services.....	\$ 6,756.00	
(b) Outside Services.....	36.40	
(c) Material, Supplies and Repairs.....	66.53	
(d) Equipment, Additions and Replacements...	169.75	
		7,028.68
Total Food and Dairy Inspection.....		\$ 16,219.31
 C-6 Child Welfare (Controllable)—		
C-6-1 Babies' Milk Depot—		
(a) Personal Services.....	\$ 4,392.07	
(b) Outside Services.....	3,885.36	
(c) Material, Supplies and Repairs.....	3,055.69	
(e) Fuel, Water, Light and Power.....	929.06	
		\$ 12,262.18

C-6-2 Child Welfare Visiting Nurses—

(a) Personal Services	\$19,845.60	
(c) Material, Supplies and Repairs	216.74	
(d) Equipment, Additions and Replacements	664.92	
		20,727.26
Total Child Welfare		\$ 32,923.00

C-7 Medical Relief (Controllable)—

C-7-1 District Physicians—

(b) Outside Services	\$ 1,052.00	
(c) Material, Supplies and Repairs	318.77	
		\$ 1,370.77

Gross Expenditure, Control and Prevention of Disease	\$124,809.55
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REVENUE

(Credited to City's Revenue Account)

Police Court Fines and Costs	\$ 223.00	
Fees for Laboratory Work	155.00	
Sale of Infants' Feedings at Milk Depot	1,168.46	
		1,546.46
Net Expenditure		\$123,263.09

COST PER CAPITA, CONTROL AND PREVENTION OF DISEASE

(Population 205,083)

Gross Expenditure per Capita	58.1
Net Expenditure per Capita	57.4

**REFUSE COLLECTION AND DISPOSAL AND STREET CLEANING, 1929
SUMMARY**

(a) Personal Services	\$222,006.66
(b) Outside Services	58,072.30
(c) Material, Supplies and Repairs	46,687.51
(d) Equipment, Additions and Replacements	17,086.66
(e) Fuel, Water, Light and Power	2,098.60
(f) Other Expenses	250.00
(i) Interest	9,745.00
(ii) Sinking Fund	4,174.46
	\$360,121.19

EXPENDITURE BY DIVISIONS
C-8 Refuse Collection and Disposal—

C-8-1 Scavenging—

(a) Personal Services	\$91,307.75	
(b) Outside Services	21,592.43	
(c) Material, Supplies and Repairs	29,118.12	
(d) Equipment, Additions and Replacements	17,179.68	
(e) Fuel, Water, Light and Power	88.50	
		\$159,286.48

C-8-3 Nuisance Ground Operating—

(a) Personal Services	\$ 3,990.74	
(b) Outside Services	334.50	
(c) Material, Supplies and Repairs	24.22	
		4,349.46

C-8-6 Crematory No. 2 Operating—

(a) Personal Services	\$10,079.94	
(b) Outside Services	1,100.04	
(c) Material, Supplies and Repairs	79.35	
(e) Fuel, Water, Light and Power	379.85	
		11,639.18

C-8-7 Crematory No. 2 Maintenance—

(c) Material, Supplies and Repairs	\$ 2,483.73	
		2,483.73

C-8-8 Crematory No. 3 Operating—

(a) Personal Services	\$15,747.04	
(b) Outside Services	644.80	
(c) Material, Supplies and Repairs	90.92	
(e) Fuel, Water, Light and Power	990.93	
		17,473.69

C-8-9 Crematory No. 3 Maintenance—

(c) Material, Supplies and Repairs	\$ 7,628.73	
		7,628.73

C-8-10 Ash Removal—

(a) Personal Services	\$17,564.99	
(b) Outside Services	23,678.36	
(c) Material, Supplies and Repairs	1,842.00	
		43,085.35

C-8-11 Fixed Charges on Debenture Debt—

(i) Interest	\$ 9,745.00	
(ii) Sinking Fund	4,174.46	
		13,919.46

Total Refuse Collection and Disposal		\$259,866.08
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D Street Cleaning and Flushing—

D-1-1 Administration—

(a) Personal Services	\$ 6,756.00	
(b) Outside Services	76.68	
(c) Material, Supplies and Repairs	409.60	
		\$ 7,242.28

D-1-2 Automobile Services—

(b) Outside Services	\$ 192.42	
(c) Material, Supplies and Repairs	424.40	
		616.82

D-4-1 Asphalt Pavement Cleaning—

(a) Personal Services	\$65,078.42	
(b) Outside Services	6,753.38	
(c) Material, Supplies and Repairs	4,104.52	
(d) Equipment, Additions and Replacements	93.02 (Cr.)	
(f) Other Expenses	250.00	
		76,093.30

D-4-2 Macadam Pavement Cleaning—

(a) Personal Services	\$ 3,213.43	
(b) Outside Services	630.32	
		3,843.75

D-4-4 Paved Lane Cleaning and Paper Picking—

(a) Personal Services	\$ 3,420.37	
(b) Outside Services	485.48	
		3,905.85

D-4-6 Street Sprinkling and Flushing—

(a) Personal Services	\$ 240.78	
(b) Outside Services	1,136.71	
(c) Material, Supplies and Repairs	345.23	
(e) Fuel, Water, Light and Power	261.00	
		1,983.72

D-5-3 Cutting Noxious Weeds—

(a) Personal Services	\$ 4,090.38	
(b) Outside Services	575.13	
(c) Material, Supplies and Repairs	44.56	
		4,710.07

D-5-4 Yards Maintenance—

(a) Personal Services	\$ 516.82	
(b) Outside Services	872.05	
(c) Material, Supplies and Repairs	92.13	
(e) Fuel, Water, Light and Power	378.32	
		1,859.32

Total Street Cleaning and Flushing	\$100,255.11
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GRAND TOTAL	\$360,121.19
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COMMUNICABLE DISEASES

The total number of cases of communicable diseases was 9,134 and 202 deaths, against 5,481 cases and 176 deaths in 1928. The increase in the total is due to extensive outbreaks of measles, chicken-pox and mumps. These figures will now be dealt with in more detail.

Typhoid Fever cases notified during the year totalled 38, with 5 deaths, giving a crude death rate of 2.4 per 100,000 population and a fatality rate of 13.1 per 100 cases. In 1928 the rate was 1.0 per 100,000. Of the 38 cases reported, 16 were non-residents, and of the 5 deaths resulting 4 were non-residents, thereby leaving the city with 22 cases and 1 death, a corrected rate of .5 per 100,000 and 4.5 case fatality.

Of these 22 cases, 6 contracted infection while travelling outside the city. Fifteen cases were sporadic in character; they occurred without connection with any traceable source of infection; they were likely due to contact with an unrecognized carrier—no spread took place from any of them. The other case developed in a large institution; we were unable to locate the cause; it seemed remarkable that a single case should occur under such conditions and no further infections occur and no previous ones be on record. It is difficult to explain such an incident, and we are forced to fall back on the unsatisfactory and inconclusive hypothesis of infection through contact.

This was an off year for **Smallpox**, which only made its appearance twice as a result of exposure to known cases in adjoining municipalities. The total was four cases, three of which were in one home—no spread took place in any instance. The balance of the cases, nine in number, were admitted to the Municipal Hospital from outside points for treatment. The vaccination status of the city cases prior to exposure was as follows:

- One woman, age 39—vaccinated in infancy;
- One woman, age 67—unvaccinated;
- Two girls, ages 11 and 9, respectively—unvaccinated.

We have not a complete record of the vaccination status of the non-residents.

The largest outbreak of **Chickenpox** we have on record occurred during the year. Cases numbered 1,155. Fortunately smallpox was quiescent so we did not have the usual trouble of missed and improper diagnosis to contend with. This did occur, however, in one of the adjoining municipalities where mild smallpox was found masquerading as chickenpox. It was a pleasure for us to cooperate with the Health Officer of the Municipality in helping to stamp out what might have been a sizable outbreak of smallpox. The record of our chickenpox for the year is impressive as showing the rapidity with which this disease can spread. In August there were 7 cases; in November, 249. It is unusual in our experience for chickenpox to prevail in the form of large outbreaks. It is an endemic but not an epidemic disease. This year it departed from its usual custom. This disease is difficult to control; it is most communicable in its early stages before isolation is carried out, and susceptibility to it seems to be high. Often no doctor is ever called, parents do not take it seriously; indeed very many of our cases are notified through the medical inspection department

of the Public Schools, the visits of the nurses to the homes of absentees bringing the cases to light. It is particularly persistent when it gains a foothold in an institution for the care of children.

Mumps was again very much to the fore during the year, a total of 905 cases being notified. We are of the opinion that this high figure is largely due to our being able to get better reporting of cases. The system inaugurated last year of allowing exposed children to continue at school for 12 days after exposure to a known case and insisting on quarantine and observation during the period from the 12th to the 18th day, made for better control and brought to light the secondary cases.

The total number of cases of **Whooping Cough** reported was 933, deaths 10, as compared with 340 cases and 4 deaths in 1928. The crude death rate per 100,000 population was 4.9; the corrected, 4.4. These figures show what a serious disease whooping cough is and this fact has often been adverted to in previous reports. There is still too much apathy on the part of many parents towards this disease. Frequently we find unreported cases, and usually these are not looked after in a manner designed to prevent possibility of spread to families occupying adjacent premises.

A number of these reach us through the protests of indignant parents who find their children exposed to such cases. Many cases are notified through the school nurses. We are convinced that better control of whooping cough will only be accomplished when parents and others responsible for the care of children appreciate the importance and danger of this disease, when they recognize that the early febrile stage, before the whoop develops, is highly infectious, and that precautions should be taken at this time with suspected cases instead of waiting for the appearance of the classical symptoms.

The Department continues to supply pertussis vaccine and medical attention to persons unable to pay.

The total number of cases of **Diphtheria** reported for the year was 475, deaths 21, compared with 605 cases and 22 deaths for the preceding year, the crude death rate per 100,000 population being 10.2 as compared with 10.9 and a case fatality record per 100 cases of 4.4 against 3.6. The corrected death rate for 1929 was 8.8.

It will be noted from this that while morbidity was much lower, fatality was higher than in 1928. There were 76 non-resident cases, with 7 deaths, thus leaving the city with 399 cases and 14 deaths.

The distribution of cases and deaths by wards is of interest as it goes to show that where the patient gets treatment early the chances of recovery are enhanced. Ward one with a morbidity rate of 161 per 100,000, records one death. Ward two has an attack rate of 248, and eight deaths, ward three an attack rate of 131 and four deaths. We have found that ward one parents have a higher average of early treatment than those in wards two and three, and these figures demonstrate how curable this disease is if taken early. As in the past fatalities occur almost exclusively among neglected or unrecognized cases.

A table showing age and sex of all cases, excepting non-resident and institutional, is attached to this report.

There is a reduction in cases reported from institutions, namely, 31 against 53 for the preceding year, while carriers reached the low figure of 10 as compared with 15 in 1928.

Suspect cases totalled 25 as compared with 26 for 1928.

Following the custom of previous years the Department by arrangement with the Medical Inspection Department of Public Schools supplied the material and provided for the administration of toxoid in all public schools. We also distributed from this office 490 person doses complete to physicians and institutions.

Attached to this report is a table showing totals for all schools done since the commencement of the work. The following table is shown for comparison with the work done in each ward in 1928:

	Schick		Toxoid	
	1929	1928	1929	1928
Ward One.....	732	526	390	409
Ward Two.....	936	1,236	445	472
Ward Three.....	1,306	1,336	703	685
	<hr/>	<hr/>	<hr/>	<hr/>
	2,974	3,098	1,538	1,566

The bulk of the work done is amongst the children of grades one and two. We would like to see a better response to this preventive measure, particularly with regard to children of pre-school age.

Free distribution of diphtheria antitoxin supplied by the Provincial Board of Health amounted to 2,823,000 units.

An outstanding event of the year was a very extensive outbreak of **Measles** totalling 4,658 cases with 19 deaths, giving a crude death rate of 9.3 per 100,000 population, and a fatality record of .4 per 100 cases, as compared with 1,595 cases, 7 deaths and rates of 3.4 and .4 for 1928. The corrected death rate for 1929 was 8.3. The beginning of the outbreak was in the spring of 1928, reaching epidemic proportions during the early summer months, and subsiding in the autumn, lighting up again in December and continuing until June, 1929. Cases then dropped from 166 in June to 15 in July. From the foregoing it will be seen that measles is still a public health problem of the first rank, and control measures continue to be as ineffective as they have been in the past. Much research has been carried out in relation to this disease in an effort to find something which can effectively prevent it, so far without very satisfactory results. There is no doubt as to the seriousness of this affection, those extensive outbreaks cause widespread suffering and expense to say nothing of the possibility of sequaelae in a certain proportion of those attacked. What future investigations will bring to light remains to be seen, but we continue to look forward to the day when measles will take its place along with diphtheria, smallpox and typhoid fever among the diseases that can be prevented. In the meantime we must work with what weapons we have and spare no effort to control known sources of infection.

Scarlet Fever shows a decline, the total number of cases notified being 512 with six deaths, against 764 cases and three deaths for 1928. Crude rates 2.9 and 1.5 per 100,000 respectively; corrected rate for 1929, 2.4. The type continues mild, the difference of three deaths in the two years in our opinion does not indicate a general increase in severity. Indeed during recent years scarlet fever has not added materially to our death rate. This is a very satisfactory feature when we call to mind some of our experiences in the past when this disease prevailed in very serious form. Secondary cases numbered 49 against 64 in 1928, return cases 4 against 7, unrecognized cases 15 against 26. Non-resident cases were reduced to 49 from 126 the preceding year. Forty-four doubtful cases were isolated as suspects. No milk-borne outbreaks occurred during the year.

One case of **Anthrax** occurred which was likely due to infection in a laboratory.

Only 48 cases of **Influenza** were notified, with 27 deaths. These figures in our opinion do not give even an approximate idea of the number of cases which actually occurred. There is so much difference of opinion as to what constitutes influenza that we do not as a rule get cases notified unless the patient is extremely ill with pneumonic complications.

Tuberculosis of the lungs gives a total of 229 cases and 83 deaths, as compared with 209 cases and 73 deaths for 1928. Crude rates per 100,000 were 40.5 and 36.1 respectively; corrected rate for 1929, 44.4.

The following summary shows the sources from which the cases were reported:

	1929	1928
King Edward Memorial Hospital.....	65	47
Ninette Sanitorium.....	20	18
Chest Clinics.....	59	57
Death Registrations.....	30	17
Health Department Laboratory.....	10	9
St. Roch's Hospital.....	14	18
Physicians and others.....	11	23
Non-residents.....	20	20
	229	209

It will be seen from the above that the tuberculosis situation shows little change, more effort is necessary in the control of this disease, it is possible to reduce the present rate considerably. Too many cases still reach us in the advanced stage, and death registration as a first notification occurs too frequently. The tuberculosis problem presents many angles but there can be no question that these uncontrolled advanced cases remain a serious danger. If it were possible to get all these cases under control early, not only would the lives of the patients be saved, but spread of the infection prevented.

The Department nurses assisted at the Chest Clinics and visited patients at their homes. Milk, sputum refills, handkerchiefs, disinfectants and medical assistance were supplied when necessary.

After the large outbreak of **Anterior Poliomyelitis** which took place in 1928, it is a pleasure to report a decline in this disease for 1929. Total cases numbered 19 with 5 deaths. In 1928 there were 279 cases and 17 deaths. The cases that occurred during this year were not in the character of an outbreak, they were unconnected with known sources of infection. Nine of these cases were reported in August, and 5 in September, the remaining 5 being notified as follows: 1 in February, 1 in April, 2 in October, 1 in November. Of the 5 deaths which occurred, 4 were non-residents. The city thus has 14 cases and 1 death. Outside cases admitted to the city hospitals for treatment, 5 with 4 deaths.

One case of **Cerebrospinal Fever** was reported for the year, there was no fatality.

Three cases of **Encephalitis Lethargica** were recorded, all of which died, 1 was a non-resident case.

MILK SUPPLY

During the year your committee took up the resolutions from the Winnipeg Medical Society, the Trades and Labor Council and the Winnipeg Board of Trade, urging that a by-law be passed requiring that all except certified milk be pasteurized. A sub-committee was appointed to go into this question, but no definite action was taken. We recognize the difficulties that lie in the way of enforcing a by-law such as this one, particularly if it were to become operative at once. At the same time we regard pasteurization as the greatest safeguard that can be placed on the milk supply of a city. It is a procedure whose value is recognized and accepted widely by health authorities and administrators.

MOSQUITO PREVENTION

A debt of gratitude is owing to the gentlemen comprising the committee of the Winnipeg Anti-Mosquito Campaign, and especially to Dr. H. M. Speechly and Mr. J. P. Tully, for the very able manner in which they carried out mosquito prevention during the year. There has never been a season when the city and its environs were as free from this unmitigated nuisance as the season of 1929. This freedom was largely due to the efforts of the gentlemen mentioned and their able assistants.

MEDICAL RELIEF

District physicians made 303 calls during the year as compared with 342 for 1928.

Calls referred to the Margaret Scott Nursing Mission, which as in previous years rendered most valuable assistance, numbered 126 against 144 calls for the previous year.

Dr. Lougheed and Mr. Watt as usual gave fine service in attending sick calls requiring immediate assistance, and in clearing diagnosis in cases where infection was suspected.

Examinations and persons prescribed for at the Department offices totalled 613.

We issued 3,368 certificates for children returning to school after exclusion for various reasons. The issuing of these certificates is an important function, many of the children must be given an exhaustive examination to make as sure as possible that they are free from infection.

Vaccinations performed at the office numbered 942, those performed in the city schools 2,014.

The amount of insulin distributed was 249,000 units among 17 patients. Six of these paid for all or part of their supply. We obtained our insulin from the Department of Health and Public Welfare, and money collected was paid over to the Provincial Government, the amount so paid during the year was \$498.10. Vaccine against smallpox and toxoid for diphtheria prevention was as formerly supplied by the Provincial Board of Health.

LEGISLATION ENACTED

Dominion—

No legislation affecting this Department.

Provincial—

An Act to Amend "The Public Health Act." Provides for the appointment of a "Chief Health Inspector" and "Chief Sanitary Inspector" for the Province, and for the payment of the salaries of officers and employees of the Provincial Board of Health from the Consolidated Revenue Fund.

An "Act Respecting Private Hospitals" by which all private hospitals in the Province of Manitoba will be inspected and licensed by the Provincial Department of Health.

Regulations of the Provincial Board of Health respecting the vaccination against smallpox and inoculation against typhoid of persons employed or to be employed in construction, lumbering and other camps.

General Rules and Regulations of the Minister of Health and Public Welfare on the advice of the Provincial Board of Health relating to nuisances, insanitary conditions, water supply, prevention of infectious and contagious diseases, and the general improvement of living conditions of the people from a public health viewpoint in portions of the Province not having Municipal organization. These regulations apply at present only to certain mining districts in Northern Manitoba.

Regulations of the Provincial Board of Health amending the regulations made in September, 1921, relating to the conduct of maternity homes and boarding homes.

By the City Council—

By-law No. 13060, The Winnipeg Zoning By-law was finally passed in January. As outlined in last year's report, this by-law is principally an enabling by-law specifying the kind of buildings which may be erected in the various Use Districts. There are 3 kinds of residential districts, 2 kinds of commercial districts, 2 industrial, and an unrestricted area. To bring the various parts of the city under the provisions of the by-law supplementary by-laws are required, except in the case of a few provisions in Chapter 6, relating to space about buildings, which apply to the whole city and come into force at once on the passing of the by-law. By-laws 13305 and 13490 amend the by-law slightly.

Four other by-laws were passed during the year creating zoned areas under the General Zoning By-law, viz.: By-law No. 13085 (a large part of River Heights), By-law No. 13574 (a large area bounded by St. Johns Ave., the Northern City limits, Main Street, and the Red River), By-law No. 13575 (a portion of Armstrong's Point), and By-law No. 13594 (one block on Burrows Ave.). These are mostly residential districts, and they are now protected from the encroachment of business premises. Other districts are under consideration.

Use maps are prepared in connection with each district, and copies sent to the Health Officer who is responsible for ensuring that no building or land is put to any use prohibited by the by-law. New buildings are under the Building Commissioner, but the Health Officer must check all conversions of existing buildings to prohibited uses.

By-law No. 13493—

This is a revised plumbing by-law, and contains many new features designed to make all new plumbing and drainage systems conform to the most approved modern practice. The section prohibiting cross-connections between a water supply for drinking and domestic purposes and any other water supply; and also the section prohibiting the installation of any plumbing, plumbing fixture, construction device, valve fitting apparatus, or connection which will provide a cross-connection between a distributing system of water for drinking and domestic purposes, and a plumbing and drainage system, in such a manner as to permit or make possible the back flow of sewage or waste water with the water supply system of a building may prove to be of great value in view of recent discoveries that such pollution was possible in some plumbing systems hitherto considered safe.

LEGISLATION REQUIRED

In our last report we drew attention to the necessity for revising the provisions in the Health By-law respecting the number and kind of plumbing fixtures required to be installed in buildings. We pointed out that the Health By-law is 22 years old, and also that all provisions formerly found in the Building By-law respecting plumbing in apartment blocks had been omitted from the new Building By-law. We prepared a new by-law and submitted it for consideration by the Health and Safety Committees. It was amended and approved, and it was also decided to embody these provisions in a new chapter to be inserted in the Building By-law. These have, however, not yet become law. It is desirable that the passage of these amendments should not longer be delayed, as the present state of the laws regarding plumbing fixtures required in buildings is very unsatisfactory.

A charter amendment followed by a by-law is desirable in order to regulate the installation of mechanical refrigerators, and to ensure that there shall be no danger to life and health by reason of the use of noxious or inflammable substances used as refrigerants. A full report on this subject is now before your Committee for consideration. (See report of Chief Health Inspector.)

Another subject on which legislation might be desirable is that of the prevention of unnecessary noises which are or may be prejudicial to the health or comfort of citizens. This question was fully discussed in a report recently made to your Committee, and since then the Committee on Legislation has decided

to ask for an amendment to the Winnipeg Charter at the ensuing session of the Manitoba Legislature. When this is obtained the way will then be clear for the enactment of a suitable by-law.

INSTALLATION OF PLUMBING

The construction of new sewers and water mains keeps pace with the growth of the city. Not quite so much work in this line was done this year as last. Only 26 notices to install new plumbing were served. Thirty-one outside privies were removed, but 24 new pit closets were built in connection with new dwellings where sewers are not yet available. Out of 719 new houses built all were provided with plumbing, except the 24 above mentioned. We have not the number of new buildings other than dwellings, but they were all equipped with plumbing.

December 31st, 1928		December 31st, 1929	
Brick pit closets.....	271	Brick pit closets.....	265
Earth pit closets.....	2	Earth pit closets.....	1
Total.....		Total.....	
	273		266

This, of course, is a very small number indeed for a city of this size.

Since 1905 the reduction has been as follows:

	Box Closets	Earth Pits	Brick Pits	Total
June 30, 1905.....	6,153	186	---	6,339
December 31, 1905.....	3,182	80	1,020	4,282
June 30, 1906.....	2,255	747	1,325	4,327
December 31, 1906.....	1,105	662	1,626	3,393
December 31, 1907.....	80	201	1,535	1,816
December 31, 1908.....	25	103	1,492	1,620
December 31, 1909.....	---	53	1,432	1,485
December 31, 1910.....	---	52	1,300	1,352
December 31, 1911.....	---	47	1,171	1,218
December 31, 1912.....	---	31	1,014	1,045
December 31, 1913.....	---	39	838	877
December 31, 1914.....	---	18	648	666
December 31, 1915.....	---	14	504	518
December 31, 1916.....	---	9	447	456
December 31, 1917.....	---	11	442	453
December 31, 1918.....	---	5	421	426
December 31, 1919.....	---	6	438	444
December 31, 1920.....	---	1	402	403
December 31, 1921.....	---	1	399	400
December 31, 1922.....	---	1	388	389
December 31, 1923.....	---	1	351	352
December 31, 1924.....	---	2	339	341
December 31, 1925.....	---	2	318	320
December 31, 1926.....	---	3	303	306
December 31, 1927.....	---	2	290	292
December 31, 1928.....	---	2	271	273
December 31, 1929.....	---	1	265	266

EXTENSION OF SEWERS AND WATER MAINS

On completion of our Annual Census of outside closets the following list was prepared and sent to the Committee on Public Utilities:

**LIST OF STREETS WITH FOUR OR MORE HOUSES REQUIRING
SEWER OR WATER MAINS**

December 31st, 1929

1—FORT ROUGE

Street	Block	Houses	Total	Remarks
Renfrew Street	Haskins to Jackson	1		Sewer laid. No water main.
Renfrew Street	Jackson to Lennon	2		
Renfrew Street	Lennon to Mathers	1		
		—	4	
Lindsay Street	Haskins to Jackson	2		3 at Midland Railway Shops. 1 at C.N.R. Signal Box.
Lindsay Street	Jackson to Lennon	1		
Lindsay Street	Lennon to Mathers	6		
		—	9	
Ash Street	G.T.P. tracks to C.N. tracks	5		
		—	5	
Cambridge St.	Jackson to Scotland	8		
Cambridge St.	Scotland to Mathers	5		
		—	13	
Lorette Ave.	Harrow to Guelph	4		Sewer, Harrow to Thurso. Advertised Jan. 14, 1924. Not proceeded with.
Lorette Ave.	Guelph to Wilton	1		
Lorette Ave.	Wilton to Thurso	2		
		—	7	
Scotland Ave.	Harrow to Guelph	2		Sewer, Harrow to Rockwood. Advertised Jan. 14, 1924. Not proceeded with.
Scotland Ave.	Guelph to Wilton	5		
Scotland Ave.	Wilton to Rockwood	1		
Scotland Ave.	Rockwood to Cambridge	3		
		—	11	
Weatherdon Ave.	Stafford to Harrow	3		Water main to West lot line of Lot 13, Blk. 32, Plan 1606.
Weatherdon Ave.	Harrow to Guelph	6		
Weatherdon Ave.	Rockwood to Thurso	4		
Weatherdon Ave.	Nathaniel to Beaumont	1		
Weatherdon Ave.	Beaumont to Cambridge	2		
		—	16	
Carter Ave.	Harrow to Guelph	3		
Carter Ave.	Nathaniel to Beaumont	1		
Carter Ave.	Beaumont to Cambridge	2		
		—	6	
Hector Ave.	Stafford to Harrow	8		
		—	8	
Pembina Highway	(Scattered)	11		
		—	11	
Ebby Ave.	Wentworth to Stafford	3		
Ebby Ave.	Beaumont to Cambridge	2		
		—	5	
			95	
On streets with fewer than four houses, or where sewers or water mains have recently been constructed			35	
			130	
Total			130	

2—ASSINIBOINE RIVER TO HIGGINS AVE.

Street	Block	Houses	Total	Remarks
Centre St.	Calder to Ellice	2	5	Water main. No sewer.
Centre St.	Ellice to Sargent	3		
Keewatin St.	Rapelje to St. Matthews	2	13	Water main. No sewer. Private sewer owned by T. Jackson & Sons, City sewer 8 extends to 150' N. of Gallagher Ave. only.
Keewatin St.	St. Matthews to Ellice	2		
Keewatin St.	William to Elgin	3		
Keewatin St.	Logan to C.P.R. Main Line	1		
On streets with fewer than four houses, or in which sewer or water mains have recently been constructed			26	
Total			39	

3—C.P.R. MAIN LINE TO NORTH CITY LIMITS

Atlantic Ave.	Airlies to McPhillips	3	4	
Atlantic Ave.	McPhillips to Fife	1		
Bannerman Ave.	C.P.R. Beach track to Airlies	2	4	
Bannerman Ave.	Airlies to McPhillips	2		
Boyd Ave.	Prince to McPhillips	4	4	
Cathedral Ave.	Galloway to C.P.R. Beach track	1	4	Sewer ordered Airlies to E. lot line of Lot 30, Blk. J, Plan 222, Oct. 14, 1929, water also advertised Aug. 19, 1929. Water ordered Sinclair St. to W. lot line of Lot 31, Oct. 14, 1929, and to a point 120' W., Nov. 12, 1929. Dairies.
Cathedral Ave.	C.P.R. Beach track to Airlies	2		
Cathedral Ave.	Airlies to Radford	1		
Kitchener Ave.	Keewatin to Hearn	4	4	
Lansdowne Ave.	Parr to Sinclair	4	4	
Mountain Ave.	McPhillips to Fife	6	6	Water main. No sewer.
Robinson St.	Mountain to Church	5	5	
Penningham St.	Mountain to C.P.R. Beach Line	5	5	Water main. No sewer. Tenders called for sewer, Church to Mountain, July 8, 1929.

Street	Block	Houses	Total	Remarks
On streets with fewer than four houses, or where sewers or water mains have recently been laid.....				
			24	
Total.....			64	

4—ELMWOOD

Street	Block	Houses	Total	Remarks
Beach Ave.....	Foster to Cameron.....	2		Sewer laid. No water.
Beach Ave.....	Cameron to Kent.....	2		
Beach Ave.....	Kent to Keenleyside.....	6		
Beach Ave.....	Keenleyside to E. City Limits.....	3		
			13	
Herbert Ave....	Foster to Green.....	6		Water main laid. No sewer.
Herbert Ave....	Kent to Keenleyside.....	3		
			9	
			22	
On streets with fewer than four houses, or where sewers or water mains have recently been laid.....				
			11	
Total.....			33	

SUMMARY

1. Fort Rouge.....	95
2. Assiniboine River to Higgins.....	13
3. C.P.R. Main Line to Northern City Limits.....	40
4. Elmwood.....	22
<hr/>	
	170
On streets with less than four houses, or in which sewers or water mains have recently been laid.....	
	96
<hr/>	
Total outside closets in use, December 31, 1929.....	266

TABLE SHOWING ADDITIONS AND REMOVALS DURING 1929

Outside closets in use, December 31, 1928.....	273
New closets built during 1929.....	24
<hr/>	
	297
Less closets removed during the year.....	31
<hr/>	
Remaining, December 31, 1929.....	266

HOUSING

There were 719 new houses built during the year, and 28 apartment blocks with a total of 754 suites. For the first time the number of new suites exceeded the number of new single family dwellings. At the end of the year there were only 505 houses vacant and 729 vacant suites. Total houses in the city, 34,876, and apartment blocks 644, with 9,994 suites. A few more districts were brought under the Zoning By-law. Further details regarding housing will be found in the reports of the Chief Health Inspector and the Housing Inspector.

EDUCATIONAL WORK

As is usual, members of the staff have been called upon at intervals to speak before gatherings of citizens who are interested in Public Health work. These opportunities are prized.

The course of lectures arranged for the edification of our inspectors was as follows:

1928

Nov. 17—Introductory Address—Dr. A. J. Douglas, Medical Health Officer.

Nov. 24—"Science and Sanitary Control"—Professor Norman James, Manitoba Agricultural College.

Dec. 1—"Scabies, Impetigo and Ringworm"—Dr. M. S. Lougheed, City Bacteriologist.

Dec. 8—"Milk, the Builder of Nations"—Mr. T. J. Booth, Dairy Inspector.

Dec. 15—"A Talk on Typhoid Fever", with specimens—Dr. W. Boyd, Pathological Department, General Hospital.

1929

Jan. 12—"What Bad Housing Means to the Community"—Mr. R. McQuillan, Sanitary Inspector.

Jan. 19—"Diseases of the Heart"—Dr. Manly Finkelstein.

Jan. 26—Visit to National Health Laboratory.

Feb. 2—"Serum Therapy"—Dr. F. F. Cadham, Provincial Bacteriologist.

Feb. 9—"Public Health Tendencies in Great Britain", notes of a brief trip—A. V. Thomas, Tribune Editorial Staff.

Feb. 16—"The Infestation of Fish in Manitoba Lakes"—Dr. D. Nicholson.

Feb. 23—"A Talk on Cancer"—Dr. N. J. MacLean.

Mar. 2—"Practice of Medicine in China"—Dr. T. A. Pincock, Deputy Minister of Health.

Mar. 9—"Dairy Mechanics"—Mr. E. C. Brown, Chief Dairy Inspector.

Mar. 16—"Diphtheria Immunization, What the Records Show"—Mr. W. J. T. Watt, Chief Communicable Diseases Division.

Mar. 23—Social Evening.

STAFF

During this year Mr. J. Foggie, one of the most valued members of our staff, resigned to become Chief Sanitary Inspector for the Province of Manitoba. The Provincial Government is to be congratulated on acquiring Mr. Foggie's services. He carries with him to his new and responsible position the best wishes of every member of the Department. Mr. A. G. Isaac was appointed to fill the vacancy left by Mr. Foggie, and an additional inspector was added to the Sanitary Division in the person of Mr. M. Flattery.

In conclusion, I desire to express to the members of the staff my very sincere appreciation of the faithful manner in which they have discharged their duties throughout the year.

Respectfully submitted,

A. J. DOUGLAS,

Medical Health Officer.

Report of Bacteriologist

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report of the work performed in the Bacteriological Laboratory for the year ending December 31st, 1929.

The work done is shown in the following table and for comparison the totals of the preceding three years are added.

1929	Cultures for Diphtheria	Sputa for T.B.	Urethral Smears	Widals for Typhoid	Water	Milk and Cream	Urinalyses	Miscellaneous	Vaccinations	Total Examinations per Month
	Pos.	Pos.	Pos.	Pos.						
January	368—18	47—4	36—4	3—1	59	130	17	5	27	692
February	433—10	32—2	21—2	3—1	76	131	12	13	27	748
March	450—16	25—2	28—1	4—0	106	146	9	0	21	789
April	391—8	54—6	28—5	0—0	121	156	17	5	40	812
May	602—49	31—2	24—2	6—4	118	160	11	10	507	1469
June	1157—20	36—4	15—2	3—1	102	139	5	3	81	1541
July	1872—25	23—3	33—2	4—0	116	131	11	7	33	2230
August	1540—14	22—2	37—2	5—0	107	135	20	6	9	1881
September	511—15	26—4	47—4	5—0	101	144	13	11	45	903
October	1451—40	34—3	29—5	1—0	112	197	16	12	61	1913
November	375—11	22—3	39—7	1—0	102	131	24	6	37	737
December	224—2	38—2	38—4	0—0	111	119	21	11	4	566
1929 Totals	9374—228	390—35	375—40	35—7	1231	1719	176	89	892	14281
1928 "	11478—334	500—51	403—45	34—4	715	2029	240	94	1302	16795
1927 "	10161—441	582—62	337—34	22—5	788	2116	277	94	1187	15582
1926 "	9563—361	468—59	340—53	70—13	715	2160	289	175	2493	16273

WATER

During the year 1,231 samples of water were tested bacteriologically. Enumeration of colonies of micro-organisms on agar was done on each specimen as well as inoculating broth cultures for gas formers. The marked increase in the number of samples examined is due to the semi-weekly examination of the six mains carrying water under the two rivers.

The samples were drawn from the following sources:

1. Domestic supply. Tap water from this laboratory was tested daily. The bacterial counts were low.

2. The river mains. Twice a week samples are taken, two for Elmwood, two for Fort Rouge and two in the direction of River Heights.

3. The public swimming baths. Cornish, Pritchard and Y.M.C.A. baths were tested weekly while open.

4. Samples from private residences, hotels, etc.

MILK AND CREAM

The number of samples examined totalled 1,719. These were examined for butter fat content, and the milk for water and solids in addition. There were 559 bacterial counts made, which varied from 1,000 to over 100,000 colonies per c.c. There were 1,544 samples of milk and 175 of cream.

1. Dairy Inspectors brought in 1,488 samples of milk and 138 of cream.
2. The Bureau of Child Hygiene sent in 38 samples of milk and 19 of cream.
3. Private individuals submitted 19 samples of milk and 18 of cream.

DIPHTHERIA CULTURES

Cultures examined for the Diphtherial bacillus totalled 9,374. The organism was found in 228 cultures, the lowest number for several years.

These cultures are made for Doctors, Nurses, Health Inspectors, School Nurses, Margaret Scott Nursing Mission Nurses and others.

WIDALS FOR TYPHOID FEVER

Blood examination for agglutination of Typhoid and Paratyphoid bacilli totalled 35 with 7 giving a positive reaction.

URETHRAL SMEARS

These totalled 375 for the year. These smears were sent in for examination by the Doctors.

URINALYSES

These totalled 175. Specimens are sent in for examination by Doctors, Nurses, Insurance Companies, the Bureau of Child Hygiene and by private individuals. The tests required are chemical, microscopical, sugar estimation and for tubercle bacilli.

VACCINATIONS

These gave a total of 892. The source of individuals making the list was as follows:

1. Children up to and including school age, especially in the month of May, when over one-half of the total is done.

2. Contacts with cases.

3. Employees of the railroads and large stores who are required to have certificates of vaccination.

MISCELLANEOUS

This includes examination of mothers' milk, gastric contents, hairs for parasites, blood counts, preparation of vaccines and bacteriological examination of foods sent in by the Chief Food Inspector.

DISPENSARY WORK

The examination of school children for freedom from contagious diseases and the issuing of certificates for return to school has been continued as usual. Adults have come for free medical advice. The more serious of these have been referred to the hospitals. House calls have been made at the request of the Welfare Agencies, and these cases disposed of at the time, if necessary, by having the patient transferred to hospital.

In conclusion, I wish to express my appreciation for the manner in which Miss Wilson, the assistant, and Mr. Robert Bentham, the attendant, have fulfilled their respective duties.

Respectfully submitted,

M. S. LOUGHEED, M.D.,

Bacteriologist

Report of Chief of Division of Communicable Diseases

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith report of the work done by this division during the year 1929.

The total number of cases of communicable diseases reported for the year was nine thousand one hundred and thirty-four; deaths, two hundred and two, as compared with five thousand, four hundred and eighty-one cases and one hundred and seventy-six deaths, 1928.

In reviewing the summary of cases attached it will be seen that measles alone accounts for an increase of three thousand and sixty-three cases, whooping cough, five hundred and ninety-three; mumps, four hundred and eighty-nine, and chickenpox, one hundred and thirty-three, making a total increase of these over that of the preceding year of five thousand, four hundred and eighty-one cases. The fatality rate, however, in the case of measles and whooping cough stands at the same level as that of the preceding year. Considerable difficulty was experienced in dealing with the measles situation, owing to the widespread nature of the epidemic. Its subsidence in May was a welcome relief.

We are pleased to record a decided decrease in the number of cases of scarlet fever and diphtheria, with only a slight increase in the fatality rate.

Typhoid fever and smallpox did not give us any cause for alarm, the former showing a slight increase, while the latter was only in evidence on two occasions as the result of exposure to non-resident cases and contact to the same.

Infantile Paralysis, as was to be expected following the outbreak of 1928, appeared sporadically, principally in wards one and two in situations only slightly affected in the previous outbreak.

Lethargic Encephalitis was recorded twice in ward two, and not at all in either wards one and three.

One case of Cerebrospinal Fever was reported for the year. There were no deaths.

Summaries showing the work of diphtheria and smallpox prevention as carried on in the public schools are also attached to this report. The response continues to be fair, although there is room for improvement. Unfortunately it appears to require an outbreak of the disease before some of our citizens are prompted to seek or take advantage of this very important free service. The Department of Medical Inspection of Schools, along with this Department, spare neither time or effort to put this over as a part of our yearly programme for the pre-

vention of these diseases; we hope for a further co-operation from parents in the future in order to more completely protect the children of this city.

DIPHTHERIA IMMUNIZATION IN CHILDREN OF PRE-SCHOOL AGE

As mentioned in last year's report there is still little demand for protection of the child of pre-school age, although provision was made for the carrying on of this work in the out-door department of the Winnipeg General Hospital and the Children's Hospital several years ago. Physicians continue to receive supplies at this office and we believe institutions for the care of children are kept well protected.

INSPECTORS' REPORTS

The total number of visits made by inspectors was ten thousand, seven hundred and eighty-seven, as compared with eight thousand, nine hundred and eighty-six for the preceding year.

Houses quarantined totalled six thousand, four hundred and forty-nine. Inspectors of this division attended to the raising of one thousand, two hundred and thirty-nine quarantines.

During the measles epidemic we received assistance from the Inspectors of the Sanitary Division.

Other calls accounted for two thousand, three hundred and seventy-one visits, while regular quarantine inspection was only found to be necessary on seven hundred and twenty-eight occasions.

Inspectors attended to the disinfection of bedding, etc., in nine hundred and sixteen homes; sprayed nine houses and one hundred and seventeen rooms in the course of the year's work. Fumigation of premises, which is seldom asked for and rarely considered necessary, was only resorted to on six occasions.

MISCELLANEOUS CALLS

Calls sent in by school visiting nurses, parents and others desiring confirmation or advice regarding diagnosis have been attended to in 504 instances. The majority of such calls is given us by the school visiting nurses, and include many of the major infections. It is difficult to estimate the good that may result from such visits; but we believe that many cases would go undetected were it not for the visit from the nurse; they might have serious results in themselves or through their indiscriminate contact cause considerable trouble to others. No attempt is made to treat cases at home, and where cases of a definite nature cannot be isolated and a doctor called, they are removed to hospital.

TUBERCULOSIS VISITING NURSES

The total number of visits made was five thousand, one hundred and fifty-five; of this number one hundred and eighty-three were first visits to new patients; twenty-six to suspect cases, and one hundred and two on behalf of patients. They arranged for the sending of thirty-six patients to the King Edward Memorial Hospital; eight to the St. Roch's Hospital and eleven to Ninette Sanatorium.

TUBERCULOSIS OF LUNGS

The summary of the work done at the chest clinics is attached to this report and shows in detail the amount of work done throughout the year.

	WARDS			Institu- tional	Non- Resident	Total
	1	2	3			
Cases.....	51	72	83	3	20	229
Deaths.....	15	24	33	--	11	83
Population, 1929.....	61,192	68,454	75,437	--	--	205,083
Morbidity Rate, 1929, Per 100,000.....	83.3	105.1	110.0	--	--	-----
Mortality Rate, 1929, Per 100,000.....	24.5	35.0	43.7	--	--	-----
Population, 1928.....	60,599	66,959	74,819	--	--	202,377
Morbidity Rate, 1928, Per 100,000.....	51.1	122.4	94.8	--	--	-----
Mortality Rate, 1928, Per 100,000.....	24.7	28.3	30.7	--	--	-----

Summary of cases and deaths as they appear in each district:

	DISTRICTS			Institu- tional	Non- Resident	Total
	1	2	2			
Cases.....	95	64	50	--	20	229
Positive.....	62	27	24	--	--	113
Clinically Positive.....	33	37	26	--	--	96
Deaths.....	34	13	25	--	11	83

Cases in Hospital: As they appear on our records at the end of the year:

	DISTRICTS			Total
	1	2	3	
Patients in King Edward Memorial Hospital.....	66	28	25	119
Patients in Ninette.....	32	7	5	44
Patients in St. Roch's Hospital.....	8	7	7	22
Patients in Children's Hospital.....	2	--	--	2

Visiting List: Cases on visiting list for 1929:

	DISTRICTS			Total
	1	2	3	
Cases.....	135	209	142	486
Non-visiting.....	50	3	2	55

Summary: Showing number and classification of patients in each District, 1929:

	Total	Positive	Clinically		Family Contacts
			Positive	Suspect	
District 1.....	135	58	55	7	15
District 2.....	209	61	79	22	47
District 3.....	142	33	58	21	30

District 1. Includes all Ward One and part of Ward Two, North Boundary being South side of William Avenue to Arlington Street, Notre Dame to Western Limits.

District 2. Includes part of Wards Two and Three, North limit, Burrows South, East limit Main Street, South limit William Avenue West to Arlington Street and Notre Dame to West limits.

District 3. North limits to Burrows Avenue North and West. All East of Main Street to Market Ave, including Elmwood.

Table showing Sex and Age incidence of cases and deaths notified during the year 1929:

	SEX	AGES	CASES	DEATHS
	Female	0 — 10 years	17	3
District 1	44	11 — 20 "	36	8
District 2	34	21 — 30 "	61	15
District 3	20	31 — 40 "	39	14
Total	98	41 — 50 "	33	16
	Male	51 — 60 "	11	8
District 1	51	61 — 70 "	8	7
District 2	30	71 — 80 "	3	1
District 3	30	Non-Resident	20	11
	111	Unknown	1	
	Unclassified	Total	229	83
Outside	20			
Total	229			

NATIONALITY OF CASES REPORTED

	District 1	District 2	District 3	Total
Canadian	44	8	5	57
English	18	3	4	25
Scotch	8	2	2	12
Irish	3	1	1	5
Icelandic	3	1	--	4
Swedish	1	6	--	7
German	--	--	6	6
Polish	--	12	9	21
Dutch	2	--	--	2
Italian	2	--	--	2
Russian	4	8	2	14
Jewish	2	7	4	13
Chinese	--	1	2	3
American	4	--	--	4
Greek	1	--	--	1
Ukrainian	1	11	11	23

	District 1	District 2	District 3	Total
Negro, U.S.A.	--	--	1	1
French.....	--	--	1	1
Roumanian.....	--	--	1	1
Finlander.....	1	--	--	1
Danish.....	--	4	--	4
Welsh.....	--	--	1	1
Swiss.....	1	--	--	1
	95	64	50	209
Non-Resident.....				20
Total.....				229

There were fifty-five patients on the free milk list during the year. Total number of quarts supplied was 11,744.

Cases requiring relief were referred to the Social Welfare for attention and where homes were in need of other forms of relief than that administered by the Social Welfare Commission the nurse directed them to the proper Social Agency.

There are many angles to Tuberculosis work, but the problems presented, when the patient is the wage earner for the home and forced to cease work, are often greater than the problem of taking care of the patient.

The Department continued to supply material for the prevention of spread of infection and medical supplies, etc., for the use of the patient.

In conclusion, we wish to express in this report our sincere appreciation for the assistance given us by the staff of the Municipal Hospital, Margaret Scott Mission, Social Welfare and Medical Inspection Department of Public Schools; without the co-operation of these bodies we feel sure the results attained would not have been so favorable.

Yours obediently,

W. J. T. WATT,

Chief, Division of Communicable Diseases.

COMMUNICABLE DISEASES—1929

	CASES						DEATHS					
	WARDS			Non-Res.	Inst.	TOTAL CASES	WARDS			Non-Res.	Inst.	TOTAL DEATHS
	1	2	3				1	2	3			
Anterior Poliomyelitis.....	7	4	3	5	---	19	1	---	4	---	5	
Cerebro-Spinal Fever.....	---	---	1	---	---	1	---	---	---	---	---	
Chickenpox.....	308	423	382	5	32	1155	---	---	---	---	---	
Diphtheria.....	99	170	99	76	31	475	1	8	7	1	21	
Diphtheria Carriers.....	7	23	9	1	10	53	---	---	---	---	---	
Erysipelas.....	18	36	21	11	22	108	5	1	4	1	13	
Influenza.....	19	19	5	5	---	48	10	7	4	---	27	
Lethargic Encephalitis.....	---	2	---	1	---	3	---	2	---	---	3	
Measles.....	1455	1472	1607	22	102	4658	1	9	4	---	19	
Mumps.....	205	459	227	1	13	905	---	1	---	---	1	
Puerperal Fever.....	---	7	---	2	---	9	---	7	---	---	9	
Scarlet Fever.....	117	150	175	49	21	512	2	2	2	---	6	
Smallpox.....	---	---	4	9	---	13	---	---	---	---	---	
Pulmonary Tuberculosis.....	51	72	83	20	3	229	15	24	11	---	83	
Typhoid Fever.....	6	7	8	16	1	38	---	---	---	---	5	
Whooping Cough.....	258	246	382	7	40	933	2	4	1	---	10	
	2550	3098	3006	230	275	9159	36	66	43	2	202	

COMMUNICABLE DISEASE RATES

	1929				1928				1927				1926			
	Cases	Deaths	Rate per 100,000	Rate per 100 Cases	Cases	Deaths	Rate per 100,000	Rate per 100 Cases	Cases	Deaths	Rate per 100,000	Rate per 100 Cases	Cases	Deaths	Rate per 100,000	Rate per 100 Cases
Anterior Poliomyelitis.....	19	5	2.4	26.3	279	17	8.4	6.1	4	1						
Cerebro-Spinal Fever.....	1				8	3	1.5		8	2			1	1		
Chickenpox.....	1155				997				1018				770			
Diphtheria.....	475	21	10.2	4.4	605	22	10.9	3.6	542	34	17.1	6.2	554	20	10.1	3.6
Diphtheria Carriers.....	53				72				142				107			
Erysipelas.....	108	13	6.3	12.0	101	7	3.4	6.9	93	7	3.5	7.5	90	14	7.1	15.5
Influenza.....	48	27	13.1	56.2	48	24	11.8	50.0	42	42			31	31		
Lethargic Encephalitis.....	3	3	1.5		4	4	2.0		4	4			7	7		
Measles.....	4658	19	9.3	.4	1595	7	3.4	.4	456	3	1.5	.6	2844	11	5.5	.3
Mumps.....	905	1			411				290				1506			
Puerperal Fever.....	9	9	4.4		10	10	4.9		6	6			7	7		
Scarlet Fever.....	512	6	2.9	1.2	764	3	1.5	.4	885	6	3.0	.67	676	8	4.0	1.1
Smallpox.....	13				20				48				43			
Tuberculosis of Lungs.....	229	83	40.5	36.2	209	73	36.1	34.9	229	74	37.2	32.3	232	88	44.6	37.5
Tuberculosis, All Forms.....		116	56.6			114	56.3			93	46.7			116	58.8	
Typhoid Fever.....	38	5	2.4	13.1	18	2	1.0	11.1	27	6	3.0	22.2	66	8	4.0	12.1
Typhoid Fever Corrected.....			.5	4.5		2		.0		3	1.5			2	1.0	
Whooping Cough.....	933	10	4.9	1.1	340	4	2.0	1.2	476	7	3.5	1.4	422	6	3.0	1.4

INSPECTORS' REPORT—1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals 1929	Totals 1928
	Number of Visits.....	1241	1860	1437	1230	1323	974	344	403	292	690	577	416	10787
Houses Quarantined.....	730	1312	1019	818	659	481	138	125	184	323	373	287	6449	3897
Quarantines Raised.....	225	142	163	137	253	157	64	21	18	16	21	22	1239	1210
Quarantines Inspected.....	75	53	63	63	89	74	59	55	33	74	51	39	728	891
Other Calls.....	211	353	192	212	322	262	83	202	57	277	132	68	2371	2988
New Cases Investigated.....	812	1421	1157	871	727	535	145	139	208	343	424	308	7090	4233
Rooms Fumigated.....	1	---	1	---	1	2	---	---	---	---	---	1	6	14
Houses Fumigated.....	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sanitary Defects Reported.....	2	2	---	---	---	---	2	1	---	1	---	---	8	18
Bedding, etc., Disinfected.....	95	71	87	74	84	79	76	38	71	88	84	69	916	1264
Rooms Sprayed.....	8	4	---	3	22	8	9	3	16	16	13	15	117	137
Houses Sprayed.....	---	---	---	---	---	---	1	6	1	1	---	---	9	4

SCHICK TEST AND TOXOID ADMINISTRATION IN SCHOOLS—1929

SCHOOLS	TOTAL SCHICKS			POSITIVE			NEGATIVE			TOXOID COMPLETED		
	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5
Ward 1.												
Wolseley	41	146	82	30	113	52	11	31	30	26	110	42
Laura Secord	94	218	152	66	153	121	28	64	31	59	141	116
River Heights	39	114	63	30	68	43	6	41	20	20	53	39
Sir John Franklin	18	79	32	13	49	19	2	22	13	6	41	14
Mulvey	92	216	113	80	146	76	6	63	37	51	126	60
Carlton	60	221	155	34	151	112	21	60	39	25	125	92
Lord Roberts	87	329	208	56	204	152	20	108	56	49	171	140
Gladstone	46	137	75	24	101	59	9	31	16	20	73	46
Earl Grey	39	146	131	26	101	81	13	42	50	23	87	72
La Verendrye	55	203	111	39	137	79	12	57	32	32	117	65
Fort Rouge	19	58	46	10	37	42	6	16	4	8	28	36
Grosvenor	50	144	71	34	85	54	14	52	17	19	70	44
St. Ignatius	38	67	51	21	36	44	14	23	7	10	25	33
St. Mary's	--	115	--	--	8	--	--	29	--	--	65	--
Riverview	54	155	124	48	112	97	5	33	22	42	78	79
TOTALS	732	2348	1414	511	1501	1031	167	672	374	390	1310	878

SCHICK TEST AND TOXOID ADMINISTRATION IN SCHOOLS—1929

SCHOOLS	TOTAL SCHICKS			POSITIVE			NEGATIVE			TOXOID COMPLETED		
	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5
Ward 2.												
Cecil Rhodes.....	96	304	198	60	194	147	36	87	49	50	183	112
Greenway.....	98	356	149	84	236	116	8	104	33	64	206	81
John M. King.....	96	344	172	58	211	98	35	112	74	44	185	92
Pinkham.....	41	221	161	22	153	84	18	64	77	17	136	56
Principal Sparling.....	71	276	159	60	174	104	5	95	49	46	148	94
Ellen St. Kindergarten.....	--	106	--	--	59	--	--	46	--	--	52	--
Albert.....	82	248	128	47	157	85	31	64	43	34	142	75
Isbister.....	67	262	111	40	170	75	24	68	36	24	149	51
Montcalm.....	41	93	98	28	73	72	12	20	25	17	65	58
General Wolfe.....	--	126	161	--	86	82	--	39	62	--	74	82
Isaac Brock.....	106	287	129	39	194	101	59	67	28	24	164	83
Argyle.....	45	179	81	33	107	48	9	70	32	26	82	41
Wellington.....	57	224	135	49	159	79	4	48	56	28	140	66
Somerset.....	49	191	122	41	111	180	3	64	42	28	95	73
Victoria.....	16	41	73	10	29	42	6	9	30	6	21	39
Dufferin.....	71	267	236	42	141	146	29	124	90	37	128	116
St. Edward's.....	--	188	--	--	90	--	--	82	--	--	69	--
TOTALS.....	936	3713	2113	613	2344	1459	279	1163	726	445	2039	1119

SCHICK TEST AND TOXOID ADMINISTRATION IN SCHOOLS—1929

SCHOOLS	TOTAL SCHICKS			POSITIVE			NEGATIVE			TOXOID COMPLETED		
	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5	1929	1926-8	1923-5
Ward 3.												
Machray.....	85	342	216	54	166	140	23	153	76	47	145	110
William Whyte.....	83	323	263	56	161	149	25	160	114	48	139	141
David Livingstone.....	75	367	242	46	235	105	28	125	137	40	215	93
King Edward.....	140	417	505	84	236	288	50	171	217	73	210	219
Aberdeen.....	98	357	271	54	211	149	38	139	122	44	174	125
Margaret Secitt.....	75	217	258	60	141	143	9	63	104	48	121	115
Sir Sam Steele.....	35	79	73	22	54	45	12	22	28	19	52	32
George V.....	25	78	87	17	55	50	7	20	37	12	49	41
Champlain.....	30	152	141	23	91	77	7	56	64	18	73	58
Norquay.....	121	502	446	63	260	245	56	210	201	51	223	203
Strathcona.....	147	394	534	75	212	306	37	178	228	85	200	288
Lord Nelson.....	50	195	158	36	118	65	12	70	93	32	104	53
Florence Nightingale.....	24	65	73	20	42	52	4	14	21	16	35	47
Ralph Brown.....	66	261	213	36	173	161	26	78	52	26	146	102
Luxton.....	39	184	159	34	125	78	3	43	81	31	108	64
Anna Gibson.....	32	85	35	21	59	27	9	21	8	17	49	24
Lord Selkirk.....	78	293	202	52	197	141	25	86	61	40	176	116
Faraday.....	62	293	192	46	182	111	12	91	91	38	153	73
Elmwood.....	41	117	93	26	98	53	15	16	40	18	80	45
Peretz.....	---	138	---	---	96	---	---	41	---	---	70	---
Liberty Temple.....	---	17	---	---	10	---	---	6	---	---	4	---
TOTALS.....	1306	4876	4161	825	2922	2385	398	1763	1775	703	2523	1949

TUBERCULOSIS—SUMMARY SHOWING SOURCES FROM WHICH CASES ARE RECEIVED

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total 1929	Totals 1928
King Edward Memorial Hospital.....	3	6	4	5	8	6	8	7	2	7	4	5	65	47
Ninette Sanatorium.....	1	--	1	3	--	3	--	4	--	5	1	2	20	18
Chest Clinics.....	2	4	12	6	6	6	2	3	1	2	3	12	59	57
Death Registration.....	--	1	--	4	4	4	2	2	3	5	2	3	30	17
City Laboratory.....	2	1	1	--	--	--	--	1	--	1	3	1	10	9
St. Roch's Hospital.....	1	3	1	1	--	--	--	1	1	3	1	2	14	18
Physicians and others.....	--	1	1	1	--	1	2	--	--	3	2	1	11	23
Non-Resident.....	--	1	3	1	1	3	3	1	1	2	--	4	20	20
TOTAL CASES.....	9	17	23	20	19	23	17	19	8	28	16	30	229	209

TUBERCULOSIS—DEATHS BY MONTHS

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total 1929	Total 1928
Jan.														
6	9	7	3		10	10	4	6	8	8	5	7	83	73

WINNIPEG GENERAL HOSPITAL CHEST CLINIC—1929

	Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Totals 1929		Totals 1928	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Cases.....	83	21	137	19	87	38	72	23	63	19	64	17	97	27	79	16	74	6	60	14	46	25	57	10	919	235	990	263
Old Cases.....	65	8	93	8	67	18	52	12	46	12	45	5	73	20	57	8	46	2	45	3	31	18	41	4	661	118	680	141
New Cases.....	18	13	44	11	20	20	20	11	17	7	19	12	24	7	22	8	28	4	15	11	15	7	16	6	258	117	310	122
Men.....	41	7	52	8	32	12	34	6	32	4	35	7	45	11	26	7	35	3	28	4	16	9	22	4	398	82	344	84
Women.....	38	11	65	9	49	21	36	13	29	12	25	8	45	13	45	9	29	1	22	10	26	6	30	5	439	118	501	151
Children.....	4	3	20	2	6	5	2	4	2	3	4	2	7	3	8	—	10	2	10	—	2	10	5	1	82	35	145	28
Examinations.....	35	10	64	5	35	22	49	17	31	14	38	13	40	14	36	10	35	2	27	14	24	16	28	8	432	145	454	164
X-Ray Examinations.....	27	11	50	12	34	21	9	10	6	6	14	7	38	9	31	6	31	1	10	7	15	10	20	4	124	104	325	104

CHILDREN'S HOSPITAL CHEST CLINIC—1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals 1929	Totals 1928
Cases.....	38	68	69	50	51	41	32	40	42	65	19	31	546	790
Old Cases.....	30	39	57	45	37	30	21	30	36	43	15	24	407	563
New Cases.....	8	29	12	5	14	11	11	10	6	22	4	7	139	227
Examinations.....	36	51	35	37	35	24	25	26	32	43	15	17	376	522
X-Ray Examinations.....	3	24	20	17	16	14	12	24	6	28	5	8	177	242

TUBERCULOSIS—1929
Showing Sleeping Accommodation of 209 Patients

Rooms Occupied by One Family	PATIENTS				CONTACTS			
	With Room to Self	With Bed but not Room to Self	With neither Bed nor Room to Self	Totals	Total Number of Contacts in Home	Sleeping in same Bed as Patient	Sleeping in same Room but separate Bed	Totals
1 Room.....	10	1	8	19	13	8	5	13
2 Rooms.....	1	--	7	8	20	8	4	12
3 Rooms.....	8	3	17	28	88	19	16	35
4 Rooms and over.....	85	10	43	138	517	45	43	88
Institutional.....	--	--	--	8	--	--	--	--
Unclassified.....	--	--	--	8	--	--	--	--
Totals.....	104	14	75	209	638	80	68	148

TUBERCULOSIS—VISITING NURSES' REPORT—1929

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals 1929	Totals 1928
Number of Visits.....	451	405	310	509	494	364	407	502	344	506	483	380	5155	5435
To Old Cases.....	429	374	290	483	471	328	386	471	324	450	438	358	4802	4937
To New Cases.....	3	16	10	15	17	19	15	21	13	27	14	13	183	164
To Suspects.....	1	1	4	2	1	5	3	1	1	1	6	--	26	26
On Behalf of Patients.....	6	13	6	9	5	11	2	6	6	23	6	9	102	137
Other Calls.....	12	1	--	--	--	1	1	3	--	5	19	--	42	197
Patients sent to King Edward Mem. Hospital	4	1	4	4	1	2	1	2	2	2	5	8	36	32
Patients sent to Ninette Sanatorium.....	--	6	1	1	--	1	1	--	--	--	1	--	11	5
Patients sent to St. Roch's Hospital.....	1	2	1	--	--	1	--	--	--	1	1	1	8	7

Report of Chief Health Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report of the work accomplished during 1929 in this Division of the Health Department, as set forth in my own report, and those of the Housing and Smoke Inspectors, as follows:—

ABATEMENT OF NUISANCES

The table which follows sets forth in a concise form a summary of the work done by the inspectors of this division.

The total number of Inspections and Re-inspections was 45,905 or 4,155 more than in 1928. There are, however, 11 district inspectors as against 10 in 1928, a new man having been appointed in June. This equals 4,173 inspections per man.

Complaints numbered 2,364, or 334 less than in 1928. There has been a decrease in the number of complaints since 1921 of 938. Some 368 of the complaints were unfounded, or were rectified previous to receipt of the same.

SANITARY INSPECTIONS FOR THE YEAR 1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Complaints received in Office.....	103	83	109	156	190	170	199	152	112	121	75	69	1539
Complaints made to Inspector.....	68	62	72	76	73	72	64	61	68	71	75	63	825
Total.....	171	145	181	232	263	242	263	213	180	192	150	132	2364
Of Above:													
Complaints re non-removal of garbage, etc.....	28	27	34	46	56	48	40	28	36	32	27	25	427
Complaints re nuisances, etc.....	143	118	147	186	207	194	223	185	144	160	123	107	1937
Total.....	171	145	181	232	263	242	263	213	180	192	150	132	2364
Complaints well founded.....	145	118	154	193	234	210	225	176	148	156	123	114	1996
Complaints unfounded or rectified previous to receipt of same.....	26	27	27	39	29	32	38	37	32	36	27	18	368
Total.....	171	145	181	232	263	242	263	213	180	192	150	132	2364
Written notices (informal).....	343	144	263	170	614	440	321	229	260	367	285	161	3497
Written notices (statutory).....	119	118	118	269	189	179	146	165	164	199	90	84	1840
Verbal notices or warnings.....	732	798	868	1020	1058	1163	1243	974	1127	1077	1037	1043	12140
Total.....	1094	1060	1249	1459	1861	1782	1710	1368	1551	1643	1412	1288	17477

SANITARY INSPECTIONS FOR THE YEAR 1929—Continued.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
INSPECTIONS MADE													
Dwelling houses.....	164	156	138	123	145	141	144	169	161	172	165	249	1927
Tenements and apartment blocks.....	121	112	103	103	80	101	78	78	118	95	117	515	1626
Hotels and lodging houses.....	33	52	72	48	38	16	22	20	67	39	30	78	515
Schools and public buildings.....	--	6	--	3	--	--	--	--	4	--	--	1	14
Abattoirs.....	1	--	--	3	2	4	5	3	3	3	2	3	29
Workshops and factories.....	40	55	40	30	43	38	58	28	37	70	40	42	521
Offices.....	12	7	2	24	3	7	9	7	9	5	5	10	100
Stores.....	71	36	80	61	77	49	59	60	82	81	69	72	797
Stables, livery, feed and sale.....	23	23	35	32	24	25	19	21	21	31	31	21	306
Stables, private.....	79	69	74	73	96	85	78	90	104	100	105	100	1053
Laundries, hand.....	50	45	39	110	85	63	47	36	43	53	30	47	648
Laundries, steam.....	--	--	--	--	--	1	2	4	1	--	1	--	9
Dog kennels.....	12	12	11	27	28	23	12	13	15	9	16	9	187
Theatres and places of amusement.....	6	5	4	9	5	5	6	3	5	8	5	5	66
Public bath houses.....	4	4	4	10	8	8	--	4	10	4	4	4	64
Public bath houses, water samples.....	10	8	8	14	32	11	23	13	15	7	4	5	150
Comfort stations, public.....	20	20	20	22	4	24	25	13	25	20	20	20	233
Filling stations.....	32	34	29	30	27	36	36	26	39	33	40	53	415
Garages.....	29	27	23	27	25	28	27	20	28	23	38	27	322
Undertaking establishments.....	--	--	--	--	--	7	--	--	--	--	--	--	7
Bedding Factories.....	2	4	--	1	--	1	5	1	1	4	1	1	21
Lack of heat in dwellings.....	20	9	2	2	1	--	--	--	1	5	12	12	63
Wiping rags.....	--	--	6	3	1	2	2	1	2	3	1	--	21
Refrigerators (Chemical).....	--	--	--	--	--	--	--	--	--	3	2	1	6
Hospitals, private.....	--	--	--	--	--	--	--	--	--	--	--	--	--
Common drinking cups and towels.....	4	10	4	10	4	7	3	4	6	6	4	2	64
Barber shops.....	11	10	11	8	9	15	9	10	14	11	15	10	133
Second-hand stores and junk yards.....	17	36	26	133	67	33	30	18	20	25	30	25	460
Pool rooms.....	24	27	20	63	33	25	20	17	19	22	24	16	310
Yards, sheds, areas, etc.....	497	355	534	702	1338	1273	1083	500	793	784	567	419	8845

SANITARY INSPECTIONS FOR THE YEAR 1929—Continued.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Vacant lots (nuisances)-----	45	73	86	78	88	61	58	52	79	82	91	61	854
Streets and lanes (nuisances)-----	394	347	338	9	262	290	238	252	318	399	525	577	4199
Contractors' closets-----	31	30	34	112	141	153	138	122	109	92	62	28	1052
Infectious diseases (houses placarded, disinfected, etc.)-----	21	615	867	428	44	--	--	--	--	--	--	--	1975
Total number of inspections-----	1773	2187	2615	2548	2709	2532	2236	1585	2149	2189	2056	2413	26992
Re-inspections-----	1195	951	1224	1554	1872	1856	1991	1750	1922	1746	1603	1249	18913
Total number of inspections and re-inspections-----	2968	3138	3839	4102	4581	4388	4227	3335	4071	3935	3659	3662	45905
SMOKE NUISANCES													
Chimneys and smoke stacks (ob- servations)-----	66	60	16	15	21	29	53	28	43	88	71	86	576
Furnaces, boilers, fuels, etc., in- spections of-----	184	153	36	74	89	96	86	87	114	140	156	171	1386
Total-----	250	213	52	89	110	125	139	115	157	228	227	257	1962
Notices, statutory-----	2	2	--	--	1	--	1	1	--	1	6	--	14
Notices, verbal-----	51	37	15	10	8	6	4	4	17	21	12	27	212
Total-----	53	39	15	10	9	6	5	5	17	22	18	27	226

SANITARY INSPECTIONS FOR THE YEAR 1929—Continued

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
DEFECTS AND NUISANCES DISCOVERED AND ABATED													
Drains, choked or defective.....	17	15	15	19	17	16	26	8	14	19	12	13	191
Sinks and wash-basins, choked or defective.....	16	21	17	26	14	14	12	13	8	13	16	5	175
Water-closets and fittings, choked or defective.....	38	26	35	45	29	25	16	26	26	33	32	26	357
Baths and fittings, choked or de- fective.....	3	1	1	1	2	1	--	2	1	--	4	--	16
Urinals and fittings, choked or de- fective.....	3	4	3	23	4	6	--	6	3	4	3	4	63
Soil-pipes, clean-outs, etc., choked or defective.....	14	8	14	23	11	7	12	9	8	11	15	8	140
Catch-basins and traps, choked or defective.....	13	11	12	15	19	11	17	8	12	15	11	9	153
W.C. compartments, defective light and ventilation.....	2	2	--	--	--	--	--	--	1	1	--	--	6
Plumbing and water pipes, frozen.....	50	31	14	11	1	--	--	--	--	--	21	40	168
Vent stacks, frozen.....	6	6	--	--	--	--	--	--	--	--	--	1	13
Sewer connections, frozen.....	2	3	--	1	--	--	--	--	--	--	1	1	8
Water services, defective or cut off.....	17	17	11	18	13	7	16	8	11	13	20	14	165
Plumbing fixtures, insufficient.....	--	11	--	2	--	2	4	2	1	2	1	--	25
New plumbing, notice to install.....	2	1	--	5	6	--	--	6	2	2	1	1	26
Total plumbing defects.....	183	157	122	189	116	89	103	88	87	113	137	122	1506

SANITARY INSPECTIONS FOR THE YEAR 1929—Continued.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Bed-bug infested buildings.....	--	--	6	8	9	6	9	14	9	6	11	4	82
Chimneys, defective.....	--	--	--	--	3	2	1	4	4	1	2	2	19
Roofs, defective.....	1	--	5	8	12	8	3	5	6	6	5	6	65
Eaves-troughs and rain-water leaders, defective.....	--	--	3	10	13	13	23	14	17	14	4	1	112
Gas fittings and piping, defective.....	1	3	4	--	--	--	--	--	--	--	--	--	8
Furnaces and heating apparatus, defective.....	14	7	3	4	3	--	--	--	4	6	11	7	61
Refrigerators, defective.....	--	--	--	--	1	2	2	--	6	1	2	1	3
Lighting, defective.....	--	3	2	2	6	6	4	1	9	2	2	6	13
Ventilation, defective.....	--	2	--	1	5	5	10	11	8	17	9	3	37
Pit closets, concrete or brick, notices.....	16	11	15	47	84	68	45	50	55	56	30	17	71
Contractors' closets, notices.....	--	--	--	--	--	--	--	--	--	--	--	--	494
Chemical or patent closets.....	--	--	3	41	5	4	--	--	--	7	--	--	60
Stagnant water, vacant lots.....	45	54	76	55	79	56	55	50	67	72	88	56	753
Other nuisances, vacant lots.....	391	323	300	252	273	233	231	242	345	371	515	556	4082
Nuisances on lanes or streets.....													
Total defects discovered (including plumbing defects).....	1238	1151	1302	1534	2128	2459	1736	1367	1789	1783	1617	1372	19477
MISCELLANEOUS													
Milk samples taken.....	12	46	78	120	120	109	120	114	113	123	120	66	1077
Water samples taken.....	--	--	--	--	--	--	--	--	--	--	--	--	--
Chemical tests (plumbing & drainage) Positive results.....Negative.....	--	--	--	--	--	--	--	--	--	--	--	--	--
Cases reported for prosecution.....	2	5	--	1	1	2	5	2	--	--	--	1	19
Time attending court(hours).....	1	3½	--	1	--	1	2	7	--	--	3¼	2½	21¾

FROZEN PLUMBING AND WATER PIPES

Rather more than the usual number of cases of frozen plumbing were dealt with, viz., 189, as against 124 last year. A good many of these were in lock-up stores where the occupants had neglected to maintain sufficient heat. Others were in the older and more dilapidated class of dwellings.

OTHER PLUMBING DEFECTS

These numbered 1,266, or 157 less than last year. They included choked or dilapidated drains, sinks, wash basins, water closets, baths, urinals, soil stacks, catch basins, and clean-outs. There were 51 notices served to install new or additional plumbing. Out of 719 new dwellings only 24 were constructed on streets without sewers or water mains. There are now only 266 occupied buildings in the city without plumbing.

DEFECTIVE ROOFS, EAVESTROUGHS AND RAIN WATER LEADERS

Complaints regarding defective roofs, 65. Defective eavestroughs or rain-water leaders, 112. These are much smaller numbers than last year (137 and 249), and may be accounted for by the very dry season.

GARBAGE, MANURE, AND OTHER RECEPTACLES

To see that every premises is kept provided with the proper receptacles required by by-law in which to store garbage, incombustible refuse, waste paper, manure, etc., is a perennial problem with us. Garbage cans, for instance, vary very much in their construction and durability. They are frequently stolen. They become battered, so that the covers do not fit, the acids eat them up, and in winter the contents frequently freeze to the can. Thus a continual effort is necessary on the part of the inspectors to obtain the necessary renewals. From May 1st to October 1st this year, they succeeded in obtaining 3,644 new cans. I have sometimes wished that we had a by-law requiring the owner of every premises to construct and maintain permanent bins for both garbage and ashes. These should be constructed of reinforced concrete, and placed on the rear lot line of each property with strong iron doors opening on to the lane for the convenience of cleaning. Such receptacles could not be upset by dogs; all garbage and ashes would be kept out of sight, dry, and under cover; they could be emptied just as easily as cans, and appearances would be improved. The cost of providing such permanent receptacles would not add much to the initial cost of a dwelling, and if properly constructed the maintenance cost should be small. The present method of continually harrying householders to replace missing and defective cans would no longer be necessary. Such bins could be provided by the owners, and would be a permanent fixture belonging to the house. Tenants would not have to bother about the garbage can problem any more. Such bins can be so constructed as to be both fly and rat proof. Many cities in Great Britain require some such permanent conveniences to be provided. Forms are available

for casting such bins in quantity, thus reducing the cost. Much time is spent by sanitary inspectors in trying to regulate the supply of the flimsy portable cans now in use, and the work is never finished. If bins of a permanent character were once provided much valuable time would be saved which could be spent to better advantage.

The following notices were served during the year in connection with this work:—

To provide garbage cans.....	4,760
To provide receptacles for incombustible refuse.....	500
To provide or repair manure bins.....	449
To provide ash receptacles.....	338
To provide proper receptacles.....	164
Total.....	6,211

SCAVENGING

The removal of garbage, tins, and ashes is done by the Street Cleaning Division. Our inspectors, however, are in close touch with this work, and make reports re places apparently missed. It is also their duty to see that all refuse is kept as required by by-law, so as to facilitate removal. We received 427 complaints regarding the non-removal of garbage, and of improper methods of storage. The following requests were sent to the Street Cleaning Division:—

To clean contractors' closets.....	255
To remove garbage.....	16
To remove dead animals.....	9
To remove ashes.....	24
To clean brick pit closets.....	28
To remove infected bedding.....	3
To remove manure from streets or lanes.....	8
To remove tins or other incombustible refuse.....	26
Total.....	369

Mr. Wood and his staff co-operate closely with this Division.

CONTRACTORS' CLOSETS

The proper supervision of these objectionable but necessary conveniences makes considerable work for our inspectors. Permits issued 817, or 31 more than in 1928. Inspections, 1,052. Notices to construct, to repair, or to clean 494.

FEED AND SALES STABLES

Only 10 permits were issued, 4 fewer than in 1928. Inspections, 306.

KEEPING OF ANIMALS

Inspections of private stables 1,053. The following cases were dealt with:—

Cows kept in insanitary stables, sheds, etc.....	6
Calves kept in insanitary stables, sheds, etc.....	1
Horses kept in insanitary stables, sheds, etc.....	62
Total	69

No complaints re sheep, goats, or pigs this year. These animals were kept in 25 stables or sheds.

Action taken and results:—

Stables vacated.....	1
Stables improved.....	14
Number of animals reduced in.....	9
Pending.....	1
Total	25

Poultry:

Poultry kept in dwellings.....	36
Poultry kept in insanitary pens, sheds, etc.....	107
Pigeons kept in dwellings.....	6
Total cases	149
Other animals kept in dwellings (mostly dogs and cats)...	27

LICENSED DOG KENNELS

Permits issued 30, as against 32 last year. Inspections made, 187. A few complaints were made about noise made by dogs kept in kennels.

NUISANCES IN YARDS, SHEDS, LANES, VACANT LOTS, ETC.

Dirty yards, courts, sheds, etc.....	5,003
Stagnant water on vacant lots.....	60
Other nuisances on vacant lots.....	753
Nuisances on streets and lanes.....	4,082
Total	9,898

No matter how much attention our inspectors give in checking up the disposition of waste matters the work is never finished. There are always with us the careless and indifferent. It is often not possible to detect offenders. Some 12 persons were prosecuted during the year for offences of this character.

NUISANCES ABATED COMPULSORILY AND CHARGED AS TAXES

None this year.

COMPULSORY SEWER NOTICES

None this year.

APPLICATIONS FOR CITY INSTALLED PLUMBING

One only. This was approved by Council but subsequently cancelled.

OVERCROWDING

Day inspections 206. Night inspections 11. Notices served to abate overcrowding 50. In order to check overcrowding we had to make some night inspections, principally of lodging houses.

HOUSING

There were 719 new houses constructed, and 28 new apartment blocks, containing 754 suites. There were 77 houses demolished during the year, so that the net increase is 642 only. The new houses and suites provide accommodation for 1,396 families. All of this work was done by private enterprise, as the Winnipeg Housing Commission is not making any more loans. There have been 6034 new houses built since 1918, and 94 apartment blocks with 2,104 suites, but 368 houses have been demolished in that period.

At December 31st our Annual Survey of Vacant Houses and Suites showed only 505 vacant houses. As there are now 34,876 houses in the city this figure represents only 1.4% of all houses. Vacant suites numbered 729 as against 385 last year. There are now 644 apartment blocks with 9,994 suites, so that the vacant suites were 7.3% of the whole. In the new blocks built this year only 24 out of 663 suites were vacant December 31st.

We note during the last few years a relative decrease in the number of new houses as compared with suites in apartment blocks; the percentages are as follows:

	New Houses	New Suites
1925.....	85%	15%
1926.....	65.4%	34.6%
1927.....	69.4%	30.6%
1928.....	59.2%	40.8%
1929.....	49%	51%

Thus in 1929, for the first time more accommodation was provided for families in suites in apartment blocks than in dwellings. For many reasons we consider this tendency undesirable. We hope that this is not going to become a city of apartment blocks. The construction of small houses seems to be more favored in the surrounding suburbs. With all the vacant land still within the city limits it is unfortunate that these houses should not have been built within the city proper in order to increase the tax roll.

TOTAL HOUSING ACCOMMODATION—DECEMBER 31st, 1929

Dwelling houses.....	33,750
Stores with dwellings.....	1,126
Suites in apartment blocks.....	9,994
	44,870
Total lettings.....	44,870

Reports for the last few years have indicated that nearly all new houses were built either for the owner's own occupation, or for sale, and so far as we can observe this tendency continues. Very few new houses are being built for rent. Our observations do not note any change in the occupancy of that class of old single-family dwellings now occupied as multiple dwellings. Whether there are more or fewer dwellings so occupied, and the number of families in each, only a detailed housing survey would show. The class of tenants occupying rooms in such dwellings are not buying new houses for themselves, nor are they renting suites in the newer apartment blocks. Such accommodation is beyond their means. We have in previous reports expressed the opinion that many of these families, especially those with children, would rent small cottages or houses were such available, and at a reasonable rental, but as previously noted nobody is building such houses, and the number of existing small cottages gets less as the older houses become dilapidated and out of date. No investor in recent years has apparently been willing to risk his money in erecting a number of small, durable and warm cottages or small houses for rental. We feel sure that if such were built there would be a brisk demand for them, and could wish to see the experiment tried. If properly located, built, and managed they should return a fair rate of interest on the investment.

Failing this extra accommodation as a means of inducing families, especially those with children, to move out of the existing tenements into a home of their own, there should be a stricter regulation and inspection of the tenement houses. Families grow, and rooms which were none too large for a family consisting of man and wife only, become too small, and the children do not have a fair chance to grow up under conditions favorable to health, family life, and in some cases to decency and morality. We more frequently of late discover cases of overcrowded rooms, and several instances have been dealt with recently when occupation of cellars was discovered and nipped in the bud. Until all houses occupied as multiple dwellings are regulated by a special by-law requiring registration, and periodical inspection; and defining a minimum standard for such houses as regards sanitation, and the accommodation to be provided for each family occupying, this condition will not improve, but is certain to deteriorate.

We are still without any by-law properly regulating the number and kind of sanitary conveniences required in dwelling houses and apartment blocks, although this matter was taken up by the Health Committee over a year ago. The by-law was prepared and approved at that time. After some discussion as to whether the requirements should be inserted in the Health By-law, the Plumbing By-law or the Building By-law, it was decided that the amendments should take the form of a Chapter in the Building By-law. Owing to the fact that other amendments are being prepared to the Building By-law, the proposed Chapter regarding plumbing has been held over. We think that it might quite well be sent to Council separately, without waiting longer.

ZONING

Several by-laws creating residential districts under the Zoning By-law were passed during the year. In order to prevent the blighting of any more residential districts, in the manner very evident in some parts of the city, it is desirable that this important work should be prosecuted continuously until the whole city is zoned. It will be a protection to owners of residential property, and conducive to more healthful conditions. There will be less smoke, odours, noise and dust. Less traffic and thus more safety for children. More open spaces and sunlight. Much could be written on this subject, but we believe that most of our citizens are now convinced of the advantages of zoning, and are expecting that protection for residential districts will be provided before long.

GAS STOVES AND FITTINGS

Only 8 complaints under this head were dealt with. In one case illuminating gas from a leaky main found access through the weeping drains of a large warehouse into the cellar catch basin, and drove out the occupants of the lower floors. The elevator operator was overcome by the gas. We understand that during the year a new plant for making water gas was erected. The analysis of the gas formerly used shows 6.2% of Carbon Monoxide. The water gas shows an average of 29.6% of Carbon Monoxide. These two gases are, however, being mixed before being sent into the mains for distribution. The average Carbon Monoxide content of the gas now being supplied is 13.9% or more than twice the former content. As Carbon Monoxide is the dangerous constituent of gas, even greater care than was formerly required will be necessary in order to prevent leaks from piping and fixtures. We have on several occasions pointed out the possible dangers, and suggested that we should have a by-law regulating gas-fitting just as we do plumbing.

CHEMICAL AND MECHANICAL REFRIGERATORS

In December, whilst taking the annual survey of vacant suites, we took the opportunity of ascertaining how many of these refrigerators have already been installed in apartment blocks. It was found that there were 3,028. Of these, 431 are of the individual self-contained type, and 2,597 of the multiple type. Sulphur Dioxide is used as a refrigerant in 2,769 of these, Methyl Chloride in 228, and Ethyl Chloride in 30.

We have no available information as to how many are in use in private houses, or for commercial use. It is evident, however, that there is going to be a great demand for them in blocks and dwellings, and also in butcher shops, food stores, hotels, restaurants, etc.

In November last this matter was brought to the attention of the Committee on Health by a letter from the Medical Health Officer fully describing the system, pointing out the possible dangers, and recommending that an amendment to the City Charter be asked for in order that the city may pass a by-law to properly regulate and control all mechanical and chemical refrigeration systems. The matter was referred to the Committee on Legislation, which submitted to Council a draft Charter amendment. Council approved the proposed amendment and it was duly incorporated in the Bill prepared by the City Solicitor.

(It may be mentioned here that some opposition to this legislation was made by the Winnipeg Board of Trade. Members appeared before the Law Amendments Committee of the Legislature when the bill was under discussion. They claimed that the Province through its Bureau of Labor was already doing this work, and they did not wish any duplication of inspection. This claim was not borne out by the statement made to the Committee by the Chief Inspector of the provincial Bureau of Labor, who said that whilst large plants were inspected, no attempt had been made to inspect refrigerator installations in apartment blocks, butcher shops, etc. It appears that any inspections made by the Bureau of Labor are by virtue of the "Steam Boiler Act." This is intended to apply principally to buildings where steam boilers are in use, although the Act does provide that the Lieutenant-Governor-in-Council may make regulations regarding refrigeration plants. Draft regulations have been made, but have no legal effect as yet, and do not by any means cover all the points desirable. They do not give any jurisdiction as regards dwellings. However, the result of a conference on the subject was that the Bureau of Labor agreed to confer with the city authorities in the drawing up of regulations satisfactory to both the province and the city, and which shall apply to all refrigeration plants in the province. The Minister of Public Works who was present at the Law Amendments Committee undertook that the province would take charge of the matter. The proposed Charter Amendment was then dropped. The city should not, however, lose sight of this matter until satisfactory provincial legislation is promulgated and arrangements made for the systematic inspection of all chemical refrigerators.)

CROSS CONNECTIONS—WATER SUPPLIES

Two such connections were discovered and quickly remedied.

WORKSHOPS MANUFACTORIES AND OFFICE BUILDINGS

Inspections of workshops and factories, 521. Office buildings, 100. Some of the visits made included: inspection of a new humidifying apparatus in a printing office; of a new dust collector in a gypsum plant; a liquid air and acetylene gas plant; several inspections of basements in business premises being made to comply with the Provincial Government regulations; inspection of other premises as to their suitability for various businesses; steam from a cleaning plant discharged at sidewalk level and causing annoyance to passers-by and possible danger to traffic; gasoline fumes from a similar plant discharged at ground level. Also the usual number of complaints as regards plumbing, ventilation, excessive heat and cleanliness.

RATS

There were only 21 complaints received regarding rat-infested buildings, less than half those of 1928. Rat bounty paid for 1,335 tails, cost \$66.75. Last year, 1,793, \$89.65. Boxes of Extirmo distributed gratis 1,375, 201 more than in 1928.

Some of the largest catches brought in from individual buildings; 235, 202, 194, 164. At the other extreme we have the small boy who brings in one tail worth five cents. Apparently nobody is trapping at the Saskatchewan Avenue

Nuisance Ground. Not much publicity has been given to this work, so that possibly many citizens are not aware that the city is willing to assist them in ridding their premises of rats.

PUBLIC BATHS AND COMFORT STATIONS

Inspection of baths, 64. Comfort stations, 233. Samples of water taken from swimming pools and submitted for examination, 150. Samples have also been taken from Y.M.C.A. tank, the new bath of the Winter Club, and All People's Mission.

All baths and comfort stations were kept in a clean and sanitary condition, and considerable attention is paid to chlorination.

PRIVATE HOSPITALS

Owing to the passage of the Private Hospitals Act by which the Provincial Government takes full control, licenses are no longer issued by the city.

UNDERTAKERS' ESTABLISHMENTS

Inspections made, 7. Permits issued, 7.

COMMON DRINKING CUPS AND TOWELS

There were 64 inspections made and warnings given where necessary.

CHIMNEYS AND FURNACES

Defective chimneys dealt with, 19, as against 40 last year. Defective furnaces, stove pipes, etc., 61, or 7 more than in 1928.

BILLIARD ROOMS

Permits issued, 59, no change. Inspections, 310.

SECOND-HAND DEALERS AND JUNK YARDS

Permits issued 132, being 11 less than last year. Inspections made, 460. Like other cities we are up against the problem of the proper disposition of discarded and dismantled autos. In some yards there is quite an accumulation of these. They are extremely unsightly, and it is generally noted that other rubbish accumulates in and around them. They attract and provide harbourage for rats. The Department has not yet taken the step of declaring these old cars to be nuisances, because it may be that some of them have a commercial value. It is not the duty of the city to provide for them at the Nuisance Ground. The full dismantling and destruction of these old cars should be insisted on instead of the present custom of removing all saleable parts and leaving the bulky bodies to accumulate. We understand that one company in Winnipeg is now equipped with heavy machinery for cutting up old auto bodies, thus putting the metal into a form in which it can be shipped and made use of. We may have to ask for legislation to compel this eventually.

WIPING RAGS

There were 21 inspections made. With reference to the Japanese wiping rags imported from Japan, and shipped to Winnipeg by a Vancouver firm, the Provincial Board of Health agreed to permit the sale of the same provided that each shipment is accompanied by a Japanese Consulate translation of the official certificate as to sterilization.

BEDDING FACTORIES

Inspections made, 21. No infractions of the Government Regulations were reported.

BARBER SHOPS

Inspections, 133. By insisting on the provision of adequate sanitary conveniences we were able to prevent the starting of some new barber shops in unsuitable premises. We received several enquiries during the year from persons representing the trade who wished to secure the examination and licensing of all barber shops and hair dressing establishments and the operators. It is probable that some legislation with this object will be introduced at the ensuing session of the Legislature.

VERMIN

Complaints regarding buildings infested with cockroaches, 45. Bedbugs, 82. Rather more than in 1928.

THEATRES AND PLACES OF AMUSEMENT

Inspections, 66. No serious complaints. Improvements were made in some theatres.

SCHOOLS AND PUBLIC BUILDINGS

Only 14 inspections were made. One or two complaints were received and rectified.

LAUNDRIES

Permits issued for 105 hand laundries, 8 fewer than in 1928. Inspections, hand laundries 648, steam laundries 9. Only one application was made for permission to establish a new laundry. Not succeeding in getting sufficient favorable signatures to his petition, the applicant abandoned it. A good deal of work is required each spring before license permits are renewed, especially in the older buildings.

HOTELS

Permits issued, 59, one less than in 1928. All hotels were maintained in very good condition.

LODGING HOUSES

During the year an effort was made to discover all premises coming under the new Lodging House By-law. Some 500 inspections were made of such premises, and specifications served on the owners and occupants of the work necessary to be done in order to make the premises conform to the by-law. By the end of the year 77 licenses had been issued. A number were discontinued, and 30 were pending. The work is proceeding and an improvement in the sanitary conditions of the lodging houses is noticeable.

INSANITARY BUILDINGS

The table given below shows the number and class of premises for which notices were served upon owners and occupants under Section 103 of the "Public Health Act", under which section the Health Officer has power to require that premises be put into a sanitary condition or else closed up.

Dwelling houses, general insanitary condition.....	31
Dwelling houses, unlawful conversion of same to tenements.....	--
Tenement houses.....	2
Basement and cellar dwellings.....	5
Dark rooms (dwellings).....	3
Stores occupied as dwellings.....	7
Factories and workshops.....	8
Stables.....	1
	<hr/>
	57
Notice served on owners and agents.....	50
Notices served on occupants.....	49
Results:—	
Notices complied with (premises put into sanitary condition).....	38
Premises closed and placarded.....	15
Cases still pending.....	4
	<hr/>
	57
Remaining closed on December 31st, 1928.....	170
Premises repaired or demolished during 1929.....	33
	<hr/>
	137
Premises closed during 1929 (dwellings 11; stables 0; other pre- mises 4).....	15
	<hr/>
Remaining closed on December 31st, 1929.....	152

WORK DONE FOR OTHER DIVISIONS OR DEPARTMENTS

Many inspections made for the Social Welfare Commission. Investigation of complaints re non-removal of garbage for the Street Cleaning Division. Samples of city water taken twice a week at several points for the City Bacteriologist and the City Chemist. These samples are taken at points where city water mains cross the rivers, and ensure prompt warning should any contamination occur through fracture of any of the mains. Monthly inspections of all

City Baths and Comfort Stations for the Bath Department, and samples from the swimming pools. Inspections for the License Department. Enquiries for the Statistician on unregistered births. From January to April our inspectors assisted the Communicable Disease Division by attending to 1,975 releases of quarantined houses.

PROSECUTIONS

Nature of Charges	Cases
Nuisance on premises.....	5
Deposit, manure, rubbish, etc.....	4
Neglect to comply with notice of Health Officer.....	3
Overcrowding.....	3
Neglect to keep premises in clean condition.....	1
Removing garbage and swill in leaky wagon.....	1
Neglect to provide contractor's closet.....	1
Occupy premises, condemned and placarded insanitary.....	1
Food Prosecutions.....	14
Total.....	33

HOW DISPOSED OF

	Fine	Cases	Fines
Convicted and Reprimanded.....	----	3	----
Dismissed.....	----	1	----
	\$ 3.00	4	\$ 12.00
	5.00	11	55.00
	8.00	5	40.00
	10.00	1	10.00
	13.00	7	91.00
	15.00	1	15.00
Total.....		33	\$223.00

This is an increase in the number of prosecutions of 19 as compared with 1928.

STAFF

We were given an additional inspector this year, making 11. At one time we had 15. The population is again increasing, and some of our districts are much too large if good work is to be done. The new lodging-house by-law created a good deal of new work. We could use two more inspectors with advantage.

All of the inspectors and the clerks have performed their duties in a satisfactory manner and good team work prevails.

Yours obediently,

ERNEST W. J. HAGUE,

Chief Health Inspector.

Report of Housing Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have pleasure in submitting for your consideration the following report on tenement inspection and action taken during the year 1929 in housing conditions.

Complaints relating to nuisances numbered 99 during the year. There were 82 in 1928, 112 in 1927, and 104 in 1926. Of the 99 complaints received, 28 referred to improper storage of garbage, 11 to defective plumbing, and 23 to bed bugs and cockroaches. Other complaints related to overcrowding, dampness, lack of heat, etc.

As the number of our apartment blocks and tenements is on the increase each year, the number is less in proportion.

In last year's report, reference was made to insanitary conditions obtaining and the action taken by us in having the insanitary conditions rectified, in one of our old tenements situated in the centre of the city. The premises came under the provisions of the Lodging House By-law during the year, and as a result considerable alterations and improvements were required. One important feature was the provision of a constant supply of hot running water. The premises have been under close supervision and there is a very marked improvement.

Our staff is not large enough to permit of the amount of inspection that we would wish to make, especially in our older tenements and apartment blocks. Consequently, our attention is frequently drawn to insanitary conditions through complaints. We endeavor, however, to keep a close check on premises which, in our opinion require same.

In the report for last year, reference was made to an old tenement which was in such an insanitary condition that we prosecuted the lessee. This place also came under the provisions of the Lodging House By-law, and the following work was ordered:

1. Remove all foul, torn and loose paper from the walls, floors, and ceilings of rooms Nos. 2, 5 and 11, also said surfaces in such other rooms as may require cleansing. Keep and maintain the entire premises in a clean and sanitary condition at all times.
2. Remove the accumulation of old beds, springs, and other material from room No. 11.
3. Remove all dilapidated, dirty and worn-out springs, mattresses, pillows and bed coverings and replace with new.
4. Remove all dilapidated floor coverings from the various rooms, also hallways, and replace same so that said floor coverings shall be close-fitting; in lieu of the above, the floors may be painted so as to permit of proper cleansing.

5. Provide and maintain at all times, a constant supply of hot and cold running water for the use of the occupants.

6. Provide sub-sashes on all storm windows, said sub-sashes to be of an area of at least eighty (80) square inches, so as to open easily, or the whole storm sash to be so arranged as to swing open on hinges.

7. Thoroughly cleanse the washrooms and water-closet compartments and keep and maintain same together with all plumbing fixtures therein, in a scrupulously clean condition at all times.

8. Cause each room and bedding therein to be thoroughly aired at least once each day.

9. Apply for and obtain a license to keep a Lodging House.

The above work was carried out and the premises licensed. The building is so old, however, floors badly worn and walls and ceilings cracked, that it is difficult to maintain the place in good condition.

We made a night inspection of the above, and several other premises where we were suspicious of overcrowding and other insanitary conditions. Closing notices were served in a few instances, and these had the desired effect of hastening repairs and cleaning of premises, as well as the abatement of overcrowding.

The occupation of stores as dwellings is still too prevalent and each year we have to deal with cases where families are housed in dark and unventilated make-shift rooms formed by flimsy partitions erected across such premises.

A number of applications to the Building Commissioner for permits to construct living rooms in basements were referred to us, and in several instances we had to report unfavorably. At best, basement rooms are not very suitable for living purposes, but when these have low ceilings and small windows, they are only suitable for storage use. We frequently find the windows heavily curtained and draped. In addition, on account of the window sills being, in many cases, only a few inches above the level of the ground surrounding the building, there is a temptation to keep windows closed so as to exclude street dust.

There is still a great shortage of small houses, and as a result, there is an increasing number of houses rented out for tenement use. It is these old tenements that are responsible for most of our complaints. It is difficult to maintain them in good repair and healthy condition. If the housing situation were not so acute, we would apply pressure in many instances that in our opinion warrant such action, in order to relieve the congestion. In the meantime, we cannot do much more than deal with the occupation of attic rooms by families. As stated in previous reports, most attic rooms are too small, low in ceiling height, have small windows, and are difficult of egress in case of fire.

Considerable repairs were carried out in a number of our old tenements and apartment blocks, including repairs to plumbing, cleansing and painting hallways and corridors, limewashing of courts, etc.

Respectfully submitted,

ALEX. OFFICER,
Housing and Supervising Inspector.

Report of Smoke Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Sir:

I respectfully submit my report on smoke nuisances and their abatement for the year ending December 31st, 1929.

SMOKE INSPECTIONS

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Observations:													
Chimneys & Smoke Stacks	66	60	16	15	21	29	53	28	43	88	71	86	576
Inspections of furnaces, boilers, fuel, etc.....	184	153	36	74	89	96	86	87	114	140	156	171	1386
Total.....	250	213	52	89	110	125	139	115	157	228	227	257	1962
Notices:													
Statutory.....	2	2			1		1	1		1	6		14
Verbal.....	51	37	15	10	8	6	4	4	17	21	12	27	212
Total.....	53	39	15	10	9	6	5	5	17	22	18	27	226

The educative policy in the matter of smoke abatement has been continued during the past year. In my opinion, however, it would be advisable to prosecute a few of the more persistent offenders. There are several firms who, on request, either change the fuel temporarily or by altering the method of firing comply with the regulations. They do not, however, adopt means for permanent abatement.

Very few complaints were made, but more interest by the general public would be helpful.

Firing of boilers in apartment blocks is so irregular that the chances of immediate detection are very remote.

Permission to use the roof of one of the high buildings has been very helpful, and from this position a comparison between the smoke from buildings and railways is readily observed.

It is very satisfactory to note the gradual increase in mechanical stoker installations and other types of grates which show economy and interest of the management in smoke abatement.

The economical management of a boiler room, whether it be in connection with an apartment block or manufacturing establishment should be of the greatest importance. It is unfortunate though, that there are certain owners who cannot or will not see the logic of more close supervision and co-operation with the engineer in charge. Dollars saved by close attention to production costs are lost by lack of interest in the boiler room. In the case of apartment blocks hundreds of dollars are wasted annually by careless handling of the fires and the use of unsuitable coal.

Lack of interest by owners in this respect is sufficiently serious in itself, but when undue fouling of the atmosphere by dense smoke occurs also, it becomes of interest to the general public.

At the present time there is an increasing proportion of apartment blocks where the janitor finds other outside employment and the wife does the firing. There is always the tendency to heap up the furnace with green coal. The result is the emission of dense smoke, coating of the boiler heating surfaces with soot, lack of economy in fuel consumption and nuisance to nearby residents or persons in the vicinity.

Filling stations have been a continuous source of annoyance. The chimneys of these premises are comparatively low, and unfortunately the premises are usually located on corner lots adjoining either high class dwellings or apartment blocks. Refuse such as old tires, batteries, oily waste, sawdust soaked with lubricating oil have in many instances been used as fuel in an effort to reduce the heating costs during the winter. In other cases an improvised method of oil burning has been adopted. This consists of an oil tank provided with a gravity feed to the heater. The drip is regulated by a plug stop-cock. In the absence of provision for vaporising and lack of air supply, dense smoke is emitted.

The nuisance created by the latter is continuous and more easily detected than in the former instances when such refuse is destroyed intermittently. Unless a complaint is made the conditions may continue for some time.

Use of sawdust for steam boiler use has increased during the past year. When firing with boilers of adequate capacity and proper care is exercised in the provision of air supply, the smoke conditions are satisfactory.

There is considerable nuisance at one plant where high pressure boilers are in use. Firing is forced and depending on the nature of the sawdust used, the smoke density varies. The volume of smoke is large, creating at times a fog like atmosphere in the vicinity, together with an objectionable odor of burning wood.

Only one complaint has been made during the past winter relative to ash from the Winnipeg Heating Company's district steam heating plant in River Heights. A chimney was erected one hundred and seventy-five feet high, and one additional eight hundred H.P. water tube boiler was installed and equipped with Riley underfeed stokers. Smoke conditions were satisfactory

and no ash was observed in the vicinity. On investigating the complaint the cause was found to be due to a defective truck used for removal of ash from the chimney base. On the truck passing complainant's dwelling, the escaping ash was carried by the wind over the snow in the vicinity.

Another firm, at a cost of twenty-five thousand dollars, altered the settings of two high pressure boilers and installed under feed stokers together with provision for secondary air supply. This installation is not entirely satisfactory as dense smoke is emitted at intervals which synchronises with the feed of the green fuel. It is expected that the defect will shortly be adjusted.

Considerable trouble has also been experienced with two certain types of forced draft grates applied to hand-fired boilers. They effectively prevent the waste of fuel in the ash pit, but appear from the smoke viewpoint to be suitable only for low volatile coals or lignite.

The question of reducing the smoke nuisance in connection with lime kettles at one of the industrial plants was taken up with the management. These kettles are not provided with combustion chambers and the furnace is in direct contact with the kettle heating surface. Another objection pertaining to efficient combustion is, that the fire has to be gradually "thinned," thus reducing the furnace temperature, and some time elapses before recharging. Excessive heat on the kettles while empty would cause same to buckle. Firing tests were made with considerable reduction in the density of the smoke, but the nuisance was not entirely eliminated. It is the intention of the management to install a more modern type of kettle during the ensuing summer, and coke will be used which will totally abate the nuisance.

Hand-fired boilers are the greatest source of industrial smoke nuisances, yet this can be eliminated by careful attention to detail. Narrow air spaces in grate bars are very unsatisfactory with coal of a high ash content, careless use of the slice bar by lifting the ash into the hot zone of the fuel bed thus causing clinker, is very often a cause of smoke, due to reduction in air supply. Covering the fuel bed with green coal, low boiler settings, lack of combustion space, air leaks and lack of draft are also other points in connection with uneconomical firing and the emission of dense smoke. Undue overloading of a boiler is not economy and regular attention to efficient cleaning of all boiler heating surfaces is necessary.

Providing the above points are adhered to, economical results will follow and incidentally the smoke emission will be reduced to a minimum.

A hand-fired boiler, however, cannot be expected to be as efficient as a good mechanical stoker equipment.

The mechanical stokers at present installed in various plants throughout the city are many and varied. They comprise, chain grates (various makers), Jones underfeed, Riley underfeed, Allen, Murphy, Roneys, etc. Special types of grates, etc., for hand-firing are Burke's coking ovens, Carbo-Combustion and Turbine.

The use of bituminous coals on hand-fired furnaces is generally unsatisfactory. Low volatile coal properly fired is the most efficient both from the economical and smoke viewpoint.

It is an admitted fact that combustion of coal is improved by tempering, that is, moistening the coal before firing. Care, however, has to be exercised in regard to the amount of moisture added. Exhaust steam may be used for this purpose, and is in fact superior to adding water, as a more even added moisture content is possible. Care must be taken not to add too much moisture as the results may have the opposite effect. Experiments with a given coal and boiler efficiency tests are advisable in order to obtain an approximate amount of moisture to be added to give the best results. It must be remembered that heat is absorbed during the evaporation of the water and an excess of the latter would lead to uneconomical results.

In connection with steam plants using pulverized fuel there have been no complaints. Dense smoke has, for certain periods, been emitted from the Hydro Electric Standby plant. A very heavy steam load has been carried by the boilers during the past winter and a high rating maintained. The additional boiler to be installed should reduce the overload carried and consequently there will be an improvement in the smoke emitted from the chimney.

The use of coke for domestic heating plants is apparently on the increase. Sub-bituminous coal, although under certain conditions satisfactory, tends to emit a fairly large volume of light gray smoke. The accumulation of smoke from hundreds of domestic chimneys creates a fog like atmosphere and becomes particularly objectionable during periods of high relative humidity. A much clearer atmosphere is maintained by the use of coke. The old type of warm air furnace was not constructed for soft coal but for anthracite, and this, together with carelessness in methods of firing, results in inefficiency of combustion of the coal, and condensation of the flue gases in the smoke pipe and chimney which, as a result, may become a fire hazard.

HOT AIR FURNACES

As this type of furnace becomes older an increase in the number of complaints may be expected.

Under certain conditions they may become a real menace to the occupants of dwellings unless maintained in proper state of repair. Cracked fire pots and defective joints, defects in radiation flues and corroding of portions of the combustion chamber in certain furnaces, all tend to allow the gases of combustion to gain access to the warm air section of the furnace, and thence to the various rooms throughout the dwelling. Burnt out grates and broken grate fixtures are also the cause of considerable annoyance to householders and expense to the owners. This condition results in partial heating of the home and freezing of the plumbing.

Another source of danger is the placing of dampers in wrong position on the smoke pipe. Dampers should be placed between the furnace and check. If the damper is located between the check and the chimney the gases of combustion are liable to escape through the check and into the cellar.

Such leakages are dangerous to the health of the occupants, due to the presence of carbon-monoxide caused by incomplete combustion of the content of the fuel.

In the ordinary furnace installation there is incomplete combustion of the fuel especially during the night period. The fires are banked, furnace temperature is low and there is no air mixing. Checks are opened and dampers closed in order to reduce draft. This condition is liable to cause a tension of the gases of combustion within the furnace, which gradually pass through defects previously mentioned, and into the rooms by way of the registers.

Inadequate volume of cold air supply is very often in evidence especially in the older type of installation.

The heat radiated and conducted from the heating surfaces of a furnace to the air chamber is in ratio to the volume, velocity, humidity and difference in temperature of the air to be heated.

Therefore, if there is a lack in cold air volume, there is a tendency to increase the furnace temperature by adding more fuel. The ultimate result is the destruction of the firepot.

ROUNDHOUSE AND LOCOMOTIVE

The smoke conditions at roundhouses are very unsatisfactory. Locomotives are responsible for more smoke than the rest of the chimneys in the city combined. There is absolutely no need for these conditions to continue. In the absence of the necessary legislation to regulate, we are powerless to act.

LOW CHIMNEYS

Low chimneys are a continued source of annoyance especially when located adjoining comparatively high buildings. When practicable, an extension to such chimney is insisted upon, and in other cases a change to a low volatile fuel is made. These chimneys are generally in connection with one storey lock-up stores. Fires burn out during the night and refuse is very often destroyed during the early morning, resulting in annoyance to occupants of apartment blocks, etc., owing to the smoke gaining access through the open windows.

In addition to smoke abatement duties, inspections of following premises were also made, viz.: Hotels, undertakers parlors, comfort stations, public baths and swimming pools, also other inspections relative to Departmental work.

Respectfully submitted,

P. PICKERING,

Smoke and Supervising Inspector.

Report of Chief Dairy Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a summary of the work performed and observations made by the Dairy Division for the year 1929.

The Western farmers, including the milk producers, had a somewhat trying year. The very dry fall of 1928 was followed by a winter of very light snowfall, so that when spring seeding commenced, there was barely sufficient moisture to give any kind of crop a decent start. A shortage of moisture continued right through the usual growing season into the fall of 1929. Light frosts damaged corn crops to some extent during early infancy, and had it not been for the wonderful recuperative property inherent in the soil of our Western farms, backed up by that optimistic quality which has enabled our agriculturists to successfully weather such storms, the final result might have been considered a calamity.

However, things turned out much better than had been predicted: frosted corn crops in many cases were re-sown and yielded a fair amount of feed, grain crops were short and light, but of good, undamaged quality. The shortage in hay was to a great extent off-set by the cutting out of low swamps and sloughs and other seldom cut places, until we look like getting through without shortage.

Pastures were so dry during the summer and water so scarce that we were threatened with an actual milk famine in the fall, a condition not known for the past ten years.

Prices to the producer and consumer were advanced in the middle of September, a month earlier than usual. The producer was looking for a further advance, and it began to look as if the 1919 conditions would be with us right through; but the flow of milk recovered, then gained momentum, so that in 30 days' time we were assured of our normal supply, and before the end of the year the supply was abundant, and the producer complaining of the high percentage of surplus.

It is not only in grain, root, fodder, and garden crops that Manitoba excels and finds opportunities of displaying her wonderful recuperative powers, but it is in the raising of live stock, and the production of milk, cream, butter, cheese, eggs, poultry and honey that we also have a line which can be expanded whenever necessary.

MILK VENDORS

A total of 116 permits authorizing licenses were issued during the year, including 110 dairies and 6 milk depots; the former having their own tuberculin tested herds, and with the exception of five, delivering their own milk to the consumer; and the latter all handling milk from country points, which is pasteurized, and in the case of the retail trade, bottled before delivery to the consumer. During the year five dairy licenses were cancelled, four of the holders disposing of their product to a pasteurizing plant, and one herd was sold at auction and dispersed.

Four dairy licenses were transferred, leaving the number in active use at the end of the year at 105 and 6 respectively.

	1927	1928	1929
Dairy Licenses issued	125	116	110
Dairy Licenses active	122	112	105
Depot Licenses issued	10	7	6
Depot Licenses active	7	6	6
Total Licenses issued	135	123	116
Total Licenses active	129	118	111

The licensed dairies have 138 delivery wagons and the milk depots 217, making a total of 355 number plates issued.

Revenue from License Fees, etc., amounted to \$2,547.50 as against \$2,615.00 for 1928, the decrease being due to the falling off in number of licenses issued.

1,098 cows @ \$1.00 per head	\$1,098.00	
1,541 cows @ 50c per head	770.50	
		\$1,868.50
Total for Dairy Licenses		\$1,868.50
194 Vehicles @ \$ 2.00 each	\$ 388.00	
23 Vehicles @ \$10.00 each	230.00	
		618.00
Total for Depot Licenses		618.00
Transfer and Inspection Fees		61.00
		\$2,547.50

CLASSIFICATION OF LICENSES

		1926	1928	1929
Raw Milk Dairies	City	9	8	8
“ “ “	Country	114	104	97
Raw Milk Depots	City	1	0	0
Milk Plants - -	City	2	3	3
“ “ - -	Suburban	2	2	2
Small Depots - -	City	2	1	1
		130	118	111
Total			

THE LICENSED DAIRIES

The bulk of the licensed dairies are located in the municipalities adjacent to the city, and in many cases consist of the survivors of the large number of cow-keepers who were gradually pushed across the city outskirts many years ago. Many of these proprietors have been over twenty years in business and a few around thirty, and some of these started well inside the city proper of today. One hundred of these dairymen distribute their own product; the remaining five includes two certified milk farms and three dairies shipping to the city plants.

We believe that the majority of these proprietors realize that the day is not far distant when the privilege of distributing their own raw product may be withdrawn, and that it will be necessary for all milk to be pasteurized; and we also believe that were the pasteurization interests to make a reasonable proposition for handling the product of these dairies, with a suitable guarantee of continuity, that the problem would quickly approach solution.

During the past few years a number of local dairymen have apparently become reconciled to quit the distribution end, and by concentrating on production can show a profit.

These dairies average about 24 milk cows and 5 dry cows each, and the 105 together own slightly under 4,000 head of cattle.

Heavy Milking Cows	2,640
Dry Cows or Springers	490
Herd Bulls	80
Heifers, one and two year old	280
Calves, under one year old	220
Feeders (cows, bulls, steers)	190
	3,900

The Dairy By-law of 1922 brought the majority of these dairies to a high state of efficiency as regards their herds, buildings, and equipment; and in most cases the methods in use are a good jump ahead of those employed by the average producer. As producers, the local dairymen would compare favorably with any similar body in any part of Canada or the adjoining States.

When it comes to distribution, however, we cannot be so enthusiastic: correct, scientific and safe distribution must be conducted through the medium of an up-to-date milk plant; just as we find that all good inspected and graded standard meat is killed and handled in an abattoir.

CERTIFIED MILK FARMS

The Certified Milk Farms supply in Certified milk 1.4% of the city supply. For three years in succession, Certified milk has demonstrated its right to its place at the head of the list, being the most regular and consistent in cleanliness, quality, and low bacteria content of all brands of milk put through a continuous examination covering the entire year.

The two Certified Milk Farms turn out three brands of Certified milk and two brands of Special milk.

The sales of Certified milk are subject to more fluctuations than those of ordinary milk, and in order that all milk produced may be disposed of to some advantage it was found necessary to market the balance as uncertified. Two of our large milk companies each distribute their own brand of Certified milk, while the third brand is distributed by one of the chain store organizations. The consumption of Certified milk has fallen off considerably in recent years, due to the increased use of pasteurized milk, some of which is of very high quality; and, secondly, to the fact that a small number of raw milk dairies have endeavored to put out a Special milk, by introducing improved regulations amongst themselves.

THE PASTEURIZING PLANTS

At the commencement of the year five plants handled all the pasteurized milk and cream distributed in the city, three of these plants being located inside the city limits and two outside. The two largest city plants each distribute a brand of Certified milk, and another brand of Special raw milk, in addition to their own brand of pasteurized milk. They also manufacture and distribute fresh butter, cottage cheese, butter-milk, cultured milk, coffee cream, and whipping cream.

One of the city plants, the Crescent Creamery, is controlled by the Eastern Dairies Limited, and the other two are being taken under the wing of the Dairy Corporation of Canada, the business being continued as the City Dairy Limited; the Canada Pure Milk Company being absorbed.

These arrangements will leave us with two large city plants, each operating about 100 milk routes and handling between them well over one-half of the milk and cream supply and two-thirds of the ice cream supply of the city.

In regard to the two outside plants, the Modern Dairy, St. Boniface, has built and equipped an entirely new plant, on a scale which will enable them to take care of a much larger volume of business than they were previously prepared to handle. This plant is owned and controlled by Winnipeg capital.

The three plants mentioned are a credit to the community and their methods and equipment assure us of efficient, scientific pasteurization.

PRIVATE COW-KEEPERS

About 175 citizens keep their own cow for private use, and these cows are checked over annually and submitted to the tuberculin test, under the same procedure as applies to the dairy herds. Each cow being practically isolated, and new animals being purchased subject to test, tends to reduce any loss to the minimum.

Approximately 25 of these cows are located in Wards 1 and 2, the remaining 150 being located in Ward 3.

THE TUBERCULIN TEST

The veterinary inspectors employed by the Federal Department of Agriculture, Health of Animals Branch, continue to administer the tuberculin test, and to enforce such regulations as may from time to time be considered necessary, in order that the best results may be obtained.

Not only are the dairy herds tested, but all additions, proposed additions, or increases are tested, and held under exact quarantine conditions for a suitable period.

For the year ending March 31st, 1929, a total of 6,503 cattle were tested in connection with 116 herds; of this number, 2,714 were tested for the first time, while 10,955 re-tests were conducted, making a total of 13,699 tests for the year; these figures indicating the large number of animals required in order to replenish the herds and the enormous amount of testing performed in order to ensure that only healthy animals are introduced into the clean dairy herds.

A total of 613 animals were slaughtered, including 584 reactors to this year's test, and the balance from the preceding year. Compensation paid amounted to \$20,906.66.

While many dairymen mention that profits have been less since the introduction of the test 7½ years ago, yet not one has ever suggested that they be again allowed to sell to the consumer raw milk from untested cows, and the majority are proud of their herds and are anxious to keep them clean and healthy.

Year Ending	Reactors	Compensation
March 31st, 1923	3,970	\$158,037.33
March 31st, 1924	1,568	63,049.33
March 31st, 1925	952	38,479.00
March 31st, 1926	901	28,802.16
March 31st, 1927	616	19,211.00
March 31st, 1928	568	17,450.40
March 31st, 1929	584	20,906.66
	9,159	\$345,935.88

MILK CONSUMPTION

Citizens of Winnipeg consume daily approximately 172,525 lbs. milk, 13,275 lbs. cream, and 15,670 lbs. butter.

Of the total daily milk supply amounting to 16,750 gallons or 67,000 quarts, 235 gallons is certified milk, 10,500 gallons is pasteurized, 6,015 gallons is raw milk from tuberculin tested cows, of which the dairy herds are credited with 5,780 gallons, and the private cows with 235 gallons. About 400 gallons of raw milk may be considered as "Special", on account of the manner in which it is produced and handled, and the condition in which it reaches the consumer.

The amount of cream consumed is approximately 1,475 gallons, equivalent to 23,600 half pints per day.

On a milk and cream basis, the daily consumption is $2(67,000 + 23,600) = 181,200$ pints per day.

While the total consumption shows an increase over the previous year, this is taken care of by increased population, and the figures for per capita consumption are unchanged.

CLASSIFICATION OF DAILY SUPPLY

Pasteurized Milk	10,500 gallons—42,000 quarts
Raw Milk	6,015 gallons—24,060 quarts
Certified Milk	235 gallons— 940 quarts

Total Fluid Milk	16,750 gallons—67,000 quarts
Pasteurized Cream, bottled	800 gallons—12,800 half pints
Pasteurized Cream, bulk	600 gallons— 9,800 half pints
Raw Cream, bottled	75 gallons— 1,200 half pints

Total Fluid Cream	1,475 gallons—23,600 half pints

PERCENTAGE CLASSIFICATION

	1926	1927	1928	1929
Pasteurized Milk	57%	58%	60%	62.6%
Certified Milk	2%	2%	1.5%	1.4%
Raw: T. Tested Herds.....	39%	38.4%	37%	34.6%
Raw: Private Cows	2%	1.6%	1.5%	1.4%
	<hr/>	<hr/>	<hr/>	<hr/>
	100%	100%	100%	100%

CONSUMPTION AND DISTRIBUTION

The following is a summary showing variations in the total daily consumption, daily per capita consumption of fluid milk only, and number of delivery routes during the past ten years.

	Gallons per day	Pints per capita	Delivery Vehicles
1920	13,000	0.54	220
1921	13,500	0.55	240
1922	14,500	0.58	275
1923	15,000	0.60	300
1924	15,250	0.62	315
1925	15,250	0.62	330
1926	15,500	0.63	335
1927	16,000	0.64	345
1928	16,500	0.65	355
1929	16,750	0.65	355

DELIVERY SERVICE

There is no increase in the total number of delivery vehicles over that of 1928; but whereas we had 350 retail and 5 wholesale routes in 1928, we now have only 340 retail routes and 15 wholesale routes, this change being accounted for by the large quantity of bottled milk being sold in stores on the "cash and carry" system. The same factor is responsible for a reduction in the average load on many of the retail routes.

The 15 wholesale wagons handle approximately 1,650 gallons, of which 980 is bottled and 670 in bulk.

The 340 retail wagons handle approximately 14,865 gallons, of which 10,920 is bottled and 3,945 in bulk.

The balance of 235 gallons produced by the private cow-keepers is not distributed, but is calculated as bulk milk consumed.

The average load of the retail routes is 175 quarts of milk, plus a varying quantity of other milk products.

DAILY PER CAPITA CONSUMPTION, 1929

Fluid Milk only, Imperial measure	0.65 pints
Milk and Cream basis, Imperial measure	0.88 pints
Fluid Milk only, U.S. measure	0.81 pints
Milk and Cream basis, U.S. measure	1.10 pints

MILK BOTTLES AND BOTTLED MILK

The total milk supplied in bottles, wholesale and retail, amounts to 11,900 gallons, or 71% of our total supply, and the total bulk or dipped milk amounts to 4,850 gallons, or 29% of the total supply. Deducting wholesale and private supplies, the amount of dipped milk sold at retail is approximately 3,945 gallons or 23.5%.

Although we are of the opinion that all retail milk ought to be bottled, and that all wholesale milk should be delivered intact in sealed containers, we have not pressed this as a policy, finding that the practice was spreading if anything faster than we could take care of it, and that milk was liable to be bottled under conditions and in a manner of which we could not approve. Until recently bottles have been very expensive, costing almost double the amount of the charge against their non-return placed by the milk handlers. The opening of the Mid-West Glass Company's manufacturing plant in the city has reduced the cost to a figure much closer to the deposit charge and has assisted in cleaning up a matter of much trouble and controversy.

The individual parchment container has been adopted by a few plants in other cities and appears to be successful; the usual method being to install the manufacturing machinery in the milk plant, replacing the bottle washer, the usual bottle capper being replaced with a sealing device. Such a method appears ideal, and will without doubt receive careful investigation by our milk plant operators.

MILK STORES - CHAIN STORES

The usual custom in this city was for grocery and confectionery stores to handle milk and cream as an accommodation to the public and to charge a premium of 1c or 2c over the usual delivered retail price, the amount disposed of in this way being very small and almost negligible. The advent of the chain store reversed this method, selling at a discount under the usual price, and in this way made a feature of milk. There are 65 chain stores and 90 co-operative chains now handling milk and cream, and all purchase their supplies from a regular licensed dairy or dealer. All chain store milk is in bottles and stored in first-class refrigerators.

BACTERIOLOGICAL EXAMINATIONS

Out of 556 samples brought in for bacteriological examination, satisfactory completions were obtained in 515 instances, including 138 pasteurized, 48 certified, 42 special, and 287 raw.

The following table shows the distribution of these samples over the year.

Distribution of Plate Count Samples, 1929

	Pasteurized	Certified	Special	Raw	Total
January	11	4	4	29	48
February	13	4	4	24	45
March	13	3	4	22	42
April	8	4	4	19	35
May	12	4	4	31	51
June	13	3	4	23	43
July	13	6	6	29	54
August	11	3	2	18	34
September	12	4	4	24	44
October	12	4	2	25	43
November	11	6	2	22	41
December	9	3	2	21	35
Total	138	48	42	287	515

PLATE COUNTS, 1929

	0 to 1,000	1,000 to 5,000	5,000 to 10,000	10,000 to 25,000	25,000 to 50,000	50,000 to 100,000	Over 100,000	Total
January	1	6	4	12	6	18	1	48
February	1	8	6	7	2	20	1	45
March	2	7	4	11	4	10	4	42
April	3	8	6	4	5	8	1	35
May	9	7	10	8	5	9	3	51
June	2	10	5	8	2	12	4	43
July	12	9	5	8	6	9	5	54
August	6	5	1	3	4	12	3	34
September	6	3	8	7	3	10	7	44
October	2	3	4	6	6	21	1	43
November	4	3	3	7	8	16	..	41
December	2	3	4	7	1	13	5	35
Total	50	72	60	88	52	158	35	515

Plate Counts of 10,000 or Less

	Pasteurized	Certified	Special	Raw	Total
January	3	3	3	2	11
February	2	4	3	6	15
March	1	2	3	7	13
April	3	4	3	7	17
May	6	3	3	14	26
June	4	1	3	9	17
July	7	4	5	10	26
August	1	3	1	7	12
September	3	3	2	9	17
October	1	4	1	3	9
November	3	3	1	3	10
December	0	3	2	4	9
	—	—	—	—	—
Total low counts....	34	37	30	81	182
	—	—	—	—	—
Total plate counts	138	48	42	287	515
Percentage low, 1929..	24.6%	77.0	71.4	28.2	35.3
Percentage low, 1928..	16.0%	73.0	23.0	30.0

Plate Counts of 1,000 or Less

	% 1929	% 1928
Pasteurized, 12 times out of 138 samples.....	8.7%	4.4%
Certified, 12 times out of 48 samples.....	23.0%	9.0%
Special, 12 times out of 42 samples.....	28.5%
Raw Milk, 50 times out of 287 samples.....	5.2%	4.5%
Total, 50 times out of 515 samples.....	9.7%	5.4%

The above tabulations indicate a marked improvement over 1928 in regard to low plate counts in all classes of milk, some of which may be due to the practice initiated three years ago of giving out to each vendor an annual statement showing detailed results of the year's series of tests on that particular brand, thus creating a desire for a higher standing.

Certified milk has again demonstrated its ability to keep at the head of the class with an average count of 5,000 in all three cases. Special milk also produced on the Certified Farms has an average of 5,800 and 10,000. Out of a large number of raw milk handlers, only three were under 25,000, with averages of 12,500, 8,000, 5,500. The increased number of low counts in the summer months, May to September, indicates that in hot or warm weather the wise ones take even greater care than usual.

SPECIAL MILK EXAMINATIONS

Changed methods of milk handling and distribution must evolve changes in methods of inspection and control, and in making such changes care must be taken to see that the vendor as well as the consumer gets a square break. When such changes are calculated as partly educational measures, equal advantages may accrue to both parties. It would be ridiculous to absolutely condemn a vendor distributing 10,000 bottles per day because on one single occasion an unfit bottle slips by the tired eye of the examiner; for no system or individual is absolutely 100% efficient all the time.

We repeat here similar observations to those we have made on many occasions, as there is so much about milk tests and analysis which is liable to be misunderstood by the consumer.

“The output of any dairy cannot be given a high standing on one or two tests, nor should it be condemned, but a series of tests over a period of time gives real information.”

“A low bacterial content should not entitle a milk to be awarded the hall-mark of perfection, nor should a high count subject a milk to the stamp of disapproval.”

“Raw milk may be perfectly sweet and wholesome, although showing a count of one to three millions, and it is no uncommon occurrence to find perfectly wholesome, first-class milk, either pasteurized or raw, with counts ranging from 50,000 to 100,000 or even higher at time of delivery to the consumer.”

“A high butter fat content is not the only essential in milk; the solids other than fat are also important and play their part in correct nutrition of the growing infant.”

“Clean milk is important, but there are two kinds of clean milk; that kind which has been kept clean from the moment it leaves the cow is to be preferred.”

“Pasteurization is the final safeguard which should be applied to all milk after all other precautions governing production and shipment have been taken; but pasteurization should not be used as a smoke screen for covering up or hiding the contaminating ills lurking behind unhealthy herds, unsanitary premises, battered equipment, unclean and careless methods; because once stable dirt gets into milk, that which is visible may be strained out, but contamination is still there.”

“Arbitrary bacteriological standards even with a very high maximum are misleading, and results require to be carefully analysed in a broad-minded manner, with due regard to cause and effect.”

CLASSIFICATION OF SELECTED BRANDS

Last year we gave in order of merit a classification of 24 selected brands. The method of compilation was rather crude, but gave fairly satisfactory results. This year we have 33 brands, of which numbers 1 to 28 are considered first class.

The placing is based on a 12 months' test, with not less than 11 samples from each of the smaller dairies, 22 from the medium, and 33 from the larger companies. The normal average is determined and points awarded as per schedule. One high plate count for each 11 samples is ignored. In view of the fact that all these brands should be over 80%, leaving only 20% leeway, it was found necessary to make the maximum 500, which divided by 5 gives the final percentage.

A maximum of 470 could only be obtained by a raw milk having as normal average, No. 1 Sediment Test, 1,000 or less plate count, 4% butter fat, 13% total solids, and free from foreign flavor, taste and odor.

The maximum would be 480 were above milk Certified; 490 were it Pasteurized; and 500 were it Certified and Pasteurized.

MILK SCORING INDEX

Sediment Test		Plate Count		Total Solids		Butter Fat	
1.0	100	1,000	100	13.0	130	4.0	140
1.1	98	2,000	99	12.9	129	3.9	139
1.2	96	3,000	98	12.8	128	3.8	138
1.3	94	4,000	97	12.7	127	3.6	136
1.4	92	5,000	96	12.6	126	3.5	135
1.5	90	6,000	95	12.5	125	3.4	134
1.6	88	7,000	94	12.4	124	3.3	133
1.7	86	8,000	93	12.3	123	3.2	132
1.8	84	10,000	92	12.2	122	3.1	131
1.9	82	15,000	90	12.1	121	3.0	130
2.0	80	20,000	88	12.0	120		
2.1	78	25,000	86	11.9	119		
2.2	76	30,000	84	11.8	118		
2.3	74	40,000	82	11.7	117		
2.4	72	50,000	80	11.6	116		
2.5	70	75,000	75	11.5	115		
2.7	60	100,000	70				
3.0	50	200,000	50				

Special } Pasteurized, add 20.
 } Certified, add 10.

NORMAL AVERAGES, 1929

The following tabulation gives the normal average of each of the 33 selected brands of milk. Taken from a series of tests covering the twelve-month period; placed in order of merit.

No.	Brand	Sediment	Plate Count	B. Fat	T. Solids	%
1.	Certified	1.0	5,000	3.8	12.7	94.2
2.	Certified	1.0	5,000	3.7	12.5	93.6
3.	Certified	1.0	5,000	3.6	12.4	93.2
4.	Pasteurized ..	1.0	75,000	4.3	13.3	93.0
5.	Pasteurized ..	1.2	30,000	3.6	12.3	91.5
6.	Raw, Ord.....	1.0	8,000	3.8	12.7	91.6
7.	Raw, Sp.....	1.0	5,800	3.6	12.2	90.6
8.	Pasteurized ..	1.5	30,000	3.9	12.5	90.6
9.	Raw, Sp.....	1.3	10,000	3.8	12.6	90.0
10.	Raw, Ord.....	1.1	25,000	3.9	12.6	89.8
11.	Pasteurized ..	1.5	50,000	3.4	12.2	89.2
12.	Raw, Ord.....	1.4	21,000	3.8	12.8	89.2
13.	Raw, Ord.....	1.0	12,500	3.4	12.0	89.0
14.	Pasteurized ..	1.0	75,000	3.5	12.2	88.4
15.	Pasteurized ..	1.6	75,000	3.8	12.5	88.2
16.	Raw, Ord.....	1.6	5,500	3.6	12.0	88.0
17.	Raw, Ord.....	1.3	40,000	3.7	12.7	88.0
18.	Raw, Ord.....	1.0	45,000	3.4	12.2	87.6
19.	Raw, Ord.....	1.2	25,000	3.3	12.1	87.2
20.	Raw, Ord.....	1.0	100,000	3.9	12.6	87.0
21.	Raw, Ord.....	1.6	25,000	3.6	12.4	86.8
22.	Raw, Ord.....	1.5	30,000	3.6	12.3	86.6
23.	Raw, Ord.....	1.6	45,000	3.6	12.5	86.2
24.	Raw, Ord.....	1.6	60,000	3.9	12.6	86.2
25.	Raw, Ord.....	1.6	30,000	3.6	12.3	86.2
26.	Raw, Ord.....	1.6	40,000	3.6	12.3	85.8
27.	Raw, Ord.....	1.6	55,000	3.4	12.1	84.6
28.	Raw, Ord.....	1.6	75,000	3.6	12.2	84.2
29.	Raw, Ord.....	2.0	50,000	3.5	12.5	84.0
30.	Raw, Ord.....	2.1	50,000	3.6	12.5	83.8
31.	Raw, Ord.....	2.1	100,000	3.7	12.6	82.2
32.	Raw, Ord.....	1.0	250,000	4.8	13.6	82.0
33.	Raw, Ord.....	2.0	100,000	3.3	11.9	80.4

MILK SCORES, 1929

The following shows the number of points awarded each of the 33 selected brands by using the milk scoring index. No credit is given for excessive fat or solids; 4% and 13% being the limit.

No.	Brand	Sediment	Count	Fat	Solids	Sp.	Total	%
1.	Certified	100	96	138	127	10	471	94.2
2.	Certified	100	96	137	125	10	468	93.6
3.	Certified	100	96	136	124	10	466	93.2
4.	Pasteurized ..	100	75	140	130	20	465	93.0
5.	Pasteurized ..	96	84	136	123	20	459	91.8
6.	Raw, Ord.....	100	93	138	127	—	458	91.6
7.	Raw, Sp.....	100	95	136	122	—	453	90.6
8.	Pasteurized ..	90	84	139	123	15	453	90.6
9.	Raw, Sp.....	94	92	138	126	—	450	90.0
10.	Raw, Ord.....	98	86	139	126	—	449	89.8
11.	Pasteurized ..	90	80	134	122	20	446	89.2
12.	Raw, Ord.....	92	88	138	128	—	446	89.2
13.	Raw, Ord.....	100	91	134	120	—	445	89.0
14.	Pasteurized ..	100	75	135	121	20	442	88.4
15.	Pasteurized ..	88	75	138	125	15	441	88.2
16.	Raw, Ord.....	88	96	136	120	—	440	88.0
17.	Raw, Ord.....	94	82	137	127	—	440	88.0
18.	Raw, Ord.....	100	82	134	122	—	438	87.6
19.	Raw, Ord.....	96	86	133	121	—	436	87.2
20.	Raw, Ord.....	100	70	139	126	—	435	87.0
21.	Raw, Ord.....	88	86	136	124	—	434	86.8
22.	Raw, Ord.....	90	84	136	123	—	433	86.6
23.	Raw, Ord.....	88	82	136	125	—	431	86.2
24.	Raw, Ord.....	88	78	139	126	—	431	86.2
25.	Raw, Ord.....	88	84	136	123	—	431	86.2
26.	Raw, Ord.....	88	82	136	123	—	429	85.8
27.	Raw, Ord.....	88	80	134	121	—	423	84.6
28.	Raw, Ord.....	88	75	136	122	—	421	84.2
29.	Raw, Ord.....	80	80	135	125	—	420	84.0
30.	Raw, Ord.....	78	80	136	125	—	419	83.8
31.	Raw, Ord.....	78	70	137	126	—	411	82.2
32.	Raw, Ord.....	100	40	140	130	—	410	82.0
33.	Raw, Ord.....	80	70	133	119	—	402	80.4

MILK AND DAIRY INSPECTION, 1929

Summary of Inspections

Private or individual cow-keepers' stables inspected	428
Cattle dealers' and sales stables inspected	79
Pasteurizers inspected, recording thermometers checked.....	427
City licensed milk depots inspected	48
City creameries or butter factories inspected	43
Milk stores, chain stores, refrigerators inspected	60
Delivery wagons, trucks and sleighs inspected	2,907
Special city inspections or investigations	21
	<hr/>
Total city inspections	4,013
Licensed dairies and dairy farms inspected	1,131
Milk and cream shippers visited	199
Milk and cream stations visited	32
Country creameries visited	22
Suburban milk depots inspected	32
Special country inspections or investigations	52
	<hr/>
Total country inspections	1,468
Milk tested for butter fat and solids	1,377
Cream tested for butter fat	141
Special plate counts for bacteria content	560
Sediment tests for cleanliness	1,156
Chemical tests, freedom from adulteration	300
	<hr/>
Total tests and examinations	3,534
Milk and cream condemned and destroyedlbs.	2,934
Value of condemned product at wholesale prices.....	\$109.30
Notices served, mailed or delivered verbally	786
Cases of sickness investigated	17
Distance travelled by inspectors outside the city.....miles	14,257

Country Cases of Sickness Investigated

A total of 17 cases were discovered or reported, of which five cases were communicable, three being in connection with milk shippers and two on licensed raw milk dairies.

The usual precautions suitable for each case were taken, and nothing detrimental to the milk supply occurred.

1929 PRICES OF PASTEURIZED MILK FOR 30 CANADIAN CITIES

Delivered Bottled to the Consumer

(Cents per 40-oz. Quart)

	March	June	September	December
Victoria, B.C.	14	12½	12½	14
Vancouver, B.C.	11	11	11	11
Calgary, Alta.	12	11	11-12	12
Edmonton, Alta.	12½	12½	12½	12½
Saskatoon, Sask.	13	13	13	13
Moose Jaw, Sask.....	14	14	14	14
Regina, Sask.	13	13	13	14
Brandon, Man.	12½	11	11	12½
Winnipeg, Man.	13	12	12-13	13
Fort William, Ont.....	14	12½	12½-14	14
Brantford, Ont.	12	12	12	12½
Hamilton, Ont.	13	12½	13	14
Kitchener, Ont.	12	12	12	12
London, Ont.....	11	11	11	11
Ottawa, Ont.	12	12	12	13
Windsor, Ont.	14	14	14	14
St. Catharines, Ont....	13	13	13	14
Toronto, Ont.	13 1-3	12½	13 1-3	14
Kingston, Ont.	11	10	10	12
Peterborough, Ont.....	10	10	12	12
Guelph, Ont.	12	12	12	13
Niagara Falls, Ont....	13	13	13	13
Montreal, P.Q.	13	12	13	14
Sherbrooke, P.Q.	10	10	10	13
Three Rivers, P.Q.....	13½	11½	11½	13½
Verdun, P.Q.	14	13	13	14
St. John, N.B.	14	14	14	14
Moncton, N.B.	10	10	10	10
Halifax, N.S.	12½	12½	12½	12½
Charlottetown, P.E.I...	10	10	10	12

The majority of Canadian cities show prices very similar to those of 1928. A small number show an increase all round, others show an increase during the winter months only, while a few merely stepped forward the winter price change to September 15th. Prices average 12c for the summer months, and 12½ to 13c for the winter months. Sydney, N.S., had its first pasteurizing plant commence operations in the fall of 1929, the product selling at 15c per quart.

1929 PRICES OF PASTEURIZED MILK FOR 30 U.S. CITIES

Delivered Bottled to the Consumer

(Cents per 32-oz. Quart)

	March	June	September	December
Seattle, Wash.	12	12	12	13
Everett, Wash.	10	10	10	10
Portland, Ore.	12	12	12	12
Butte, Mont.	13	13	13	13
Bismarck, N.D.	12	12	12	12
Mandan, N.D.	12	12	12	12
Sioux Falls, S.D.	12	12	12	12
Minneapolis, Minn.	12	12	12	12
Duluth, Minn.	13	12	12	12
Winona, Minn.	10	10	12	12
Milwaukee, Wis.	11	11	11	12
Racine, Wis.	11	11	12	12
Lansing, Mich.	12	12	12	12
Detroit, Mich.	14	14	14	14
Kalamazoo, Mich.	13	13	13	13
Chicago, Ill.	14	14	14	14
Peoria, Ill.	13	13	13	13
Indianapolis, Ind.	13	13	12	12
South Bend, Ind.	12	12	12	12
Columbus, Ohio	12	12	12	12
Cincinnati, Ohio	14	14	14	14
Cleveland, Ohio	12	12	13	11
Harrisburg, Pa.	12	12	12	12
Pittsburgh, Pa.	15	14	14	14
Philadelphia, Pa.	13	13	14	14
Albany, N.Y.	15	16	16	16
Buffalo, N.Y.	14	14	14	14
Utica, N.Y.	13	13	13	14
Manchester, N.H.	15	15	15	15
Portsmouth, N.H.	14	14	14	14

The Northern States have been selected as supplying conditions almost similar to those in the adjoining Canadian Provinces from the Pacific to the Atlantic. Compare British Columbia with Washington and Oregon; the Prairie Provinces with Montana, North Dakota, South Dakota, Minnesota, and Indiana and Ohio; Quebec with New York and Pennsylvania; and the Maritimes with the New England States. Except that the quart is less, prices are very similar to those in Canada.

MILK SUPPLY OF 32 CANADIAN CITIES

Percentage of Pasteurization

	%		
Saskatoon, Sask.	100		Dairy Herds all tuberculin tested.
Hamilton, Ont.	100		
Niagara Falls, Ont.....	100		
Toronto, Ont.	100	0.5%	Certified milk.
Windsor, Ont.	100	0.5%	Private cows.
Ottawa, Ont.	98.5	1.5%	From Tuberculin Tested Herds.
Fort William, Ont.....	98.0	2.0%	From Tuberculin Tested Herds.
Verdun, P.Q.	98.0	2.0%	From Tuberculin Tested Herds.
Montreal, P.Q.	96.6	0.25%	Certified, 3.15% T. Tested Herds.
Kitchener, Ont.	96	4.0%	From Tuberculin Tested Herds.
Regina, Sask.	95	5.0%	From Tuberculin Tested Herds.
Brantford, Ont.	95	5.0%	From Tuberculin Tested Herds.
Calgary, Alberta	94		Dairy Herds all tuberculin tested.
St. John, N.B.	93.3	0.6%	Certified, 6.1% T. Tested Herds.
St. Catharines, Ont.	92	1.0%	Certified, balance raw.
Vancouver, B.C.	91.3	0.35%	Certified, 8.35% T. Tested Herds.
Moose Jaw, Sask.	86	14%	From Tuberculin Tested Herds.
Halifax, N.S.	80		Dairy Herds all tuberculin tested.
London, Ont.	75	25%	From Tuberculin Tested Herds.
Peterborough, Ont.	65		balance raw.
Winnipeg, Man.	62.6	1.4%	Certified, 36% T. Tested Herds.
Three Rivers, P.Q.	61.4		balance raw.
Edmonton, Alberta	60		balance from T. Tested Herds.
Kingston, Ont.	50		balance raw.
Guelph, Ont.	50		balance from T. Tested Herds.
Quebec, P.Q.	40		balance raw.
Victoria, B.C.	30		Dairy Herds all tuberculin tested.
Sherbrooke, P.Q.	25		balance raw.
Brandon, Man.	21		balance from T. Tested Herds.
Moncton, N.B.	20		Dairy Herds all tuberculin tested.
Charlottetown, P.E.I.....	20		Dairy Herds all tuberculin tested.
Sydney, N.S.	10		balance raw.

We have endeavored to include all cities of 20,000 or more in the above list, which shows that 16 out of 32 have 90% or better pasteurization. We could not allow a small quantity of Certified milk or a few private cows to keep Toronto and Windsor out of the 100% class. Regina and Quebec are unchanged, no later figures being available. Sydney 10% is estimated, as pasteurization is a new venture in that city.

MILK SUPPLY CITIES OF CANADA

Particulars concerning the milk supply of 32 Canadian cities reveal many interesting facts in regard to pasteurization of milk, tuberculin testing of dairy herds, and the keeping of private cows within the city.

Five cities apparently have compulsory pasteurization, while the next five running from 96% to 98.5% appear to exempt a few high class raw milk dairies. That pasteurization is recognized as a modern and important process by all cities is evidenced by the fact that they all have pasteurized milk, and that the proportion consumed is in the majority of cases showing a steady increase.

Six cities only have a supply of Certified milk, the amount consumed ranging from 0.25% to 1.4%; but quite a number have around 5% of Special raw milk from select dairies with tuberculin tested herds, such milk evidently supplying the place of Certified.

Twenty-four cities require the use of the tuberculin test on all raw milk herds and some of these enforce the test even though the milk is required to be pasteurized.

Citizens of 22 cities are allowed under certain conditions to keep individual cows for their own private milk supply; in practically all cases the cow-keeper must not sell or offer for sale any of the product, and in most cases where the tuberculin test is applied to the dairy herds it is also applied to the private cows.

The amount of milk credited to the general supply from these private cows varies from minute or almost negligible quantities in 10 cities, and from 0.5% to 15% in the remaining 12, one city having 15%, another 10%, and a third 5%, comprising the three highest. Ten cities apparently do not countenance the private cow.

MILK SUPPLY IN UNITED STATES CITIES

There are 21 cities in the United States where pasteurization of the entire milk supply is required by law, and 16 others where all milk with the exception of Certified must be pasteurized.

The Health Departments of all other important or progressive cities are actively encouraging pasteurization in every possible manner, chiefly by constructive and educational methods. The value of pasteurization as a preventive and as a safeguard to health is thoroughly appreciated by health officials all over the continent. In practically every large U.S. city, 90% or more of the local supply is pasteurized, brought about in most cases voluntarily.

THE DAIRY INDUSTRY

Last year we mentioned with regret the steady falling off in the amount of dairy products produced and manufactured in this country. The year

1929 does not show any improvement along these lines, and the end of the year shows that we have imported twice the quantity of butter than that of 1928, i.e., 35,928,249 pounds.

In 1928 total imports of dairy produce amounted to	\$ 6,580,915
and total exports of similar products amounted to.....	36,230,617
<hr/>	
leaving a favorable trade balance for 1928 of.....	\$29,649,702

In 1929 with total imports amounting to	\$13,456,785
and exports reduced to	28,400,589
<hr/>	
the favorable trade balance is cut down to	\$14,943,804

just one-half of 1928.

With a favorable trade balance of close to thirty million cut in half to fifteen million in one year, it is obvious that if we go on slipping at the same rate, another year will wipe it out altogether. There is something wrong with an agricultural country specializing in stock-raising and dairy products which has to import creamery butter with which to supply one-eighth of its population.

Good prices for beef may have something to do with the decrease in our cattle population, but other causes must be contributing. Canada can raise crops and live stocks as good as any country in the world; and while we cannot boast of a climate like that of New Zealand, we have many other advantages. Both the Federal and Provincial Government employ staffs of expert instructors and advisors in all lines of farming, stock-raising, and handling of dairy produce. We have our land with its abundance of latent fertility; we turn out the finest grade of hard wheat in the world; and we can turn out dairy produce in the shape of butter and cheese which can hold its own on the markets of the world.

Manitoba in 1929 had a total production of butter, cheese, milk and cream valued at \$14,997,651, which is about \$800,000 over the previous year, this amount being accounted for by the increase in manufacture of creamery butter from 13,782,167 lbs. in 1928 to 15,472,109 lbs. in 1929.

Considering the recent state of the grain market we may reasonably expect that the Manitoba farmer will now pay more attention to the possibilities of mixed farming, live stock, and dairying.

THE DAIRY COW

The dairy cow really forms the foundation of the farming industry, standing high as a producer of cheap food, because she takes inexpensive raw material and converts it into valuable human food. Not only does she supply the world with all dairy products as milk, cream, butter, and cheese, but all her flesh can be eaten, and beef is the staple meat of most

countries. In summer-time the cow even functions further in that she herself harvests the green herbage and other fodders for her own use. In order to manufacture milk cheaply the cow requires suitable pasture in summer, augmented with richer food in spring and fall, while suitable roughage and concentrates must be available for the winter, with abundance of fresh water at all times.

Statistics show a definite relation between the cow and human populations; one cow will supply four or five humans with all milk and dairy produce required, approximately half her product being consumed as milk or cream, and the balance as butter or cheese. When all the milk is disposed of for fluid consumption, one ordinary farm cow supplies sufficient for eight to ten people, but animals bred, raised and fed specially for milk production will serve twice this number.

No other animal serves mankind in so many ways as does the ordinary dairy cow. Having supplied us during her lifetime with fresh dairy products, at her death she supplies fresh meat, her hide is used for making leather, her hair for mixing with plaster. Glue is made from hoofs, combs and buttons from horns, gelatine from her joints, and casings from her intestines. From all other soft parts the fat is extracted, and the balance made into fertilizer. The bones are ground up into bone meal, which has many uses, both agricultural and industrial.

The keeping of cows improves the quality of the land indirectly through unexhausted manurial value, and in many countries large tracts of poor, sterile land have been brought under heavy production by means of the dairy cow.

Manitoba supplies all the conditions necessary for production on a large scale and there will be no danger of our land playing out or becoming unproductive so long as the humble dairy cow is given her proper place on the farm.

OUR FUTURE MILK SUPPLY

The proportion of pasteurized milk consumed in Winnipeg is still too low in comparison with other large cities, and we should at least endeavor to get into the 90% class as early as possible.

From the particulars given there is no evidence that a virtual monopoly in the hands of the pasteurization interests has increased to any extent the price to the consumer. As against 13c per quart this winter in Winnipeg, seven cities paid this same price and they are rated at 100%, 100%, 98.5%, 62.6%, 61.4%, 50%, 25%. Eleven cities paid the higher price of 14c, being rated as follows: 100%, 100%, 100%, 98%, 98%, 96.6%, 95%, 93.3%, 92%, 86%, 30%. Four cities paid 12½c, and five paid 12c, rated as follows: 96%, 95%, 94%, 80%, 65%, 60%, 50%, 21%, 20%. Three cities paid less than 12c, being rated at 91.3%, 75%, 20%.

We must also remember that there may be other conditions causing a higher price in some of the cities quoted, such as: proximity to competition in field of supply, more expensive field for production, larger population of cities, more industrial and manufacturing centres.

All milk sold at retail should be in bottles, sealed and capped in a sanitary manner, bulk milk sold wholesale should be in sealed containers, yet we find 70% of our raw milk still being distributed dipped or poured from the can. We do not care to enforce bottling of milk unless we are assured that this can be done under proper sanitary conditions, and very few of the raw milk dairies have suitable conditions and equipment. From 25% to 40% of our raw milk is handled under fairly good conditions, but somewhere between 50% and 60% should, in our opinion, be taken to a milk plant for treatment, handling and delivery to the consumer.

I have the honor to be,

Sir,

Your obedient servant,

E. C. BROWN,

Chief Dairy Inspector.

DAIRY INSPECTION—1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
City Inspections:													
Cow Keepers	88	194	111	31	1	--	--	--	--	1	--	2	428
Cow Dealers	6	4	6	6	6	7	10	10	6	8	6	4	79
Pasteurizers	32	30	37	38	35	33	22	37	30	43	45	45	427
Milk Depots	2	4	3	2	3	4	6	6	6	3	5	4	48
Creameries	6	3	2	4	6	2	3	5	1	5	3	3	43
Milk Stores	--	--	--	--	1	4	10	4	1	6	13	21	60
Vehicles	254	205	198	284	296	249	202	222	230	292	239	236	2907
Special	1	--	1	3	1	2	2	1	--	5	3	2	21
Total	389	440	358	368	349	301	255	285	274	363	314	317	4013
Notices:													
General	--	--	--	--	115	--	--	--	--	--	--	--	115
Special	4	1	2	8	5	1	4	--	3	4	8	36	76
Formal	--	1	--	--	1	--	--	--	--	5	--	2	9
Verbal	102	104	115	50	40	37	11	15	21	17	17	20	549
Consultations	2	2	--	--	4	5	6	5	1	7	2	3	37
Total	108	108	117	58	165	43	21	20	25	33	27	61	786

DAIRY INSPECTION—1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Country Inspections:													
Licensed Dairies.....	76	63	41	96	101	106	83	100	136	132	111	86	1131
Milk Shippers.....	3	5	3	5	17	19	14	36	23	11	7	7	150
Cream Shippers.....	--	--	--	--	5	5	12	8	6	10	2	1	49
Milk Stations.....	--	--	8	--	2	2	2	2	1	2	2	2	23
Cream Stations.....	--	--	--	--	1	1	1	2	1	3	--	--	9
Creameries.....	1	2	1	1	2	2	2	4	1	2	2	2	22
Milk Depots.....	2	2	3	2	5	2	2	2	2	3	3	4	32
Special.....	2	--	3	6	5	8	6	3	1	8	4	6	52
Total.....	84	72	59	110	138	145	122	157	171	171	131	108	1468
Mileage: Country—													
Inspector A.....	300	320	615	470	1000	1000	1200	1300	740	900	650	600	9095
Inspector B.....	140	55	40	150	210	210	186	215	270	286	260	195	2217
Inspector C.....	135	80	70	245	260	210	180	375	385	475	320	210	2945
Total.....	575	455	725	865	1470	1420	1566	1890	1395	1661	1230	1005	14257

DAIRY INSPECTION—1929

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Samples:													
Milk Tested.....	109	104	115	123	125	109	106	105	134	154	96	97	1377
Cream Tested.....	10	8	10	13	13	14	9	11	12	17	13	11	141
Plate Counts.....	52	44	46	44	56	44	54	48	44	56	45	27	560
Sediment Tests.....	52	62	70	117	145	132	141	108	75	128	72	54	1156
Chemical Tests.....	28	24	24	22	30	24	30	24	24	30	24	16	300
Total.....	251	242	265	319	369	323	340	296	289	385	250	205	3534
Condemnations:													
Milk, lbs.....	210	--	444	80	--	--	80	290	880	320	160	80	2544
Cream, lbs.....	--	94	50	--	--	--	50	200	--	--	--	--	390
Total.....	210	94	494	80	--	--	130	490	880	320	160	80	2934
Sickness Investigated:													
Communicable.....	--	1	2	2	1	2	--	--	2	1	2	2	5
All other cases.....	1	--	--	1	--	--	--	--	--	--	--	--	12
Total.....	1	1	2	3	1	2	--	--	2	1	2	2	17

Report of Chief Food Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I beg to submit a report of the work of the Food Division for the year 1929.

There was an increase of the number of premises under inspection, new stores opening exceeded in number those that have gone out of business, making an increase from 1,850 to 1,900.

New stores opened were practically all chain stores where both provisions and meat are sold. These stores have all installed a refrigeration plant, which refrigeration is extended to the meat counters; these are of the latest type, being glass covered. This allows the prospective purchaser to view the meat and also prevents contamination by contact or handling, and the meat, being kept at a more uniform temperature, is presented to the public in a very attractive and inviting manner.

The year was fairly free from complaints of the sale of unsound foodstuffs. A few cases of sickness supposedly due to the ingestion of food were reported, but these were handled by the late Mr. Rigby personally.

ABATTOIRS

There are three abattoirs situated within the city. Two of these were remodelled and put in an up-to-date and first class condition last year, and the other only needed renovating; this was done. All of these premises are kept and conducted in a very cleanly manner considering the nature of the business carried on. In addition to the three abattoirs located within the city, there are four others situated adjacent to the city; these are all under Federal inspection. There is also one abattoir outside, operating under Provincial license, putting up principally prepared meats. All of these doubtless come under the supervision of the Provincial Board of Health.

BAKERIES

There were 64 bakeries this year, an increase of two. These all show improvements. The proprietors appear to be alive to the danger of the fly nuisance and have taken more precautions accordingly, thus enabling them to keep their premises in a much cleaner condition.

CONDEMNATIONS

Although the amount of veal shipped from the country was greater than last year the condemnations were fewer, the temperature being more even, and owing to the long period of dry weather during the summer, the atmosphere was drier than in some former years. This to a certain extent prevented the spoiling of meat in transit, as meat more readily spoils in a warm humid atmosphere. The condemnation of meat, in fact any foodstuff, is a serious economic loss, not only to the shipper but to the consumer, as every pound withdrawn from the market by condemnation enhances the value of that passed for consumption. Much of the waste might be prevented by a more strict adherence to the rule which

requires that all animals shall be killed in a licensed slaughterhouse from March 1st to December 31st, and by better methods of transportation and handling. In the case of condemnation the Department has made a practice of sending to the shipper a copy of instructions as to the proper method of shipping meat and poultry. This also produced good results.

CONFECTIONERS

There was a slight decrease in the number of confectioners, a few have gone out of business. Others have remodelled their premises, and converted them into lunch counters, which are classed as restaurants. When dishes are used for serving food in confectionery stores, a supply of hot water for washing them is insisted upon by the Department.

FLIES

The dry weather which prevailed during the summer and the vigorous campaign carried on by the Department for getting rid of the flies which live through the winter in warm places had a good effect, there being very little trouble along this line.

GROCERIES

There was quite a large increase in the number of grocery stores, from 249 to 290. The advent of the new chain stores accounted for most of the increase. Two of these systems commenced operation last year by opening new stores which are up-to-date, and are conducted with a view to cleanliness and proper handling of foodstuffs. One chain store system has put into operation a first class bakery, sausage kitchen and meat pickling plant.

RESTAURANTS

There was a slight increase in the number of restaurants under inspection. Several new up-to-date premises have been opened. In all cases the kitchens have been thoroughly renovated, painted and decorated.

Strict attention is paid to cleanliness, dish washing, and the disuse of chipped and cracked dishes.

HAWKERS VEHICLES

The number of these itinerant merchants of foodstuffs, principally fruit, vegetables and fish, has decreased from over one hundred, a few years ago to eighty-one during this year. While the number of vehicles, etc., renovated during the year were only 30.9% of the total in comparison with 48.8% of the total in 1928, on the whole these vehicles compare very favorably with those of former years. At the beginning of the license year, June 1st, the Department insisted on the By-law regarding names of owner being printed on both sides of the vehicles being carried out before permit was given. This has been of considerable value in checking up on the owner, and inspection of these vehicles. Many of these merchants buy up job lots of fruit that have to be repacked before offering for sale to the public. A close supervision is required to prevent mouldy or mildewed fruit being sold to the unsuspecting householder. The number of inspections for the year being over thirteen hundred would indicate the checking up that is done, and shows that some, if not most were inspected at least twice per month.

Respectfully submitted,

A. W. FOOTE,

Chief Food Inspector.

PREMISES UNDER INSPECTION AND IMPROVEMENTS MADE

DESCRIPTION	Number under Inspection	New Modern	Cement Floors	Renovated	New Plumbing	Remodelled
Abattoirs.....	3	--	--	--	--	--
Auction Rooms.....	1	--	--	--	--	--
Bakeries.....	64	4	2	36	--	5
Biscuit and Cereal Plants.....	5	1	--	1	--	--
Bottling Plants.....	15	2	--	6	--	--
Breweries.....	5	--	--	2	--	1
Butcher Shops.....	209	26	2	53	2	4
Butter Rooms.....	2	--	--	--	--	--
Candy Factories.....	23	2	--	7	1	2
Canning Factories.....	1	--	--	--	--	--
Cold Storage Plants.....	6	--	--	2	--	--
Commission and Produce Houses.....	47	1	--	4	--	--
Confectioners and Ice Cream Parlors.....	300	15	--	55	5	15
Cone Factories.....	1	1	--	--	--	--
Delicatessen Shops.....	4	--	--	2	--	--
Fish Stores.....	12	--	--	4	--	--
Fruit Houses (Wholesale).....	33	2	--	10	--	1
General Stores.....	389	7	3	54	2	4
Groceries (Retail).....	290	39	--	82	5	19
Groceries (Wholesale).....	37	--	--	2	--	1
Hawkers' Vehicles.....	81	--	--	25	--	--
Hotel Kitchens.....	27	--	--	8	--	5
Jam, Pickle and Vinegar Factories.....	8	1	--	1	--	--
Markets.....	2	--	--	--	--	--
Packing Plants.....	4	--	--	2	--	--
Peanut Butter Factories.....	1	--	--	--	--	1
Poultry Slaughter Houses.....	8	--	--	6	--	--
Restaurants.....	294	26	2	174	5	50
Railway and Express Companies.....	4	--	--	--	--	1
Sausage Factories.....	18	3	1	4	1	--
Tea, Coffee and Spice Houses.....	5	--	--	--	--	--
Yeast Factories.....	1	1	--	--	--	--
Totals.....	1900	130	10	540	21	109

FOOD CONDEMNATIONS—1929

DESCRIPTION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Beef	--	--	65	240	264	188	337	415	--	--	--	1,385	1,385
Veal	310	26	--	80	--	--	--	--	--	--	--	139	1,648
Pork	519½	194	286½	176	19	35	493½	179½	232	2,141½	7,606½	8,123	20,006
Sausage	370	--	--	--	--	9,350	--	--	6,400	26,490	--	--	36,210
Poultry	--	--	--	--	--	--	--	3,750	--	15	200	60	10,210
Fish	--	--	25	--	--	--	--	84	--	--	--	100	424
Fresh Fruit	--	--	--	--	240	--	--	--	--	--	--	--	240
Dried Fruit	--	--	--	--	1,810	--	--	--	--	--	--	--	1,810
Nuts	--	--	--	--	--	--	--	--	--	--	--	--	56½
Vegetables	--	--	--	--	--	--	47	9½	--	--	--	--	56½
Eggs	--	--	--	430	--	100	60	50	--	--	--	780	1,420
Candy	15	--	--	15	--	200	--	--	--	745	--	--	30
Biscuits	20	--	--	40	--	--	450	--	300	225	--	1,500	2,485
Cereals	--	139	75	--	--	--	--	--	--	--	--	--	1,209
Canned Goods	--	--	--	--	--	--	--	--	--	--	70	--	70
Coffee	47	--	--	--	--	--	169	--	--	--	--	--	216
Cheese	12	64	44	23	--	--	--	--	--	48	61	--	252
Game (Rabbits)	--	--	--	--	--	60	--	--	--	--	--	--	60
Pickles	--	250	200	800	200	200	50	328	--	100	100	100	2,328
Sugar	--	--	--	--	--	--	--	139	100	--	--	--	139
Salt	--	--	--	--	--	--	--	--	100	--	--	--	100
Miscellaneous (Extracts)	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTALS	1,293½	673	695½	1,804	2,533	10,133	1,606½	4,955	7,032	29,764½	8,037½	12,187	80,714½

FOOD INSPECTIONS—1929

PREMISES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Abattoirs and Packers	18	19	15	15	13	11	8	11	14	13	12	11	160
Bakeries	79	69	77	69	74	74	63	75	65	82	67	64	858
Bakery Vehicles	32	42	46	55	36	42	39	31	48	36	32	27	466
Biscuit and Cereal Factories	6	8	10	8	6	4	6	5	3	5	4	5	70
Breweries	12	15	16	13	11	9	13	9	4	12	11	10	135
Butcher's Shops	156	155	169	162	173	154	160	147	145	150	150	171	1,892
Butter and Cheese	6	8	7	5	4	5	4	4	5	4	6	6	64
Candy Factories	29	23	28	25	23	22	19	21	26	30	25	32	303
Cold Storage Plants	6	9	10	13	13	12	14	10	8	8	12	11	126
Cone Factories	--	--	--	2	5	3	--	--	--	--	--	--	10
Fish Stores	18	18	20	16	14	37	24	26	25	31	32	36	297
Fruit Stores	39	53	55	59	43	81	65	67	55	79	72	46	714
General Stores	366	385	392	411	399	328	395	342	361	415	376	386	4,556
Grocers	166	179	190	185	202	171	136	181	99	178	181	177	2,045
Hawkers' Vehicles	42	112	121	124	101	143	112	133	123	129	121	119	1,380
Hotel Kitchens	28	12	14	15	13	11	9	15	14	15	17	19	182
Ice Cream Parlors and Confectionery	169	170	173	179	187	177	188	177	186	190	172	171	2,139
Jam, Pickle and Spice Factories	12	7	12	14	10	8	4	5	5	6	10	6	99
Markets and Auction Rooms	13	17	17	13	11	15	13	21	17	16	12	17	182
Produce, Commission and Eggs	54	57	57	65	58	68	63	67	49	58	77	58	731
Peanut Butter	--	--	--	--	1	--	--	--	--	--	2	1	4
Railway Cars	--	--	--	--	--	--	--	3	--	--	--	--	3
Restaurants and Lunch Counters	307	286	298	334	320	326	268	340	343	337	369	350	3,878
Sausage Factories	15	127	24	21	14	17	20	16	20	26	23	27	350
Special	124	33	118	123	130	116	96	124	103	119	107	97	1,293
Temperance Bars	--	--	--	--	--	--	--	--	--	--	--	--	--
Delicatessen	2	3	4	1	--	4	--	2	4	2	--	--	23
Poultry Slaughterhouse	22	14	9	6	8	6	10	12	12	17	24	23	163
Railway Express	6	8	6	6	8	5	6	8	7	7	--	6	73
TOTALS	1,727	1,829	1,888	1,939	1,877	1,849	1,735	1,852	1,743	1,965	1,914	1,877	22,195
Notices to improve conditions	78	100	128	135	137	129	106	125	108	157	131	123	1,457

PROSECUTIONS

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Insanitary Premises.....	--	--	--	--	--	1	1	--	--	--	--	--	1
Unsound Food.....	1	--	--	--	--	1	2	--	--	--	--	3	5
Exposing to Contamination.....	--	1	--	--	--	--	--	--	4	2	--	--	9
No Permits.....	--	--	--	--	--	--	--	--	--	--	--	--	--
Amount of Fines and Costs.....	--	\$5.00	--	--	--	--	\$31.00	--	\$52.00	\$13.00	--	\$18.00	\$119.00

Bureau of Child Hygiene

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report on the work of the Bureau of Child Hygiene for the year 1929.

SUMMARY OF CONDITIONS IN 1929

Crude birth rate, 22.01 per 1,000 population, a decline of 10.05 points since the peak in 1920. Corrected rate for 1929, 17.54.

Crude infant mortality rate, 56.0 per 1,000 live births, the lowest yet recorded. Corrected rate, 58.6.

Crude stillbirth rate, 49.8 per 1,000 live births, the highest rate yet recorded. Corrected rate 46.7.

Crude puerperal mortality rate, 6.2 per 1,000 live births, the highest rate since 1920. Corrected rate 5.0.

Crude infant death rate from diseases of digestive system, 6.4 per 1,000 live births, second lowest recorded. Corrected rate, 4.7.

Crude infant death rate from diseases of early infancy and malformations, 27.0 per 1,000 live births, lowest recorded. Corrected rate, 29.7.

Crude infant death rate from diseases of respiratory system, 8.0 per 1,000 live births, lowest recorded. Corrected rate, 8.1.

Crude infant death rate from all other diseases, 14.6 per 1,000 live births, the highest rate since 1926. Corrected rate 16.1.

INFANT MORTALITY RATE LOWEST RECORDED

The outstanding point of interest for 1929 is the low infant mortality rate of 56.0 per 1,000 live births, the lowest recorded to date for Winnipeg. The rate for last year was 63.4.

The current low rate was brought about by a reduction in the mortality from malformations and diseases of early infancy, such deaths numbering 122 for 1929, against an average of 159 for the previous five years. This is a very desirable condition but it is offset by the marked increase in the stillbirths, which advanced to 225 from an average of 190 for the previous five years.

As I have pointed out in earlier reports, the exclusion of stillbirths from infant mortality calculations is unsatisfactory as the practice may lead to false conclusions. The fact that an infant dying during birth is excluded from such calculations, whereas one dying a few minutes after birth is included, is a statistical quibble from the practical standpoint of preventing such deaths. If this mortality is to be reduced, it is essential that the complete data should be pre-

sented for study in order that intelligent effort may be exerted to combat the cause.

The following tabulation illustrates my point. The standard infant mortality rates, based upon live births and deaths of infants under one year, indicate a satisfactory reduction, but the rates calculated upon total births and infant deaths plus stillbirths reveal that little improvement has taken place during the past five years in the reduction of diseases causing infant deaths prior to or soon after birth.

Uncorrected Rates	1929	1928	1927	1926	1925
Infant mortality per 1,000 live births	56	63	61	71	68
Stillbirths and infant deaths per 1,000 total births	101	100	101	102	104

The corrected rates for 1929 on the above bases are 59 and 101 respectively.

The standard infant mortality rates indicate a reduction of twelve points from 1925 to 1929, whereas the combined stillbirth and infant mortality rate shows but three points reduction.

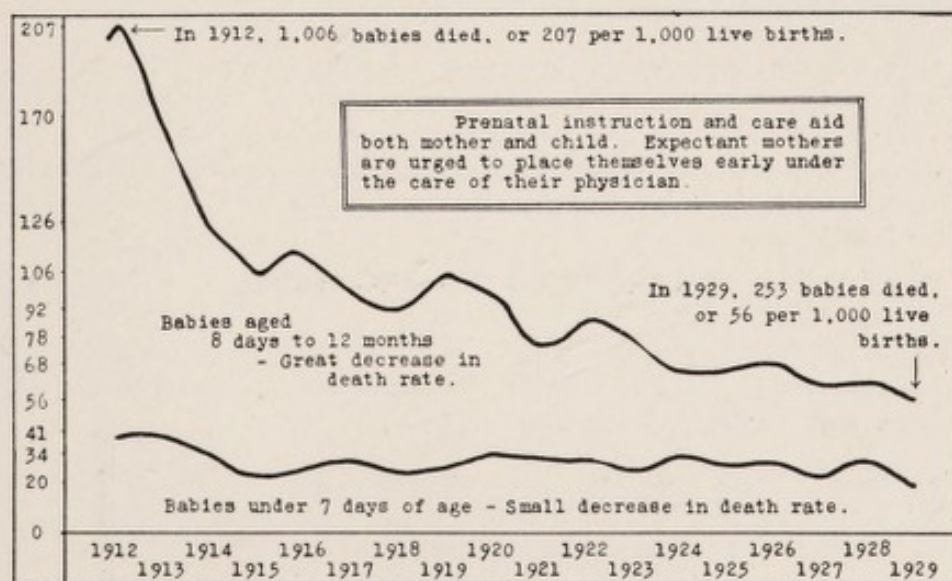
MIDWIFE ATTENDANTS

The Bureau of Child Hygiene has never favored midwives as attendants at births as the women are unregistered, unsupervised and often untrained. Under these circumstances it is unsafe to encourage midwife attendants, although the excellence of the European system of midwife training and supervision, and the low maternal mortality resulting from their work is recognized.

In Winnipeg in 1918, there were 1,159 births attended by midwives, or 19.8% of the total births. In 1929, there were only 109 live births attended by midwives, a percentage of 2.4, the lowest yet recorded.

EDUCATIONAL EFFORTS

In order to stress the importance of prenatal care, a simple graph, shown below, has been printed on the reverse side of the nurses' visiting cards, and on the obverse side an invitation is extended to expectant mothers to consult the nurse by appointment.



CHILD WELFARE STATIONS

In furtherance of the efforts to bring the services of the Bureau to the attention of mothers and young women, four Child Welfare Stations were opened up in church rooms in different sections of the city. Scales, baby's weight cards, literature, etc., were provided at each station and from one to three nurses attend one afternoon a week, the number of nurses varying with the attendance.

It is hoped through these stations to bring child welfare services and the benefits to be derived from them more prominently to the attention of the women of the district in which the stations are situated.

The graph on the visiting card, already mentioned, enables persons interested to visualize more readily the excellent results of infant welfare work amongst babies over a week old, and indicates the necessity for further effort to reduce the mortality amongst infants less than eight days of age. The opening up of the child welfare stations in churches has brought the nurses' work to the attention of a large circle of women whom the nurses usually do not meet until their first baby is born, and full advantage is being taken of this wider publicity and opportunity for service.

EXCELLENT ATTENDANCE

The attendance at the four child welfare stations was:

	Afternoons	Attendance	Average
Home Street United.....	35	1,380	39.4
McLean Mission.....	21	107	5.1
Sutherland Mission.....	13	225	17.3
Crescent United.....	13	198	15.2

With the advent of spring, the attendance has greatly increased, especially at the McLean Mission, which now has an average attendance of 17.5 per afternoon.

Two additional Child Welfare Stations are to be opened this summer if Council approves the necessary expenditure.

A child welfare nurse makes an average of five or six calls to homes in an afternoon, so that if from 15 to 20 contacts are made by the nurse at the Child Welfare Station weekly, she does not need to visit these families, and so is able to devote more time to sick babies or those requiring more than ordinary attention.

CORRECTED WINNIPEG RATES

With the continual lowering of nearly all our mortality rates, a more accurate system of tabulating vital statistics for the city is now necessary if controllable diseases are still further to be reduced.

When mortality rates are high, a broad field of action is effective, but when rates fall to low figures, a more selective plan of action is necessary, as a reduction in mortality must be fought for point by point.

With this object in view, corrected infant mortality rates have been prepared for each section of the city since 1924, non-resident births and infant deaths being deducted from the Winnipeg registrations, and Winnipeg births and infant deaths registered in the adjoining City of St. Boniface, being added to the registrations concerning Winnipeg residents.

The differences between the crude and corrected figures are shown in the following tabulation:

CRUDE AND CORRECTED INFANT MORTALITY RETURNS

Year	Winnipeg Registrations			Corrected as Above		
	Live Births	Infant Deaths	Crude Rate	Live Births	Infant Deaths	Corrected Rate
1929.....	4,515	253	56.0	3,597	211	58.6
1928.....	4,475	284	63.4	3,580	236	65.9
1927.....	4,463	273	61.2	3,566	232	65.0
1926.....	4,444	314	70.6	3,530	252	71.4
1925.....	4,632	315	68.0	3,781	252	66.6
1924.....	4,762	323	67.8	3,880	278	71.6

Winnipeg's infant mortality rates as given by the Dominion Bureau of Statistics vary from the above, their crude rates being generally lower as the Bureau receives late birth registrations which cannot be accepted by the Winnipeg registrar. Their corrected rates exclude non-residents but do not include Winnipeg residents registered in St. Boniface.

HOSPITALIZATION OF MATERNITY CASES

The number of live births occurring in hospitals and maternity homes again showed an increase, there being 3,539 such births, or 78.4%, registered in 1929, against 3,356, or 75.0% in 1928. In 1917, the percentage was 36.3, and in 1912, 31.5%.

Live births, stillbirths, and deaths of infants within fourteen days of birth are shown below, together with rates per 1,000 live births for the stillbirths and such infant deaths.

**LIVE BIRTHS, STILLBIRTHS AND EARLY INFANT DEATHS
IN HOSPITALS, 1929**

Hospitals	Live Births	Still-births	Infant Deaths 1-14 days	Rate per 1,000	
				Still-births	Infants 1-14 days
Grace.....	1,322	57	25	43	19
General.....	827	42	16	51	19
Misericordia.....	669	30	19	45	28
Victoria.....	322	26	9	81	28
St. Josephs.....	208	22	5	106	24
King George.....	1	--	--	--	--
Concordia.....	84	--	--	--	--
Healthwin.....	59	1	--	--	--
Furby.....	47	2	--	--	--
St. Boniface.....	312*	16	14	51	45
<hr/>					
All Hospitals.....	3,851	196	88	51	23
Private Homes.....	976	45	23	46	24
<hr/>					
Total Births**.....	4,827	241	111	50	23
Non-Residents.....	1,230	73	25	59	20
Winnipeg Residents—Corrected					
Totals.....	3,597	168	86	47	24

*Winnipeg residents only.

**Including St. Boniface registrations of Winnipeg residents.

The tabulation reveals a wide divergence in both stillbirth rates and death rates of infants under 15 days, the former varying from 43 to 106 per 1,000 live births, and the latter from 19 to 45. Deaths of infants under 15 days who were born in Winnipeg hospitals average 21 per 1,000 live births. In Winnipeg homes, this death rate is 24, but the stillbirth rate is lower than in hospitals.

MEDICAL ATTENDANTS

In 1929, twelve physicians each attended over 70 live births, making a total of 1,841. The remaining 2,674 live births registered in the city were attended by 220 physicians, but half of these attended less than ten live births each.

BIRTH RATE AGAIN LOWER

The live births registered in Winnipeg during 1929 numbered 4,515, giving an uncorrected rate of 22.01 per 1,000 population, against 22.11 for 1928. The current rate continues the decline which has been in evidence since 1920, when the uncorrected rate was 32.06. The 1929 corrected rate was 17.54.

INFANTS BORN OUT OF WEDLOCK

Four hundred and six infants, live and stillborn, were born out of wedlock, giving a rate of 8.6% of the total births registered in Winnipeg. This is the

highest yet recorded, the rate having increased annually since the minimum of 4.1% in 1920.

The increase is again due to the greater number of non-resident mothers entering city hospitals; non-residents numbered 213, residents 193.

MATERNAL MORTALITY

An increase of five puerperal deaths occurred in 1929 as compared with 1928, the totals being 28 and 23, and the crude rates 6.2 and 5.1 per 1,000 live births, respectively.

Of the 28 puerperal deaths in 1929, 14 were non-residents, giving a rate of 11.4 per 1,000 live births, a decided increase over the rate for 1928 of 8.3.

The 14 remaining deaths were of Winnipeg mothers, giving a rate of 4.3 per 1,000 live births, but to these must be added (to obtain the corrected puerperal mortality rate), four puerperal deaths of Winnipeg residents in St. Boniface Hospital, making a total of 18 such deaths and a corrected rate of 5.0.

CAUSES OF INFANT DEATHS

The following table shows the corrected and crude figures for infant deaths in 1929, classified as to cause of death:

	Corrected		Crude	
	Deaths	Rate	Deaths	Rate
Diseases of Early Infancy and Malformations.....	107	29.7	122	27.0
Diseases of Digestive System.....	17	4.7	29	6.4
Diseases of Respiratory System.....	29	8.1	36	8.0
All other Diseases.....	58	16.1	66	14.6
	211	58.6	253	56.0

This tabulation reveals the necessity for further pre-natal instruction and care for expectant mothers, but the Department can do comparatively little to assist in reducing deaths from diseases of early infancy until more funds are available and must leave this field to private agencies. The Bureau of Child Hygiene is well organized to care for babies from 10 days to 2 years of age and requires no assistance in this work, whereas there is a great field for pre-natal service, there being around 3,800 births annually to Winnipeg mothers, 1,400 of which are first babies, the mothers of whom do not come in contact with our nurses until after the birth is registered.

There is a great opportunity here for a local welfare organization to perform a highly necessary service, working, of course, in close co-operation with the medical profession, and conducting an active campaign to educate expectant mothers as to the desirability of prenatal instruction and early care under a qualified physician.

In opening up the Child Welfare Stations, it is hoped that attention to this problem will be brought before expectant mothers in the neighborhood of the stations and thus induce them to get early in touch with the district nurse or their own physicians.

INFANT MORTALITY ACCORDING TO SECTIONS OF CITY

*(Non-residents excluded and St. Boniface registrations of Winnipeg residents included.)

		Live Births	Infant Deaths	Corrected Rate
I	W Fert Rouge, west of Pembina.....	303	14	4.6
I	E Fort Rouge, east of Pembina.....	222	6	2.7
II	Red River to Spence Street.....	340	20	5.9
III	E Spence, Ellice and Sherbrook Sts.....	360	20	5.5
III	S Assiniboine River to Ellice Ave.....	121	10	8.3
III	N Ellice Ave. to Notre Dame Ave.....	408	20	4.9
IV	W Notre Dame to C.P.R. Tracks.....	218	17	7.8
IV	C Sherbrook St. to Main St.....	241	26	10.8
V	E Point Douglas, south of C.P.R. and north of C.P.R. Tracks.....	218	14	6.4
V	S C.P.R. Tracks to Selkirk Ave.....	240	18	7.5
V	N Pritchard Ave. to Burrows Ave.....	195	10	5.1
VI	W Burrows to Limits, W. of No. 500...	273	16	5.9
VI	E Burrows to Limits, E. of No. 499...	245	14	5.7
VII	Elmwood.....	213	6	2.8
	City.....	3,597	211	5.9
	*Non-Resident registrations (excluded).....	1,230	66	5.4
	*St. Boniface registrations (included).....	312	24	7.7

CHILD WELFARE NURSES

A total of 42,885 visits to babies, 410 visits to infants' boarding houses, and 43 other calls were made by the 13 visiting nurses in 1929. The new cases visited numbered 2,961, or 82.3% of the corrected live births to Winnipeg mothers.

Calls to sick babies numbered 1,190, as against 1,094 in 1928; cases referred to private physicians totalled 462, against 385 in 1928; and cases referred to the Babies' Milk Depot totalled 305, against 228. These figures show that there was a greater amount of sickness prevalent among infants in 1929 than in 1928, yet there were 31 fewer deaths. Treatments to babies, prescribed by private physicians and the attending physicians at the clinic, increased from 917 in 1928,

to 998 in 1929, these figures again indicating an increased amount of sickness during the past year. Pre-natal advice was given in 527 instances. Further particulars of the nurses' work are given on page 112.

BABIES' CLINIC

New cases attending the clinic in 1929 numbered 514, 21 of which were non-residents. In 1928, new cases totalled 424.

By sections, the 1929 distribution was as follows:

District	I		II		III		IV		V		VI		VIII	
	W	E	E	S	N	W	C	E	S	N	W	E		
1929.....	17	17	36	5	22	38	31	39	32	71	35	47	57	46
1928.....	16	19	24	4	22	31	36	46	22	52	31	24	50	37

	City	Non-Residents	Total
1929.....	493	21	514
1928.....	414	10	424

A total of 5,377 babies were brought to the clinic, against 5,311 in 1928. By months the attendance was as follows:

	J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.	Total
1929..	343	402	419	493	502	474	461	527	478	502	365	411	5,377
1928..	366	428	434	419	484	430	452	520	462	492	454	370	5,311

Doctor R. F. Rorke and Doctor F. G. Schwalm continued to act as attending physicians on alternate mornings. No charge is made for clinic service, but parents who can afford a family physician are not encouraged to attend. The clinic is mainly for feeding cases, general cases being referred to the Children's Hospital.

MILK DISPENSARY

Feedings prepared in 1929 in the dispensary totalled 25,445, 5,867 of which were for the Children's Hospital and 19,578 for clinic patients. Cash collected for feedings from clinic cases amounted to \$1,168.46, the fees ranging from 15 to 25 cents daily. Children's Hospital accounts totalled \$1,163.91, making a total revenue of \$2,332.37.

As in previous years, mothers have been instructed to prepare the feedings at home whenever artificial feeding is required, but breast feeding is still advocated in all possible cases.

Twenty-seven lectures to young women were given by the nurses and 122 demonstrations were given to mothers. In addition, special addresses were

given, and nurses have attended clinics in connection with gatherings of various societies.

I desire to place on record my sincere appreciation of the work of the staff of the nursing, dispensary, clinic and recording branches of the Bureau's work; all have devoted themselves to their duty and given of their best in the interests of the city's babies. Nurses Carter, Thom and Bowles have continued to act as relief dietitians owing to the non-appointment of an assistant dietitian for reasons of economy.

Respectfully submitted,

A. G. LAWRENCE,

Manager, Bureau of Child Hygiene.

CASES ATTENDING CLINIC AND FEEDINGS PREPARED AT BABIES' MILK DEPOT, 1929

1929	Total Attendance at Clinic	Cases on Dispensary List at 1st of Month (including Children's Hospital)	Children's Hospital Feedings	MILK DEPOT				Cash Collected Dispensary	Children's Hospital Accounts	Cases Attending for First Time	FEEDINGS PREPARED						MILK USED		
				Paid Feedings	Free Feedings	Total Feedings (excluding Children's Hospital)	Grand Total Feedings (including Children's Hospital)				Lactic Acid	Protein	Case	Evaporated Milk	Acidified	Condensed Milk	Whole Milk (Quarts)	Cream (Quarts)	Skim Milk (Quarts)
Jan.	343	56	562	605	575	1180	1742	\$ 87.10	\$ 100.13	31	170	74	62	10	221	-	820	25 1/4	580
Feb.	402	54	361	483	892	1375	1736	96.80	66.59	53	93	61	61	44	237	-	784	31 1/2	544
Mar.	419	67	560	564	1166	1730	2290	75.80	87.69	34	58	40	62	17	380	-	1128	32 1/4	660
April.	493	87	626	730	1210	1940	2566	107.65	125.66	54	77	92	82	-	381	4	1190	30 1/2	712
May	502	88	548	827	1287	2114	2662	95.27	114.88	59	224	107	89	1	347	-	1300	36 3/4	778
June	474	83	507	797	1041	1838	2345	102.45	81.33	37	398	45	88	2	276	-	1116	31	682
July	461	74	407	831	1015	1846	2253	115.05	82.16	43	360	106	73	-	318	-	1164	23	570
Aug.	527	65	381	841	906	1747	2128	147.65	88.06	47	565	125	45	-	195	-	1116	29 1/2	666
Sept.	478	75	660	680	825	1505	2165	121.75	156.50	41	699	190	58	-	153	-	882	27	894
Oct.	502	55	461	488	862	1350	1811	75.45	88.60	41	251	52	55	-	222	7	832	31	652
Nov.	365	65	401	453	939	1392	1793	103.65	97.85	33	179	100	30	30	101	-	944	27	460
Dec.	411	59	393	446	1115	1561	1954	39.80	74.46	41	141	43	36	14	76	-	1004	27 3/4	512
Totals	5377	69	5867	7745	11833	19578	25445	\$1168.46	\$1163.91	514	3215	1035	741	118	2907	11	12280	352 1/2	7710

VISITS MADE BY CHILD WELFARE NURSES—1929

1929	No. of Days on Duty	Days on District	Days in Depot, Conventions, etc.	Total Live Births Visited	Deaths of Infants visited more than once	Visits to Babies	Visits to Infants' Boarding Homes	Other Visits	Special Calls	Calls to Sick Babies	Requested Calls	Cases referred to Physicians	Cases referred to Milk Depot	Cases referred to Hospital	Cases referred to Social Welfare	Cases referred to M.S.N.M.	Cases sent to Fresh Air Camp	Pre-natal Advice Given	Private Demonstrations	Treatments to Babies	Lectures Given
Jan.---	278½	238	40½	245	8	3,333	37	--	--	140	147	35	14	18	2	5	1	36	10	80	5
Feb.---	267	239½	27½	168	6	3,314	30	--	--	119	132	34	27	21	2	--	--	46	5	105	--
Mar.---	288½	248½	40	233	8	3,874	30	--	--	135	129	43	29	18	2	8	--	59	10	84	5
Apr.---	306½	268	38½	220	6	4,254	56	--	3	102	108	31	28	24	2	6	--	40	7	68	4
May---	297½	260½	37	237	5	4,000	41	--	2	81	98	62	23	18	1	6	--	43	8	86	1
June---	231½	199	32½	238	9	3,133	22	--	2	82	87	27	20	14	--	5	15	34	10	89	--
July---	260	203½	56½	246	3	3,367	35	--	1	90	105	30	19	16	--	4	7	44	7	87	--
Aug.---	235	184½	50½	230	2	3,136	31	--	--	71	105	39	38	7	--	--	6	26	20	68	--
Sept.---	228½	183½	45	215	3	3,458	23	--	1	91	118	50	27	14	1	4	--	42	13	103	--
Oct.---	289	235½	53½	269	1	3,894	49	--	1	73	126	52	26	22	2	6	--	53	13	48	4
Nov.---	279	229	50	212	9	3,876	35	--	1	95	102	31	29	10	4	7	--	48	8	83	6
Dec.---	287	233½	53½	221	4	3,246	21	24	8	111	142	28	25	18	5	6	--	56	11	97	2
Totals	3248	2723	525	2734	64	42,885	410	24	19	1190	1399	462	305	200	22	57	29	527	122	998	27

Statistician's Report

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith the report on Vital Statistics for the year 1929. As in previous years, copies of the birth and death registrations have been furnished the Department by the courtesy of the Winnipeg Registrar, Mr. Magnus Peterson, and copies of the St. Boniface registrations have been obtained through the courtesy of the St. Boniface Registrar, Mr. Ernest Gagnon.

For the first time the report gives figures corrected to show the true conditions prevailing in the city, previous reports having dealt with crude figures only. As Winnipeg serves as the hospital centre for a very large area, the number of non-resident deaths is over 20% annually of the registered deaths and the number of non-resident births, over 27% of the registered births. In addition, the Roman Catholic hospital in the adjoining City of St. Boniface attracts over 300 Winnipeg maternity cases, and over 170 deaths of Winnipeg residents occur in that institution annually, both of which groups are registered in St. Boniface.

With our steadily declining death rates, crude figures are too coarse to use as indices of the city's health, and it is proposed in future to tabulate corrected figures as well as crude figures, deducting from the latter the non-resident births and deaths, and adding to the remainder the births and deaths of Winnipeg residents occurring in St. Boniface Hospital and Ninette Tubercular Sanatorium, in order to obtain the corrected figures. This procedure has been carried out in infant mortality calculations since 1924, although the figures have not been previously published.

I have informally taken up with the provincial authorities the matter of compiling vital statistics on a "corrected" basis rather than on an "as registered" basis, and the matter has been favorably considered. Registration could be made, as at present, at the place the event occurred, and a central office established for distributing non-resident registrations, or registration, with certain exceptions, could be made in the municipality in which the person concerned ordinarily resided. This latter system would automatically give corrected figures for each city, town and municipality in the province and dispense with a great deal of the unnecessary clerical work which is at present carried out here with non-resident registrations. Of 6,782 births and deaths registered in Winnipeg in 1929, no less than 1,791 were registrations of non-residents, the inclusion

of which with the registrations of Winnipeg residents not only confuses our statistics, but also consumes much time and effort in their classification and tabulation.

Vital statistics are the foundation for efficient health work; with steadily reducing mortality rates from preventable diseases, it is essential to seek greater precision in our methods of measuring the effectiveness of procedures employed in combatting these diseases, and to do this, corrected mortality rates must be secured.

Yours obediently,

A. G. LAWRENCE,
Secretary.

SUMMARY OF VITAL STATISTICS

Corrected and Crude Figures

Area of City Land, 14,865 acres; water, 622 acres; total,
15,287 acres (23.9 square miles).

	1929	1928
Population (City Assessor's figures).....	205,083	202,377
Persons per acre of land.....	13.80	13.61
Corrected		
Deaths, excluding stillbirths.....	1,581	----
Corrected rate per 1,000 population.....	7.71	----
Deaths of infants under 1 year.....	211	236
Corrected infant mortality rate per 1,000 live births.....	58.6	65.9
Deaths, measles, scarlet fever, whooping cough, and diphtheria, combined.....	49	----
Rate per 100,000 population.....	23.9	----
Births, excluding stillbirths.....	3,597	3,580
Corrected live birth rate per 1,000 population.....	17.54	17.69
Stillbirths.....	168	138
Corrected rate per 1,000 live births.....	46.7	38.5
Natural increase, excess of births over deaths.....	2,016	----
Corrected rate per 1,000 population.....	9.83	----
Crude		
Deaths, excluding stillbirths.....	1,817	1,806
Rate per 1,000 population.....	8.86	8.92
Deaths of infants under 1 year.....	253	284
Infantile mortality rate per 1,000 living births.....	56.0	63.5
Births, excluding stillbirths.....	4,515	4,475
Rate per 1,000 population.....	22.01	22.11
Stillbirths.....	225	182
Rate per 1,000 live births.....	49.83	40.67
Marriages.....	2,781	2,818
Rate per 1,000 population.....	13.56	13.92

IMPORTANT CAUSES OF DEATH, 1929

Corrected Figures

		No. of Deaths	Rate per 100,000 Population
1.	Typhoid fever.....	1	.5
7.	Measles.....	17	8.3
8.	Scarlet fever.....	5	2.4
9.	Whooping cough.....	9	4.4
10.	Diphtheria.....	18	8.8
11.	Influenza.....	28	13.6
21.	Erysipelas.....	13	6.3
22.	Acute anterior poliomyelitis.....	1	.5
23.	Lethargic encephalitis.....	2	1.0
31.	Tuberculosis of lungs.....	91	44.4
32-37	Other forms of tuberculosis.....	24	11.7
43-49	Cancer, all forms.....	211	102.9
57.	Diabetes mellitus.....	22	10.7
74.	Cerebral hemorrhage.....	108	52.7
87-90	Diseases of the heart.....	270	131.6
91.	Diseases of the arteries.....	18	8.8
92.	Embolism and thrombosis.....	25	12.2
100-101.	Pneumonia, all forms.....	125	60.9
113.	Diarrhea and enteritis (under 2 years).....	15	7.3
117.	Appendicitis and typhlitis.....	15	7.3
118.	Hernia, intestinal obstruction.....	21	10.2
129.	Chronic nephritis.....	67	32.7
143-148.	The puerperal state.....	18	8.8
159.	Malformations.....	21	10.2
160-163.	Early infancy.....	88	42.9
164.	Senility.....	19	9.3
166-172.	Suicides.....	20	9.7
178.	Conflagration.....	12	5.8
185.	Traumatism by fall.....	14	6.8
188 (c).	Automobile accidents.....	21	10.2
	Total.....	1,319	643.0
	All other causes.....	262	128.0
	Grand Total.....	1,581	771.0

STILLBIRTHS, LIVE BIRTHS AND DEATHS, CRUDE AND CORRECTED FIGURES, BY MONTH AND SEX—1929

1929	STILLBIRTHS						LIVE BIRTHS						DEATHS					
	As REGISTERED			Non-Res. Ded'ctd	Res. Added	Cor-rected Totals	As REGISTERED			Non-Res. Ded'ctd	Res. Added	Cor-rected Totals	As REGISTERED			Non-Res. Ded'ctd	Res. Added	Cor-rected Totals
	M.	F.	T.				M.	F.	T.				M.	F.	T.			
Mth.																		
Jan.	14	6	20	6	-	14	235	207	442	117	31	356	121	91	212	50	9	171
Feb.	9	7	16	3	1	14	169	149	318	109	23	232	71	74	145	30	23	138
Mar.	17	6	23	8	2	17	185	164	349	90	29	286	93	84	177	37	16	156
April	6	6	12	1	1	12	211	195	406	122	15	299	83	81	164	33	15	146
May	8	8	16	7	-	9	199	196	395	111	20	304	93	72	165	32	20	153
June	8	10	18	5	2	15	194	198	392	111	30	311	85	59	144	29	13	128
July	11	9	20	6	-	14	207	196	403	88	29	344	72	44	116	35	5	86
Aug.	17	7	24	7	4	21	194	180	374	120	43	297	63	62	125	35	17	107
Sept.	16	2	18	1	1	10	193	170	363	101	31	293	91	65	156	34	14	136
Oct.	5	9	14	8	3	9	209	177	386	92	23	317	80	53	133	31	14	116
Nov.	12	8	20	9	1	12	162	169	331	93	23	261	72	69	141	31	16	126
Dec.	17	7	24	4	1	21	177	179	356	76	15	295	75	64	139	38	13	114
Totals	140	85	225	73	16	168	2,335	2,180	4,515	1,230	312	3,595	999	818	1,817	415	175	1,577

Year	Population	STILLBIRTHS			LIVE BIRTHS			DEATHS			
		CRUDE		CORRECTED	CRUDE		CORRECTED	CRUDE		CORRECTED	
		Totals	Rate		Totals	Rate		Totals	Rate		
1929	205,083	225	49.8	168	46.7	3,597	17.54	1,817	8.86	1,581	7.71
1928	202,377	182	40.7	138	38.5	3,580	17.69	1,806	8.92	-	-
1927	198,932	200	44.8	162	45.4	3,566	17.92	1,650	8.29	-	-
1926	197,125	156	35.1	135	38.2	3,530	17.91	1,698	8.61	-	-
1925	195,148	188	40.6	-	-	3,781	19.37	1,619	8.30	-	-
1924	194,850	223	46.8	-	-	3,880	19.90	1,544	7.78	-	-
1923	199,300	211	40.5	-	-	-	-	1,698	8.52	-	-
1922	199,129	252	44.8	-	-	-	-	1,801	9.04	-	-
1921	196,947	238	39.5	-	-	-	-	1,721	8.74	-	-
1920	192,571	251	40.6	-	-	-	-	2,270	11.79	-	-
1919	183,378	206	39.2	-	-	-	-	2,108	11.49	-	-
1918	183,595	245	43.6	-	-	-	-	2,706	14.74	-	-

DEATHS BY MONTHS, SEX AND AGE PERIOD—1929

1929	Under 1		1 to 2		3 to 4		5 to 9		10 to 19		20 to 29		30 to 39		40 to 49		50 to 59		60 to 69		70 to 79		80 to 89		90 to 99		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	21	18	5	1	5	1	1	1	3	6	8	5	5	12	15	8	14	4	21	13	11	12	11	9	2	1	121	91
February	11	9	4	3	1	1	2	3	7	4	6	6	6	7	6	9	13	7	11	10	3	16	1	4	1	71	74	
March	13	16	2	5	3	1	2	3	3	10	4	5	3	5	14	4	13	5	15	10	16	14	5	6	1	93	84	
April	14	12	3	5	2	3	2	1	5	5	4	4	4	7	10	7	14	11	11	11	12	7	2	4	1	83	81	
May	20	11	3	3	3	2	2	2	3	3	7	6	1	2	10	4	15	5	19	16	7	15	2	3	1	93	72	
June	18	4	1	2	2	2	1	1	5	4	7	6	6	3	9	6	8	10	12	14	10	8	6	1	1	85	59	
July	5	6	2	2	2	2	1	1	4	4	5	7	5	4	10	6	7	5	18	4	9	6	3	4	1	72	44	
August	5	7	1	2	1	1	1	1	3	4	4	3	4	7	9	8	12	6	13	10	9	9	3	3	1	63	62	
September	12	7	1	3	3	1	4	2	5	4	1	6	8	6	9	3	13	11	19	10	13	8	2	4	1	91	65	
October	8	6	4	2	1	1	1	1	1	2	6	2	1	8	23	2	9	5	14	12	8	8	4	4	1	80	53	
November	10	6	3	2	2	2	2	3	3	3	2	4	2	9	9	4	12	8	18	16	7	12	3	2	1	72	69	
December	7	7	2	2	1	1	1	1	3	1	4	8	6	2	10	5	16	7	9	16	11	10	4	4	1	75	64	
Totals	144	109	30	32	23	14	19	18	45	43	58	63	51	72	134	66	146	84	180	136	116	125	46	48	7	8	999	818
Crude Totals	253	62	37	37	37	37	37	37	88	121	121	123	123	123	200	200	230	230	316	316	241	241	94	94	15	1,817	415	
Non-Res. Dedctd.	66	15	13	13	13	13	13	13	32	41	41	37	37	37	59	59	45	45	61	61	28	28	5	5	1	179	179	
Residents Added	24	2	3	3	3	3	3	3	5	24	24	26	26	26	22	22	31	31	19	19	13	13	2	2	1	1,581	1,581	
Corrected Totals	211	49	27	27	27	27	27	27	61	104	104	112	112	112	163	163	216	216	274	274	226	226	91	91	15	1,581	1,581	
Crude, per cent	13.92	3.41	2.04	2.04	2.04	2.04	2.04	2.04	4.84	6.66	6.66	6.77	6.77	6.77	11.01	11.01	12.66	12.66	17.39	17.39	13.26	13.26	5.17	5.17	.83	100.0	100.0	
Corrected, per cent	13.35	3.10	1.71	1.71	1.71	1.71	1.71	1.71	3.86	6.58	6.58	7.08	7.08	7.08	10.31	10.31	13.66	13.66	17.33	17.33	14.29	14.29	5.76	5.76	.95	100.0	100.0	

NATIVITY OF DECEDENTS, 1929

(Deaths as Registered)

Winnipeg.....	366	France.....	4
Manitoba (rest of).....	152	Galicia.....	7
Nova Scotia.....	14	Germany.....	5
Prince Edward Island.....	5	Greece.....	1
New Brunswick.....	10	Iceland.....	33
Quebec.....	39	Italy.....	6
Ontario.....	277	Jugo-Slavia.....	1
Saskatchewan.....	18	Holland.....	3
Alberta.....	1	Hungary.....	6
British Columbia.....	2	Latvia.....	2
Canada.....	20	Lithunia.....	1
Newfoundland.....	5	Norway.....	12
England and Wales.....	279	Poland.....	69
Channel Islands.....	1	Roumania.....	15
Ireland.....	67	Russia.....	98
Scotland.....	134	Sweden.....	16
Australia.....	3	Switzerland.....	1
Bahamas.....	1	Ukraine.....	4
Gibraltar.....	1	Asia.....	1
India.....	3	China.....	8
South Africa.....	1	Japan.....	1
Austria.....	32	South America.....	1
Belgium.....	3	United States.....	62
Bohemia.....	3	Unknown.....	19
Denmark.....	3		
Finland.....	1	Crude Total.....	1,817

SUMMARY

	Deaths		Per cent. of Total	
	1929	1928	1929	1928
Canada.....	904	958	49.8	53.1
British Isles.....	481	451	26.5	25.0
Europe (excluding British Isles).....	327	324	18.0	17.9
United States.....	62	48	3.4	2.7
Asia.....	13	11	.7	.6
Other Countries.....	11	4	.6	.2
Unknown.....	19	10	1.0	.5
Totals.....	1,817	1,806	100.0	100.0

RATIO OF MALES TO 100 FEMALES, 1922-29

(As Registered)

	1929	1928	1927	1926	1925	1924	1923	1922
Stillbirths.....	165	109	130	129	132	137	134	105
Live Births.....	107	102	110	110	108	100	106	103
Deaths.....	122	117	123	108	110	113	118	115

SOCIAL STATUS OF DECEDENTS, 1929

		(As Registered)			% of
		Male	Female	Totals	Total
Single, under 16 years	-----	238	194	432	23.8
Single, 16 years and over	-----	158	87	245	13.5
Total Single		396	281	677	37.3
Married	-----	472	333	805	44.3
Widowed	-----	120	204	324	17.8
Divorced	-----	1	0	1	.1
Unknown	-----	10	0	10	.5
Crude Totals		999	818	1,817	100.0

ATTENDANT AT BIRTH

		(As Registered)				
		1929		1928		1918*
Physicians	4,402	97.5%	4,344	97.1%	4,707	80.2%
Midwives	109	2.5%	129	2.9%	1,159	19.8%
Unattended	2		2			
Unknown	2					

*Includes stillbirths

INFANTS BORN OUT OF WEDLOCK

		(Including stillbirths)							
		1929	1928	1926	1924	1921	1920	1917	1912
Infants born out of									
Wedlock	-----	406	358	313	284	317	262	267	383
Per cent of Total Births	-----	8.6	7.7	6.8	5.7	5.0	4.1	4.7	7.6

PLURAL LIVE BIRTHS

		1929	1928	1927	1926	1925	1924	1923	1922
Twin Births	-----	53	62	51	50	48	57	58	74
Triple Births	-----	1	--	--	1	--	--	--	1

ORDER OF LIVE BIRTHS, 1929

		(Corrected and Crude Figures)			
		Corrected	Crude	Corrected	Crude
First	-----	1,411	1,808	Eleventh	13
Second	-----	842	996	Twelfth	6
Third	-----	479	611	Thirteenth	10
Fourth	-----	317	395	Fourteenth	---
Fifth	-----	178	225	Fifteenth	1
Sixth	-----	142	177	Sixteenth	---
Seventh	-----	86	109	Nineteenth	1
Eighth	-----	64	81	Unknown	4
Ninth	-----	28	34		
Tenth	-----	15	28	Totals	3,597
					4,515
				Corrected	Crude
First Children	-----	39.3%	40.0%		
Second Children	-----	23.4%	22.1%		
Third Children	-----	13.3%	13.5%		
Fourth Children	-----	8.8%	8.8%		
Fifth to Nineteenth Children	-----	15.2%	15.6%		
		100.0%	100.0%		

STILLBIRTHS ACCORDING TO NATIONALITY OF MOTHERS, 1929

	Rates per 1,000 Live Births			
	Corrected		Crude	
	Stillbirths	Rate	Stillbirths	Rate
Canadian.....	67	46	89	46
British.....	30	33	46	48
Southern and Central European.....	48	48	59	54

INFANT MORTALITY, 1911-1929

	Corrected			Crude		
	Live Births	Infant Deaths	Rate per	Live Births	Infant Deaths	Rate per
			1,000 Births			1,000 Births
1929.....	3,597	211	58.6	4,515	253	56.0
1928.....	3,580	236	65.9	4,475	284	63.4
1927.....	3,566	232	65.0	4,463	273	61.2
1926.....	3,530	252	71.4	4,444	314	70.6
1925.....	3,781	252	66.6	4,632	315	68.0
1924.....	3,880	278	71.6	4,762	323	67.8
1923.....	---	---	---	5,214	416	79.8
1922.....	---	---	---	5,629	500	88.8
1921.....	---	---	---	6,029	471	78.1
1920.....	---	---	---	6,174	625	101.2
1919.....	---	---	---	5,254	562	106.9
1918.....	---	---	---	5,621	516	91.8
1917.....	---	---	---	5,446	545	100.1
1916.....	---	---	---	5,980	700	117.0
1915.....	---	---	---	5,823	619	106.3
1914.....	---	---	---	5,789	729	125.9
1913.....	---	---	---	5,577	947	169.8
1912.....	---	---	---	4,870	1,006	206.6
1911.....	---	---	---	4,469	762	170.5

INFANT MORTALITY ACCORDING TO NATIONALITY OF MOTHERS, 1929

	Corrected			Crude		
	Live Births	Infant Deaths	Rate per	Live Births	Infant Deaths	Rate per
			1,000 Births			1,000 Births
Canadian.....	1,448	91	63	1,931	119	62
English and Welsh....	528	27	51	707	31	44
Irish.....	97	1	10	131	2	15
Scotch.....	273	14	51	322	16	50
American (U.S.A.)....	153	8	52	189	12	63
Scandinavian.....	77	5	65	109	6	55
Southern and Central European.....	992	62	62	1,094	62	57
All others.....	29	3	—	32	5	—

INFANT MORTALITY—CAUSE OF DEATH, 1929

Number of Deaths

	Corrected	Crude
Acute communicable diseases	17	18
Other general diseases.....	22	25
Of nervous system and of organs of special sense.....	8	10
Of respiratory system.....	29	36
Of digestive system.....	17	29
Malformations and diseases of early infancy.....	107	122
All other diseases.....	11	13
Totals.....	211	253

Rates per 1,000 Live Births

	Corrected	Crude
Acute communicable diseases.....	4.7	4.0
Other general diseases.....	6.1	5.5
Of nervous system and of organs of special sense.....	2.2	2.2
Of respiratory system.....	8.1	8.0
Of digestive system.....	4.7	6.4
Malformations and diseases of early infancy.....	29.7	27.0
All other diseases.....	3.1	2.9
Totals.....	58.6	56.0

Per Cent of Total

	Corrected	Crude
Acute communicable diseases	8.1	7.1
Other general diseases.....	10.4	9.9
Of nervous system and of organs of special sense.....	3.8	4.0
Of respiratory system.....	13.7	14.2
Of digestive system.....	8.1	11.5
Malformations and diseases of early infancy.....	50.7	48.2
All other diseases.....	5.2	5.1
Totals.....	100.0	100.0

CLASSIFICATION OF AGES OF DECEDENTS UNDER ONE YEAR OF AGE, 1929

	Corrected Rate			Crude Rate		
	No. of Deaths	per 1,000 Births	Per Cent. of Total	No. of Deaths	per 1,000 Births	Per Cent. of Total
Minutes to 1 week.....	80	22.2	37.9	90	19.9	35.6
Over 1 to 2 weeks.....	6	1.7	2.8	7	1.6	2.8
Over 2 to 3 weeks.....	8	2.2	3.8	11	2.4	4.3
Over 3 weeks to 1 month	13	3.6	6.2	17	3.8	6.7
<hr/>						
Minutes to 1 month...	107	29.7	50.7	125	27.7	49.4
Over 1 to 2 months.....	25	7.0	11.8	32	7.1	12.6
Over 2 to 3 months.....	16	4.4	7.6	21	4.6	8.3
<hr/>						
Minutes to 3 months ..	148	41.1	70.1	178	39.4	70.3
Over 3 to 6 months.....	30	8.3	14.2	37	8.2	14.7
Over 6 to 9 months.....	23	6.4	10.9	24	5.3	9.5
Over 9 and under 12 months.....	10	2.8	4.8	14	3.1	5.5
	211	58.6	100.0	253	56.0	100.0

For comparison with the above, the final figures for the years 1928 and 1912 are given below:

1928		No. of Deaths	Crude Rate per 1,000 Births	Per Cent. of Total
Minutes to 3 months.....		215	48.0	75.7
Over 3 to 6 months.....		38	8.5	13.4
Over 6 to 9 months.....		14	3.1	4.9
Over 9 and under 12 months.....		17	3.8	6.0
		284	63.4	100.0
1912		No. of Deaths	Crude Rate per 1,000 Births	Per Cent. of Total
Minutes to 3 months.....		630	129.4	62.6
Over 3 to 6 months.....		189	38.8	18.8
Over 6 to 9 months.....		125	25.7	12.4
Over 9 and under 12 months.....		62	12.7	6.2
		1,006	206.6	100.0

INFANT MORTALITY STATISTICS

For further particulars regarding infantile mortality, see report of the Manager, Bureau of Child Hygiene, pages 102 to 112.

XII.—Early Infancy.												
160	Congenital debility, icterus and sclerema	4	4	8								8
161	Premature birth; Injury at birth:											
	*(a) Premature birth (not stillborn)	30	25	55								55
	*(b) Injury at birth (not stillborn)	9	5	14								14
162	Other diseases peculiar to early infancy	11	7	18								18
163	Lack of care		2	2								2
	Totals, Class XII.	54	43	97								97
XIII.—Old Age.												
164	Senility	8	10						1	4	8	5
	Totals, Class XIII.	8	10						1	4	8	5
XIV.—External Causes.												
166	Suicide by corrosive substances	1							1			1
168	Suicide by hanging or strangulation	4	2					1		2	1	6
169	Suicide by drowning	3	3					1	2	2	1	6
170	Suicide by firearms	3				1			1			3
171	Suicide by cutting or piercing instruments		2						1			2
172	Suicide by jumping from high places	1							1			1
177	Other acute accidental poisonings (gas excepted)	3	2			2		1	1			5
178	Conflagration	6	7			1	3	1	2	4	1	13
179	Accidental burns (conflagration excepted)	6	3			1		2	2			9
180	Accidental mechanical suffocation	3	2						1			5
181	Accidental absorption of irrespirable, irritating or poisonous gas	2						1				2
182	Accidental drowning	3							1			3
183	Accidental traumatism by firearms (wounds of war excepted)	3				2			1			3
184	Accidental traumatism by cutting or piercing instruments	1								1		1
185	Accidental traumatism by fall	9	6					2	1	3	2	15
186	Accidental traumatism in mines and quarries:											
	*(a) Mines	1							1			1
187	Accidental traumatism by machines	2							1			2

SEX		AGE IN YEARS											Totals			
		Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79		80 to 89	90 to 99	100 to 109
1929																
CAUSE OF DEATH BY SEX AND AGE																
CORRECTED FIGURES																
(Non-Residents excluded; St. Boniface and Ninette Registrations of Winnipeg Residents included)																
78	1					1										1
80	3	2	1													3
83	1				1	1	2	1		1						1
84	2	4														6
86	3	2	2	1		1			1							5
	3	2	1				2	1								5
	72	73	8	4	1	4	6	5	13	19	29	45	10	1		145
Totals, Class III.....																
IV.—Diseases of the Circulatory System.																
87	1							1								1
88	12	11	1	1	3	2	8		4	1	1	1	1			23
89	22	6		1		2	5	2	2	5	14	5		1		28
90	99	75		1	3	8	6	6	16	24	51	47	15	2		174
91	4							1	1		1	1				4
	8	6								1	2	5	6			14
92	20	5				1			5	7	8	3	1			25
93		1						1								1
	166	104	1	2	1	2	6	11	28	37	77	62	23	3		270
Totals, Class IV.....																

CAUSE OF DEATH BY SEX AND AGE CORRECTED FIGURES (Non-Residents excluded; St. Boniface and Ninette Registrations of Winnipeg Residents included)	SEX		AGE IN YEARS												Totals		
	Male	Female	Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89		90 to 99	100 to 109
112 Other diseases of the stomach (cancer excepted).....	1	1															2
113 Diarrhea and enteritis (under 2 years of age).....	12	3	12	3													15
114 Diarrhea and enteritis (2 years and over).....	5	1		2						1	1	1	1				6
117 Appendicitis and typhlitis.....	13	2	1		1		4	1	2	2	1	1					15
118 Hernia, intestinal obstruction:																	
(a) Hernia.....	3	4							1	1	3	1	1				7
(b) Intestinal obstruction.....	8	6	1	2	1			2		2	4	1	1				14
119 Other diseases of the intestines.....	2							1									2
122 Cirrhosis of the liver:																	
(b) Not specified as alcoholic.....	5	2				1			2	2	1	1	1				7
123 Biliary calculi.....		3							1		1	1					3
124 Other diseases of the liver.....	4	5					1		4	4							9
126 Peritonitis without specified cause.....	3	3	1				1	1	1	1	1						6
Totals, Class VI.....	68	37	17	6	5	2	6	7	6	14	15	18	6	3			105
VII.—Non-venereal Diseases of the Genito-Urinary System and Annexa.																	
128 Acute nephritis (inc. unspecified under 10 years of age).....		3		1				2									3
129 Chronic nephritis (inc. unspecified 10 years and over).....	39	28					1		7	4	13	14	22	6			67
131 Other diseases of the kidneys and annexa.....	3	2		1			2		1	1							5
132 Calculi of the urinary passages.....	1	1							2								2
135 Diseases of the prostate.....	8										2	4	2				8
136 Non-venereal diseases of the male genital organs.....	1		1														1
138 Salpingitis and pelvic abscess (female).....		4					2		2								4
139 Benign tumors of the uterus.....		2						1	1								2
141 Other diseases of the female genital organs.....		2					1		1								2
Totals, Class VII.....	52	42	1	2			3	5	8	11	14	16	26	8			94

SEX		AGE IN YEARS											Totals			
		Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79		80 to 89	90 to 99	100 to 109
1929																
CAUSE OF DEATH BY SEX AND AGE																
CORRECTED FIGURES																
(Non-Residents excluded; St. Boniface and Ninette Registrations of Winnipeg Residents included)																
XII.—Early Infancy.																
160	Male	5														10
	Female	5														
161	Male	27														47
	Female	10														14
162	Male	9														15
	Female	2														2
Totals, Class XII.....																
164	Male	8										1	5	8		19
	Female	11										1	5	8		19
Totals, Class XIII.....																
XIII.—Old Age.																
XIV.—External Causes.																
166	Male	1									1					1
	Female	5								2						7
168	Male	3								1						6
	Female	3								1						3
170	Male	3								1						3
	Female	2								1						2
171	Male	1								1						1
	Female	2								1						3
172	Male	2								1						3
	Female	2								1						3
177	Male	5								3						8
	Female	7								1						8
178	Male	2								2						4
	Female	8								1						9
Totals, Class XIV.....																

Report of Street Cleaning and Scavenging Division

A. J. Douglas, Esq., M.D.,
Medical Health Officer,
City Hall.

Dear Sir:

I have the honor to submit herewith the report of the Street Cleaning and Scavenging Division for the year 1929.

SCAVENGING

For some unknown reason the volume of organic matter collected during the year 1929 showed a decrease of 521,425 lbs. as compared with the figures for 1928. The volume of inorganic refuse collected in 1929, however, showed an increase of 3,842,230 lbs. over last year.

Between the months of April and September a bi-weekly collection service was again maintained in the congested portion of the city.

In the month of July, the Division added a White Tractor Truck and a Reo Speed Wagon to its fleet of motor equipment. The old Packard Truck, purchased in the year 1917, was turned in on the purchase of the White Tractor Truck. A Freuhauf trailer was added to the trailer equipment in October.

Extensive repairs were made to the trailer equipment during the months of October to December, all trailer draw heads, couplings and poles were made to a standard, all of which has materially reduced the tendency of the trailers to whip while in motion in-train.

The new Reo Speed Wagon was equipped with a detachable metal tank body for use in connection with the service provided for pit and workmen's closets. During the winter, the tank is removed from the truck, and a stake body is fitted to the chassis in order that the truck may give efficient service throughout the year.

INCINERATORS

Considerable expense was incurred in making alterations to the Saskatchewan Avenue Incinerator in order to eliminate unfavorable working conditions at this plant. The flue and damper of the north furnace was enlarged, and a hydraulic charging ram was installed.

ASH REMOVAL

The ash removal service is increasing each year, and the problem relative to the disposal of the ash accumulation is requiring greater attention each year. Less ashes were used in building up lanes than heretofore.

NUISANCE GROUNDS

An effort was made to secure permission to use the old Stoney Mountain Quarry site for the disposal of inorganic refuse, but the proposition was not favorably considered.

STREET CLEANING

No new advances were made in street cleaning during the year, as the Committee could not see its way clear to purchase a motor pick-up sweeper. An effort was made to enact a By-law preventing the parking of motor cars on the streets in the down town area, between midnight and 5 a.m., in order to facilitate the sweeping of streets at night. Unfortunately this by-law has not as yet been passed.

FLUSHING

The old horse-drawn power flushers were again brought into service, during the summer months, but they were unable to cope with the situation efficiently owing to the fact that the machines are obsolete.

WOOD CAMP OPERATIONS

The operation of the City Wood Camps was again under the care of this Division. During the wood year, which ended April 30th, 1929, 3,627 cords of wood were cut, and 1,840 cords were purchased. Four thousand, two hundred and six cords were delivered to various civic buildings and institutions within the city.

In conclusion I wish to place on record my appreciation of the faithful work of the employees of this Division.

Your obedient servant,

E. A. WOOD,

Chief, Street Cleaning Division.

GARBAGE COLLECTION—1929

Month	Trucks & Trailers		City Teams & Singles		Hired Teams		Combined Totals	
	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.
Jan.	995	2,798,230	89	191,040	33	84,990	1117	3,074,260
Feb.	894	2,554,640	76	183,120	32	82,950	1002	2,820,710
Mar.	943	2,888,180	78	189,040	37	104,320	1058	3,181,540
Apr.	982	3,539,310	89	240,870	36	120,070	1107	3,900,250
May	1058	3,848,860	91	270,250	29	99,120	1178	4,218,230
June	953	3,740,590	91	279,400	42	139,505	1086	4,159,495
July	1060	3,924,530	107	306,650	51	165,110	1218	4,396,290
Aug.	1056	3,499,930	101	249,110	46	134,910	1203	3,883,950
Sept.	942	3,582,580	118	337,750	43	136,800	1103	4,057,130
Oct.	977	3,578,640	124	355,850	43	118,190	1144	4,052,680
Nov.	919	2,970,770	109	278,100	40	95,420	1068	3,344,290
Dec.	678	2,085,890	46	109,650	40	90,300	764	2,285,840
	11457	39,012,150	1119	2,990,830	472	1,371,685	13048	43,374,665

Table Showing Average Weight per Load

	Number of Loads	Total Weight	Average Wt. per Load (Lbs.)
Trucks and Trailers.....	11,457	39,012,150	3,405
City Teams and Singles.....	1,119	2,990,830	2,672
Hired Teams.....	472	1,371,685	2,906
	13,048	43,374,665	3,324

Table Showing Percentage of Collection by Units

	Weight (Lbs.)	Percentage Of Total Weight
Trucks and Trailers.....	39,012,150	90.0%
City Teams and Singles.....	2,990,830	6.8%
Hired Teams.....	1,371,685	3.2%
	43,374,665	100.0%

COLLECTION OF INCOMBUSTIBLE REFUSE—1929

Month	Trucks and Trailers		City Teams and Singles		Hired Teams		Combined Totals	
	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.
Jan.	184	417,580	226	429,030	75	226,510	485	1,073,120
Feb.	310	795,530	126	270,230	61	183,040	497	1,248,800
Mar.	282	1,101,390	193	344,490	74	215,480	549	1,661,360
Apr.	591	1,459,550	347	717,430	104	310,360	1042	2,487,340
May	887	2,429,080	383	888,720	595	1,636,420	1865	4,954,220
June	805	2,213,560	215	477,700	140	503,905	1160	3,195,165
July	816	2,090,650	198	425,810	91	331,620	1105	2,848,080
Aug.	702	1,705,240	207	378,890	80	324,250	989	2,408,380
Sept. ...	730	1,875,590	145	277,600	66	273,030	941	2,426,220
Oct.	909	2,363,490	224	463,950	59	219,770	1192	3,047,210
Nov.	375	1,005,110	288	634,400	52	187,810	715	1,827,320
Dec.	315	976,250	192	391,550	47	174,930	554	1,542,730
	6906	18,433,020	2744	5,699,800	1444	4,587,125	11094	28,719,945

Table Showing Average Weight per Load

	Number of Loads	Total Weight Lbs.	Average Wt. per Load Lbs.
Trucks and Trailers.....	6906	18,433,020	2669
City Teams and Singles.....	2744	5,699,800	2077
Hired Teams.....	1444	4,587,125	3176
	11,094	28,719,945	2589

Table Showing Percentage of Collection Units

	Weight Lbs.	Percentage of Total Weight
Trucks and Trailers.....	18,433,020	64.1%
City Teams and Singles.....	5,699,800	19.9%
Hired Teams.....	4,587,125	16.0%
	28,719,945	100.0%

REVENUE COLLECTED—1929

Months	Deposits Workmen's Closets	Scavenging	Incin. No. 2	Incin. No. 3	Ash Boxes & Garbage Cans	Total
January	\$ 30.00	\$ 191.00	\$ 126.32	\$ 89.95	-----	\$ 437.27
February	67.50	149.45	55.08	76.87	-----	348.90
March	97.50	75.20	177.66	60.83	\$ 6.00	417.19
April	446.25	65.20	35.26	95.30	-----	642.01
May	555.00	55.75	69.10	117.48	9.00	806.33
June	489.00	121.70	84.10	268.91	-----	963.71
July	369.00	140.80	152.15	224.06	-----	886.01
August	189.00	260.75	57.69	204.59	-----	712.03
September	165.00	241.90	56.42	100.76	-----	564.08
October	255.00	333.05	102.50	262.32	-----	952.87
November	102.00	262.15	113.88	188.94	-----	666.97
December	27.00	339.55	32.66	200.81	-----	600.02
	\$ 2,792.25	\$2,236.50	\$1,062.82	\$1,890.82	\$15.00	\$7,997.39

MISCELLANEOUS DATA

Month	Cubic Yards of Street Sweepings Collected	Cubic Yards of Ashes Collected	Gallons of Water Used in Flushing Streets
January.....	-----	11,188	-----
February.....	-----	12,812	-----
March.....	2,140	13,112	-----
April.....	8,236	14,724	-----
May.....	2,688	5,432	-----
June.....	2,048	708	52,500
July.....	1,852	192	250,500
August.....	2,016	36	565,000
September.....	1,948	224	436,000
October.....	4,168	836	114,500
November.....	284	7,532	-----
December.....	-----	9,360	-----
	25,380	76,156	1,418,500

COMPARATIVE TABLES
Garbage Collection

Year	Number of Loads Collected	Weight in Pounds
1926.....	11,550	40,479,180
1927.....	13,286	42,325,430
1928.....	13,313	43,896,090
1929.....	13,048	43,374,665

Collection of Incombustible Refuse

Year	Number of Loads Collected	Weight in Pounds
1926.....	6,034	15,894,150
1927.....	6,682	18,579,020
1928.....	9,571	24,877,715
1929.....	11,094	28,719,945

Ash Removal

Year	Number of Loads Collected	Weight in Pounds
1926.....	19,012	90,215,000
1927.....	23,378	108,973,000
1928.....	24,456	110,052,000
1929.....	25,385	114,232,500

**REPORT OF REFUSE DEPOSITED ON ELMWOOD NUISANCE GROUND
1929**

Month	Tins Hauled by City		Street Sweepings		Privately Hauled Refuse		Combined Totals	
	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.
Jan.	187	524,410	---	-----	142	524,990	329	1,049,400
Feb.	199	564,190	---	-----	257	942,000	456	1,506,190
Mar.	221	999,380	60	252,040	293	986,670	574	2,238,090
Apr.	388	1,169,330	23	100,250	193	737,710	604	2,007,290
May	444	1,418,840	16	81,450	225	892,610	685	2,392,900
June	462	1,442,275	145	743,560	221	884,140	828	3,069,975
July	385	1,200,080	193	1,079,970	212	856,970	790	3,137,020
Aug.	334	1,040,840	168	932,520	239	957,950	741	2,931,310
Sept.	345	1,075,420	159	857,800	183	720,980	687	2,654,200
Oct.	375	1,172,510	135	683,590	214	829,060	724	2,685,160
Nov.	277	828,770	22	101,280	206	777,620	505	1,707,670
Dec.	230	840,180	--	-----	172	651,760	402	1,491,940
	3847	12,276,225	921	4,832,460	2557	9,762,460	7325	26,871,145

**REPORT OF REFUSE DEPOSITED ON SASKATCHEWAN AVENUE
NUISANCE GROUND**

Month	Tins Hauled by City		Ashes Hauled by City		Privately Hauled Refuse		Combined Totals	
	No. of Lds.	Weight in Lbs.	No. of Lds.	Weight in Lbs.	No. of Lbs.	Weight in Lbs.	No. of Lds.	Weight in Lbs.
Jan.	298	548,890	319	1,531,140	248	480,600	865	2,560,630
Feb.	298	684,580	356	1,881,780	349	717,150	1003	3,283,510
Mar.	328	661,980	196	971,780	368	709,840	892	2,343,600
Apr.	654	1,318,010	244	1,058,650	600	1,679,640	1498	4,056,300
May	1421	3,535,380	290	1,091,900	654	1,827,650	2365	6,454,930
June	698	1,752,890	202	781,150	561	1,126,050	1461	3,660,090
July	720	1,648,000	198	754,400	584	1,403,850	1502	3,806,250
Aug.	655	1,367,540	177	663,710	580	1,537,950	1412	3,569,200
Sept.	596	1,350,800	175	674,450	509	1,384,100	1280	3,409,350
Oct.	817	1,944,700	254	942,950	506	1,528,850	1577	4,416,500
Nov.	439	1,018,550	183	701,900	274	761,200	896	2,481,650
Dec.	324	702,550	225	870,200	222	653,700	771	2,226,450
	7248	16,533,870	2819	11,924,010	5455	13,810,580	15522	42,268,460



